POPULATION GEOGRAPHY

Volume 1 Numbers 1 and 2 June-December 1979

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POPULATION GEOGRAPHY IN TROPICAL AFRICA

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As one who has had a long involvement in the geographical study of population, but who by the nature of his present full-time administrative appointment has not been able to devote much time to such work in recent years, I am attempting to look back over more than forty years in order to underline, in this first issue of a journal founded for the progress of population geography, how far we have moved forward in this branch of the subject during that period. I shall concentrate on developments in the continent of Africa, and particularly tropical Africa, where my research has been focused ever since my first visit to West Africa for field study in 1938.

I went as an undergraduate to the University of Oxford in 1934 to become, three years later, one of the first graduates of the Honour School of Geography that had been established in 1932 and had from the outset placed considerable emphasis on the importance of the role of man in geography. Nearly all my teachers had been initially trained as historians; the exception was Kenneth Mason, the first Professor of Geography in Oxford, whose previous experience had been as a member of the Survey of India and who had done excellent field-work in the Himalayas in the subject that we now term "geomorphology". For these studies he was awarded the Royal Geographical Society's Cuthbert Peek Grant in 1926, while in the following year he received the Founders' Medal for his work in the Shaksgam Valley and Aghil Range of the Karakoram, where he had experimented with stereographic survey on small scales and for great distances.

With so many historically-minded lecturers in geography, it was understandable that there was a very heavy emphasis in our studies on human geography, or "the geography of man" as it was always called in Oxford. There was also a marked concentration on regional geography, and particularly that of Britain and its continental neighbours and of India. In studying India we naturally became aware of the existence of population problems and of the reality of the pressure of population in certain areas. My own tutor, the late Mr. J. N. L. Baker, who had served in the army in India during the First World War, was the author of a paper on "Some problems of population in India" (Baker, 1936), and from him and Professor Mason we heard a great deal of the attainments of the British Raj in fields, such as irrigation, crop research and rail construction. But India apart - and with a slight concern for China whose total population was variously estimated at anything between 340 millions and 485 millions (Stamp, 1929) - we were more concerned with the different methods of studying the density and distribution of

population and the advantages and shortcomings of population mapping than with the problems arising from large concentrations of population, both urban and rural. Our study of the geography of man was based particularly on Jean Brunhes' famous book, *Human Geography* (Brunhes, 1920) and on Vidal de la Blache's *Principles of Human Geography* (Blache, 1926), in which one of the three parts of the work is entitled "Distribution of population". Even Sir Dudley Stamp's land-use studies - the impact of which was so great upon the early development of geography in the universities of India and its neighbours - were at that time confined to the preparation of the detailed maps that became the basis for the county reports of the Land Utilisation Survey of Britain (Stamp, 1948). It was only when his studies were later extended to other parts of the world that problems of land-use/population relationships were high-lighted in India, in tropical Africa and elsewhere; and it was these and related studies that in my view have been the basis of what I have always regarded as one of the special contributions of geographers to knowledge - the links between the density, distribution and patterns of population and the nature and intensity of the agricultural and other uses of the land. The significance of these studies was illustrated particularly well in the Memorial Volume to Sir Dudley Stamp which was published by the Institute of British Geographers at the time of the International Geographical Congress in New Delhi in 1968 under the title *Land Use and Resources : Studies in Applied Geography* (Embleton & Coppock, 1968)

My now somewhat dim memories of the reading that I and my fellow undergraduates did as we studied geography in those comparatively early days of the subject as a university discipline have been confirmed recently by looking again at some of the books that had a considerable influence on my thinking at that time as a young geographer. Among these was C. B. Fawcett's *A Political Geography of the British Empire* published in 1933 (Fawcett, 1933). Its very title dates it as a product of imperial days and of the inter-war years. But apart from the author's approach to his subject and his attitude to the different countries of the British Empire of those days, it is interesting to note all that he wrote about the population-carrying capacity of various parts of the world. The essential theme of much of his book is that of "under population" ; he was concerned with the need for an increase in the population of certain countries and continents that then lacked people - such as Canada and Australia - if they were to be properly developed. This concern was developed a few years later by another British geographer, G. H. T. Kimble, whose book appeared in 1939 under the significant title *The World's Open Spaces* (Kimble, 1939). Fawcett summed up the general outlook of the times by stating in his preface (p. vii) :

> "The rapid growth in the numbers of mankind which was perhaps the most important fact of the last two centuries, during which the population of the world was more than doubled, seems to be coming to an end. And the change from increasing to stationary or decreasing populations would alter the conditions of almost every world problem".

No two sentences could more adequately highlight the contrast between the common attitude among geographers before the Second World War and the concern that

rightly dominates the thinking of so many geographers today. It would be difficult to exaggerate the significance of the fact that the problems that are the pre-occupation of the population geographers of the final quarter of the twentieth century were little thought of in the period between the two World Wars. In the thirties there was in fact no real concern about population pressure - if there were any population problems, they arose from the recognition of the need for more people in many parts of the world. Little or no attention was given to those areas where there were obviously far more people than could possibly enjoy a reasonable standard of living in relation to the resources of the environments in which they were placed.

In retrospect I can see that we were subconsciously adopting a very European attitude - some readers may feel a characteristically British viewpoint - to the rest of the world. Our thinking was dominated by the desirability, as we saw it, of there being more white people in certain parts of the world, We looked back almost nostalgically to the period during the nineteenth century when Europeans moved in their thousands to what Kimble had called "the world's open spaces" in countries such as Canada, the U.S.A., Australia and New Zealand. We gave little thought to what was happening, demographically, with the non-white peoples in many other parts of the world. As undergraduates we wrote essays on what was termed the White Australia Problem ; we concerned ourselves with the "refugee problem" —but these refugees were those who were escaping from Nazi Germany and Fascist Italy; we studied, in a somewhat detached and academic manner, the background to the immigration policies of the United States of America where we learned that the American Government had initially taken as its baseline the population statistics of 1910, though at a later date they moved back to those of 1890. There was, of course, India and its very large population, and Fawcett had written about the country and its problems. But in referring to India as the third largest of the great population masses of the world, with more than 350 million inhabitants (about a sixth of the world's population) and a mean density of population of about 200 persons to the square mile (80 per km. ^{2}), he recorded these facts with little sense of urgency. It is true that he recognised that there were certain areas, such as the Ganges Valley, with very high densities of population, but much of India he noted as being "in general very thinly peopled". (Fawcett, 1933). Dudley Stamp also had various maps of population in his classic work, *Asia*, including one showing those areas of India with a population density exceeding the average for the whole of India, but only three pages were devoted to the population and there was a much longer section on the races of India. He noted that "three-quarters of the Indian population are agricultural, hence the pressure on the soil is very great; but India, generally speaking, has nothing to compare with the dense agricultural populations of many parts of China" (Stamp, 1929). The emphasis was on the essentially regional nature of the population problems of India and on their relative unimportance overall. Areas such as Assam, it was thought, could and would cope with such pressure of population as was revealed by the study of more densely peopled states such as Bengal and Travancore.

After graduating, my studies turned towards the tropics, where they have remained ever since; not, however, to India, an area well-known to some of my teachers and with problems of social geography that cried out for study by geographers, but to tropical Africa about which there was still remarkable ignorance among geographers. It was suggested to me that a study of the human geography of Sierra Leone in West Africa would be appropriate since this was a country that was particularly unknown to geographers and others at the time; there was, moreover, the possibility of Freetown, as a great natural harbour in the South Atlantic, becoming of considerable strategic significance in the event of another world war, comparable with the importance that it had during the War of 1914-18. I do not think that anyone imagined that I should discover any earth-shattering problems, certainly not in the population field; but there was clearly a strong case for the recording and analysis of many of the facts of land use, settlement and population distribution. This indeed was the work on which I was engaged, first in the field for six months in 1938, and subsequently in Oxford, using the resources of Rhodes House Library as well as other libraries in the United Kingdom such as those of the Royal Commonwealth Society and the Colonial Office.

It is important to emphasise how ignorant we were about population in tropical Africa at the time. Indeed there was little encouragement at the time to embark on full-scale population studies, and no suggestion that such work would have an important impact upon society and its problems. The standard works on population at the time were written not by geographers but by demographers and other social scientists. A.M. Carr-Saunders, then Professor of Social Science in the University of Liverpool, though later he became Director of the London School of Economics, published the standard work on *World Population* in 1936. His comment on Africa was cautious in the extreme. The population of Africa, he wrote, was "probably not decreasing; it may very likely be about stationary; it is not impossible that it may be increasing, but if so the rate of increase is certainly slow" (Carr-Saunders, 1936). Other writers on Africa in the thirties were similarly disarming and quite unconcerned about any problems that might exist. Lord Hailey, for example in his famous *An African Survey* (1938), wrote that, for the majority of African tribes, "it is at present impossible to say with confidence whether they are reproducing themselves or not, and in no case is it possible to state accurately the balance of births and deaths" (Hailey, 1938).; and W. M. Macmillan observed in *Africa Emergent* (1938) that "undoubtedly the population of Africa as a whole is positively inadequate" (Macmillan, 1938).

Nevertheless there was some enquiry by the small number of geographers who were interested in work in tropical Africa. S.J.K Baker, who later became the first Professor of Geography in Makerere Universty in Uganda, had undertaken some field-work in East Africa in the early thirties and written two papers, one on population distribution in Uganda and the other, a more general though very useful survey of population distribution in East Africa (Kenya, Uganda and Tanganyika

Territory) as a whole (Baker, 1934 1937). In West Africa, Daryll Forde had carried out detailed geographical and anthropological studies in the Cross River area of southern Nigeria (Forde, 1937), and L. Dudley Stamp had made some pertinent observations on population pressure during the course of a field trip through Nigeria, where he had identified some problems that arose from an excess of population in certain areas in relation to the resources of the environment (Stamp, 1938). But the highly generalized nature of his study is indicated by reference to the fact that to indicate "over population" he adopted one figure, and one figure only (144 per sq. mile. or 56 per km²), for the whole of the wetter parts of Nigeria that he identified as "southern Nigeria"and another figure (100 per sq. mile or 40 per km.²) for the still greater portion of the country that he termed "northern Nigeria". By far the most perceptive study of population distribution of the prewar period was that on Tanganyika Territory, published in 1936 in the *Geographical Review*, and undertaken by Clement Gillman, who had been trained as a geographer in the University of Berlin and was for many years the Chief Engineer of the Tanganyikan Railways (Gillman, 1936). In the course of extensive journeys throughout the country over a period of many years he recorded many observations that were subsequently used as a basis for a variety of publications (Hoyle, 1977). His work on the peculiarities of the distribution of population in Tanganyika with its many tsetseinfested areas and its large areas with inadequate rainfall was a model of its kind and suggested what could and should be done where data were available and where the necessary links between various environmental factors could be properly established. In Gillman's own words, a map of population distribution is "not only desirable but essential for the better understanding of many regional problems awaiting solution . . . No more graphic way could be devised to show that peculiar problems in agricultural development, transportation, labour and administration confront the government of Tanganyika Territory" (Gillman, 1936)

At about this time there was considerable discussion about the need for the more accurate collection of population statistics. In 1937 the demographer, R.R. Kuczynski, had published a small book, *Colonial Populations*, in which he revealed the inadequacy of existing colonial censuses and vital statistics (Kuczynski, 1937), and in the following year he was asked by the Population Investigation Committee to prepare a "Demographic Survey of the British Colonial Empire". In 1939 his large volume, *The Cameroons and Togoland: a Demographic Study*, prepared us for some of the revelations about the poverty of demographic analysis that emerged from his later writings (Kuczynski, 1939). These did not appear for some years since the Demographic Survey could not be completed until after the end of the Second World War. Several volumes were issued between 1948 and 1953, the first being that concerned with West Africa which formed volume I of *The Demographic Survey of the British Colonial Empire* (Kuczynski, 1948).

Kuczynski's emphasis was understandably on the need for more and better statistics and for deeper analysis and more sophisticated intepretation of the data, and his case was unanswerable and had a great

deal of influence on later census work in many developing countries. Yet from the point of view of the geographer his investigation had its shortcomings. In particular he hardly touched on what to geographers is the essence of the problem of population - the relationship that exists between people and the land. Here it has always seemed to me, geographers have a very special and important role to play in our efforts to understand societies and their problems. In illustrating a geographer's concern with such matters, I am drawing on my own experience rather than that of other people simply because I know rather more about my own studies and so can fully appreciate the difficulties facing a geographer in areas where population as well as other data are inadequate, as is still very true of so many developing countries.

In Sierra Leone I found myself dealing with the census of 1931 that was not only already seven years out of date but was also very incomplete and far from accurate, as Kuczynski in the relevant volume of his Demographic Survey makes clear (Kuczynski, 1937). No one thought very highly of the results that had been published in a volume issued in 1936 but these were the only population figures available when I was doing my field-work in the country Inevitably they formed the basis of all government planning and the framework for the thinking of the District Commissioners (many of whom had in fact acted as census officers so that they were well aware of the deficiencies of the census). There were less than 2 million people in an area of 72,000 km.^{2} (28,000 sq. miles); but distribution was very spasmodic, and as I travelled around (for much of the time of necessity on foot because of the lack of roads), I became acutely conscious of the existence of some quite real local problems of population pressure. Because of this, the Department of Agriculture was aware of some of these pressure areas and recognised the shortcomings of the prevalent system of farming - "shifting cultivation" or "bush fallowing" as it was commonly termed; as a result the agricultural officers were actively encouraging the cultivation of swamp rice (introduced from Asia) in the valley of the Scarcies River, which had hitherto been uninhabited and unused, particularly concentrating their efforts around the new rice research station established by the Government at Rokupur. The density of population for the country as a whole was only 26 to the square kilometre (68 to the square mile) but I noted in a paper published a few years later that this was "an unduly high figure for a country that is poor in resources and whose population was almost exclusively agricultural until a few years back. It is an especially high density of population for a colony where shifting cultivation is universally practised and where rice, a staple food stuff, was produced until a few years ago almost exclusively from the uplands in preference to the swampy lowlands of either the coastal belt or of the interior river valleys" (Steel, 1948). My experience suggested that there was a great deal of exhausted and over-farmed land on which it was hard to devise alternative methods of land use; but there were prospects for the resettlement of population from some of the exhausted areas in the interior if the people were encouraged to move to the cleared mangrove-swamp areas of the coastal districts such as the Scarcies Valley. Indeed

there were already in 1938 signs of some of relief of the pressure of population on the upland rice areas where the land could now be rested for longer periods and so given an opportunity of regaining its fertility by natural regeneration; and in the post-war period the importance of those developments in new methods of land use has been increasingly marked.

A few years later, towards the end of the Second World War, I went again to West Africa, to the Gold Coast (now Ghana), as the geographer in the team of research workers known as the Ashanti Social Survey brought together under the direction of Meyer Fortes, at that time Reader in Social Anthropology in the University of Oxford and later William Wyse Professor of Social Anthropology in the University of Cambridge. He and I worked with an economist (Miss Peter Ady) and, without realising the significance of what we were doing, we found ourselves embarking on an experiment in social research that has, it seems, had considerable influence on the line followed by other social scientists in different parts of tropical Africa (Fortes, Steel & Ady, 1947). My special concern as a geographer was with the problems of land use, population and settlement, and I concentrated my efforts, after a preliminary survey of Ashanti as a whole, on selected districts. Agogo, in a cocoa-producing area about 88 km. (55 miles) east of Ashanti's capital and largest town, Kumasi, was a particular centre for our studies. Again, as in Sierra Leone, there was little obvious pressure of population and no marked evidence of soil erosion or soil deterioration. Yet population was undoubtedly increasing and the demand for food crops was growing rapidly as more and more of the people turned from farming to other occupations, of a non-agricultural nature, and as the standard of living increased, thus enabling more people to rely on foodstuffs purchased in the markets. During the war army contractors had scoured the countryside to purchase food for supply to the armed services, and many areas were clearly no longer self-sufficient for their basic food supplies. A land-use survey in Agogo, carried through with a team of African assistants, showed that whereas in the past most food had been grown within three or four miles of the town centre, considerable supplies were now brought in from farms that were a dozen or more miles distant from the settlement. But not only was there only limited information on the pattern of land use, which had necessitated the carrying out of a special land-use survey, there was also a paucityof reliable population statistics. The last census had been taken in 1931 and the subsequent statistical estimates were clearly wrong in many respects. Sample censuses were undertaken by the Ashanti Social Survey and revealed how much larger Agogo had become in the decade and a half since the latest census (Steel, 1950). There were, moreover, clear indications that the growth of population was continuing. I therefore felt able to write, on the basis of my own studies in both Sierra Leone and the Gold Coast: ". . . no longer can even the blindest administrator look upon West Africa as a great 'open space', nor can serious observers talk of limitless possibilities and overwhelming natural resources. Population is growing, in many districts rapidly, in a part of Africa that has not been over-endowed by nature; and every sign in West Africa today calls for increased care, and more co-ordination,

and greater efficiency in the use of the land, and particularly the use of the soil, which will surely always be West Africa's most valuable and fundamental asset" (Steel, 1948).

While working in West Africa I wrote a paper with an Oxford colleague, E. W. Gilbert, on "Social geography and its place in colonial studies" (Gilbert &Steel, 1945). This paper is dated not only by its title but also by its subject matter; but at that time "social geography" was a new and hardly recognised branch of the subject, and we thought it important to establish its potential role within the broader field of human geography. We recognised four main branches, the first and probably the most important of which was the distribution of population over the earth's surface. We wrote that "maps of the density and distribution of population are the principal tools of the social geographer" (Gilbert & Steel, 1945); and that is surely as true today as ever, even though we now identify a new kind of geographer - "the population geographer". We developed our theme by underlining the need for better census-taking and for more careful analysis and interpretation of such figures as were available. We emphasised in particular the need for such data and for such analysis in colonial areas, and later we came to think that our paper had made a real contribution towards the establishment of the key position of population study in all geographical investigations. Certainly my own work focused increasingly on the study of population growth and its effect on land use and other resources, and I suppose, therefore, that I can claim with some justification to have been one of the first of the "population geographers".

After my experience in Ashanti, I was invited to be associated in the early stages with the work on which A. T. Grove of Cambridge was embarking in some of the more densely peopled parts of Nigeria. Grove's work arose directly from the concern of a senior administrator, Sir Arthur Richards (later Lord Milverton), with problems of soil erosion and population pressure in the Onitsha and Owerri districts of eastern Nigeria. His field-work was financed by the Colonial Social Science Research Council and had the full support of the Nigerian Government (Grove 1951, 1957, 1961). The post-war period was a time when governments were showing an increasing awareness of the emergence of population and land-use problems of this nature, and it is significant that there was simultaneously a considerable development in the quality and sophistication of the census-taking that was undertaken by governments. One of the first of these censuses was that held in the Gold Coast in February 1948 under the direction of H.G. Dowden as Census Commissioner (Dowden, 1950). The report, published in 1950, was-at least by "colonial" standards-voluminous and included not only detailed analysis of the results and many statistical tables but also provided valuable notes on the organisation of the census and experiences of those involved in it. The census is thought to have over-estimated the population of the Gold Coast as a whole to a small extent and it was recognised that the count in some of the more isolated districts was not particularly accurate. But it confirmed many of the

ideas that I had developed while working in Ashanti, and it also emphasised the increasing tendency towards urbanisation in some areas where the population of towns such as Accra, Kumasi and Takoradi-Sekondi had increased quite dramatically compared with the figures for 1931 and for earlier census years.

Simultaneously there were counts, relatively simple and straightforward, it is true-in East Africa, in Uganda, Kenya and Tanganyika (Lury, 1968). But whatever their shortcomings the reports updated information that was urgently needed for post-war planning and development, and considerable help was given by advisers from the United Nations which has increasingly involved itself in census-taking, recognising the importance of accurate statistics as a basis for all planning for development. The problems varied from country to country and this is not an occasion for discussing these in any detail; but they were particularly acute in the more densely peopled and larger countries such as Nigeria. In Nigeria, where a population of less than 20 millions had been recorded in the census of 1931, a census was taken in Lagos, the capital city, in 1950 and the results published a year later. But counts for the three regions into which Nigeria was then divided (there are now, in 1979, 19 states) could not be undertaken before 1952, and even then they had to take place at different times, largely because of the lack of personnel with the necessary qualifications, albeit minimal, of numeracy and literacy. The Northern Region census was held in July 1952; the Western Region in December 1952; and the Eastern Region in June 1953; and then there was a considerable time-lag before the results were published by the Government Statistician (Steel, 1954). The seriousness of these delays is obvious when the need for reasonably precise figures for planning purposes is remembered. The Nigerian Development Plan, for example, spread over the ten-year period 1946-56, clearly required a reasonably accurate indication of where people were living so that the needs of the various districts could be assessed. A single example will suffice to emphasise the significance of the problem of inadequate population statistics. In 1951 it had been officially estimated that the population of the Northern Region of Nigeria was just over 14 millions, but the count of 1952 revealed a total of 16,838,000-an increase of 20 per cent on the figure of the previous year. Perhaps it is not surprising to find that population statistics have proved very controversial in Nigeria ever since that date, and this has been particularly true since the country became independent in 1960 because of the political aspects associated with the published population statistics. Indeed at the present time there are still no reliable figures for the country as a whole despite counts taken in 1962 and 1963, and present estimates of the population of Nigeria-by far the largest Commonwealth country in Africa-range from about 80 to over 90 millions.

By 1953 it was said that nine-tenths of the population of all British Colonial territories had been enumerated since the war. Partly as a result of this, and partly because of the observations of certain far-sighted administrators, increasing concern was expressed about the population position in certain parts of tropical Africa.

Indeed the most telling of all the expositions of the problem of population land relationships in tropical Africa came not from a geographer but from an experienced administrator, Sir Philip Mitchell, who while Governor of Kenya noted in a despatch "Land and Population in East Africa", published in 1952, that District Commissioners in Kenya had been watching the race between population and resources over a long period and that the situation was becoming very serious in certain parts (Mitchell, 1952). "It is clear", he wrote, "that most East African tribes are increasing rapidly in numbers, and the best available evidence seems to point to an annual increase which may amount to two per cent in the most favourable areas. That means that the population doubles itself in 35 years" (Mitchell, 1952). Sir Philip suggested several reasons for this situation, emphasising in particular the disappearance under British rule of certain checks on population including tribal warfare, famine, pestilence and infanticide. He stressed that the animal population was also increasing at a very fast rate. Thus the carrying capacity, both human and animal, of the land was being strained to the utmost, and in his despatch he called for an immediate investigation of these land-use and other problems not just in Kenya but in East Africa as a whole. Largely as a result of his plea, though also because of the simultaneous outbreak of the Mau Mau troubles in Kenya, the East Africa Royal Commission was appointed in 1953 under the chairmanship of Sir Hugh Dow. The Commission's terms of reference referred to "the rapid rate of increase of the African population of East Africa and the congestion of the population on the land in certain localities" and called for an examination of "the measures necessary to be taken to achieve an improved standard of living...and to frame recommendations". The Mitchell despatch had underlined some of the essential features of population in East Africa, noting that the "population of East Africa is increasing steadily, and in certain districts where the increase is most rapid, there is already serious congestion on the land. At the same time large parts of East Africa produce nothing of value, or support only a very thin population" (Mitchell, 1952). The Governor of Kenya believed that the long-term solution could be "found only in the full development of the economic resources of East Africa". He recognised that "more and more Africans are losing contact with their peasant holdings and coming to depend to an increasing extent on employment elsewhere, for instance in plantations, towns or mines". The Dow Commission devoted considerable attention to population in its various aspects though it did play down the issue of population pressure highlighted by Sir Philip Mitchell, quoting in particular a sociologist who contended that the Governor had overstated his case. Indeed the Commissioners emphasised that, in their view, a far more serious problem from the point of view of economic development was not pressure of population but under-population in most parts of East Africa (Steel, 1970). But the population problem had at least been thoroughly aired, and no-one since the report appeared in 1955 has denied that some very real problems of population pressure exist in certain parts of East Africa. There are, for example, obvious signs of population

pressure upon the land in some areas where the traditional methods of agriculture are followed, as in the former African Reserves near Nairobi in the Kikuyu area and in the Kamba and Machakos districts. Happily many of the farmers in the post-independence period have shown an awareness of the need to improve their land-use methods by terracing and by the application of manure, notably in Machakos. Nevertheless much remains to be done and the areas of marked improvement remain very small in relation to East Africa as a whole or even to those parts of East Africa where population pressure is recognised as greater than the problem of lack of population.

In the early 1950s, there was, therefore, a marked awakening to the nature of the population problem, actuaor potential, in several parts of what was then British Africa, and this was reflected in the increasing attention given to census-taking and to the analysis of the results by government officials and academics alike. Geographers in several of the recently-established post-war universities and colleges in tropical Africa embarked on research based largely on field investigations and the use of such census data as were available. They identified a number of problems arising from the relationship between the physical and human resources of the areas in which they were working. Many of these were essentially the agricultural problems of rural areas though some directed their studies to the special difficulties of the rapidly growing towns and cities where the new universities were for the most part based such as Ibadan in Nigeria (Mabogunje, 1962), Accra in Ghana, (Boateng, 1959), Freetown in Sierra Leone (Jarrett, 1956) and Kampala in Uganda (Steel, 1961). Significantly, at this stage in the development of the young but very active university departments of geography, the emphasis was much more on human than on physical geography, at least so far as reasearch interests were concerned; and the evolution of population geography in tropical Africa-though few if any geographers used that term at the time-undoubtedly owed a great deal to those newly appointed and generally young geographers who chose to make population in all its diversity their main research theme as they looked at the range of problems in the countries where their university base had been established. Most of them were British and the products of British universities, and a remarkably high proportion of them later became members of the staffs of departments of geography in Britain where many continued their population studies and developed them further, often in association with African colleagues in whose training they had played a significant part.

Thus among British and British-trained geographers there was an increasing awareness of the importance of the study of population, and I was given an opportunity of reporting on these, and other, activities of those geographers concerned with tropical Africa at the International Geographical Congress held in the U.S.A. at Washington, D.C. in 1952 (Steel, 1952). By contrast, our American colleagues were awakening to the needs for such studies surprisingly late. In the light of the situation in Britain and the associated university institutions in tropical Africa, many of us were surprised by the title of G. T. Trewartha's presidential Address to

the Association of American Geographers in 1953 : "A Case for Population Geography" (Trewartha, 1953). At least he was introducing the term that is now so widely used and the case he presented was strong and carefully argued, and those of us already involved in such studies appreciated the powerful support that he gave us. He has, moreover, continued over many years to underline the great importance of population study by much writing on the subject, notably in the trilogy on population geography, of which the third volume has appeared quite recently (Trewartha, 1969, 1972 & 1978). In 1954, the year following his address, a chapter on "The geographic study of population" by Preston James appeared in the volume edited by James and Clarence F. Jones, *American Geography: Inventory and Prospect* (James, 1954). The study of population by geographers was referred to as "an underdeveloped topical field", and this was certainly true of the United States and, to a less extent, of other countries too. These publications were signs that geographers recognized the existence of population problems with the marked increase of population in many parts of the world; and they showed, too, that they realized the need for prompt action by governments as well as for continued study by those scholars who could understand some at least of the implications of population growth and the consequences of the increasing concentration of population in certain areas, including some intensively cultivated parts of the world and many rapidly growing towns and cities.

This newly awakened interest in the geography of population, in the U.S.A. and elsewhere, was reflected in the deliberations of the International Geographical Union, which had already been alerted to the global scale of many problems by the enthusiasm of Dudley Stamp and others for a World Land Use Survey. The Commission pour l' Etude du Peuplement, established in 1928 and continued right up to the time of the Washington Congress of 1952, had lapsed, but in 1956 at Rio de Janeiro Commission on a World Population Map was set up with Professor W. Williams-Olsson as Chairman. This continued for eight years and presented its final report at the London Congress in 1964. At that Congress a new Commission-the Commission on the Geography and Cartography of World Population-was established with Dr. R. Mansell Prothero (who had been a member of the Williams-Olsson Commission) as Chairman (Prothero, 1972). Prothero, who served as this Commission's Chairman from 1964 until 1972, had perhaps significantly-worked for six years in the Third World, as a lecturer in what was then University College, Ibadan. He had devoted much of his attention during his time in Nigeria to work in the field of population and had along with others, given much thought to the analysis of the results of the censuses of Nigeria in 1952 and 1953 (Prothero, 1955, and 1956). In the field he had studied in considerable depth the migration of labour from Sokoto Province in Northern Nigeria, his monograph on this subject being the first of his many studies of the migration of African populations (Prothero, 1958). The initial field-work was undertaken while he was a Research Fellow of the West African (later Nigerian) Institute of Social and Economic Research and the analysis and writing-up were undertaken in the University of Liverpool while he was the holder of a Leverhulme

Research Fellowship and then a Lecturer in the Department of Geography, of which I was Head from 1957 to 1974. Later he became Senior Lecturer and then Reader and he now holds a Personal Chair-this distinction resting largely upon his very important contribution to our understanding of the human geography of tropical Africa and particularly of its population problems. Apart from his chairmanship of the Population Commission he had collaborated with K.M. Barbour in editing *Essays on African Population* and was my co-editor in the production in 1964 of the volume, *Geographers and the Tropics : Liverpool Essays* (Steel & Prothero, 1964) published in connection with the symposium on the geography of the tropics held in Liverpool, and largely organised by him, immediately before the International Geographical Congress met in London (Barbour & Prothero, 1961). Over the years he has supervised many research students from Africa as well as from other partos of the tropics and from Britain, and he directed a very comprehensive research programme investigating population mobility in tropical Africa, supported financially by the Social Science Research Council, and with W.T.S. Gould and A.T. Goddard as collaborators (Gould & Prothero, 1975).

Prothero's increasing involvement in population studies in Africa was typical of the move of geographers into the population field in developing countries. One hesitates to single out particular individuals because there have been so many of them concerned with such studies over the years. Examples are the late Dr. T. E. Hilton whose investigations of the distribution and density of population extended to all parts of the Gold Coast, now Ghana (Hilton, 1960). The Department of Geography in the University of Ghana, of which he was a member of staff for 18 years, and whose Head of Department was Professor E. A. Boateng, was closely associated with the preparations for the Ghana census of 1960 and helped determine the census districts used. In Nigeria Professor Akin L Mabogunje has worked extensively in the population field, and his book, *Urbanization in Nigeria* (Mabogunje, 1968), asks some fundamental questions about the nature and problems of urban growth in a developing country - some aspects of which were later investigated further by one of his former colleagues in Ibadan, H. I. Ajaegbu, in *Urban and Rural Development in Nigeria* (Ajaegbu, 1976). There have been several studies of the special features of the "close settled zone" surrounding Kano in northern Nigeria where more than 2½ million people live at a remarkably high density of population with a much more intensive and even scientific, use of the land than is common in most parts of tropical Africa (Mortimore & Wilson 1965).

Elsewhere in tropical Africa there has been similar activity, particularly based upon the new universities and colleges established in post-war years. Individual studies have been undertaken by numerous geographers and some of these served as the basis of the population maps that were later published in the National Atlases of Uganda, Kenya and Tanzania. Much detailed mapping of population in Uganda was carried out by members of the Department of Geography at Makerere University, some of it while the Head of that Department was still Professor S. J. K. Baker, to

whose pioneer work in the study of population in East Africa as long ago as the 1930s reference has already been made (Baker, 1934). One of his colleagues in Makerere, S.H. Ominde, who later moved to Nairobi as Head of the Department of Geography there, was particularly active in this field. In 1968 he published *Land and Population Movements in Kenya* in which he suggested that there was a need for "increased emphasis on population geography in relation to planning", and that "the central role of population discipline provides the population geographers with a special opportunity to participate in an inter-disciplinary approach to the study of . . . problem areas" (Ominde, 1971). Ominde now directs a special Department of Population Studies in the University of Nairobi.

In southern Africa a geographer, Huw Jones, an administrative officer of the Swaziland Government, trained in the Oxford School of Geography where he had taken my own Special Subject on "the social and political geography of British territories in Africa and the Caribbean", was an outstandingly successful Census Officer. In my view he produced one of the most detailed and imaginative surveys of population for any small and compact territory in Africa (Jones, 1968). Very appropriately he moved in due course from Swaziland to the Population Division of the United Nations and then to the World Bank in order to make wider use of his Swaziland experience of handling population data.

In giving almost a random sample of geographers whose work is particularly familiar to the writer, one realises that it is very hard, and even impossible, for an individual to survey at all adequately the considerable advance in population studies that has taken place in recent years. As more and more geographers, as well as more and more demographers, sociologists and others, have shown a lively interest in the study of population in Africa and as increasingly comprehensive and (one hopes) more reliable censuses have been taken - and studies have become increasingly inter-disciplinary or multidisciplinary - it is not easy to unravel (even if this were desirable) what has been done by geographers and what has been undertaken by students of others disciplines. In this essay it is neither relevant nor appropriate to deal with the work of those who are not geographers; but it is essential that reference should be made to the many important studies by demographers in this field, through the United Nations and its agencies and in demographic units (such as that established in West Africa under the direction of J. C. Caldwell, now Professor of Demography at the Australian National University in Canberra), and often as a result of the stimulus and financial support of the Population Council. Caldwell alone has been responsible - along with his collaborators - for books dealing with population growth and family change (Caldwell, 1968) and with rural - urban migration in Ghana. (Caldwell, 1969). Particularly noteworthy is the general survey, *The Population of Tropical Africa*, which he edited with C. Okonjo in 1968 (Caldwell & Okonjo, 1968). More recently there has appeared another volume of 754 pages with the title *Population and Socio-economic Change in West Africa* (1975) edited by him with the collaboration of

N. D. Addo, S. K. Gaisie, A. Igun and P, O. Olusanya (Caldwell & others, 1975). That two such large and comprehensive volumes should have appeared during the third quarter of the twentieth century seems almost unbelievable in the light of the strictures about population and census made by R. R. Kuczynski in the years around the mid - century, and in view of the relatively unsophisticated efforts of the census-takers and analysers of not so many years ago. What advances will there be, we may well ask, during the last quarter of the twentieth century, encouraged moreover by the appearance of a new journal in India devoted specifically to the progress of studies of population? And how much more will geographers be involved in future work of this nature, bearing in mind that these two volumes include contributions not only from authors whose names have already been quoted such as A. L. Mabogunje. S.H. Ominde and R. M. Prothero, together with well-known geographers such as J. I. Clarke, W. A. Hance and R. K. Udo, but also from a number of other geographers who are less widely recognised but whose essays clearly establish their role in the study of population in tropical Africa.

This review has deliberately stressed the significance of the contribution of the geographers to population studies - their involvement being particularly well illustrated by the above-mentioned volumes on Africa and West Africa. But possibly what is of greatest significance is the fact that no longer are geographers working alone in these areas. Increasingly they are collaborating closely with those whose training is in other disciplines: scholars generally are appreciating the nature and value of the contribution of others to a fuller understanding of the complex problems of population; and so studies by geographers are being very effectively integrated with those of workers in cognate subjects. Perhaps we ought therefore to ask this question, do we need to distinguish a branch of geography - population geography - within the compass of the subject as a whole ?

There is, of course, an honourable history for the term "population geography". This was traced for us a few years ago by J.C. Hansen and L.A. Kosinski in *Population Geography 1973*, a publication of the International Geographical Union's Commission on Population Geography, of which Kosinski had become Chairman in succession to Prothero (Hansen & Kosinski, 1973). The paper, having made the point that "geographers have long been interested in population", observes that it was only after the Second World War that "increasing specialisation was reflected in calls for the development of geography of population as a separate subdiscipline". Reference is made to a special course on population geography introduced at university level in the U.S.S.R in 1947; and to the appearance in 1951 in France of the first of several volumes on population geography by Pierre George (George, 1951 & 1959). Trewartha is described as "the founder of modern population geography" in English-speaking countries, through his use of the term in the title of the important presidential address to which reference has already been made as well as for the paper on population patterns in

Africa, published by him with W. Zelinsky in 1954 (Trewartha & Zelinsky, 1954). More recently it is suggested that there has been "impressive growth of population geography as a separate branch or sub-discipline with geography", and there are now a number of specific definitions of the subject. W. Zelinsky, for example, described the studies of the population geographer in 1966 as "the spatial aspects of population in the context of the aggregate nature of places" (Zelinsky, 1966). While J.I. Clarke in the same year suggested that "population geography is concerned with demonstrating how spatial variations in the distribution, composition, migrations and growth of populations are related to spatial variations in the nature of places" (Clarke, 1966 & 1971). Another definition quoted is that of what is described as "the only reader on population geography published thus far": "population geography is . . . that branch of the discipline which treats the spatial variations in demographic and non-demographic qualities of human populations and the economic and social consequences stemming from the interaction associated with a particular set of conditions existing in a given areal unit" (Demko, 1970).

These definitions help to explain what geographers do with population data, and the term has perhaps a virtue as establishing clearly the place of population studies in geography. This essay has emphasised the great change in the attitude of geographers to population, possibly because, in J. W. Webb's words, "while geographical inquiry was still focused on landscapes and regions, authors did not always consider it important to treat population as a geographical variable" (Webb, 1969). Never theless one is entitled to question (even in the first issue of *Population Geography)* the need for such profileration of adjectival descriptions of geography. Without agreeing with those who feel that there is now excessive specialisation in the study and who see "a separate population geography a contradiction to the holistic approach characteristic of geography" (Hansen & Kosinski, 1973). The trouble is that if we use population as an adjective in front of our subject it creates yet another of the many, many branches or varieties which have been encouraged by the creation of new sub-divisions made by geographers themselves. I recall how Professor C.A. Fisher made in his Inaugural Lecture in the University of Sheffield twenty years ago what he called a "light-hearted prophecy that we might soon expect to see the full 57 varieties of geography"-this a reference to an advertisement that is well known in Britain and no doubt elsewhere in the world (Fisher, 1959). Eleven years later he wrote "my personal collection of different categories of geography that have seriously been put forward in professional literature now stands at well over half that number" (Fisher, 1970). To one like myself schooled in the Oxford geographical tradition where, as has been noted above, "the geography of man" was preferred even to the very commonly used term "human geography", the "geography of population" is a natural way to describe what geographers very properly and effectively do with population figures. This title is, moreover, the one favoured by Professor J. Beaujeau Garnier who has devoted so many years of research at the University of the Sorbonne to the subject of

world population and whose *Geography of Population* (in its English translation by Professor S. H. Beaver) was designed to help "all those who are concerned with the world's future to understand the gravest of our problems,...the population explosion and its effect on the urgent necessity to give all men the right to be adequately fed, to work and to live a decent life" (Garnier, 1966). But what matters, of course, is understanding, and this is derived not from the consideration of the title given to the branch of the subject under study but from our application of geography, with all its breadth and variety, to the investigation of the many different facets of the earth's surface-population, settlement, towns and land use on the one hand as well as physical features, climatic data, natural vegetation, and soil types on the other.

The need for understanding-whether of problems looked at globally or of those that affect particular regions and communities-is as great as ever, certainly as great as it was in 1942 when, in the first report of the Colonial Research Committee, it was said of the British colonies at the time, "On the human side, ethnographical and linguistic surveys are lacking in some areas, and there is a shortage of data on social and economic conditions...accurate vital and census statistics are also essential as a basis for many forms of social investigation, and in this field much remains to be done. Many of these surveys may well have seemed of less urgent importance than direct research into the use of colonial products, or an attack on the major tropical diseases, but it is difficult to see how far-reaching plans for social and economic development can be made without the material which such enquiries can supply". These words appeared a long time ago and in what was politically a very different kind of world from the world of 1979; and much of the planning for the post-war years is still done with quite inadequate census material-an outstanding example is undoubtedly that of Nigeria where the figures collected in 1973 were abandoned two years later as a result of an official statement that they would "not command general acceptance throughout the country" (Caldwell & Okonjo, 1968). Demographers, geographers and all others interested in population figures must do what they can to bring home to governments everywhere the overwhelming importance of accurate figures as an essential basis for realistic and sensible planning.

A new journal devoted to population studies has, I believe, a very real contribution to make, and I know that I speak on behalf of all British geographers who have worked in the tropics-in Asia as well as in Africa and in Latin America-and elsewhere in welcoming and commending the initiative of the journal's sponsors and in wishing the Association of Population Geographers of India, and its Editor and his associates every success in their efforts to further the progress of the study of population by geographers and others. This essay has outlined some of the remarkable steps forward that have been taken by geographers during recent decades, and especially since the end of the Second World War; and it is most appropriate that work of this kind should now be carried forward by a journal founded in India and published by an Association in a university whose Department of Geography has already distinguished itself through its staff by the quality, depth and variety of its geographical studies of poulation in India as well as in other countries of Asia.

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THE CONTEXT OF CIRCULATION IN WEST AFRICA*

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Introduction

Studies of mobility in tropical Africa, of which there are now very many (Gould, 1977), are for the most part of a selective nature. They centre upon a particular type of mobility associated with a particular group of people, in a limited part of the continent and for a limited span of time. There are good reasons why this should be the normal practice, time and resources are limited while the possibilities for investigation are endless.

However these restrictions have led, quite unwittingly on the part of those involved, to bias and imbalance. Two examples may be given which are relevant to subsequent developments in this paper. First, there, has been a concentration on rural/urban movements and a neglect of mobility in rural areas. While towns and cities of tropical Africa rightly demand concern in their problems of the present and the prospects for the future, the rural areas from which their migrant populations originate and their interaction with urban areas should be of similar concern. We must not lose sight of the fact that the majority of peoples in tropical Africa continue to live in rural areas, that few of these areas are yet experiencing major depopulation, and that the mobility in which they are involved is of importance for social and economic development. Little has been done to identify this mobility let alone to study it. For example, Masser and Gould (1975) in a study of inter-regional mobility in Uganda stated :

> "It is precisely this important element in overall mobility that is identified in the birthplace data, for the four major flows - Kigezi to Ankole and Toro, West Nile to Bunyoro and Bukedi to Busoga - and several of the other large flows may be held to contain *large elements of spontaneous rural/rural migrants*."

Apart from what has been almost an obsession by economists with rural/urban migration the emphasis in two important works which are concerned with mobility in West Africa (Amin, 1974) and in East and Central Africa (Parkin, 1976) has tended to be more on urban than on rural areas. Papers delivered at a seminar on "International Migration in Nigeria" (Adepoju, 1976), which took place in

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* This paper is based on one presented to the International Seminar on Circulation held at the East - West Population Institute, Honolulu, Hawaii, April 1978.

Nigeria and was directed largely by Nigerians, were equally balanced between rural and urban considerations. Only very recently has there been a discussion, held at the Africa Studiecentrum at Leiden, which has been directed specifically at "Migration and rural development in tropical Africa" (Binsbergen, and Van Meilink, 1978).

Secondly, more emphasis has been given to migration than to circulation, though in some instances the former term has been used particularly by economists (with the notable exception of Elkan, 1967 and 1977) and demographers when the latter phenomenon is being discussed. This indeed was the case in past studies of mobility in North west Nigeria (Prothero, 1957, and 1959) and elsewhere in West Africa (Rouch, 1957 and 1960; Skinner, 1961 and 1965; Berg, 1961 and 1965). Overall far too little attention is given to circulatory movements which do not involve a permanent change in place of residence. Where such movements have been considered, attention has been directed particularly to the circulation of labour in the context of socio-economic relationships within and between source and destination in circumstances of a plural society and economy in south-central and southern Africa (Mitchell, 1959, 1961, and 1969; Garbett, 1975; Garbett and Kapferer, 1970).

Typologies of Mobility

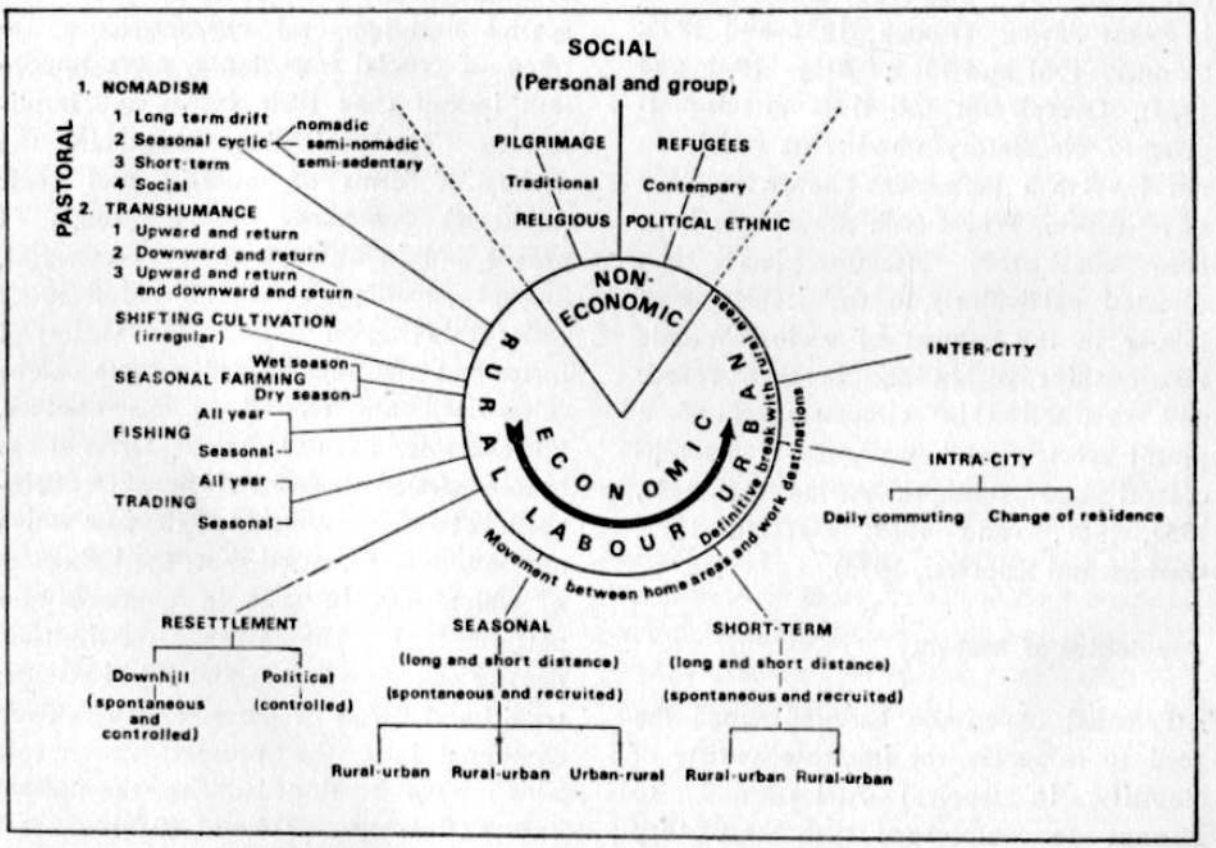
Personal experience has underlined the need to recognize the immense variety of mobility in tropical Africa and to attempt to comprehend both the totality of mobility and the relatedness of its different forms to one another. For example, where mobility has to be considered as a factor in disease transmission and in planning programmes for disease control and eradication, *any* form of population mobility, and often *many* forms of population mobility, may be relevant (Prothero, 1961, 1965 and 1977). Daily movements over short distances may bring those involved into contact with disease vectors; seasonal movements over short or long distances, from one set of ecological conditions into or through others, may result in exposure to infection; and longer-term and often long-distance movements to new psycho-socio-economic environments may present physical and mental problems in adjustment to these new circumstances. In movements such as these the size and spatial and temporal characteristics are often of crucial importance, more important indeed than their causes and implications. The basic facts concerning the variety of forms of mobility and their (multiple) occurrence among groups of people and in different areas are essential. Such practical requirements have influenced wider thinking on mobility, its variety of forms and the ways in which these can be categorized and related to one another. For example, in most general terms it has been suggested that there is need to distinguish between movements of the past which are no longer practised, but the influences of which may be seen in contemporary patterns of population distribution, density and population/land relationships; traditional forms of movements which are continued into the present; movements which have developed during the present century (Prothero, 1964 and 1968).

More recent thinking has led to less conviction of the validity of this trilogy, or rather to being more convinced of the need to relate movements in each of these groups to one another, to identify analogies in the present with the past and to investigate continuities from the past into the present. These have still to be thought out thoroughly though further reference is made to them later in this paper.

Two more detailed typologies have been prepared. The first of these was presented originally in a paired discussion on mobility and disease with a medical worker. It was a simple descriptive attempt to identify the variety of forms of mobility associated with different groups of people (Figure 1). These different forms of mobility were assigned to two major categories of *primary* motivation - economic and non-economic - but in a typology intended to be descriptive and not analytical it would be naive not to appreciate the much more complex nature of causes of mobility which more sophisticated attempts at explanation have failed to comprehend.

This descriptive typology has been published previously only in the works of others -verbally by Hance (1970) and in diagrammatic form by Mabogunje (1972). It has many limitations. There is a lack of realistic parameters for distinguishing forms of mobility from one another, other than through the activities of groups in-

Figure 1
Typolgy of Population Mobility in Tropical Africa



volved. It fails to distinguish mobility which is circulation from that which is migration, a distinction which is of crucial importance in trying to understand population movements in tropical Africa and in many other parts of the developing world.

The basic outlines of a second typology were laid down during the first half of this decade in preparing for a survey and analysis of mobility in tropical Africa. This work was attempting to systematize existing material on all forms of mobility and trying to relate them to one another. The typology was an initial essential development in this direction. Parameters of space and time were chosen to provide the basis for classification and they have been discussed in detail elsewhere (Gould and Prothero, 1975), their applicability to groups involved in different kinds of movement (Gould and Prothero, 1975a), and further applicability in studying the exposure of such groups to various health hazards (Prothero, 1977). *Spatially* the typology distinguishes between rural and urban, consciously recognizing that the distinction between these is not clear-cut and that the relationships between them are always close. *Temporally* the major distinction is between circulation and migration (Figure 2).

In respect of migration (involving per-permament change in place of residence) distinction is made between *regular*, when the move is made deliberately and without immediate coercion or compulsion though it may not be entirely voluntarily, and *irregular*, when the move is made involuntarily as a result of natural or human factors or a combination of these. In the former the migrant can make a decision concerning change in place of residence but in the latter he does not.

The concept of *circulation* has extended greatly beyond that of labour circulation

Figure 2

Typology of Population Mobility in Tropical Africa

	Time					
	Circulation				*Migration*	
Space	*Daily*	*Periodic*	*Seasonal*	*Long-term*	*Irregular*	*Permanent*
Rural-rural						
Rural-urban						
Urban-rural						
Urban-urban						

discussed by Mitchell and others for southern Africa; in accordance with Zelinsky's concept of circulation (which was developed without reference to the work of Mitchell and others)

> "...the great variety of movements usually are termed repetitive or cyclic in character, but all having in common the lack of any declared intention of a permanent or long-standing change of residence" (Zelinsky, 1971).

Of course the many problems inherent in defining "any declared intention" both *ante-* or *post-facto* are recognized, but from direct experience and that of many others in Africa there is clear awareness of people who leave their home places for varying periods of time, from less than twenty-four hours to many years, and who then return to them. In the shorter lengths of time, the intention to return is clearer. Possibly daily circulation should be designated commuting though the latter has the connotation of travelling to work in the modern sectors of activity (e. g. office, factory, or school) rather than movements of a traditional kind. Periodic circulation, involving absence for more than twenty-four hours but for less than one year, and seasonal circulation, which is a type of periodical circulation but can be separately distinguished, do not present particular difficulties in respect of declared intention.

In the case of long-term circulation (involving absence for more than one year), the intention to return is more difficult to determine but again the variety of evidence available from all parts of tropical Africa indicates that links are maintained with home areas by those who are away in towns and elsewhere and who might seem to have severed their connections. Nabilla, who has studied the movement of his own people from the north-east of Ghana, tells of those in Ghana who are designated "NGBs" ("Never Go Backs"), people who consider that they have severed their links with their home places. But as he says :

> "They will in the end go back, either their bodies for burial or even without this return home would be recognized by those who would perform funerary celebrations in places of birth whether or not their bodies were returned" (personal communication).

In tropical Africa it would seem that total severance for anyone is very difficult and this inevitably makes the distinction between circulation and migration more difficult to operate.

The typology is sufficiently flexible to accommodate most if not all forms of mobility. It aids in the appreciation of important mobility characteristics. It identifies movements which are widely recognized (e. g. labour circulation), but it also helps in identifying movements about which little is known (e. g. short-term and short-distance moves such as journeys to work, to schools or to rural health services) but to which more attention should be given for rational development planning. Like other typologies it is basically descriptive, with some analytical value in respect of space and time factors but with limited explanatory value. However, from the way it has been received it has been of some help to others working in Africa and for comparative purposes to

those studying population mobility in other parts of the developing world (e. g. Hugo, 1975; Skeldon, 1977).

Circulation in West Africa

Little explicit attention has been given to circulatory movements of population in West Africa. Little is known about the daily circulation in rural areas associated with economic practice and domestic need. There is undoubtedly more information available on the mobility of pastoralists than on any other group (Stenning, 1957), but there has been some important study of circulation between residence and farms (daily, periodic and seasonal) in south-western Nigeria (Ojo, 1970 and 1973). Of the daily circula tion to and from work in urban areas there is an awareness qualitatively of its growing volume and of the problems created for over-burdered transportation services, but quantitatively in terms of the numbers involved and the space-time parameters knowledge is limited. The much wider range of daily intra-urban movements investigation is only beginning (Main). The situation is very similar for the majority of forms of periodic, seasonal and long-term forms of circulation. The movements of those involved in trade have received some attention though this is largely indirect in the context of market periodicity (Meillasoux, 1972; Smith, *et al* 1974). To date there are tantalizing but limited insights into all these circumstances about which much more needs to be known both for their intrinsic interest but much more importantly for their relevance in socio-economic development.

The circulatory movements about which most is known are undoubtedly those involving labourers seeking work away from their home places for verying periods of time and over varying distances. Attention is concentrated on these movements for historical perepective and contemporary relevance and for comparisons which may be made between them and labour circulation in other parts of tropical Africa.

General Statements on Mobility in West Africa

Two general statements have been made about mobility in West Africa during the persent decade. They are somewhat limited in what they have to say about labour circulation, though they contrast markedly in other respects. Mabogunje in *Regional mobility and resource development in West Africa* (1972) takes a determinedly historical view of population movements contributing to the benefit of migrants themselves and to their host and home communities,

> "...to dispel popular misconceptions, not only do they distort reality, but they also *prevent an appreciation of historical continuity in the development of West Africa. The time perspective allows us to see many of the consequences of regional mobility as a continuous adaptation and modification of traditional norms and institutions to meet new social and economic needs.*" (p. 7, my italics).

He sees the colonial period as one which "...saw the consolidation of situations that stimulated trade, travels and migrations among different ethnic groups to an unprecedented level" (p. 8).

Overall he is explicit as to the importance of those who move away returning to their home places.

"But mobility need not imply any intention of abandoning former homes. *Indeed if any intention can be deciphered it is that of making the former home a better place to return to periodically or at the end of a foreign sojourn.*" (pp, 15-16, my italics).

While pointing out that movements of seasonal or short-term agricultural labour have tended to distract attention from historically established more diverse and directionally morecomplex types of movement of traders, farmers and fishermen which still go on in West Africa, he points out that this movement was associated with given facts of the West African environment related to seasonality and distance. Populations in the interior with its marginal environmental potential and subject to high transport costs were limited in their agricultural production and economically disadvantaged as a result and

"to correct this a large number find recourse in migrating to the more prosperous farms and plantations of the south." (p. 53).

The same given facts of the environment

"...made such movement easy to contemplate for most of the people.. it involved minimal disruption of the basic economic activity in their home area...The long slack period...from December to March provides an invaluable opportunity to earn extra income each year by migrating to the farms and plantations of the forested south." (p. 53).

He goes on to point out

"It is clear that in terms of the movement of labour, regional mobility of the colonial type has been a decisive factor in resource development." (pp. 82-83).

and further that :

" there is some evidence that regional mobility has been instrumental in spreading those values which are vital for the stimulation of development in many parts of West Africa." (p. 113).

By contrast Amin 1974 in a highly idiosyncratic and different ideologically-orientated introductory essay to *Modern migrants in West Africa* is concerned with recent migratory movements which are viewed in only a very limited historical context.

"Migrations have already passed very largely over a first phase, characterized by the preponderance of migrations of short periods (under one year) to a mature phase characterized by permanent migration" (p. 69).

For the greater part of West Africa he sees there to have been a massive draining of population from the interior parts to the coastal regions

"...4.8 million persons represent the probably demographic contribution of the interior to the coast during fifty years of migration." (p. 72).

These are "perm nent" migrants and to them must be added seasonal migrants who were much greater in number in the past. In analysing both permanent and temporary movement Amin discusses :

"The environmental approach to migratory phenomena...carried out within a theoretical framework based on the hypothesis that the 'factors' of production

(labour, capital, natural resources and land) are given *a priori* and geographically distributed unequally, the latter itself being taken *a priori*."

The distribution is "the result of the strategy of development" and

"economic choice (so-called 'rational') and notably the decision of the migrant to leave his region of origin is then completely predetermined..." (pp. 88-89).

In other words the migrant has had no alternative but to respond to the constraints of the colonial capitalist system which deliberately has developed some regions and left others undeveloped so that the latter "have been conditioned more than others to meet the need for proletariat labour" (p. 96).

This is not the place to develop a detailed critique of two very different views of mobility, one essentially *negative* and the other *positive*. Amin, who makes only passing reference to the work of Mabogunje, sees the majority of migrants at the present day as dispossessed and consequently oppressed by a system which was established throughout most of West Africa in the early decades of the present century. Mabogunje, while not claiming that all mobility is good, beneficial to all who move and to all sources of origin and destination, sees it as a phenomenon which has existed in the past, and is rooted in traditional custom, which has changed and developed sensitively to opportunities and potentialities without major social and economic disruption.

Particular Circumstances in West Africa.

In the 1950s and 1960s studies of labour circulation in West Africa failed to appreciate sufficiently the continuity of mobility from the past into the present. Furthermore, they failed to appreciate the significance of maintained links between home places and destinations in the particular context of West Africa as compared with South-central and South Africa. The models in West Africa were derived from other parts of the continent where classic work was done, beginning in the 1940s and continuing in the 1950s and 1960s (Mitchell *et al*). These models were not incorrect, far from it there is much of common value to the whole of Africa, but those working in West Africa took insufficient note of the socio-economic, cultural and political contexts in which their work was set and the ways in which these contexts differed from elsewhere in the continent. Account was not taken of the particular features of West Africa.

Being latitudinally disposed, with a south-north succession of east-west belts of differing environments, West Africa presents features which are given *a priori*, and which cannot be denied, that were relevant in the past and will continue to be relevant for the foreseeable future. The zone of the Sahel immediately south of the Sahara and the succeeding nothern parts of the Sudan zone offer limited environmental potentialities and great environmental risks for agricultural production. The variety between the east-west zones predisposed to exchange of their products through trade and therefore predisposed to human interchanges. These were so long before Europeans penetrated West Africa and colonial rule and economy were established and labour movements developed (Meillasoux, 1972).

The existence of indigenous urban places in West Africa in contrast to the towns created by and for Europeans in south-central and South Africa, has involved close interaction in society, economy and politics between them and rural areas. Traditionally rural-urban relationships were unified and not dichotomous, rural and urban places were extensions of one another and were mutually dependent (Goddard, 1965; Miner, 1965; Mortimore, 1972). While new towns were founded by the colonial powers in West Africa with differing features from those that were traditional, nonetheless these new centres could be relatively easily comprehended within the concepts and experience of the indigenous population.

With the exception of plantations in the southern parts of the Ivory Coast and in the Cameroon, there was almost no alienation of land to Europeans in West Africa. Developments therefore of the production of crops for cash and export which established demands for labour, while they were stimulated directly by the external market, were for the most part in indigenous hands. In the case of crops which were already cultivated (e. g. cotton and groundnuts) output was increased through extension and intensification of production. The cultivation of introduced crops (e. g, cocoa and coffee) was developed and extended again most through the responses of indigenous entrepreneurs to the demands of the market (Hill, 1963).

Bearing these very important facts in mind population mobility in West Africa may be distinguished as involving great continuity between the past and more recent times, and the maintenance of linkages by migrants between their areas of origin and those of destination, with major and continuing important elements of circulatory movement. There has been the inclination to assume a break in mobility between the past and more recent times in West Africa. There is need to be more attuned to evidence that suggests continuity. This may be exemplified from two recent studies and by some reassessment of earlier work.

"Strange Farmers" in Senegambia

Swindell (1977) has reported on the study of the movements of "Strange Farmers" (*navetanes* in Senegal) who replace and supplement family labour in the groundnut growing areas of the Gambia. They are involved in a host-client relationship, working for farmers for 2-4 days a week and growing groundnuts on plots made available to them for the remainder of the time. Numbering about 30,000 (not including dependants) they provide a labour input at critical points in the farming schedule. They are required notwithstanding mechanization which while increasing the area under cultivation has also increased labour needs for weeding and harvesting. Farms with "Strange Farmers" cultivate on average one-third greater area under groundnuts than those without.

The persistence of this system is noted with evidence for it going back 150 years, preceding the main impact of colonial rule and the development of the colonial-capitalist economy. About 25 per cent of the "Strange Farmers" surveyed were Gambians, the remainder were principally from Senegal, Mali and Guinea with a minority from Guinea Bissau, Mauritania and Upper

Volta. They are motivated primarily by economic factors, being variously influenced by pressures in home areas (high population density, arduous work and an ailing economy) and attractions in the Ganpia (the efficient marking system, favourable exchange rates, and the availability ofgoods for purchase). In Mali even the inputs of the official "Operation Arachide" to extend and improve production of groundnuts in the late 1960s, in an attempt to correct some of the imbalance between interior and exterior regions, failed to stem movement to Gambia. Comparable attempts in Guinea a decade earlier had similarly failed to produce a response to reduce movements.

While farming work in Gambia extends from March to the end of the year and is therefore concentrated in the wet season many "Strange Farmers" have been away from their home areas for more than one season. Having made an initial move they then alternate between wet season farming in Gambia and various forms of dry season employment in Guinea and in adjacent parts of Senegal. This alternation involves "circulation within circulation", since the majority remain closely linked with their home areas. They remit money and goods to support families (just over 50 per cent), accumulate money for bride wealth (29 per cent), and a smaller number accumulate capital for trade or for their activities in the informal sector.

This study is important in demonstrating "the complex conditions of the migratory system" which has operated over a long period of time, which has continued despite attempts in the areas of origin of migrants to make them more economically attractive, and changes in the destination areas (the widespread development of ox-ploughing). While there is evidence of change from seasonal to long-term circulation, only 20 per cent of those questioned said that they would wish to stay permanently in Gambia if the opportunity offered. They would not seem to be trapped by the constraints of the wider ecological and economic system which offers no flexibility. They can work on groundnut cultivation in the wet season and with alternative employment in the dry season they have "an ideal method for maximizing opportunities for income formation." This is what they seem to want, for as Swindell says :

> "The Gambia is a relatively prosperous economic enclave which attracts migrants and which presents an escape from bureaucratic situations *for a potentially highly mobile population, who were "voting with their feet"* (my italics).

Though with caution and with insight he adds,

> "...there is no simple answer to the question whether migration hampers or aids rural development; it depends on the short-or long-term considerations, and of course whom you ask."

Labour Migration in Upper Volta

This present and potentially poor landlocked country has been the single most important source of labour migrants (largely young men) in West Africa, who move to opportunities offered by the more precocious economic developments in Ivory Coast and Ghana. Studies of these movements in the 1960s and 1970s suggest that through political and economic measures (forced labour, military service and taxation), the

French colonial system deliberately developed the Upper Volta as a labour reserve. Movements which in the earlier years were seasonal and integrated into the dry season inactivity in home areas, developed into longer-term absences (Skinner 1960 and 1965, Deniel, 1967 and 1974, Songre *et al*, 1974; Gregory, 1974; Gregory and Pichet, 1977 and 1977a). Some of this labour was recruited for work in the Ivory Coast, most of it moved there spontaneously and to Ghana. Skinner (1965) who made one of the earliest studies of labour movements writes :

> "The Mossi migrants try to ascertain whether more jobs are available in Ghana or in the Ivory Coast before they leave home, but few of them know exactly when they go off what kind of job they will obtain" (p. 67).

His view (1960) overall was that

> "...labour migration in Africa is most properly seen as a post-European phenomenon, though one scholar has seen it as a continuation of the ancient displacement of population occasioned by the slave trade. In most cases the first labour migrations were involuntary either because Africans were forcibly displaced to work on European projects, or because they went to work centres in response to the introduction of taxes which had to be paid in European currencies" (pp. 376-77).

Though he goes on immediately to say,

> "These Africans associated with traditions of compulsory or tributary labour for the chief or specific types of social institutions often accepted forced labour and labour migration quite easily" (p. 377);

which certainly accepts some element of continuity from the past to the present.

Skinner indicated that by the second decade of this century the Mossi had developed a seasonal pattern of absence, an established pattern of circulation for the majority with "...the failure of about 20 per cent of the migrants to return home in any one year". He was quite firm that this mobility was ordered by economic factors and that

> "Migration itself brings little lasting prestige. It is not seen as a *rite de passage* or even an unusual act. The men who go away are not considered brave but poor..." (p. 385).

A more recent study of population movements with particular reference to a Mossi village takes a much broader view, identifying many forms of movement in precolonial and present times, and views labour migration in the context of these (Finnegan, 1976) :

> "to support a different view of Mossi labour migration and its effect than has previously been expressed my hypothesis is the following: international labour migration is only one manifestation (however striking) of how a Mossi village is used spreading deployment of its people to adopt varying economic, social and political conditions" (p. 9).

He argues, as does Mabogunje, people's capacity "...subject to 'modern' forces to respond actively and creatively rather than passively", because their responses "...have acquired roots in their adaptations to the demands of pressures of movement in precolonial state society."

He is concerned with the concept of the "social field"

"By that I mean an aggregate of ecological, economic, political, social and cultural factors which involves an element of cultural freedom of action of individuals or communities" (p. 14);
which meant that at no level was Mossi society rigid or fixed.

Thus when the French colonial system subjected the Mossi to administrative and economic pressures people were able to respond on the basis of established experience. With increasing transport and communication, their social field extended to include Upper Volta, Ivory Coast and Ghana but within it movement...was still with reference (insofar as they remain 'allegiant' members) to the village"(p. 219), and this situation continues today.

In conclusion Finnegan states :
" . . . in present conditions migration [i. e. circulation] is a positive institution enabling individuals and their villages to exploit resources otherwise unavailable to them" (p. 225)

This is a positive and attractive view.

Labour Movements from North-west Nigeria (Sokoto Province)

Retrospective review of what was written twenty year ago (Prothero, 1957 and 1959) suggests there are points which now seem to require different emphasis from that which they were given previously, in the light of further insight and experience.

Seasonal movements of labour from areas of limited economic opportunity to areas of more precocious economic development should be more closely related to traditional movements of *masu cin rani* ('people who eat away during the dry season') which pre-date the development of the colonial capitalist economy. The latter, often involving whole families, certainly helped to conserve food supplies in home areas by not making demands on them for several months of the year, but there is no clear evidence as to what extent people were forced by environment and production levels to do this. As pressures built up in the source areas of migrants by the third and fourth decade of this century as a result of population increases (naturally and by immigration from Niger) the need to move in the dry season increased. This need was accompanied by the economic development of areas which produced demands for labour, demands which occurred mainly in the slack period associated with the long dry season in northern parts of Nigeria. These demands were in areas with which already there were long-established trade contacts. The response to these various factors was the development from traditional circulatory *cin rani* over relatively short distances to long-distance circulatory movements which could be undertaken only by active young adult males (*yan tuma da gora*, "young men jumping with a gourd").

Unlike in the French territories in the West Africa there was in Nigeria much less administrative pressure on people to move. There was no forced labour or compulsory military service and there were no major plantation areas in the then Gold Coast (Ghana) or in Nigeria for which labour needed to be recruited. Taxes were levied in Nigeria from the earliest phase of

colonial occupation (from the first years of this century in north-west Nigeria), but in the documentation there was no evidence of pressure to move for this reason. Colonial administrative reports made no reference to long-distance seasonal movements until the 1930s, and this contrast with French West Africa is something which needs to be followed up further provided that records still exist to sustain a n enquiry in greater depth.

While economic motives were undoubtedly predominant in the development of long-distance movements-seeking money and food and to engage in trade-there were other factors involved though the nature of these is not clear. They were operating to bring people back to their home areas in circulatory fashion, and they were preventing at least some of those who were moving in this fashion from migrating permanently, even where there were opportunities relatively near at hand for the cash-cropping of cotton and groundnuts in the south-east of Sokoto Province. In this instance the colonial capitalist system was providing incentive and infrastructure which would reduce the need to move over distance, but there was only very limited response to these. The situation was similar to those referred to earlier for Mali and Guinea in respect of movement to the Gambia.

Since the 1950s it has been possible to note changes in some aspects of movement within and from north-west Nigeria, albeit in a somewhat fragmentary fashion. Research undertaken in the 1960s, but unfortunately only partly published (Goddard, 1974), indicates that while a large volume of movement continued the distances moved compared with the 1950s were reduced, with a high proportion of movers finding work within Sokoto Province and only a very small proportion going outside northern Nigeria. Circumstances of the 1960s in Nigeria (political and ethnic unrest leading to the outbreak of civil war in 1967) and beyond (economic depression, currency devaluation, and a developing antipathy to foreigners in Ghana) can be advanced to explain these changes.

In the present decade there has been the major impact of drought upon the source areas of those who move. These environmental and concomitant socio-economic factors have not been monitored in any detail to give much firm information of their effects on the nature and pattern of movements. There is some very slender evidence to suggest that longer-distance movements were re-established, but there is no information as to numbers involved or to what extent the change was in response to drought and/or the return to more stable political conditions in Nigeria compared to those in the previous decade. In the future further changes in mobility may be expected consequent on the planned introduction of universal primary education and agricultural changes brought about by major water-control projects some of which are under way while others are proposed.

These scraps of evidence point up the simple but fundamental fact that any firm conclusions about mobility cannot be drawn from time-specific evidence. Mobility is so dynamic, so responsive and adaptive to changing circumstances. that any meaningful conclusions can be drawn

only from evidence which has been monitored over time. There is unfortunately very little of such evidence available for any part of tropical Africa up to the present.

Conclusion

The circumstances in West Africa are sufficiently different from those in the southern parts of the continent, from political, economic and cultural points of view, to warrant different expectations in respect of the development and nature of mobility. In West Africa there is more evidence of continuity in mobility from the past through to the present. Many changes came about with the introduction of colonial rule and the development of element of a modern capitalist economy but there was not the major hiatus as occurred with these in southern Africa. Traditional indigenous, political, social and economic institutions influenced these changes and contributed to cushioning their effects. For example, trade and exchange over very long distances were already long-established. Traditional forms of mobility were sensitive and responsive to these changes, in some instances there was only limited scope for response, but in others there was adaptation to opportunity and potential with positive responses which contributed importantly to modern economic developments. These positive responses are continued at the present time to the benefiit of the home areas of migrants as well as to their destinations. The Mabogunje model seems a more acceptable one with which to work than that of Amin, though both need to be tested more rigorously and extensively.

With the above generalizations about West Africa there are clearly qualifications which have to be made in respect of regional variations in traditional and more recent mobility. There is need to look much more carefully at the effect of the different colonial policies in francophone and anglophone West Africa. Furthermore, there is then need to look more closely at the linkages developed between territories with these different back-grounds - for example, Upper Volta and Ghana, Niger and Nigeria - as Swindell has done recently for the Gambia and Senegal, Mali and Guinea.

Circulatory movements with a great variety of spatial and temporal characteristics can be identified. Those which involve labour circulation undoubtedly had very strong seasonal characteristics in the past, conditioned by the physical environment in West Africa. This seasonality has undoubtedly diminished but it is a characteristic which is likely to remain relatively stronger in West Africa than in other parts of the continent.

The majority of population in West Africa remain rural-based and therefore circulate within and from rural areas. Those who have moved into towns also continue to circulate but from an urban base. Hart (1974) in a contribution to *Modern migration in West Africa*, to which significantly Amin makes little reference in his introductory essay, writes of the mobility of the Frafra who come from north-east Ghana in respect of

> ".....erosion of distance between Ghana's regions ..... visits in either direction are common place and Frafra hop around

the country probably more often than many citizens of developed nations..." (p.329).

"Almost all migrants maintain strong ties with their home lineages, *mainly because they conceive of themselves as temporary absentees with a long-term stake in joint property and the village community*," (p. 329, my italics).

Hart writes of the Frafra lineage having expanded to include the whole of Ghana with constant change in the location of personnel but with rural and urban environments constituting "a single integrated field" (c. f. Finnegan). There is a strong contrast with the 1930s Fortes, 1936, 1945, 1949 and 1953) with

" ..... the essential spontaneity of migration decisions under modern conditions, in contrast with the traumatic severance of communications and relationships which seem to have characterized pre-war mobility ..... The whole process of physically up-rooting oneself seems to be so casual these days" (p. 331).

Conditions have changed and have improved.

In respect of continuing links through various forms of circulation, both urban- and ruralbased, particular note should be taken of the ways in which these links are stressed by African social scientists who not only study them but also maintain them themselves. Thus Kamekpor and Looky (1964) state :

"The distance factor makes it easy for more Togolese resident in Ghana to pay frequent visits home while maintaining semipermanent residence in Ghana" (p. 368).

In a study of migrants in the town of Oshogo in south-western Nigeria, where 78 per cent of those interviewed made two or more visits to their homes each year and 40 per cent visited between four and twelve times, Adepoju (1974) writes :

"Most town-dwellers do not become completely urban in their outlook. Frequent home visits serve as channels of cultural diffusion ...." (p. 135).

He goes on to refer to the strength of "village patriotism" which manifests itself in various ways. There are the "improvement unions" of "sons abroad" which are set up in towns . . "to promote self-help schemes and thus to serve as development agencies in the rural areas." In Nigeria in 1962/63 mass "census migration" occurred from towns back to rural places to swell the populations of the latter and thus qualify them for increased government support (Udo, 1970).

There is certainly need to look more closely than has been done for links between past and recent mobility and for links that are maintained through continuing forms of circulation. Hart (1974) states ;

"When we turn to specific theories of economic development and underdevelopment, we find a never-never land of idealogical polarization, conceptual sterility and emperical ignorance."

The same may be said of mobility in West Africa, and in respect of theories, concepts and evidence it is necessary as Swindell has said to recognize the importance not only of whom you ask, but what you ask and how you ask it.

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SPATIAL PERSPECTIVE ON LITERACY IN INDIA

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Introduction

In the modern context, a wide diffusion of literacy and education is indispensable to the process of development, both in economic and social terms. Though education by itself does not generate socio-economic progress, the lack of it can certainly be an impediment in the developmental process. A certain minimum level of literacy is, therefore, a basic requirement for a people to get out of ignorance and backwardness. While an overall progress in literacy and education is necessary in a country in this context, equally important is its distributional spread in all its areas, towns and villages, social classes and the two sexes. Thus, a study of literacy in the spatial perspective in all these aspects assumes a significance of its own in a country like India, which has about one-seventh of the world's population, and which is attempting to achieve socio-economic advancement within a democratic system.

Literacy in India as a Whole

With only 29.46 per cent of its people (39.45 per cent males and 18.72 per cent females) able to read and write with understanding, as per 1971 Census, India has one of the predominantly illiterate populations in the world. Barring some countries in Africa, there are very few areas with sizable population even in the developing world where literacy rates are so low as in India (Nortman and Hofstatter, 1978). If children below 5 years of age are excluded, even then India's literacy rate comes to only 33.84 per cent (45.28 per cent males and 21.84 per cent females). This is vastly distant from the national goal of universal literacy.

Although these figures are depressingly low, they do represent a fair leap forward when compared with those of the preceding decades of the present century. From 1901 to 1931 the rate of literacy increased from 5.35 per cent to 9.50 per cent. In sharp contrast to this, during the next forty years ending in 1971 the literacy rate has risen to 29.46 per cent. An examination of the decade-to-decade figures of literacy during the present century reveals that the year 1931 marks the end of an era of prevailing illiteracy and the beginning of a period of steady increase in the proportion of people who can both read and write. It may be noted that while during 1901-1931 literacy among the females was practically non-existent, it has gradually increased during the following forty years (Table 1).

TABLE 1

Progress of Literacy in India, 1901-71

Census Year	Percentage of literate population to total population	Percentage of literate males to total male population	Percentage of literate females to total female population
1901*	5.35	9.83	0.69
1911*	5.92	10.56	1.05
1921*	7.16	12.21	1.81
1931*	9.50	15.59	2.93
1951**	16.67	24.95	7.93
1961	24.02	34.44	12.95
1971	29.46	39.45	18.72

SOURCE ; Census Centenary 1972 ; *Pocket Book of Population Statistics*, New Delhi, p. 65.

*For undivided India

**Excludes Jammu and Kashmir

A simple comparison of percentage figures for the various decades does not bring out a true picture of the actual progress of literacy. For a meaningful measure of the progress, one must also take into consideration the growth of population and mortality among literate persons during each period of time. Schwartzberg has shown, for example, that the actual progress in literacy in India during 1951-61 was considerably more than what is suggested by a comparison of the literacy rates for 1951 and 1961 (Schwartzberg, 1961). While the percentage of literate persons to total population increased from 16.67 to 24.02 during the period, the increase in the actual number of literate persons was by 77 per cent. If allowance is made for deaths among literates during the decade, the gross increase in their numbers comes to nearly 100 per cent which is a remarkable accomplishment. The following decade 1961-71, shows up an unexpected slackening in the progress of literacy rate, which increased from 24.02 per

cent to only 29.46 per cent. While the net absolute increase in the number of literate persons during 1961-71 was about 56 million, that during 1951-61 was of the order of 45 million.

Paradoxically enough, despite a massive increase of about 101 million in the number of literate persons during 1951-71, the illiterate population increased by no less than about 90 million—a staggering effect of accelerated growth of population during the period. In 1971 the illiterate population in the country was well above the total population of 1951. The future course of the level of literacy and educational attainment in India may very well be determined as much by the future course of its birth rate as by the magnitude of its efforts to provide more educational facilities. Real success can be achieved only by a monumental effort on both fronts : in education and in fertility control.

The prevailing illiteracy in India is largely a legacy of the past. During the 19th century the ability to read and write was a rare phenomenon. Before the advent of the British, India was not a welfare state as we know it today and education was none of its responsibilities. A large majority of the rulers looked solely to their own interest and regarded the great body of their subjects chiefly as the source of revenue which they spent on themselves, their courtiers and their armies. The idea that it was the duty of the rulers to govern for the good of their subjects was not alien to them but their connotation of 'the good' did not comprehend what today would be called the programme of educating the masses. Under such conditions, it is not surprising that the common people remained illiterate. The rich traditions of culture and scholarship dating back to the remote past were mainly confined to the top strata of the society. The social structure of those times did not encourage the idea of what today is called universal literacy.

The 'division of labour' enunciated by Manu made it unnecessary for everyone to learn to read and write. It so compartmentalised the society that the task of learning remained the privilege of only those with whom reading and writing was largely an occupational necessity. Thus the priest, the trader, and the administrator formed the small literate section of the total population.

The influence of caste with its hereditary occupation tended to work against the spread of literacy among the masses. Not only were the learned professions the close monopoloy of a few castes, but also the imparting of knowledge to most others was strictly forbidden. The persistence of this ancient situation is evident from the census returns of literacy decade after decade in which the professional and trading castes have maintained their lead. The hold of the caste on the occupational structure has remained strong until very recent times; and, although it started loosening during the present century, it yet accounts for perpetuating illiteracy among certain sections of the society. All of these developments at least partly explain the lack of a tradition of universal literacy and education in India.

Apart from the impediments of caste and occupation, the predominantly subsistence agricultural economy, based for the most part on a backward technology, minimized the value of education in the past. Parents have been reluctant to send their children to school when they could be a helping hand at home. Also, in the rural areas the castes at the bottom of the social scale were not only indifferent to the doubtful advantage of education, but also they were generally too poor to be able to set aside even small sums of money to meet the expenses of schooling. The existing system of full time formal education suits only those who can afford to feed, clothe and send their children to school on a whole-time basis and quite a large proportion of rural masses are not in a position to 'drop-into' the system while many others 'drop out' of it at the elementary stage without any worthwhile achievement (Naik, 1975).

It is only during the past about forty years or so that advance in literacy became noticeable. During this period, serious efforts were made to develop a network of means of communication, connecting the countryside with towns and towns with cities, and to improve economic conditions. Economic development started during the thirties, though in a vague and unplanned manner. Numerous religious and other organisations undertook the task of educational advancement, opening schools in rural as well as urban areas. The Second World War created a new awareness and made an impact of its own. The progress in literacy in India between 1931 and 1947 may be attributed largely to these developments. However, all parts of the country did not register this progress, nor did they respond equally to the opportunities made available. This led to serious regional inequalities in literacy.

During the post-Independence period, apart from the continuation of the trends started prior to 1947 and the growing awareness of the need of education, the Government of free India made determined efforts under the various five-year plans to extend educational facilities to men and women of all strata of Indian society in rural as well as urban areas. In fact, special attention has been given to the social and economic welfare of the traditionally backward classes[1]. At the same time, improvement in technology and a start in diversification of economy have provided further incentive for the promotion of literacy. The achievement has been quite impressive in that the literacy rates have improved. Inter-caste, rural-urban and inter-regional differences in literacy have narrowed down to an extent, although the magnitude of the task still remaining to be done is staggering indeed.

Male-Female Differential in Literacy

In the modern context, it is by the position of women in society that we judge the progress of a community toward socio-economic advancement. But a review of

1. As a result of this attention, 14.7 per cent of the scheduled caste population (22.4 per cent of the males and 6.4 per cent of the females) is now literate according to the 1971 Census. Among the seheduled tribes the corresponding figure is 11.3 per cent (17.6 per cent of the males and 4.8 per cent of the females).

female literacy in India during the present century reveals appalling apathy toward female education. In 1901, while 9.83 percent of the males were literate, the corresponding proportion for the females was as negligible as 0.69 per cent, giving a ratio of 14:1 between the literacy rates of the two sexes. Even by 1931, female literacy had risen to only 2.93 per cent, as against 15.59 per cent for the males, the male-female differential thus being in the ratio of 11:2. Indeed, in India literacy in the past has meant mainly male literacy. Even among the castes or religious groups with which high rates of literacy have been associated, the proportion of females who could read and write was negligible. For example, while 53.4 per cent of the Jain males were literate in 1891, only 1.4 per cent of their women could read and write. The Parsis and the Christians, among whom male-female differential has always been very small, are the chief exceptions.

In recent decades, however, the impediments against female literacy have been gradually disappearing, though much remains to be desired. With female literacy increasing faster than that among the males, the male-female differential has been consistently narrowing down (Table I). In 1951 this differential was in the ratio of 3:1. Whereas literacy among the males has increased from 24.95 per cent in 1951 to 39.45 per cent in 1971, that among the females has moved up from 7.93 per cent to 18.72 per cent during this period. It follows that in 1971 the male-female differential in literacy was roughly in the ratio of 2 : 1. Thus during 1901-1971 the male-female differential in literacy has come down from 14:1 to 2:1.

However, despite considerable progress in female literacy and the narrowing down of male-female differential in literacy in India as a whole, there were as many as 120 districts out of a total of 356 in the country, where the female literacy rate was still less than 10 per cent in 1971. The male-female differential in literacy in several of the northern, northwestern and central states was in the ratio of 3:1 (Table 2); in Punjab, and in southren and western states it was generally in the ratio of 2:1. Kerala is the only state with a near parity among males and females in terms of literacy (66.62 per cent males and 54.31 per cent females). Among the union territories, Chandigarh compares well with Kerala in this respect. A comparative examination of Maps 2 and 3 provides a detailed view of the male-female differences in literacy and spatial variations therein.

As yet the male-female differential in literacy is much greater in the scheduled castes (22.36 per cent males ; 6.44 per cent females) and scheduled tribes (17.63 per cent males ; 4.85 per cent females) than in other sections of the society. In some of the northern states like Bihar and Uttar Pradesh, female literacy among the scheduled castes is practically non-existent, it being only 1.03 per cent and 2.46 per cent respectively. It is almost equally deplorably low in Rajasthan, Haryana and Jammu & Kashmir states. This is in marked contrast to Kerala where 47.07 per cent of the males and 33.43 per cent of the females among these castes can read and write (Table 3).

The practical absence of literacy among the females till recent times is the result of a long continued prejudice against the

TABLE 2

INDIA

Literacy Rates in 1971 (in per cent)

State/ Union Territory	Total Population			Rural Population			Urban Population		
	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
INDIA	29.46	39.45	18.72	23.74	33.76	13.17	52.44	61.28	42.14
States									
Andhra Pradesh	24.57	33.18	15.75	19.19	27.31	10.92	47.08	57.30	36.31
Assam*	28.72	37.19	19.27	25.80	34.28	16.51	58.69	64.54	50.89
Bihar	19.94	30.64	8.72	17.17	27.64	6.39	44.92	55.43	31.89
Gujarat	35.79	46.11	24.75	28.33	38.92	17.19	54.90	63.96	44.77
Haryana	26.89	37.29	14.89	21.72	32.57	9.24	51.00	59.12	41.48
Himachal Pradesh	31.96	43.19	20.23	29.81	41.19	18.15	60.54	66.76	52.24
Jammu & Kashmir	18.58	26.75	9.28	14.11	22.17	4.98	38.17	46.60	28.38
Kerala	60.42	66.62	54.31	59·28	65.57	53.10	66.31	71.99	60.62
Madhya Pradesh	22.14	32.70	10.92	16.81	27.05	6.10	49.55	60.46	36 98
Maharashtra	39.18	51.04	26.43	30.63	43.22	17.84	58.07	66.88	47.33
Manipur	32.91	46.04	19.53	29.83	43.04	16.35	53.24	65.80	40.43
Meghalaya	29.49	34.12	24.56	23.40	27.68	18.94	65.22	69.93	59.69
Mysore	31.52	41.62	20.97	25.13	35.40	14.54	51.43	60 40	41.61
Nagaland	27.40	35.02	18.65	23.71	30.51	16.39	60.79	66.13	49.47
Orissa	26.18	38.29	13.92	24.09	36.14	12.06	49.00	59.94	36.05
Punjab	33.67	40.38	25.90	27.81	34.69	19.88	52.49	58.55	45.41
Rajasthan	19.07	28.74	8.46	13.85	22.87	4.03	43.47	55.53	29.69
Tamil Nadu	39.46	51.78	26.86	32.13	45.14	18.98	56.36	66.76	45 42
Tripura	30.98	40.20	21.19	27.13	36.43	17.27	64.01	72.42	55.03
Uttar Pradesh	21.70	31.50	10.55	18.13	28.02	6.99	43.63	52.08	33.33
West Bengal	33.20	42.81	22.42	25.72	35 80	15.02	55.93	62.01	47.84
Union Territories									
Andaman & Nicobar Islands	43.59	51.64	31.11	38.11	46.80	25.66	61.53	66.93	51.85
Arunachal Pradesh	11.29	17.82	3.71	9.79	15.77	3.00	50.46	59.28	31.18
Chandigarh	61.56	66.97	54.35	30.53	38.84	18.36	64.80	70.03	57.89
Dadra & Nagar Haveli	14.97	22.15	7.84	14.97	22.15	7.84	—	—	—
Delhi	55.61	63.71	47.75	36.23	49.00	20.75	58.95	65.37	50.90
Goa, Daman & Diu	44.75	54.31	35.09	40.59	50.40	31.06	56.32	64.39	47.21
Laccadive, etc. Islands	43.66	56.48	30.56	43.66	56.48	30.56	—	—	—
Pondicherry	46.02	57.29	34.62	38.60	51.14	25.87	56.23	65.83	46.60

*Includes Union Territory of Mizoram which was carved out of Assam after the 1971 Census.

SOURCE : Census of India 1971, *Series I-India, Part II-A, (ii), Union Primary Census Abstract*, New Delhi, p. xxiv.

TABLE 3

INDIA

Literacy Rates Among Scheduled Caste Population, 1971, (in per cent)

State/ Union Territory	Total Population			Rural Population			Urban Population		
	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
INDIA	14.67	22.36	6.44	12.77	20.04	5.06	28.65	38.93	16.99
States									
Andhra Pradesh	10.66	15.89	5.29	8.40	12.96	3.72	27.53	37.68	17.02
Assam*	25.79	35.00	15.74	24.49	33.69	14.50	38.31	47.21	28.07
Bihar	6.53	11.92	1.03	5.84	10.88	0.74	16.58	26.07	5.54
Gujarat	27.74	39.89	14.95	23.77	35.40	11.80	38.35	51.40	23.75
Haryana	12.60	20.88	3.09	11.73	19.77	2.54	20.10	30.22	7.96
Himachal Pradesh	18.82	27.43	9.74	17.88	26.41	8.99	38.05	46.74	27.01
Jammu & Kashmir	11.97	19.17	4.18	11.14	18.23	3.49	21.12	29.50	11.86
Kerala	40.21	47.07	33.43	39.09	45.91	32.35	50.72	57.93	43.52
Madhya Pradesh	12.49	20.58	3.88	10.39	17.81	2.57	27.09	39.35	13.33
Maharashtra	25.27	37.02	12.85	21.02	32.35	9.26	38.25	50.78	24.25
Manipur	26.44	36.02	15.96	26.00	35.57	15.71	38.68	45.84	25.37
Meghalaya	20.38	27.98	11.91	22.53	33.17	12.24	18.74	24.49	11.63
Mysore	13.89	20.73	6.74	10.23	16.32	3.91	31.98	42.21	21.03
Orissa	15.61	25.98	5.17	15.14	25.38	4.86	22.57	34.78	9.78
Punjab	16.12	22.94	8.16	15.06	21.67	7.36	22.25	30.23	12.82
Rajasthan	9.14	16.35	1.25	7.23	13.36	0.55	20.60	34.04	5.53
Sikkim	17.42	23.96	9.65	13.34	19.29	6.45	35.66	43.55	25.13
Tamil Nadu	21.82	32.16	11.32	19.24	29.39	8.95	34.17	45.25	22.76
Tripura	20.51	30.32	10.06	19.68	29.44	9.31	35.36	45.90	23.85
Uttar Pradesh	10.20	17.13	2.46	9.11	15.77	1.74	23.43	33.01	11.75
West Bengal	17.80	25.78	9.18	16.86	24.98	8.23	28.21	34.00	20.91
Union Territories									
Arunachal Pradesh	36.28	52.81	18.01	35.52	52.00	17.50	100.00	100.00	100.00
Chandigarh	24.38	33.43	12.08	16.71	23.74	7.37	26.08	35.55	13.14
Dadra & Nagar Haveli	33.18	44.43	24.43	33.18	44.43	24.43	—	—	—
Delhi	28.15	39.22	14.32	20.59	32.45	6.21	29.64	40.53	15.96
Pondicherry	18.70	27.49	9.60	15.66	24.20	6.82	30.12	39.89	20.05
Goa, Daman & Diu	26.14	34.79	17.38	23.44	31.93	15.23	31.25	39.85	21.73

*Includes Mizo district.

Note : No Scheduled Castes in Nagaland, Andaman & Nicobar Islands, and Laccadive Islands etc.

SOURCE : Census of India 1971, *Series 1, Paper I of 1975, Scheduled Castes and Scheduled Tribes*, pp. viii & ix.

education of women, and also against their employment outside the home (Davis, 1951). Apart from the prejudices referred to above, another serious obstacle in the spread of female education in the past was and still continues to be early marriage in most parts of the country, particularly in villages.

In general, female children have been suffering relative neglect at the hands of their parents in several parts of the country, and the same has been the case with their education. Their mobility within and outside the village was seldom encouraged. Even now, it may not be considered very safe to send a girl to a school in an adjoining village.

The deplorably low percentages of literacy among females and the great inequality in literacy of the two sexes in the general population as well as in its various sections reflect the past and the current role of literacy in the country. For a large number of people, particularly in the rural areas, the ability to read and write still apparently has not much relevance. A literacy which is confined to males is no doubt guided by certain specific purposes only, rather than by a realization of the role of education in living a full life. For an overall progress of the society, the ability to read and write is as imperative for females as for males. Excepting some Muslim countries, in very few areas of the world are the male-female disparities in literacy so large as they are in India (Table 4). The lack of education has been both a cause and effect of India's backwardness.

Rural-Urban Differential in Literacy

As in several other characteristics of population, so in literacy and education, the villages and towns in India stand in marked contrast to each other (Maps 4 and 7). While 52.44 per cent of the urban people are literate, only 23.74 per cent of the ruralites can read and write. With 61.28 per cent of the males and 42.14 per cent of the females being literate in urban areas, their male-female differential in literacy comes to the ratio of about 3:2. In the rural areas, on the other hand, the corresponding ratio works out roughly to 5:2 (33.76 per cent of the males and 13.17 per cent of the females being literate).

The above figures present a generalized picture of rural and urban literacy rates and the male-female differential therein. However, the position with regard to the scheduled castes and scheduled tribes, who together account for about 21.5 per cent of the total population of the country, is distressingly unsatisfactory despite the conscious efforts made toward their socio-economic amelioration during the post-Independence period. Among the urban scheduled castes and scheduled tribes, for example, the literacy rate for 1971 was about 29 per cent. In the villages, on the other hand, only about 12 per cent of their people can read and write. It follows from the above that not only the literacy rates among the scheduled castes and scheduled tribes in towns and villages are far lower than those in other sections of the society, but also the rural-urban and male-female differentials in literacy are accentuated in their case.

TABLE 4

Male-Female Literacy in Some Selected Developing Countries

Name of the Country	Year	Per cent Male Literacy	Per cent Female Literacy	Age Group
Algeria	1971	65	30	10+
Egypt	1976	71	43	10+
Morocco	1971	34	13	5+
Ghana	1971	53	34	6+
Mauritius	1972	96	91	13—19
Tanzania	1973	46	48	10+
Iran	1975	49	27	7+
Turkey	1970	70	42	6+
Syrian Arab Republic	1970	60	20	15+
Indonesia	1971	71	49	10+
Republic of Korea	1970	94	84	6+
Democratic People's Republic of Korea	1972	90		10+
Philippines	1970	77	76	6+
Malaysia (Peninsular)	1970	90	62	10+
Taiwan	1975	93	81	6+
Bangladesh	1974	33	15	5+
Sri Lanka	1971	85	71	10+
Thailand	1970	89	75	10+
Brazil	1970	70	64	15+
Chile	1970	90	89	10+
Cuba	1973	97		N. A.
Venezuela	1971	77		10+
Panama	1970	79	78	10+
Colombia	1973	78	74	7+
Mexico	1970	79	73	10+
Peru	1972	83	64	10+

SOURCE : Nortman, Dorothy L. and Hofstatter, Ellen : *Population and Family Planning Programs (9th Edition)—A Population Council Fact Book*, The Population Council, New York, 1978, pp. 5—14.

A close reference to Tables 2 and 3 and Maps 5-6 and 8-9 brings out several important points : (i) literacy is fairly high among both males and females in the urban areas as compared to their rural counterparts; (ii) areal variations in urban literacy are much less than those in rural literacy; (iii) male-female differential in literacy among rural people is far greater than that in the urban population; (iv) there are far more marked areal variations in male-female differential in rural literacy than in urban literacy; and (v) rural-urban differential in literacy is of a different dimension in the case of scheduled castes and scheduled tribes as compared to the rest of the population.

In urban places : (i) which are centres of administration of different hierarchical order, (ii) where non-agricultural activities requiring the ability to read and write predominate, (iii) which are centres of new ideas and innovations, and (iv) where people are socially more aware and economically more capable of providing education to their children, high rates of literacy, both among men and women, are only expected. However, within the urban places, literacy rates are much higher in urban conurbations and cities than in towns. This is evident from Table 5 giving figures for 1961.

Among the cities (with 100,000 population or more) also, the differences in

TABLE 5

All-India Literacy Rates for Cities, Towns and Rural Areas, 1961

	Percentage of Rates of Literacy		
	Persons	Males	Females
Cities of one million	56.40	63.85	46.36
Cities of 0.5 to one million	49.60	58.38	38.43
Cities of 0.1 to 0.5 million	48.52	58.51	36.78
Cities above 100,000	51.81	60.74	40.65
Non-city urban population*	42.99*	54.69*	29.73*
Urban India	46.94*	57.46*	34.48*
Rural India	19.00	29.07	8.54
All India	24.02	34.44	12.95

*Excludes Union Territories except Delhi.

SOURCE : Census of India 1971 : *Census Centenary Monograph No. 9—Extracts from the all Census Reports on Literacy*, p. 118.

literacy rates are striking. These differences are generally related to the location of cities, their population composition and size, their functions, and the literacy patterns of areas in which they are located (Krishan and Shyam, 1974). Cities with a sophisticated industrial base or with a pre-eminence of administrative and educational services stand out distinct in terms of high literacy rates. Low literacy rates are characteristic of cities which are still entrenched in the traditional way of life. Generally speaking, cities in the southern part of the country are more literate than those in the north.

The none-too-high rates of urban literacy and the great rural-urban differential in literacy suggest that India's modernisation is still only skin deep. It is evident that neither modern urban traits (like universal literacy) have permeated to the rural areas nor has there been adequate spontaneous development in the villages in this respect.

It may, however, be noted that as a result of the combined impact of various measures taken by the state governments in recent years, considerable progres has been registered in rural literacy. With progressive diminution in the size of landholdings as a consequence of rapid growth of farm population in recent decades, people have started realizing the necessity of giving education to their children so that they may be able to find employment in other fields of activity. The landholdings are now too small to provide work to all available hands in the villages. Under these circumstances, the farm peoples' attitudes are changing. Also, the rapid advances in science and technology in other parts of the world, the fast shrinking world as a result of tremendous progress in the fields of transportation and communication, and the changing values of life all around are making a strong impact on the rural people of India who now realize the value of education much more than ever before. Thus in recent years the progress in education has been greater in rural areas than in urban places, reducing the rural-urban disparity in literacy to a notable extent. But the fact remains that the gap between the two is yet very wide.

Spatial Pattern of Literacy

In a large and old country like India with diverse cultural, political and historical background, areal variations in literacy are only expected. Although conscious efforts have been made to spread literacy and education in all parts of the country and among all sections of the society during the post-Independence period, disparities in literacy are still very sharp, among areas, towns and villages, and the two sexes, as revealed by Maps 1-9 which are part of this paper. The following discussion on spatial variations in literacy is based on what has emerged on the three choropleth maps (1 to 3) representing : (i) literate persons as per cent of the total population, (ii) literate males as per cent of total male population, and (iii) literate females as per cent of the total female population.

For purposes of discussing spatial disparities, the national average (29.46 per cent) rounded off to 30 per cent, is taken as the dividing line. It divides the country into two groups of areas, each fairly contiguous. Interestingly, areas included in the first group (with more than 30 per cent literate

population) are characterised, with a few exceptions, by coastal, nearcoastal or peripheral locations. Areas with below national average literacy rates have, on the other hand, markedly interior location.

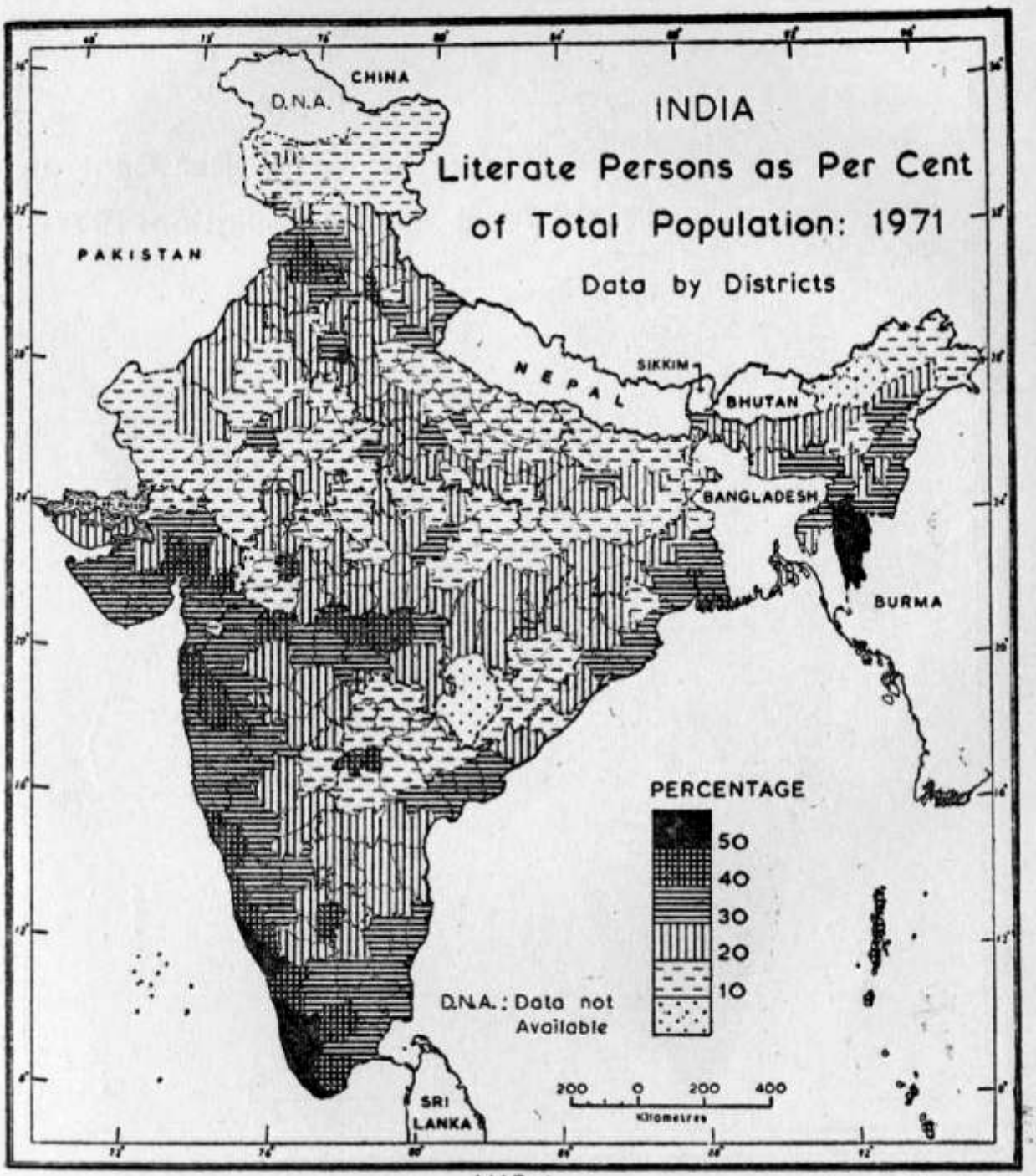
Areas with Relatively High Rates of Literacy 30 per cent and above)

Included in this category are : the entire western coast and near-coastal areas of Gujarat, Maharashtra, Karnataka and Kerala; practically the whole of Tamil Nadu; the deltaic districts of Andhra Pradesh and Orissa on the eastern coast; South West Bengal; eastern hilly tracts of India; Union Territory of Delhi and northern Punjab Plain; and a few scattered highly urbanized districts of the country (Map 1).

On the west coast, early and regular contact with traders, missionaries and adventurers from overseas lands, particularly the West, made a great impact on population. The tradition of liberal education developed earlier here than in the interior areas. As a result, the western coast has continued to enjoy a lead in literacy over all other areas from early times.

Among the areas along the western coast, Kerala occupies a position of special supremacy in literacy. With 60.4 per cent of its total population literate (66.62 per cent of the males and 54.31 per cent of the females) and narrowest rural-urban differential in literacy (66.31 per cent of the urbanites and 59.28 per cent of those living in villages being literate), Kerala has the most uniform pattern of distribution of literacy throughout its land and people (Gosal, 1964). Even among its scheduled castes 47.07 per cent of the males and 33.43 per cent of the females can read and write - rates which are vastly above the corresponding figures for any part of the country as a whole. Kerala has maintained this leading position for a very long time. The contributions of the missionaries and a number of local caste/religious organisations in the spread of education throughout the state area have been of their own magnitude and importance. In addition, the erstwhile Cochin and Travancore states, which are the chief constituents of Kerala, had the unique position of having progressive administration over a long period of time during the pre-Independence era. In these native states, with satisfactory conditions of law and order and political stability, the tradition of liberal education was much older than in several other parts of the country. The absence of taboos and inhibition against female education and employment is remarkable. The exposure of the Kerala part of the west coast to external influence has been the longest. In the context of such a background it is no wonder that the people of this region have been and continue to be so receptive to educational progress and policies.

Other areas on the western coast belonging to Karnataka, Maharashtra and Gujarat, though conspicuous for high rates of literacy, are a way behind Kerala. North of Kerala, the coastal area upto Goa has 40 to 50 per cent of its people literate. In Maharashtra and Gujarat, the highly urbanized districts of Bombay, Poona, Thana and Ahmedabad have literacy rates of 63.96 per cent, 44.53 per cent, 40.40 per cent and 48.74 per cent respectively. Elsewhere in the coastal areas the literacy rates range between 30 to 40 per cent.


INDIA
Literate Persons as Per Cent of Total Population: 1971
Data by Districts
CHINA
D.N.A.
PAKISTAN
NEPAL
SIKKIM
BHUTAN
BANGLADESH
BURMA
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PERCENTAGE
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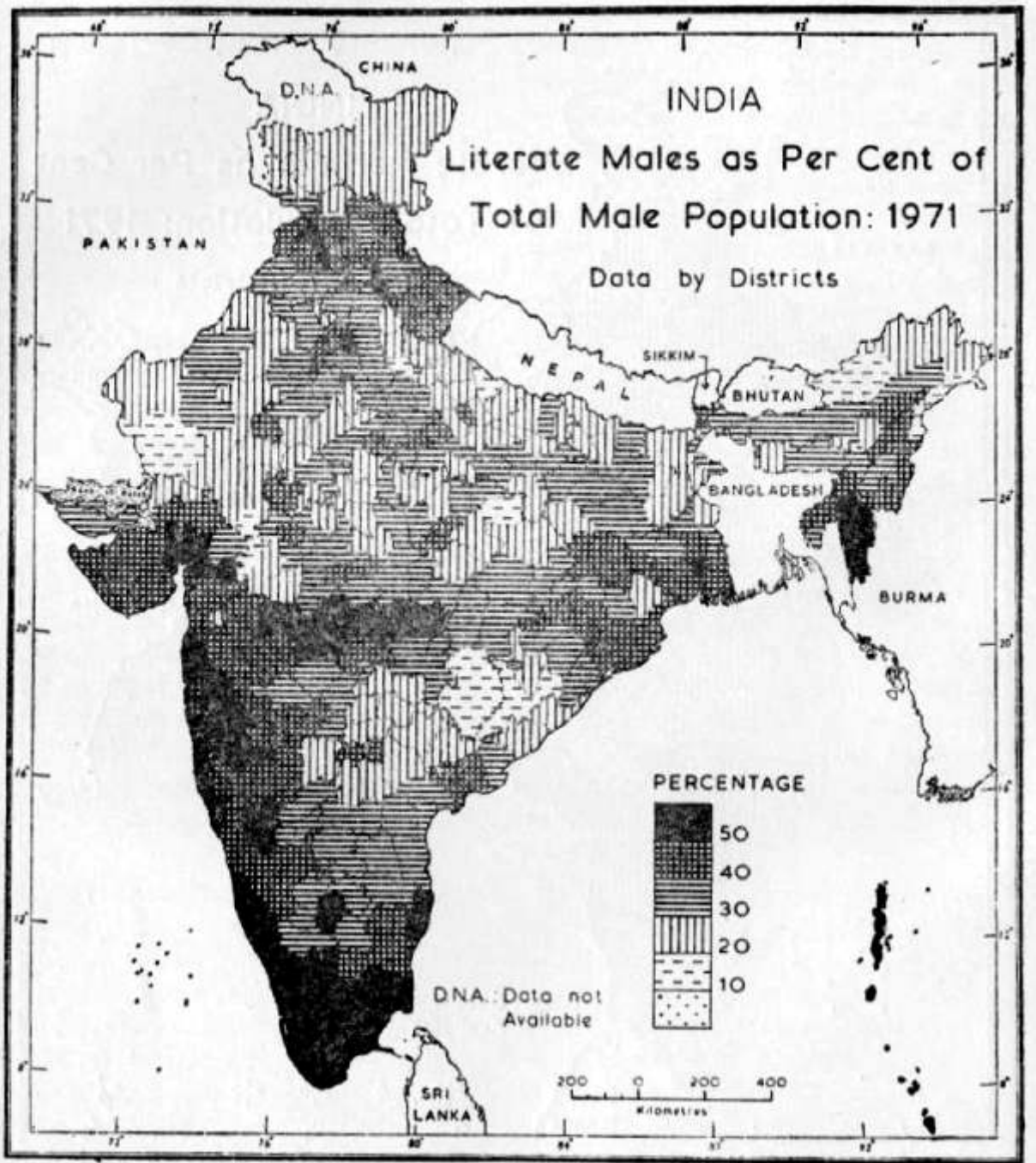
Kilometres

MAP 1


INDIA
Literate Males as Per Cent of Total Male Population: 1971
Data by Districts
CHINA
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PAKISTAN
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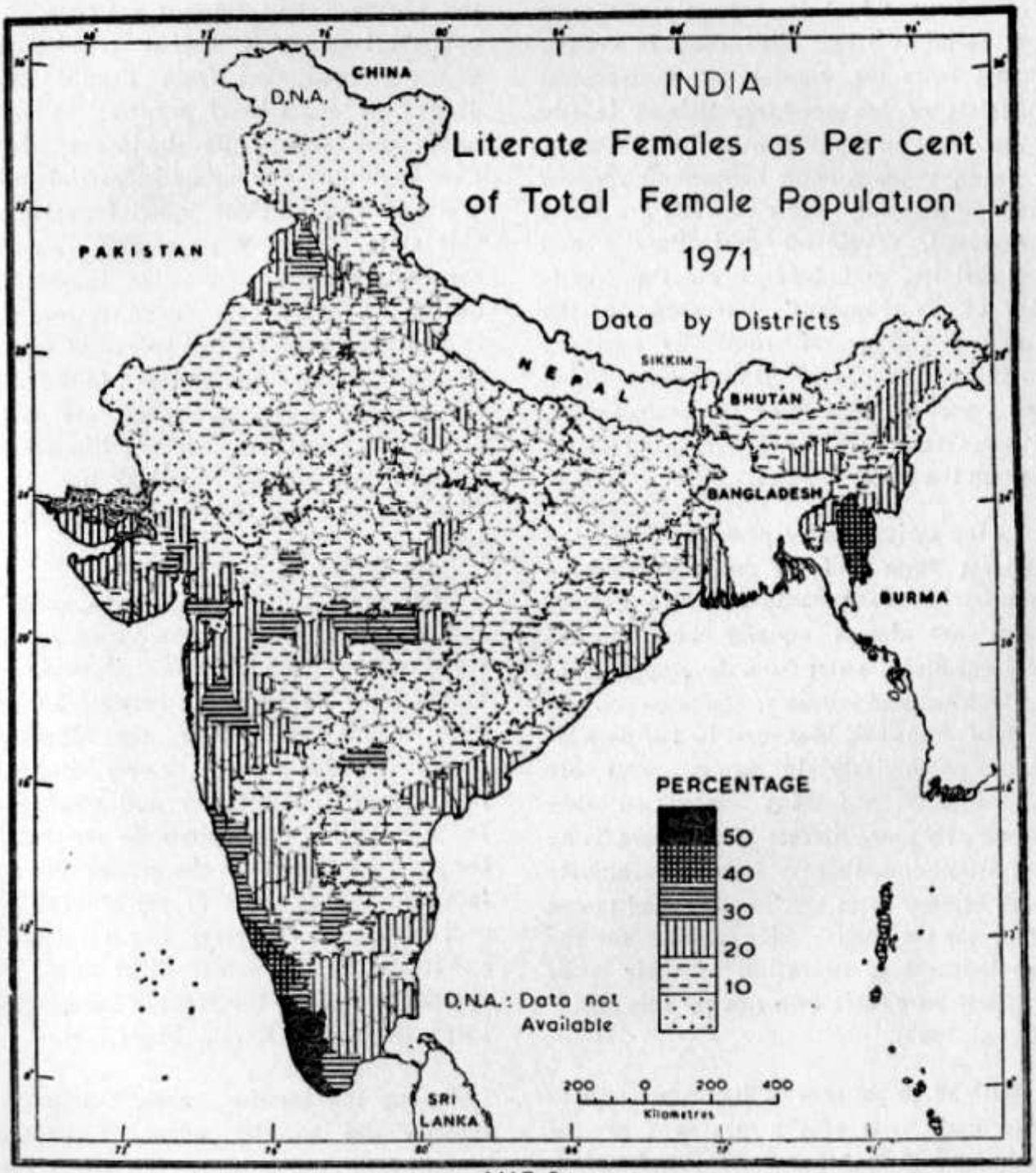
MAP 2


INDIA
Literate Females as Per Cent of Total Female Population
1971
Data by Districts
CHINA
D.N.A.
PAKISTAN
NEPAL
SIKKIM
BHUTAN
BANGLADESH
BURMA
SRI LANKA
PERCENTAGE
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D.N.A.: Data not Available
200 0 200 400
Kilometres

MAP 3

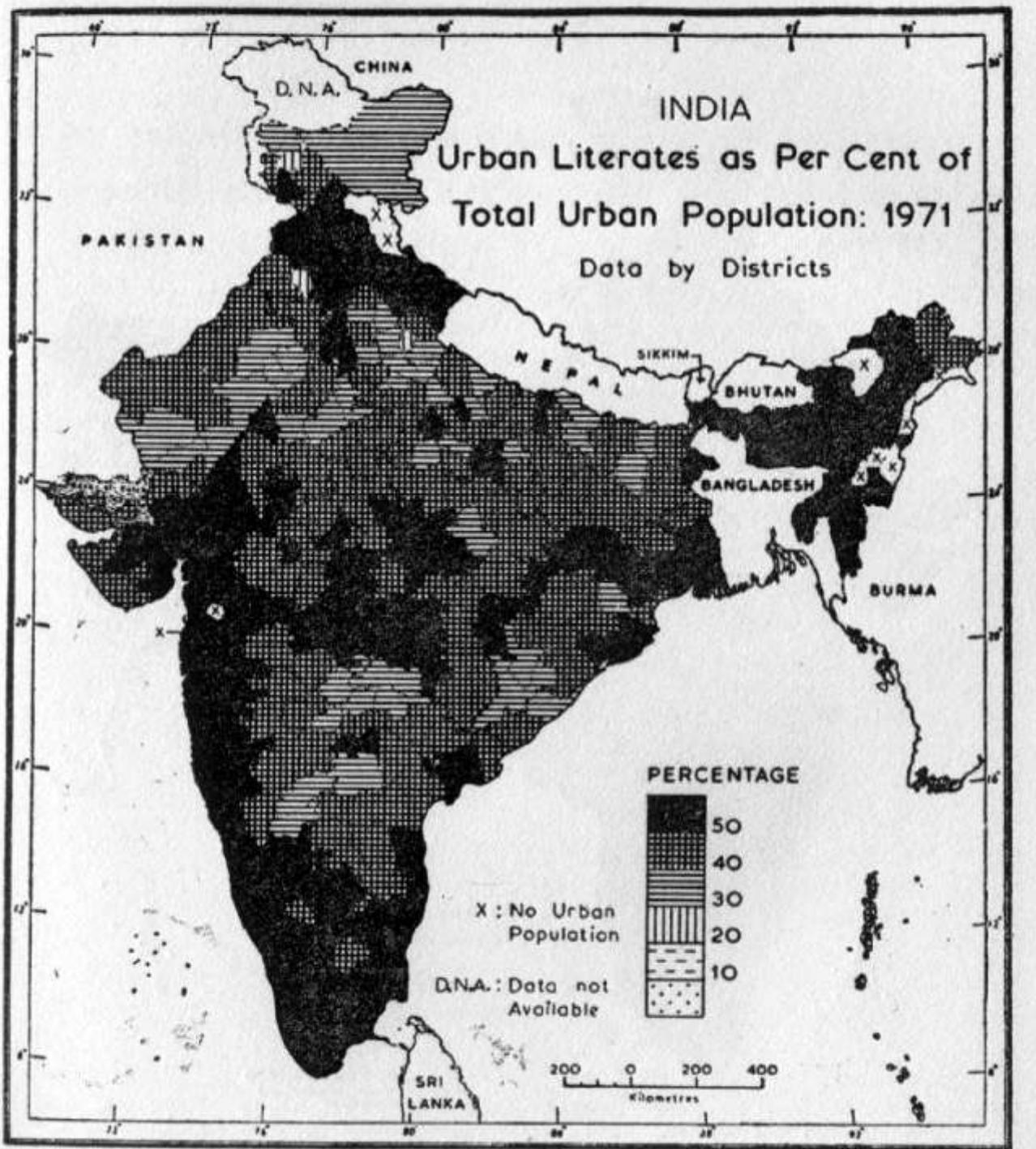
With the exception of Bombay which is a wholly urban district, the male-female as well as rural-urban differences in literacy throughout this belt are only moderate but certainly larger than those in Kerala. Apart from the coastal or near-coastal districts of Maharashtra, literacy is also quite high in the Bhandara-Jalgaon zone, ranging in many cases between 40 per cent and 50 per cent. These districts are fairly urbanized, developed agriculturally and industrially, and located on the 'corridor of development' emerging on the Calcutta-Bombay rail route. By contrast, in those districts of Maharashtra which were part of the former Hyderabad state, literacy rates are far lower, particularly among the rural females.

In the agriculturally prosperous areas of Gujarat Plain and the military tradition countryside of Maharashtra, rural literacy rates are almost equally high. In the Gujarat Plain, apart from developments in agriculture and industry, the large proportion of Jains and Marwaris in the population, particularly in towns, who are traditionally a trading class and thus necessarily more literate than others, is an important contributory factor in relatively high literacy rates. Also, the remittances from the Gujaratis living abroad for the development of education in their home districts have their own role in this regard (Gosal, 1967).

With 39.46 per cent of its people able to read and write (51.78 per cent of the males and 26.86 per cent of the females), Tamil Nadu comes next, although quite a distant next, to Kerala, but with only a negligible edge over Maharashtra. It leads all the areas along the eastern coast in literacy. However, within Tamil Nadu literacy rates are higher in western and southern districts adjoining Kerala than in the northern and interior districts. The contributions of Christian missionaries and the remittances from Tamils settled abroad to educational progress in these areas have been quite significant. It is also attributable to urban-industrial development and efficient administration in this state. As in Bombay and Calcutta, the early start of education in Madras during the British rule played its own role in creating awareness and spread of education in this area. Interestingly, in Bombay Madras and Calcutta, which are exclucively urban districts, levels of literacy are practically the same — 63.96 per cent, 62.05 per cent and 60.35 per cent respectively.

The eastern hilly tracts of India, comprising the tribal areas of the Assam region, stand out as another zone of relatively high literacy rates ranging between 30 and over 50 per cent. Here, the Christian missionaries have played a very vital role in the spread of literacy and education. In Mizo Hills, where about 88 per cent of the population is rural, the general literacy rate is as high as about 51 per cent (48 per cent among the villagers). In rural literacy and its narrow male-female differential, Mizoram is one of the top areas in the country, surpassed only by Kerala (Maps 7-9).

Among the interior areas, the economically and socially advanced northern and eastern Punjab stands out as an area of relatively high rates of literacy (31 to 42 per cent), comparable to those found in Tamil Nadu and the Gujarat Plain. Within this area, in the **Bist Doab** districts of


INDIA
Urban Literates as Per Cent of
Total Urban Population: 1971
Data by Districts
CHINA
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BANGLADESH
BURMA
SRI LANKA
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X : No Urban Population
D.N.A. : Data not Available
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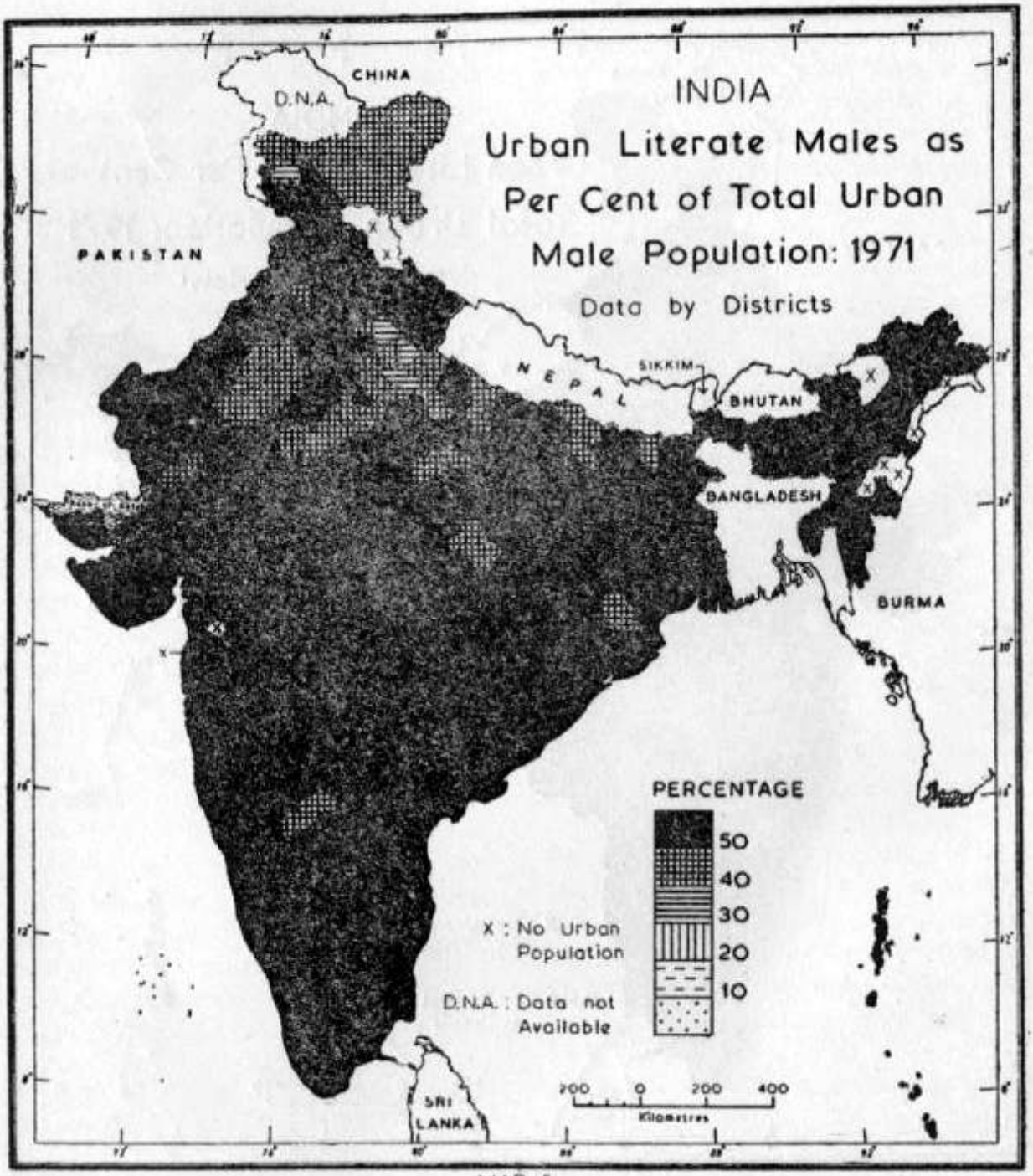
MAP 4


INDIA
Urban Literate Males as Per Cent of Total Urban Male Population: 1971
Data by Districts
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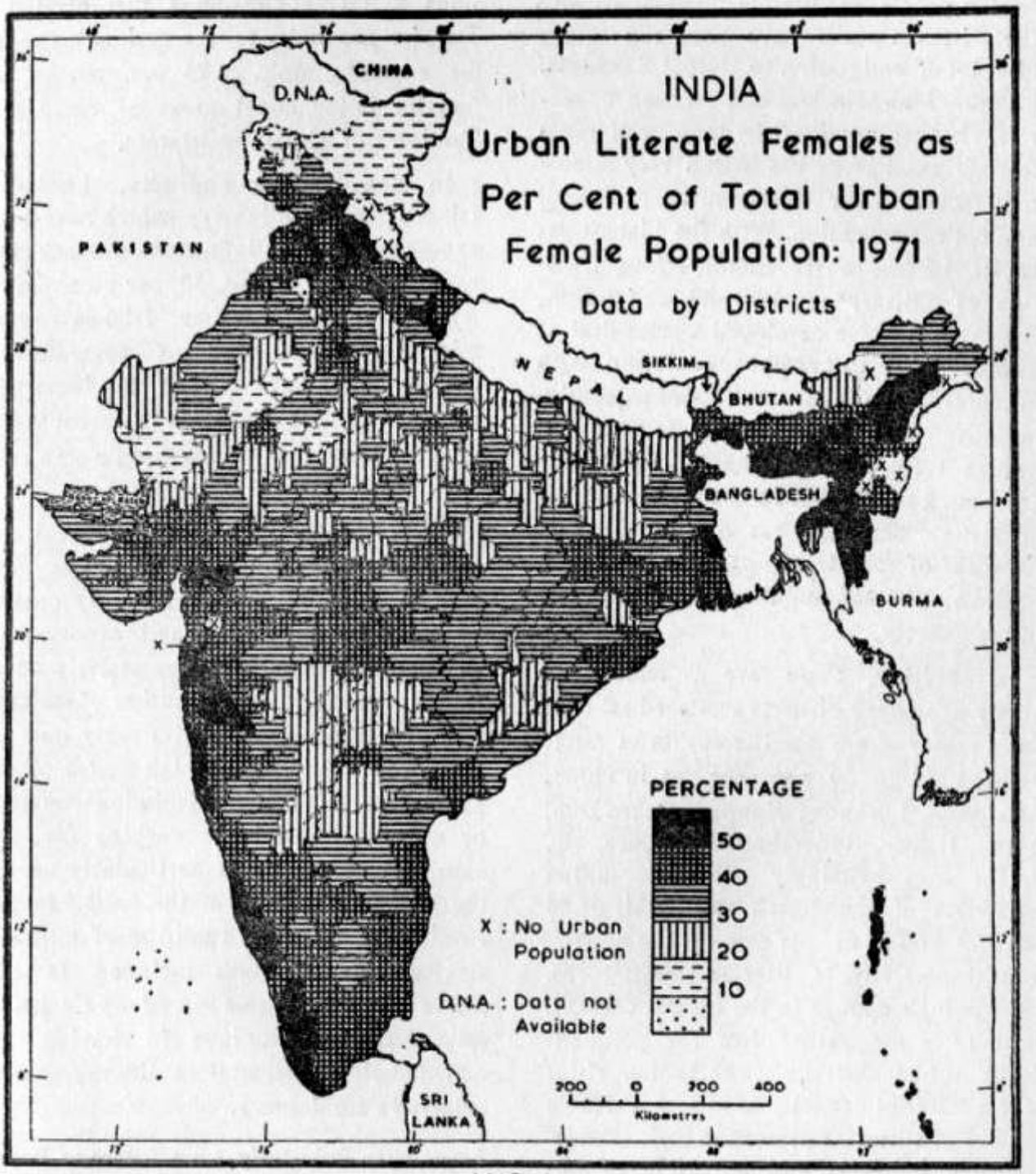
MAP 5


INDIA
Urban Literate Females as Per Cent of Total Urban Female Population: 1971
Data by Districts
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BANGLADESH
BURMA
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PERCENTAGE
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X : No Urban Population
D.N.A. : Data not Available
200 0 200 400
Kilometres

MAP 6

Jullundur and Hoshiarpur and in the industrially and agriculturally progressive district of Ludhiana more than 40 per cent of the people are literate. These are also the districts which have been the source of a lot of emigration to United Kingdom, Canada. Malaysia and east African countries. Money remitted by these emigrants to their local areas has been a very important factor in the development of school and college education. With the highest per capita income in the country, long tradition of military service and emigration, the Punjabis have developed a great deal of awareness for the need of education both in rural and urban areas. Consequently, in most of the state the male-female as well as rural-urban differentials in literacy are among the lowest in the interior tracts of India. The state has one of the best networks of road transport, generating economic and human mobility of its own kind in the country.

In addition, there are a number of highly urbanized districts scattered all over the country where the literacy rates range between 30 to 50 per cent, as in Patna, Allahabad, Lucknow, Kanpur, Dehra Dun, Ajmer, Indore, Hyderabad, Bangalore, etc. In the overwhelmingly urbanized union territories of Chandigarh and Delhi, 61.56 per cent and 55.61 per cent of the population respectively is literate (Maps 1—3). Though high enough in the Indian context, these rates are rather low for predominantly urban districts. The Indian cities have a dubious capacity to absorb a sizable number of illiterate persons in their labour-intensive industrial and a variety of unskilled and service jobs (Maps 4 to 6). Moreover, even some of the most important eities do not seem to have really acted as centres of diffusion of modern traits of life. Within a few miles from even the most progressive and modernized cities one finds social backwardness still persisting. Despite proximity to the national capital, for example, only 20.75 per cent of the females in the rural areas of the Union Territory of Delhi are literate.

In Goa, Daman and Diu, Laccadive Islands and Pondicherry which have been exposed to foreign influences, literacy rates range between 40 and 50 per cent. In the Andaman and Nicobar Islands where missionaries as well as governmental organisations have played an important role in spreading education in recent years, about 44 per cent of the people can read and write.

Thus, it may be concluded that above national average literacy rates are characteristic of areas with : (i) coastal or near-coastal location and exposure to external influences, (ii) progressively developing economy, (iii) tradition of emigration and out-migration, (iv) early start of education, (v) relatively high degree of urbanization, (vi) Christian missionaries and/or other organisations working for the extension of education particularly among the backward sections of the society in the rural areas, and (vii) tradition of military service. Among areas included in the above category, those served by Christian missionaries are unique in having low male-female differential in literacy, particularly in rural areas.

Areas with Relatively Low Literacy Rates (Below 30 per cent)

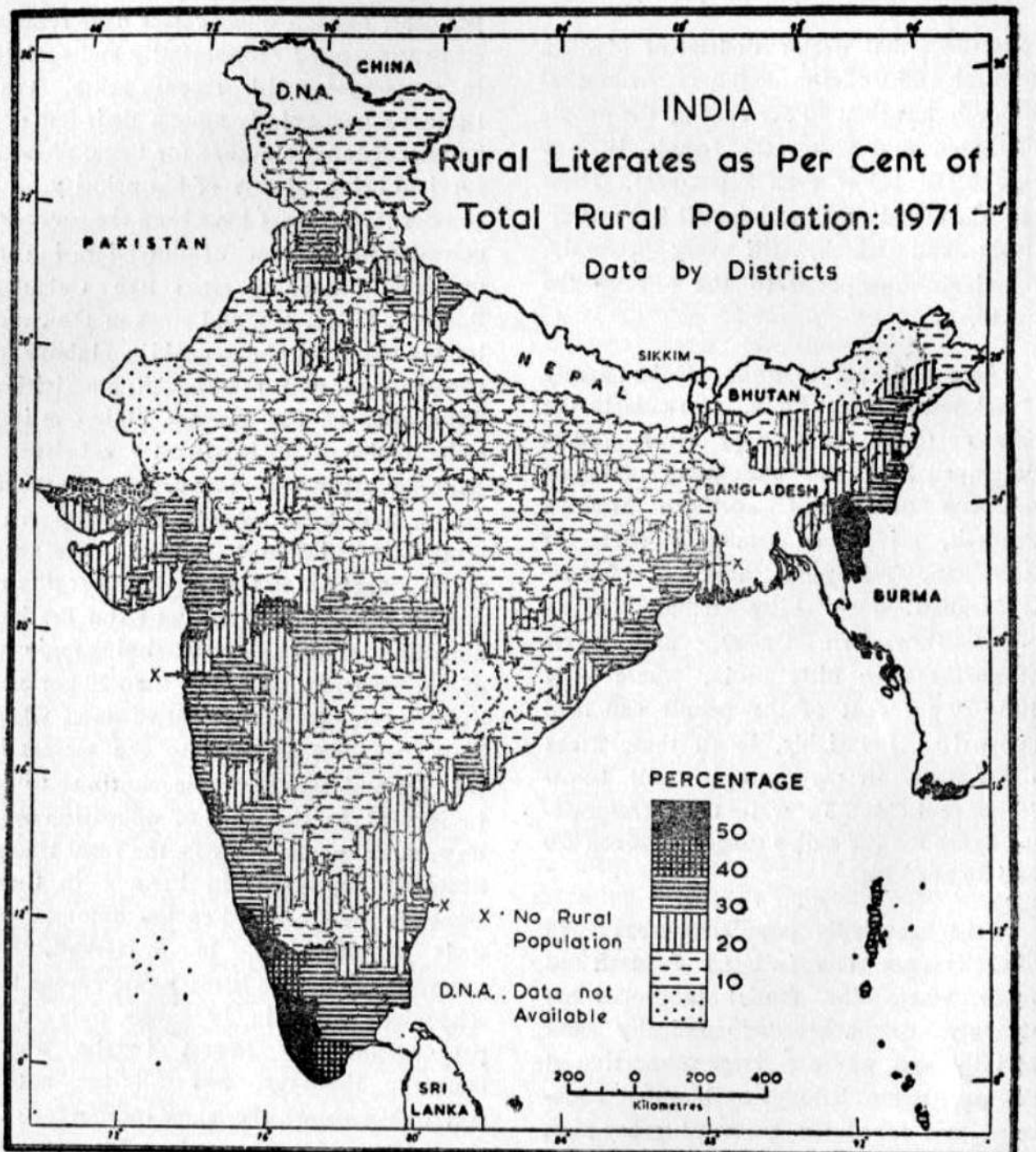
A glance at Map 1 brings out that almost two-thirds of the districts in the country

have below national-average literacy rates. In as many as 107 of the 356 districts the rates are below even 20 per cent.

In the tribal Bastar district of Madhya Pradesh and western section of Arunachal Pradesh, less than 10 per cent of the people can read and write, the female literacy rate being below even 5 per cent. These are the tribal areas which still live primitively and which, till very recently, remained unexposed to the rest of the world.

There are vast sections of the densely populated Ganges Plain, particularly the area north of the Ganges river, underdeveloped hilly and undulating plains of southern Bihar and northern Madhya Pradesh, arid and semi-arid parts of Rajasthan, Telengana area of former Hyderabad state, hilly tribal districts of south-western Orissa, and parts of northeastern hilly India, where only 10 to 20 per cent of the people can read and write. Invariably, in all these areas the female literacy rate is well below 10 per cent (Map 3), while the corresponding figure for the males ranges between 20 and 30 per cent.

In the crowdedly populated areas north of the Ganges river in Uttar Pradesh and Bihar, where the feudal landlords are strongly entrenched economically and socially and where a large proportion of the population belongs to landless, backward and scheduled castes, literacy rates are deplorably low even 24 years after Independence. Female literacy among the scheduled castes in these areas is as negligible as less than 2.5 per cent. In rural Bihar, the female literacy rate among the scheduled castes does not come up even to one per cent. Similarly in Uttar Pradesh the corresponding rate is only 1.7 per cent. The scheduled castes have remained so suppressed economically and socially in these areas till recent years, that, literacy, particularly among their females, had hardly any relevance for them; physical survival being always of top priority. No wonder, these areas have been the source of considerable amount of out-migration of unskilled labour to cities like Calcutta, Bombay, Delhi, etc. and areas in the countryside requiring cheap unskilled labour for construction and road building activities. These areas of the Ganges Plain continue to be under a predominantly subsistence economy with very low degree of urbanization and little stimulus for the poor to send their children to school. The same is the situation in the Telengana region of Andhra Pradesh. Excepting Uttar Pradesh and Bihar areas, an overwhelming majority of the districts with less than 20 per cent literacy rate are former native states where little was done to educate the masses in the past and where people continue to be indifferent to the need of education even now, more particularly in the rural tracts. Specially depressed in literacy in these areas are the scheduled castes, among them their women folk. In Rajasthan, for example, the female literacy rate among the scheduled castes in 1971 was only 0.55 per cent-the very lowest in the whole country. However, not all the native states have shown the same indifference to the welfare of their people. The states of Cochin, Travancore, Mysore and Baroda, for example, had progressive administrations which played a significant part in attaining relatively high rates of literacy.


INDIA
Rural Literates as Per Cent of
Total Rural Population: 1971
Data by Districts
CHINA
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BURMA
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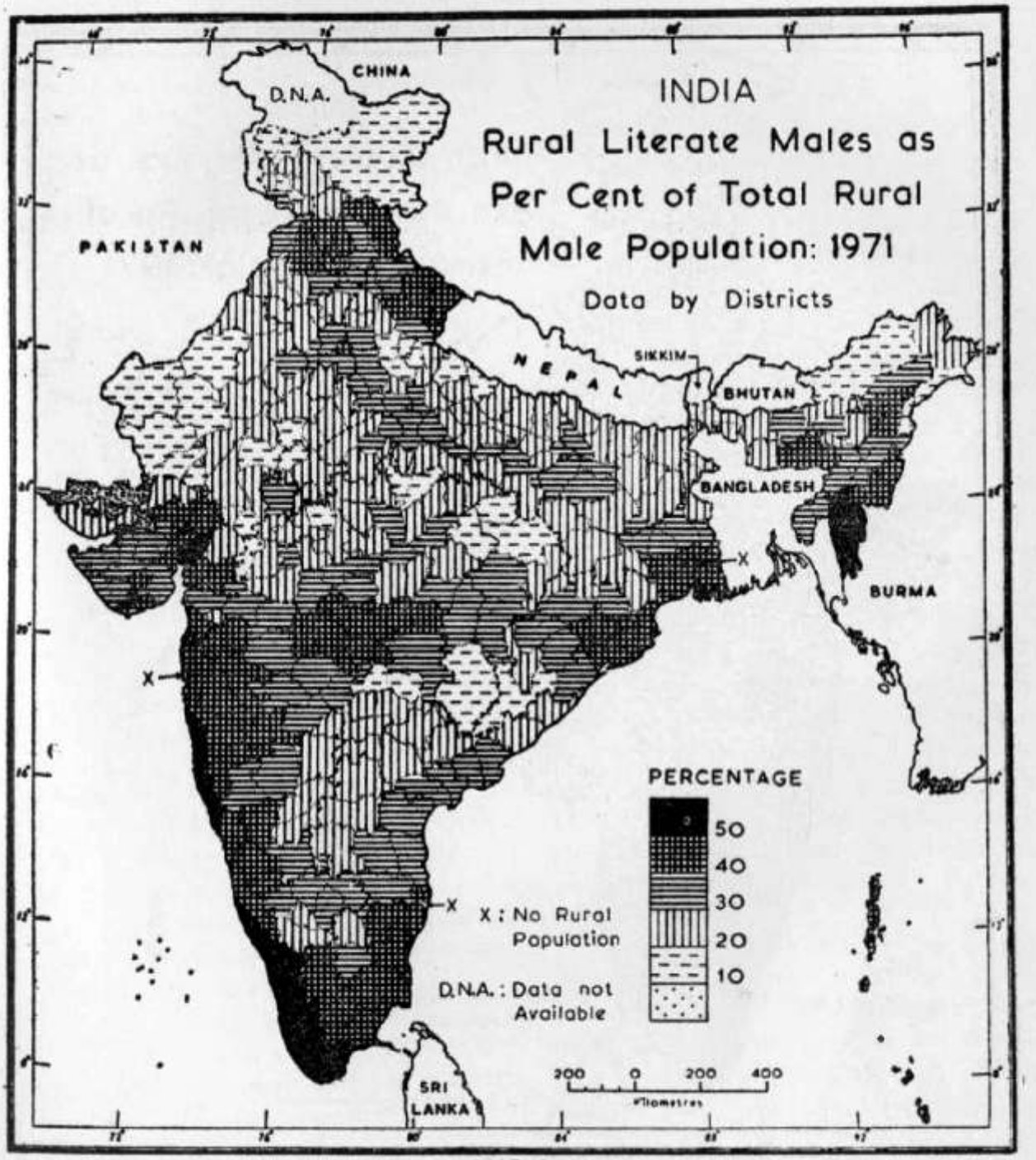
MAP 7


INDIA
Rural Literate Males as Per Cent of Total Rural Male Population: 1971
Data by Districts
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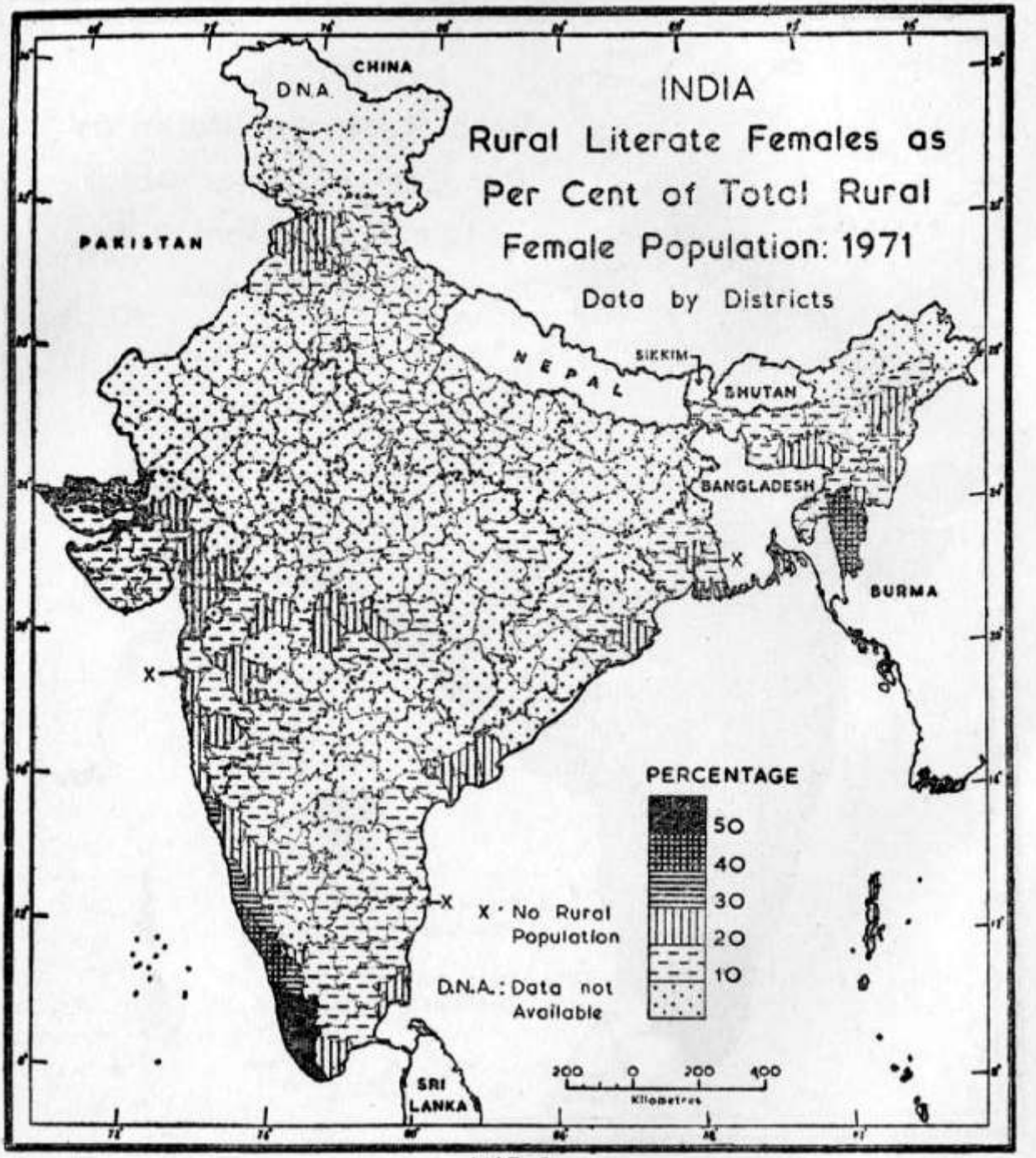
MAP 8


INDIA
Rural Literate Females as Per Cent of Total Rural Female Population: 1971
Data by Districts
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BANGLADESH
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PERCENTAGE
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X : No Rural Population
D.N.A.: Data not Available
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Kilometres

MAP 9

The areas having 20 to 30 per cent literacy rates, close to the national average of 29.46 per cent, are in several cases peripheral to those of relatively high literacy rates, or in somewhat economically developed tracts in otherwise backward regions. The Assam valley, the Yamuna-Ganga *Doab*, and eastern part of the 'corridor of development' along the Calcutta-Bombay rail route are notable examples.

In the Kumaon Himalayas literacy rates range between 20 and 40 per cent. Despite the general economic backwardness, somewhat better rates of literacy in these areas are associated with the tradition of recruitment to the armed forces. As a result, not only the personnel of armed forces learn reading and writing but also they appreciate the necessity of sending their children to school. The same is true of the mountainous areas in the Punjab Himalayas. However, in both these regions literacy is predominantly confined to the males.

Thus areas with below national average rates of literacy are those : (i) where feudal landlords are entrenched economically and socially and where landless labour classes constitute a high percentage of the total population, (ii) which still have a low level of urbanization, (iii) where the scheduled caste population forms a sizable section of the total population, (iv) where non-Christian scheduled tribes predominate, and (v) which were parts of former native states. Within these areas of low rates of literacy, male-female and rural-urban disparities in literacy are very wide indeed. Both spatially and temporally the above factors have been causally connected with socio-economic backwardness in the Indian context.

Conclusions

Despite considerable progress in education during recent years, particularly since Independence, India's population is still one of the least literate in the world. Among the general populace everywhere, the scheduled castes are at the very bottom in literacy-special facilities, concessions and employment incentives continuously extended to them throughout the post-Independence period notwithstanding. The lack of literacy in India is a legacy of the past. The influence of the caste with its hereditary occupations and the indifference of the rulers toward people's welfare, as we know it today, tended to perpetuate illiteracy among the masses. The predominance of an overwhelmingly subsistence farm economy, based on primitive technology, made it unnecessary for everyone to learn reading and writing. The appalling poverty among a large section of the population, particularly in the countryside, was an additional factor in the continuance of illiteracy.

It is tragic that the legacy of the past is continuing to persist in the present. Even in modern times education is being looked upon by many mainly from the point of view of occupational necessity. The denial of equal social status to females, and the continuing prejudice (though much less now) against their taking up professional employment, especially in villages, have worked as deterrents to female education, so that literacy in India, to a great

extent, still means male literacy. However, during the post-Independence era, as a result of serious efforts made toward the spread of education among males as well as females, among different sections of the society, and in rural as well as urban areas, the inter-caste, male-female, rural-urban and inter-regional disparities in literacy have narrowed down; and this has led to considerable overall progress in literacy. The rural-urban disparity in literacy rates is still very wide, showing that efforts toward modernization have as yet met only marginal success.

Nevertheless, with wide spatial and temporal disparities in the development of education in the context of areally varying cultural patterns, socio-economic conditions and external influences, there are enormous regional disparities in the proportion of those who can read and write.

Southern India stands out markedly as a macro-region of higher literacy than the north. Barring a few exceptions, the areas of high rates of literacy have a predominantly coastal or near-coastal location where contact with overseas peoples, particularly the Europeans, has been long: where education started much earlier; where in parts the Christian missionaries played a notable role in extending educational facilities to both men and women; and where in parts native administration was progressive in the past. Also literacy rates are high in such peripheral tribal areas of the country where the Christian missionaries, apart from spreading their religious affiliation, have done a lot to extend education among the natives. High rates of literacy are surely characteristic of areas of high degree of urbanization, diversified economy, agricultural prosperity and tradition of emigration and service in armed forces. However, there is no necessary correlation between degree of urbanization and rural literacy within given areas.

Areas of the lowest rates of literacy, on the other hand, are those in which the proportion of scheduled caste and non-Christian tribal population is high; where feudal landlords are still deeply rooted economically and socially and are exploiting the landless classes whose population is otherwise considerable in the areas; where the economy is overwhelmingly agricultural and of subsistence type; and where many parts were formerly under the princely rule paying scant attention to people's welfare. Areas of low literacy rates are also coincidentally those of meagre urban development, although the reverse is not necessarily true.

There is a strong inverse correlation between general literacy rates and male-female differential in literacy. In other words, where the percentage of literacy is high, the male-female differential in literacy is low, and vice-versa. While the areas with Christian missionaries have the lowest male-female differential in literacy, those with high proportion of scheduled caste and non-Christian tribal population have among the highest differentials.

The staggering increases which have been taking place in India's population in recent decades have been a serious stumbling block in the way of accelerating the race against illiteracy and reaching even modest goals in the extension of education among the masses. Attempts towards universal literacy must therefore be simultaneously accompanied by increasing control on population growth in the country.

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ACKNOWLEDGEMENT

The author is grateful to Dr. R. C. Chandna Department of Geography Panjab University for looking through the manuscript of the paper and for making useful suggestions. His thanks are also due to Mr. Mehar Singh of the same Department for drawing the final maps.

DEMOGRAPHIC CHARACTERISTICS OF INDIA'S DISTRICT HEADQUARTERS, 1971

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CHANDIGARH, INDIA

The intent of the present study is to examine the demographic character of those urban centres of India which are district headquarters. There are, according to 1971, 356 districts in India. Out of these, 13 having their headquarters at places which still are rural, have been excluded from the present study. Also there are two districts, namely, Ramanathapuram (Tamil Nadu) and Twenty Four Parganas (West Bengal), which have their headquarters located at Madurai and Calcutta, respectively. These headquarters lie outside the territorial jurisdictions of the two districts concerned. Thus, in India there are 341 urban district headquarters in all.

Historically the seats of administrative headquarters came into prominence in 1556 when Akbar devised a three-tier system of provinces *(Suba)* districts *(Sarkar)* and subdivisions (*Mahal*) with a view to streamlining both administration and revenue collection (Moreland, 1972). Such a system also found favour with the British who divided the territories under their control into somewhat similar system of province, district and tehsil/taluk as they also found this system convenient and effective as far as the administration is concerned. During the post-independence period the territorial division of the country has not been altered significantly, except for the fact that the number of districts has been increasing from time to time. However, it needs stressing here that there has been multipication in the functions of these seats of administration, especially after independence. Consequent upon their historical background and recent prolification of their functions the district headquarters of India have acquired a typical demographic character and have emerged as centres of diffusion of urban culture in their vicinity. Moreover, a perusal of recent history of urbanization in India reveals a disproportionate growth of tertiary sector, which consists mainly of administrative, education, health and other services, the lion's share of which has gone to the administrative headquarters at district level. These apart, the 341 urban district headquarters accommodate as much as 52.29 per cent of the country's total urban

[1]The following 13 districts of India had their administrative headquarters located in rural areas ; The Dangs, Kalpa, Kyelong, Mahasu. Manipur North, Manipur West, Manipur East, South Tripura, Subansiri, Tirap, Tuensang, Dadra and Nagar Haveli and Laccadive Minicoy and Amindivi islands.

population. Above all, no attempt has been made so far to study the demographic character of such urban places of India. All these factors stimulated the authors to venture upon such a study, the basic premise of which is that by virtue of their being the seats of district headquarters, these are likely to have a typical, demographic character and are expected to render a sound infrastructure to the country for future urban development. In order to have a comprehensive analysis of their population character, their size, growth, sex composition, literacy patterns and occupations have been examined.

Size

The 341 district headquarters had a population of about 56.9 million in 1971 giving them an average size of 167,004 persons. By comparison, a town in India had on an average a population size of 34,977 (Table 1). This means that the average size of an urban place which is a seat of administrative headquarters is about five times the average size of an urban centre of the country. This is largely because of the fact that out of 341 urban district headquarters 115 were class I cities accommodating as much as 84.35 per cent of the total population of the district headquarters (Table 2) . Class II towns, each having a population between 50,000 to 100,000, claimed 83 districts headquarters. By contrast, there were only 51 district headquarters having a population less than 20,000 each, which together shared only about 1.06 per cent of the total population of the district headquarters of India. The Gini concentration ratio calculated for the size categories of district headquarters is 0.5317, implying a a high degree of concentration of population in large sized district headquarters.

Although a district headquarters has an average population of 167,004, yet there is wide regional disparity in the size of district headquarters. The hill states like those of Himachal Pradesh, Nagaland, have lowest average size of 18,140 persons and 19,484 persons respectively. By contrast, the more prosperous and industrially developed states of Maharashtra (397,763) Tamil Nadu (371,988), West Bangal (320,808), Gujarat (216,791), Karnataka (190,395), Kerala (178,597) have an average size for their respective district headquarters much above the national average. A similar pattern can be observed among the various union territories where again hilly union territory of Arunachal Pradesh has the lowest average size of 4,057 persons while the highly urbanised union territory of Delhi has the largest size of 3,287,884 persons.

Broadly speaking, the size of the district headquarters is the largest where an agglomeration of administrative machinery of national, state and district level occurs. It is perhaps due to this factor that Calcutta which for a long time remained a national capital of India and which at present enjoys the status of a state capital ranks first in the hierarchy of district headquarters in terms of the size of their population. However, it may be worth mentioning here that although Delhi became the national capital of India in 1912 yet it has failed to acquire the first rank among the district headquarters of India mainly due to four reasons. First, while it is true that Delhi earned the status of National capital in

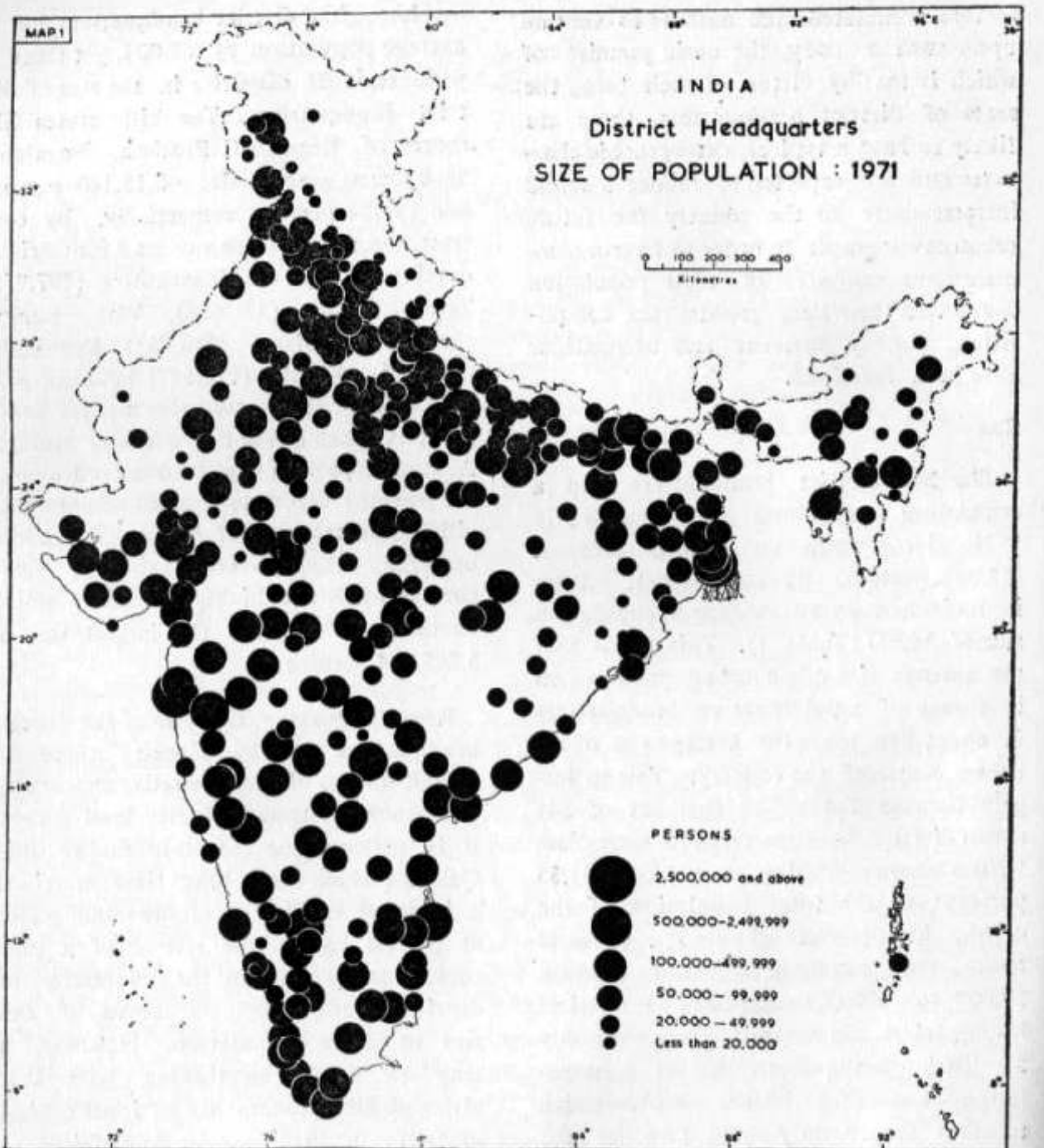

MAP 1
INDIA
District Headquarters
SIZE OF POPULATION : 1971
0 100 200 300 400
Kilometres
PERSONS
2,500,000 and above
500,000–2,499,999
100,000–499,999
50,000 – 99,999
20,000 – 49,999
Less than 20,000

TABLE 1

India's District Headquarters : Average Size of Population, 1971

State/Union Territory	Number of district headquarters	Average size
INDIA	341	167,004
Maharashtra	26	397,763
Tamil Nadu	13	371,988
West Bengal	15	320,808
Gujarat	18	216,791
Karnataka	19	190,395
Andhra Pradesh	21	179,802
Kerala	10	178,597
Punjab	11	143,217
Uttar Pradesh	54	143,034
Bihar	17	110,748
Rajasthan	26	101,497
Madhya Pradesh	43	81,453
Haryana	7	73,970
Jammu & Kashmir	10	67,437
Tripura	2	55,433
Manipur	2	54,536
Meghalaya	2	51,574
Assam	10	51,021
Orissa	13	45,070
Nagaland	2	19,484
Himachal Pradesh	7	18,140
Union Territories		
Delhi	1	3,287,883
Chandigarh	1	218,743
Pondicherry	4	33,495
Goa, Daman and Diu	3	27,596
Andaman and Nicobar Islands	1	26,218
Arunachal Pradesh	3	4,057

SOURCE : Calculated from Census of India, *General Population Tables*, Part II-A, of various states and union territories, 1971.

TABLE 2

India's District Headquarters : Size of Population, 1971

Size category	Number of district headquarters	Percentage share of population in district headquarters population
Class I (Population, 100,000 and above.)	115	84.35
Class II (Population, 50,000 to 99,999)	83	8.83
Class III (Population, 20,000 to 49,999)	92	5.76
Class IV (Population 10,000 to 19,999)	34	1.00
Class V (Population, 5,000 to 9,999)	12	0.04
Class VI (Less than 5,000	5	0.02
Total	341	100.00

SOURCE : Calculated from Census of India, *General Population Tables,* Series 1, Part II-A (i), 1971, pp. 239-497.

the early years of the 20th century, yet its functional growth and diversification started much later, say after the Independence only. Secondly, Bombay by virtue of its location had grown quite disproportionately in its size and it has taken quite long for Delhi to outmatch it as far as its size is concerned. Thirdly, Delhi has yet not enjoyed the status of national capital for as long a period as Calcutta did. Lastly, the inland location of Delhi in comparison to Calcutta and Bombay also had its own impact upon the size of this national capital city. However, as would be observed later, now the city of Delhi is growing at much faster a rate than the city of Calcutta and soon the city of Delhi may emerge as the first ranking district headquarters of India. Map 1 also reveals that those urban places which are the capitals of state and also district headquarters normally have a large size than those urban centres which accommodate only the district level administrative headquarters. Other factors that may explain the present size of

populaton a district headquarters possesses include (i) the period of gaining the status of an administrative headquarters, (ii) the type of area in which the district headquarters is located, (iii) the type of economy the region has, (iv) the political history of the region and (v) the degree of multiplication of its functions. Longer the history a town has had as district headquarters, larger is its size. Secondly, it is observed that towns in hilly areas and in areas having such physical handicaps like inhospitable climate have, by and large,small size in comparison to the towns located in plains. That is why, the district headquarters in the Himalayas and in the Thar desert appear to be tiny in comparison to the district headquarters of Indo-Gangetic plain. Thirdly, the type of economy of the area in which a district headquarters is located also plays its own role in giving a particular size to its district headquarters. For instance, the district headquarters located in areas of backward economy have remained small in size than those located in areas having prosperous economic set up. Fourthly, those district headquarters which for a long time remained capitals of various princely states, today possess a relatively larger size. That is why one comes across large-sized district headquarters in areas like Rajasthan which otherwise has a backward economy. Lastly, the degree of multiplication of functions is a vital factor in giving a size to an urban centre and these district headquarters had the advantage of having relatively faster rate of multiplication of of their functions by virtue of their being the seats of administration.

Thus, the factor of their being the centres of administration and other factors like the length of administrative status, the type of economy, and the political history of the area were vital determinants of the size of district headquarters of India.

Growth

The population of India's district headquarters increased from 41.7 million to 56.9 million during 1961-71, implying a growth of 36.44 per cent. This growth rate though lower than the growth of country's urban population (38.23 per cent), yet was much above the estimated rate of natural increase (21.1 per cent) of urban population. Such a high rate of actual increase over the natural increase signifies that the district headquarters of India have been experiencing large scale net in-migration associated with their expanding functions. Broadly speaking, out of 341 district headquarters under review as many as 215 experienced a growth rate of more than 30 per cent, implying net in-migration, 72 recorded a moderate growth of 20 to 30 per cent approximating their natural increase, and 42 registered a growth of less than 20 per cent (Map 2). There were only two district headquarters namely Ahmadnagar and Bilaspur in whose case an absolute decrease in population was recorded. There were also 10 such places which acquired the urban status only during 1961-71 and as such their growth rate could not be calculated (Table 3). By and large, the district headquarters located in the northern states were recording a slow growth in comparison to those located in the south India (Map 2). Similarly, the western half of India, which is more urbanized than the east, also recorded a higher rate of growth

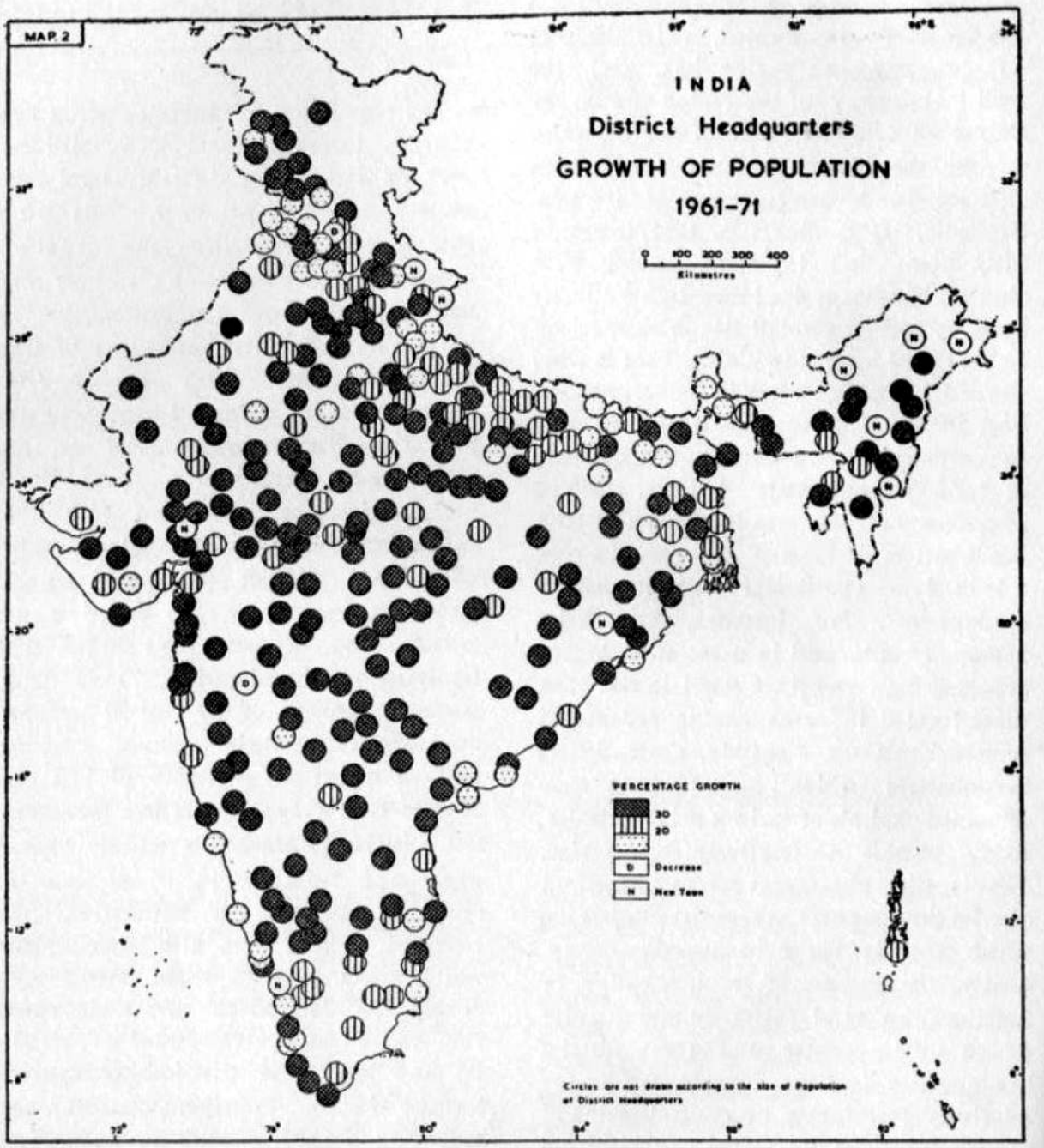

MAP 2
INDIA
District Headquarters
GROWTH OF POPULATION
1961-71
0 100 200 300 400
Kilometres
PERCENTAGE GROWTH
30
20
D Decrease
N New Town
Circles are not drawn according to the size of Population at District Headquarters

TABLE 3

India's District Headquarters : Growth Rate Category : 1961-1971

Growth rate category (in percentage)	Number of district headquarters
More than 60	38
50-59.9	45
40-49.9	64
30-39.9	68
20-29.9	72
Less than 20	42
Decrease	2
New Towns	10
Total	341

SOURCE : Calculated from Census of India, *General Population Tables*, Series 1, Part II-A (i), 1971, pp, 239-497.

than its eastern counterpart which is less urbanized. Further, the small-sized district headquarters recorded a higher percentage increase in their population during 1961-71 than the large urban centres, implying an inverse correlation between size and growth of population. The alluvium filled but mineral deficient northern plain constituting predominantly agricultural belt offers limited potential for heavy industrilisation. On the contrary, mining and industrial activity in the mineral rich penninsular India has been stimulating urban development, particularly when in the south agriculture is handicapped by the problem of developing irrigation (Chandna, 1976). The relatively high growth rate in western half of India in comparison to its eastern counterpart reveals a positive correlation between the degree of urbanization and growth of urban population. A high growth rate of the district headquarters of practically all the union territories signified that the pace of developmental activities in the centrally administered territories was faster than that in the areas governed by states (Table 4). Coincidentally, all the union territories in India, with few exceptions, are more urbanized.

The two district headquarters recording absolute decline in their population during 1961-71 need a special mention. In case of Ahmadnager the separation of its cantonment from the main city during 1961-71 was largely responsible for such a decline. In case of Bilaspur it was the

TABLE 4

India's District Headquarters : Growth of Population : 1961-71

State/Union Territory	Growth rate in percentage
INDIA	34.98
Nagaland	190.72
Tripura	74.72
Manipur	61.07
Kerala	46.66
Assam	52.83
Orissa	51.71
Jammu & Kashmir	46.52
Gujarat	42.65
Madhya Pradesh	41.74
Rajasthan	41.54
Andhra Pradesh	41.39
Maharashtra	41.23
Karnataka	40.08
Haryana	35.28
Tamil Nadu	34.02
Punjab	29.38
Himachal Pradesh	27.95
Uttar Pradesh	27.08
Meghalaya	26.83
Bihar	26.49
West Bengal	12.36
Union Territories	
Chandigarh	144.90
Goa, Daman & Diu	69.63
Delhi	59.47
Pondicherry	50.55
Andaman & Nicobar Islands	46.32

SOURCE : Calculated from Census of India, *General Population Tables*, Part II-A, of various states and union territories, 1971.

evacuation of population due to the construction of Gobindsagar (Bhakra dam) where whole Bilaspur town was submerged and had to be shifted to nearby alternate location. In the process, many a family having rural links preferred to scatter into the neighbouring countryside.

Thus, the district headquarters of India recorded a relatively high rate of growth in their population during 1961-71, implying a large scale net in-migration in majority of them. Those which were small in size grew much more rapidly than the medium/large sized. Similarly, those located in agricultural belt and less urbanized parts of India were way behind the district headquarters located in the industrially developed, more urbanized parts of India, and having more diversified functions.

Sex Composition

In Indian context, sex eatio is defined in terms of number of females per thousand males. Unlike western countries Indian urban places, which are the scenes of male excessive in-migration, are characterised by a paucity of females (Krishan & Chandna, 1973). On an average, there were 833 females per thousand males in the district headquarters of India while the corresponding figure for the urban population of the country as a whole was 858. This implies that district headquarters of India were characterised by greater male excessive in-migration. From among the various states the district headquarters of Nagaland with sex ratio of only 470 are most masculine in character, while those of Kerala with sex ratio of 982 are most feminine in character. From among the union territories, Arunachal Pradesh with 423 and Pondicherry with 1019 had the lowest and highest sex ratios respectively (Table 5). One of the explanations of such unusual deficiency of females in the district headquarters of strategically located Nagaland and Arunachal Pradesh, which otherwise also face law and order problems, lies in the diployment of defence personnel and central reserve police. Another plausible reason for the deficiency of females is that some of the district headquarters are new and recently emerging administrative centres. As it normally happens, in the early stages of migration in search of jobs, only the head of the family moves. This also has had its own impact on the sex composition of these district headquarters. On the other extreme lie Kerala among states and Pondicherry among union territories. Kerala in India is a state which otherwise has the highest sex ratio and it is only to be expected that the district headquarters will line with the general pattern of the state. A little deficiency of female is, of course, due to male selective in-migration to the district headquarters where the job opportunities have been increasing. District headquarters of the Pondicherry, on the other hand, are the only examples where females are in excess of males. The explanations are not far to seek as the out-migration of males to neighbouring areas is largely responsible for giving this feminine character to them.

Thus, the salient features of the sex composition of India's district headquarters are: (i) although on an average the district headquarters of India have a sex ratio of 833, yet it varies from the lowest of 416 in

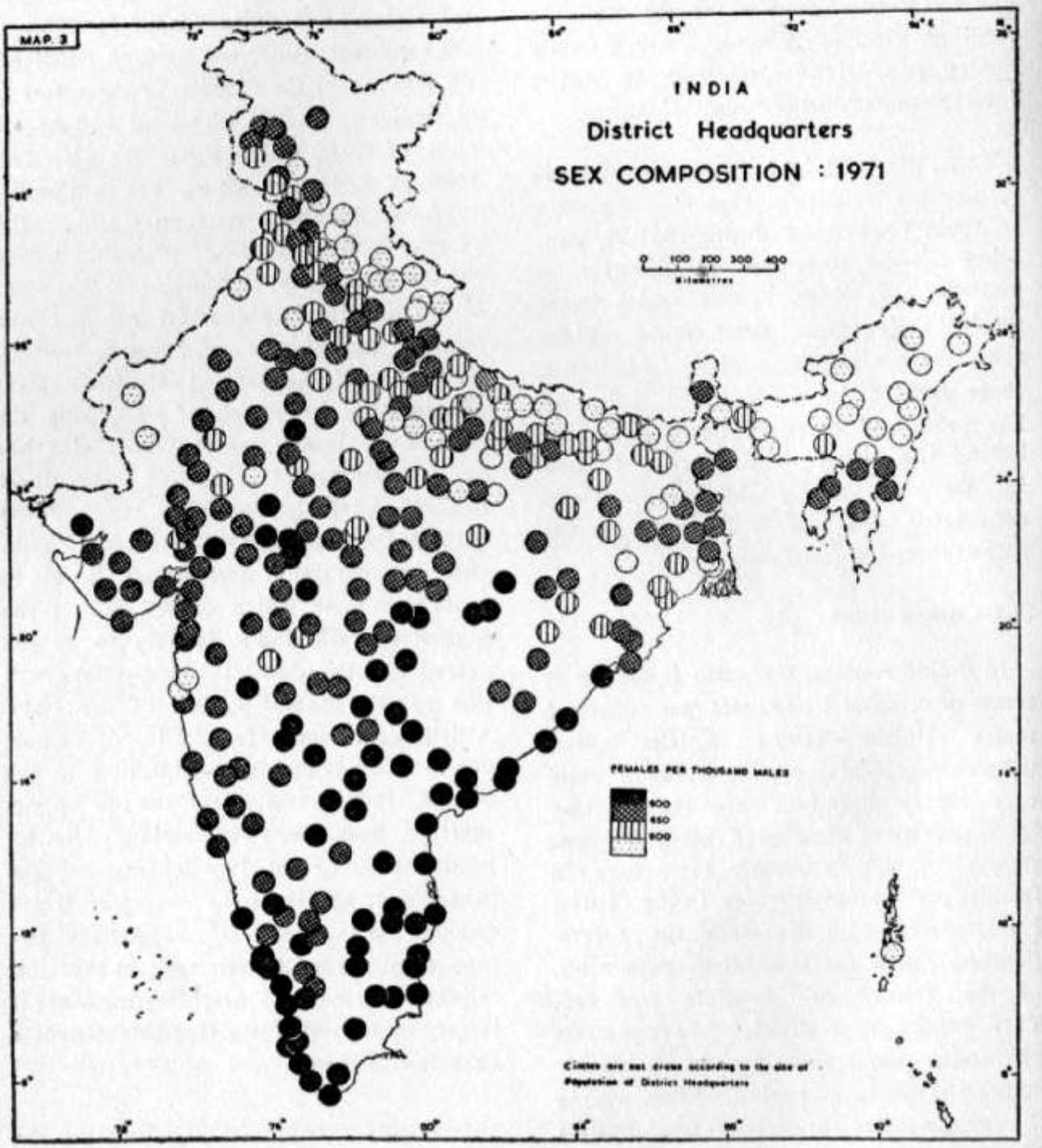

MAP 3
INDIA
District Headquarters
SEX COMPOSITION : 1971
0 100 200 300 400
Kilometres
FEMALES PER THOUSAND MALES
900
850
800
Circles are not drawn according to the size of
Population of District Headquarters

TABLE 5

India's District Headquarters : Sex Ratio : 1971

State/Union Territory	Sex ratio
India	833
Kerala	982
Manipur	975
Andhra Pradesh	939
Tripura	935
Tamil Nadu	925
Karnataka	891
Madhya Pradesh	878
Gujarat	869
Rajasthan	856
Jammu & Kashmir	855
Haryana	852
Punjab	837
Meghalaya	833
Orissa	830
Uttar Pradesh	822
Bihar	806
Maharashtra	784
Himachal Pradesh	734
Assam	714
West Bengal	684
Nagaland	470
Union Territories	
Pondichery	1019
Goa, Daman & Diu	961
Delhi	806
Chandigarh	752
Andaman & Nicobar Islands	558
Arunachal Pradesh	423

SOURCE ; Calculated from Census of India, *General Population Tables*, Part II -A of various states and union territories, 1971.

Mokokchung to the highest of 1041 in Diu (Map 3); (ii) the spatial pattern of sex ratio of the district headquarters of India corresponds fairly with the spatial patterns of general sex ratio in the country; (iii) district headquarters of the Ganga Plain have contrastingly low sex ratio than those of the South India in general; (iv) the district headquarters located in the strategic areas along the international border, by and large, display low sex ratio; and (v) the district headquarters which have multiple status of being state capital exhibit a significant deficiency of females in their population. Since there is little to differentiate between natural sex ratio and differential in male-female mortality rates of the various district headquarters of India, the incidence and type of migration a particular area is experiencing explains to a large extent the pattern of sex composition of its district headquarters, the pattern of general sex ratio notwithstanding.

Literacy

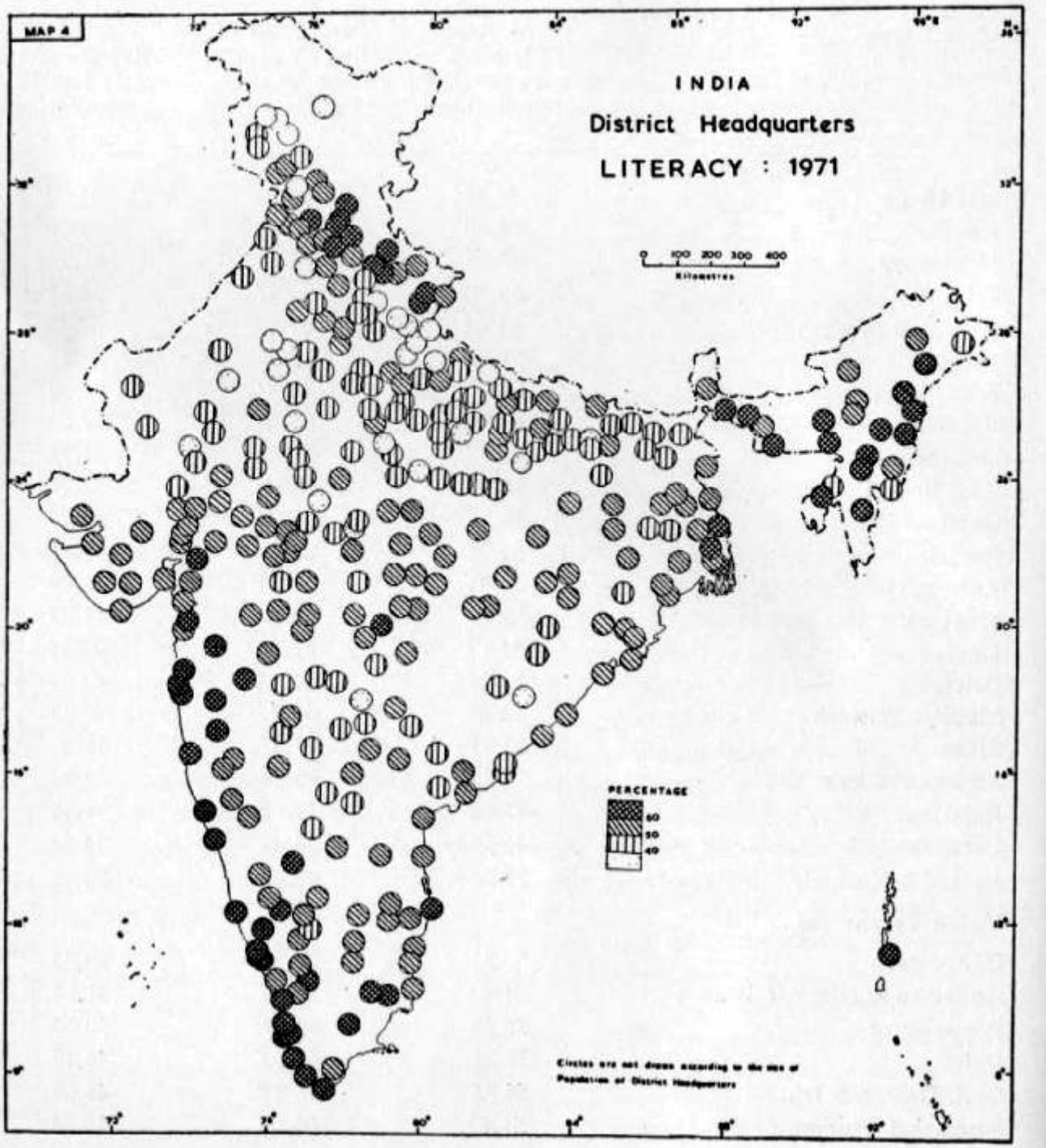
The district headquarters of India have relatively high literacy rates in comparison to even the urban population of the country as a whole because these rank high among the hierarchy of urban centres. While the urban population of India recorded a literacy rate of 52.44 per cent in 1971 the corresponding figure for the district headquarters was 56.27 per cent. Both male and female literacy rates of district headquarters were higher than the respective figures for urban population of the country as a whole. In the district headquarters, 63.93 per cent of male population and 47.07 per cent of female population was literate in comparison to the 61.28 per cent male literacy, and 42.14 per cent female literacy among the urban dwellers of the country (Table 6). Viewed in the context of mass illiteracy prevailing in the country, the high literacy rates displayed by the district headquarters of India can be associated with a variety of factors including the type of economy, degree of socio-economic awakening, the availability of facilities for imparting education, better standards of living of people etc. However, the average figure of 56.27 per cent literates hides within itself a wide disparity in the literacy patterns of district headquarters from one part of the country to another. The Muslim dominated state of Jammu &Kashmir, with backward economy and limited potentials for diversification of its economy, has the lowest literacy rate of 39 27 per cent (Map 4). Both male (47.66 per cent) and female (30.11 per cent) literacy rates of its district headquarters were lowest in the country. At the other end of the scale are the district headquarters of Kerala where 68.4 per cent of their population is recorded as literate. Kerala has the distinction of having highest literacy in the country and the highest female literacy(63.00 per cent) among its district headquarters. The high literacy in this part of the country in general has been associated with factors like high proportion of Christians, high female literacy, and work of missionaries (Gosal, 1964). Among the various union territories of India, there is not much variation as far as literacy pattern of district headquarters is concerned. However, Chandigarh, the most urbanized union territory, has the distinction of having the highest literacy of 66.31 per cent and Arunachal Pradesh with 51.47 per cent literacy has the lowest literacy rate, largely due to its very low female literacy of 30.83 per cent.

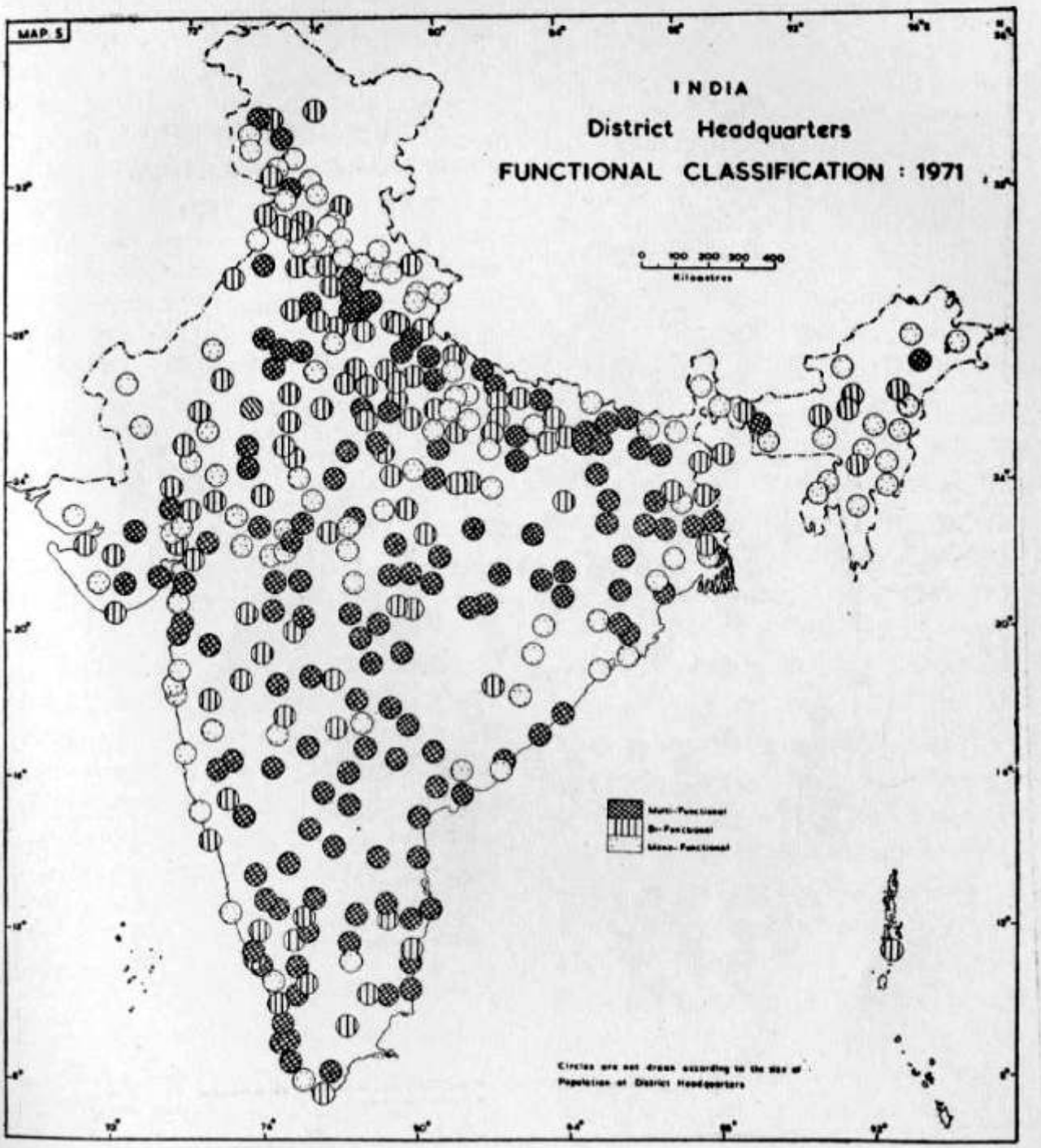
TABLE 6

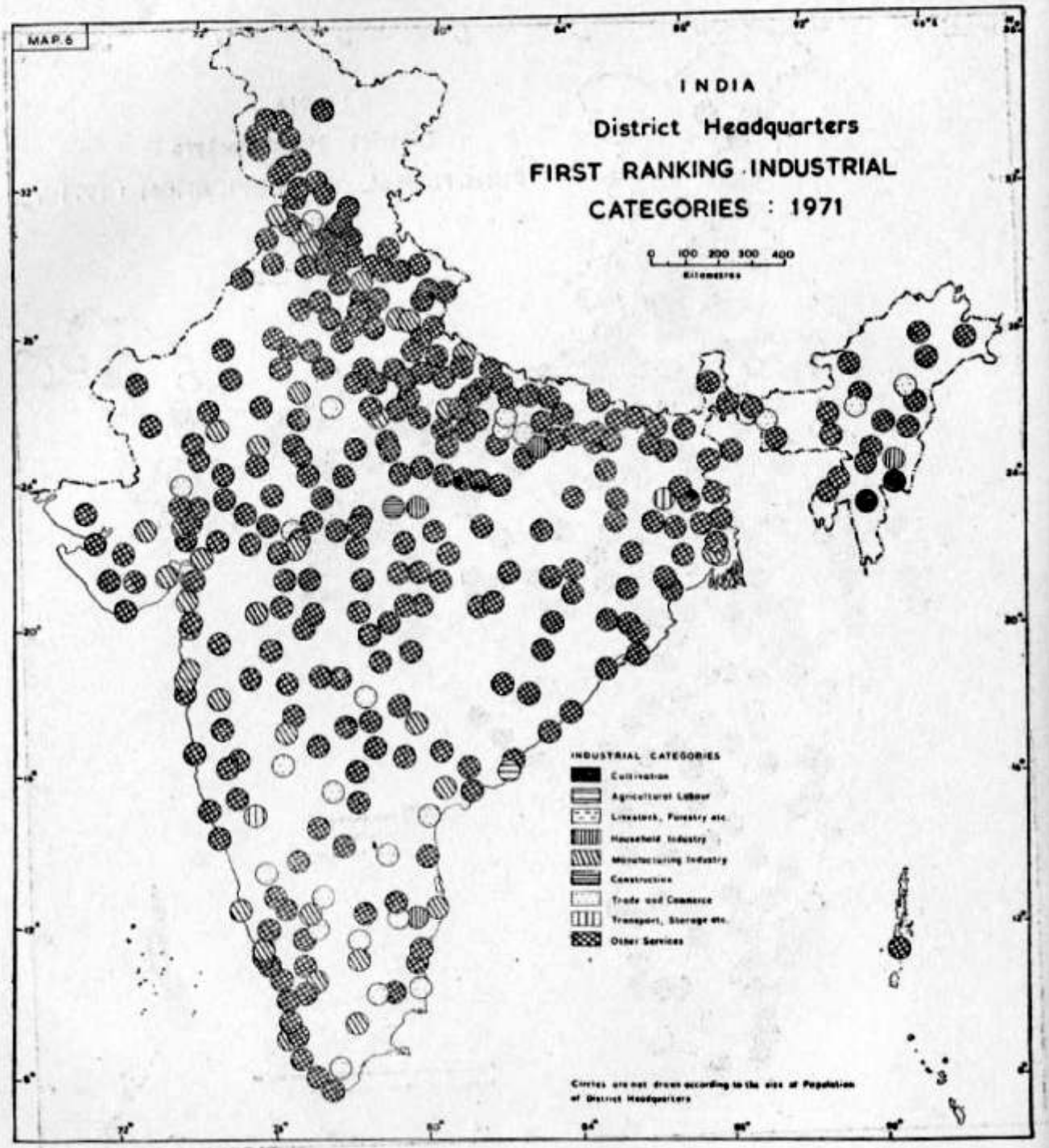
India's District Headquarters : Literacy Patterns : 1971

State/Union Territory	Percentage of literate to total population.	Percentage of literate male to male population.	Percentage of literate female to female population.
INDIA	56.27	63.93	47.07
Kerala	68.40	73.71	63.00
Meghalaya	67.85	72.78	61.93
Tripura	65.70	73.97	59.95
Himachal Pardesh	63.44	67.75	57.56
Assam	62.70	66.88	56.84
Tamil Nadu	61.61	70.49	52.00
Nagaland	61.56	66.73	50.59
Maharashtra	61.33	68.82	51.77
West Bengal	59.10	63.80	52.21
Gujarat	58.53	66.60	49.25
Punjab	57.22	62.29	51.17
Karnataka	56.94	64.82	48.09
Manipur	56.88	69.40	44.05
Haryana	55.17	62.78	46.25
Orissa	53.27	62.55	42.09
Madhya Pradesh	52.88	63.72	40.53
Bihar	50.85	60.97	38.23
Andhra Pradesh	50.69	60.50	40.25
Rajasthan	47.84	59.12	34.66
Uttar Pradesh	46.34	54.40	36 54
Jammu & Kashmir	39.57	47.66	30.11
Union Territories			
Chandigarh	66.31	71.26	59,73
Andaman & Nicobar Islands	61.53	66.93	51.85
Pondicherry	58.28	66.67	50.06
Delhi	58.21	64.69	50.16
Goa, Daman & Diu	56.85	65.29	48.05
Arunachal Pradesh	51.47	60.19	30,83

SOURCE : Calculated from Census of India, *General Population Tables* Part II-A of various states and union territories, 1971.


MAP 4
INDIA
District Headquarters
LITERACY : 1971
0 100 200 300 400
Kilometres
PERCENTAGE
60
50
40


MAP 5
INDIA
District Headquarters
FUNCTIONAL CLASSIFICATION : 1971
0 100 200 300 400
Kilometres
Multi-Functional
Bi-Functional
Mono-Functional
Circles are not drawn according to the size of
Population of District Headquarters


MAP 6
INDIA
District Headquarters
FIRST RANKING INDUSTRIAL
CATEGORIES : 1971
0 100 200 300 400
Kilometres
INDUSTRIAL CATEGORIES
Cultivation
Agricultural Labour
Livestock, Forestry etc.
Household Industry
Manufacturing Industry
Construction
Trade and Commerce
Transport, Storage etc.
Other Services
Circles are not drawn according to the size of Population of District Headquarters

Broadly speaking, the regional pattern of literacy among the district headquarters of India corresponds fairly well with general literacy pattern in India. The district headquarters of south India have, by and large, higher literacy rates than those in north India. However, within South India, the district headquarters of relatively more agricultural state of Andhra Pradesh are marked by a low literacy rates and within North India the two extremes of north-west and north-east are marked by relatively high literacy rates (Krishan & Shyam, 1977). Such a pattern reveals that the areas of ; (i) primarily agricultural economy with low degree of commercialisation and diversification; (ii) relatively high percentage of Muslim population; (iii) relatively high percentage of scheduled caste persons; and (iv) relatively longer spell of princely rule have low literacy rates while the areas of; (i) commercialised agricultural economy : (ii) high degree of diversification of economy; (iii) high percentage of Christian population; (iv) low proportion of scheduled caste population; (v) high proportion of defence personnel due to their strategic location; and (vi) relatively longer spell of foreign rule have high literacy rates.

Occupations

The Census of India classifies the working population into nine industrial categories of (i) cultivation (ii) agricultural labour (iii) livestock, forestry, fishing, hunting and plantations, orchards and allied activities (iv) mining and quarrying (va) household industry (vb) other than household industry (vi) construction (vii) trade and commerce (viii) transport, storage and communications and (ix) other services. In the present study two maps have been prepared in this connection (Maps 5 and 6). Map 5 has been prepared to classify the district headquarters in terms of their functions. Map 6 presents the spatial pattern of first ranking industrial categories at the district headquarters of India. It is imperative to clarify here that ranking of industrial categories is based entirely upon the percentage of workers engaged in different categories. The industrial category engaging the largest proportion of workers, irrespective of its magnitude, in a particular district headquarters has been allotted the first rank. The technique used to classify district headquarters as mono, bi and multi-functional is the one followed by Census of India, where if a town engages over 40 per cent of its workers in a single activity, it is considered as mono-functional.[2] The town which does not engage a minimum of 40 per cent of its working force in any single industrial category is termed as bi-functional if the two industrial categories account for at least 60 per cent of the

[2]For the purposes of functional classification the Census of India adopts the following grouping of industrial categories (i) Primary activities (cultivation, agricultural labour, livestock, forestry etc., mining & quarrying); (ii) Industry (household industry, other than household industry, construction); (iii) Trade and commerce; (iv) Transport and (v) Services.

working force. All the remaining towns where no two industrial categories are able to account for at least 60 per cent of workers are termed as multi-functional towns. The pattern of industrial activities carried on in different district headquarters of India as revealed by these maps brings to light the following salient features : (i) There are 101 district headquarters out of 341 under review which are mono-functional in nature, of which as many as 80 have the other services as their major functions (Table 7). The mono-functional towns are small or medium sized. In their regional pattern, however, they are more characteristic of less developed parts of the country like the Himalayas, Rajasthan, Orissa etc. (ii) There are 99 district headquarters which have more than 60 per cent workers engaged in two major industrial activities and thus have been designated as bi-functional. Most of these bi-functional district headquarters have a combination of either services-industry or services-trade & commerce. In their regional pattern these are confined more to agriculturally prosperous areas like Punjab, Haryana, Upper Ganga-Yumna Doab, and cotton producing area of the country. (iii) The multi-functional status was earned by the largest number of district headquarters, that is 141, meaning thereby that no two industrial groups could claim 60 per cent of the working force in any of these district headquarters. The multifunctionality is confined to: the services-trade & commerce-industries; services-industry-primary activities; and services-trade & commerce-primary groups. Regionally speaking, the towns of south India in general display a greater degree of multipicity of functions than the towns of north India. This is a fair index of the degree of diversification of economy of the two macro-regions of India as the degree of diversification and the multiplicity of functions are positively correlated. (iv) The regional pattern of first ranking activities is simple with other services claiming the first rank in as many as 271 district headquarters (Table 8). Industry other than household and trade & commerce are the other important first ranking activities claiming 32 and 27 district headquarters, respectively. It is only to be expected that the district headquarters being the centres of administration and other services will have, by and large, services as their first ranking activity. However, the proportion of workers in services is highly variable within these towns ranging from 24.6 per cent to 84.0 per cent. It is interesting to note that services dominate in those district headquarters which are too small and have little else to offer or in big towns which have agglomerative tendencies with regard to a variety of services. (v) The pattern of second ranking activity reveals that 230 district headquarters have trade & commerce, 50 other services and 38 manufacturing industry as their second ranking activity, respectively. In an agrarian country like India where infra-structure for big industries is yet at its infancy stage and where services dominate the functions of district headquarters, it is only to be expected that trade and commerce emerges as the second ranking activity as a feed back to the population engaged in services. (vi) The pattern of third ranking activities is more complex with only 137 district headquarters claiming manufacturing industry as third ranking while trade

TABLE 7

India's District Headquarters : Functional Classification, 1971.

State/Union Territory	Number of district headquarters classified as		
	Mono functional	Bi-functional	Multi-functional
INDIA	101	99	141
Andhra Pradesh	2	1	18
Assam	3	5	2
Bihar	1	4	12
Gujarat	5	6	7
Haryana	1	4	2
Himachal Pradesh	6	1	—
Jammu & Kashmir	4	3	3
Karnataka	1	4	14
Kerala	2	1	7
Madhya Pradesh	11	9	23
Maharashtra	6	9	11
Manipur	2	—	—
Meghalaya	2	—	—
Nagaland	2	—	—
Orissa	8	1	4
Punjab	5	5	1
Rajasthan	9	11	6
Tamil Nadu	2	5	6
Tripura	2	—	—
Uttar Pradesh	16	20	18
West Bengal	5	5	5
Union Territories			
Andaman & Nicobar Islands	—	1	—
Arunachal Pradesh	3	—	—
Chandigarh	1	—	—
Delhi	—	1	—
Goa, Daman, Diu	1	1	1
Pondicherry	1	2	1

SOURCE : Calcuated from Census of India, *General Population Tables* Part II-A, various states and union territories, 1971.

TABLE 8

India's District Headquarters : Occupational Structure : 1971

Industrial category	Number of district headquarters having First ranking industrial category	Second ranking industrial category	Third ranking industrial category
Cultivation	2	7	14
Agricultural labour	1	5	18
Livestock, Forestory, Fishing, Hunting and Plantations, Orchards, and allied activities	1	1	3
Mining and Quarring	0	0	0
Household Industry	4	1	14
Other than Household industry	32	38	137
Construction	1	3	5
Trade and commerce	27	230	74
Transport, storage and communications	2	6	56
Other services	271	50	20

SOURCE : Census of India, *General Population Tables*, Part II–A, of various states and union territories, 1971.

& commerce, transport storge & communication, other services, agricultural labour, household industry, cultivation claimed the third rank in 74, 56, 20, 18, 14 and 14 district headquarters, respectively, It reveals a healthy trend as far as the functional growth of district headquarters is concerned. A fact that very large number of district headquarters have manufacturing as third ranking activity shows the growing dynamism of India's district headquarters. When viewed in the context of Map 5 it becomes clear that multi-functionality of different district headquarters is the product of growth of manufacturing activity in them. This not only is leading to the diversification of functions at district headquarters but also is sowing seeds of decentralization of industrial activity in India. It is hoped that in coming future these multi-functional district headquarters will become the centres of greater industrial activity and shall in times to come provide a sound infra-structure for a great industrial spurt.

Summing Up

It has been observed that most of the district headquarters of India are either large or medium sized, growing rapidly, have low sex ratio, high literacy rates and multiplicity of functions. Their large size on an average is understandable in the context of long history of their having been the seats of administration. Their fast growth of population is associated with the rapid expansion of their functions, particularly during the post-independence period. Their low sex ratio is attributable to male excessive in-migration into these rapidly growing urban centres because they face the problems like high cost of living, and housing etc. which impel the in-migrants to leave their families behind in their native villages, at least during the initial period of their settlement. Their high literacy rates are associated with the type of their functions which have their own demand on literacy and education. Moreover, the urban dwellers have both the capacity and facilities for imparting eduction to their children. Above all, the influx of people from rural/urban areas to these district headquatres is mostly of literate people. The multifunctionality of a large number of district headquarters of India, coupled with the pattern of their first, second and third ranking activities, is an index of the kind of decentralized ubran/industrial development taking place in the country. As the country moves towards higher degree of industrialization, the seats of administration (district headquarters) are becoming more and more diversified in their functions. This, of course, is a healthy trend particularly when industry is emerging as a vital function of such district headquarters.

Incidently, north India which can be termed as more agricultural than its southern counterpart presents a comparatively different demographic character of its district headquarters as compared to south India. While the district headquarters in south India are growing rapidly, have high literacy rates, high sex ratios and exhibit high degree of diversification of their functions, the district headquarters in north India have recorded relatively slow growth, have relatively low literacy, paucity of females and display monofunctionality and thus, are less dynamic in their demographic character. Similarly the district headquarters which are also the seats of administration of higher level (national / state / union territory capital) have understandably greater demographic dynamism than the district headquarters of those areas which have had a long history of feudal rule

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ETHNIC AND REGIONAL DIFFERENCES IN MARITAL STATUS IN PENINSULAR MALAYSIA

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This paper analyses the trends and differentials in marital status of the Peninsular Malaysian population, based on the data on current marital status from the 1947, 1957 and 1970 Population Censuses and the 1974 Malaysian Fertility and Family Survey. Time trends are shown from 1947 to 1974 and differentials between races and between states for each racial group are highlighted. Although current marital status data cannot fully reflect the marital histories of the populations concerned, they nevertheless do reveal some highly significant trends and differentials.

Comparability of the Data

The definitions of marital status used in the four sources are consistent. Four categories are used : single, married, widowed and divorced. In 1970 and 1974, the permanently separated are specifically included with the divorced. In 1947 and 1957 a small "not stated" category is given, comprising only 0.1 per cent and 0.06 per cent of all respondents, respectively. Unpublished tabulations available for the 1974 survey do not separate the widowed and divorced.

The Single Population and Median Age at First Marriage

As shown in Table 1, there has been a tendency among each race for the proportion of females single at ages 15+ to rise[1] The rise has been particularly sharp in recent years amongst the Malays and Indians, but the highest proportion single (33 per cent) is still found amongst the Chinese, who have always tended to marry later than the other races. The rise in the overall proportion of single is attributable mainly to a rise in the proportion single at the younger ages. Changing age structure, namely an increase in the proportion of all adults who are in these younger age groups, has contributed slightly, but this increase has been significant only in the case of Chinese females.[2] There is no

[1]The age group 10-14 has been excluded from this and subsequent tables, partly because almost everybody in this age group remains unmarried but partly because there is clearly an error in the 1970 data on marital status for this age group.

[2]Among Chinese, the group aged 15-29 rose from 40.1 per cent of the adult female population in 1947 to 46.6 per cent in 1970.

TABLE 1

West Malaysia : Proportion Single (Never Married) By Race, Sex and Age Group, 1947-1970

Age Group	Males				Females			
	1947	1957	1970	1974	1947	1957	1970	1974
				1. MALAYS				
15—19	93.1	92.1	96.3	98.5	40.8	45.8	77.2	83.3
20—24	53.7	47.2	67.7	75.9	6.6	9.4	32.4	40.4
25—29	18.1	13.4	23.0	28.9	2.1	2.3	8.7	15.0
30—34	7.2	4.8	6.8	8.1	1.3	1.1	3.2	5.0
35—39	4.1	2.9	3.3	2.6	0.9	0.7	1.8	2.1
40—44	2.6	2.3	2.0	2.3	1.1	0.6	1.0	0.8
45—49	2.5	1.9	1.5	1.1	1.4	0.5	0.6	0.0
50—54	2.1	1.7	1.1	0.6	1.8	0.5	0.6	0.0
55—59	1.7	1.7	1.0	0.9	1.5	0.6	0.6	0.0
60—64	1.8	1.6	0.9	0.5	2.1	0.6	0.6	0.0
65+	2.9	1.6	1.0	1.2	3.2	0.5	0.8	0.0
All ages 15+	25.3	25.7	33.6	35.6	8.6	10.4	22.2	25.2
				2 CHINESE				
15—19	97.6	98.6	98.3	99.5	82.4	89.7	94.0	94.6
20—24	77.0	79.0	86.3	85.7	26.1	43.1	59.7	57.6
25—29	44.0	37.8	44.9	46.8	7.9	11.4	21.4	22.3
30—34	26.8	16.5	18.9	17.1	4.2	3.8	9.5	10.6
35—39	22.4	10.7	9.9	8.4	3.3	2.7	5.7	6.7
40—44	20.8	8.9	6.5	3.5	3.6	2.6	3.4	3.3
45—49	19.7	10.5	5.5	2.1	3.7	2.5	2.4	1.8
50—54	20.6	11.4	5.0	2.1	3.9	2.6	4.3	3.3
55—59	20.9	12.9	5.7	4.5	4.2	2.5	2.7	1.4
60—64	20.9	14.2	7.4	2.3	4.4	1.8	3.0	2.9
65+	20.6	16.2	10.2	4.5	4.6	1.8	3.3	0.6
All ages 15+	40.5	39.9	43.6	40.4	11.6	25.6	32.7	30.9
				3. INDIANS				
15—19	98.3	96.8	97.1	99.7	47.7	46.8	83.0	92.3
20—24	80.2	67.4	75.4	87.8	6.9	9.4	37.0	45.0
25—29	53.6	34.0	31.9	35.1	1.8	2.5	11.7	13.0
30—34	35.3	16.2	11.7	12.6	1.2	1.1	3.9	4.0
35—39	23.4	11.3	5.8	5.7	1.0	0.5	2.1	0.9
40—44	17.6	9.8	4.6	0.0	1.4	0.5	1.4	0.0
45—49	15.1	9.1	4.4	0.0	1.6	0.5	0.9	0.0
50—54	15.2	8.8	4.9	0.0	2.6	0.6	0.7	1.4
55—59	13.5	8.5	5.2	1.5	2.1	0.5	1.1	0.0*
60—64	14.9	9.1	6.2	3.0	2.6	0.6	1.4	0.0*
65+	12.9	9.5	7.8	1.4	4.1	1.3	2.0	0.0*
All ages 15+	40.4	30.6	35.6	41.5	10.1	10.7	27.7	31.5

*Based on fewer than 50 women.

clear evidence of a move towards increasing spinsterhood (i.e. a rise in the proportion of women who do not marry at all): The proportions still single at ages above 40 have actually fallen between 1947 and 1974.[3] However, the evidence is not yet all in. Among the young cohorts (e.g. those aged 30--39 in 1974) which delayed their marriages markedly compared with their older sisters, a substantial and growing proportion were still unmarried at ages above 30 (5 per cent of Malays aged 30-34 and 6.7 per cent of Chinese aged 35-39). We will have to wait for the 1980 Census to give us a better indication whether many of these women will complete their reproductive period without marrying at all.

Non-marriage of women, though it is rare for all three major races in Peninsular Malaysia, is clearly more common among the Chinese than among the other races. Thus even in 1947, when males outnumbered females among adult Chinese and female chances of marriage were therefore very good, many more middle-aged Chinese females were remaining single than were Malays.[4]

Males of all races tend to remain single longer than females. However, the 1947 proportions single for both Indians and Chinese reflected less the prevailing ideals than it did the sheer impossibility for many men of finding a marriage partner of the same race, let alone of the same clan or caste, due to the shortage of marriageable females among these still heavily-immigrant populations. Thus the sharp decline in the proportion of unmarried Indian males between 1947 and 1957 and the less dramatic drop in the proportion of unmarried Chinese males probably reflected mainly the evening of the sex ratios at the younger marriageable ages (Caldwell, 1963). By 1970 the Indian and the Chinese sex ratios were to all intents and purposes those of settled populations, and the fact that the proportions single among males rose between 1957 and 1970 despite increased availability of spouses only serves to emphasize that there must have been strongly-held ideas about appropriate ages for men to marry, which are not amenable to downward adjustment as a result of particular demographic circumstances. In fact, the "appropriate age" appears to have been gradually rising.

The Malay population, which was less subject to distortion due to migration than were the other races, displays the sharpest increase among the different races in the proportion of males remaining single in their 20's in recent years. The proportion single at age 20-24 rose from 47 per cent in 1957 to 67 per cent in 1970, and at age 25-29 from 13 percent to 23 percent over the same period.

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[3]Changing procedures and definitions could be partly responsible; even so, there is clearly no marked increase in spinsterhood.

[4]Actually, chances of marriage for young Chinese females were not very good in 1947, because the emigration of Chinese males in the early 1930's and the predominantly female immigration stream among Chinese in the 1930's produced a population structure in which females aged 15-24 outnumbered males 5 years older by some 20 per cent. But females aged 25 and over were still greatly outnumbered by males aged 30 and over, large numbers of whom were still unmarried.

In Peninsular Malaysia, as in most countries, males on average marry females some years younger than themselves, and the proportion of males still single in their 20's is therefore much higher than for females. For example, among Malays aged 20-24 in 1970, one-third of females were still single compared with two-thirds of males; among Indians, too, twice as high a proportion of males than of females remained single in this age group.

For all races, it appears to be more acceptable for males not to marry at all than it is for females. As many as one-fifth of the older Chinese men (aged 35+) and almost one fifth of Indian men in the same age group were still single in 1947, though this was due to the distorted sex ratios of immigrant populations. But by 1970, with fairly normalized sex ratios, the percentage unmarried in their 40's was still twice as high among Chinese males as among Chinese females, and four times as high among Indian females. Among the Malays, non-marriage was extremely rare for both males and females, but the proportion of unmarried males in their 40's was nevertheless double that of females.

Inter-state differences in proportions single are revealing. Among Malays, we find that proportions single among females are lowest (implying that mean age at marriage is also lowest) in Kelantan, followed by Trengganu, Pahang, Perlis and Kedah (Table 2). These are the less "modernized" states where levels of education and income amongst Malays have tended to lag behind those of the other states and where a high proportion of the Malay population is engaged in the traditional rural pursuits of paddy growing and fishing. State differentials in proportions single among males follow the same pattern.

There are relatively few Chinese and very few Indians in the East Coast states of Kelantan and Trengganu. However, it is interesting that among the Chinese and Indians in these states, the proportion of females single is lower than in other states, just as it is amongst the Malays (Tables 3 and 4). Thus the Chinese and Indians in Kelantan and Trengganu would appear to have been to some extent socialized into the early marriage pattern of the dominant Malay population.

A convenient summary measure of the implications of the proportions single is the median age at marriage. Table 5 presents this measure for 1947, 1957, 1970 and 1974 for the different races. Clearly, there has been a very substantial increase in the female age at marriage in the past 30 years. The rise in the Chinese age at marriage has been rather steady, from a moderately high level of 20.2 years in 1947, whereas median age at marriage for Malay and Indian women was still barely above 17 years in 1957, and has risen sharply only since that time. For males, the trends are less clear cut, largely because a shortage of females in the marriageable ages was still apparent in the immigrant Chinese and Indian communities in 1947, thus artificially raising the male age at marriage and preventing many males from marrying at all.[5] However, since 1957,

[5]In fact, the median age at marriage is rather misleading with regard to Indian and Chinese males in 1947, since it is based on those males who ever marry. But among Indians and Chinese in 1947, around 20 per cent of older males remained unmarried.

TABLE 2

Conjugal Condition of the Malay Population Aged 15+ by States, 1970

Percentage of Total Population Aged 15+

State	Single		Married		Widowed		Divorced	
	Males	Females	Males	Females	Males	Females	Males	Females
Johore	37.1	27.9	59.9	60.1	2.2	10.7	0.7	1.2
Kedah	30.4	19.9	65.8	65.6	2.9	13.0	1.0	1.5
Kelantan	25.9	13.3	68.8	68.0	3.2	14.1	2.1	4.5
Malacca	35.7	27.0	61.4	56.6	2.4	15.0	0.5	1.3
Negri Sembilan	37.8	24.6	58.3	60.1	2.8	13.2	1.1	2.1
Pahang	32.1	19.0	63.6	68.5	3.3	10.9	1.1	1.6
Penang	38.4	25.9	57.9	57.5	2.8	15.0	1.0	1.7
Perak	34.9	24.9	61.8	61.1	2.4	12.6	0.9	1.4
Perlis	27.8	19.4	67.5	66.1	3.4	12.6	1.3	1.9
Selangor	41.8	28.5	55.6	61.2	1.9	9.1	0.7	1.2
Trengganu	27.1	14.9	68.7	68.2	2.6	13.0	1 6	3 9
All Peninsular Malaysia	33.6	22.2	62.7	63.3	2.6	12.4	1.1	2.1

TABLE 3

Conjugal Condition of the Chinese Population Aged 15+ by States, 1970

Percentage of Total Population Aged 15+

State	Single		Married		Widowed		Divorced	
	Males	Females	Males	Females	Males	Females	Males	Females
Johore	43.6	32.3	52.9	55.9	3.2	11.3	0.8	0.6
Kedah	42.3	31.3	53.9	57.2	3.0	10.9	0.7	0.6
Kelantan	42.3	29.0	52.5	57.7	3.4	11.4	1.8	1.8
Malacca	43.9	32.9	52.6	55.0	2.9	11.5	0.7	0 6
Negri Sembilan	42.2	32.0	53.7	56.3	3.4	11.1	0.7	0.7
Pahang	43.7	29.6	51.6	58.5	3.8	11.2	1.0	0.6
Penang	44.1	34.4	52.7	52.3	2.7	12.7	0.5	0.6
Perak	42.1	31.3	54.2	55.9	3.0	12.3	0.7	0.5
Perlis	42.0	29.5	53.5	58.8	3.0	11.0	1.4	0.7
Selangor	45 3	34.3	51.8	54.6	2.4	10.5	0.5	0.6
Trengganu	42.5	29.4	52.4	57.6	3.7	11.8	1.4	1.1
All Peninsular Malaysia	43.6	32.7	52.8	55.2	2.9	11.5	0.7	0.6

TABLE 4

Conjugal Condition of the Indian Population Aged 15+ by States, 1970

Percentage of Total Population Aged 15+

State	Single		Married		Widowed		Divorced	
	Males	Females	Males	Females	Males	Females	Males	Females
Johore	35.6	28.1	58.4	62.2	4.4	8.9	1.7	0.7
Kedah	33.5	25.9	59.4	61.2	5.4	11.7	1.6	1.2
Kelantan	29·4	21.6	62.4	65.8	4.6	10.9	3.6	1.7
Malacca	34.6	29.6	59.4	60.2	4.5	9.1	1.6	1.1
Negri Sembilan	36.3	27.7	58.1	62.2	4.3	9.1	1.3	0.9
Pahang	34.0	25.1	59.8	66.1	4.7	8.3	1.5	0.5
Penang	34.4	28.9	60.9	59.3	3.7	10.8	0.9	1.1
Perak	36.0	27.3	58.6	60.7	4.2	11.1	1.3	0.9
Perlis	29.5	24.0	62.7	65.4	5.7	9.1	2.2	1.5
Selangor	36·9	28.4	58.4	61.7	3.6	9.2	1.0	0.8
Trengganu	24.7	23.7	67.5	67.4	4.7	8.0	3.2	1.0
All Peninsular Malaysia	35.6	27.7	58.9	61.4	4.1	10.0	1.3	0.9

TABLE 5

Peninsular Malaysia : Median Age at First Marriage by Race, 1947, 1957, 1970 and 1974

	Males				Females			
Year	Malays	Chinese	Indians	All Races*	Malays	Chinese	Indians	All Races*
1947	22.9	25.0	26.8	24.0	16.6	20.2	17.1	18.2
1957	22.1	25.3	24.4	23.1	17.1	21.6	17.2	19.0
1970	24.4	26.6	25.2	25.3	20.5	23.6	21.0	21.4
1974	25.2	27.0	26.1	n.a	21.4	23.8	22.0	n.a
	(25.2)	(26.9)	(25·0)		(21.0)	(23.1)	(22.7)	

* Includes a small group of "other races"

NOTE : Calculated according to the indirect method, using marital status by 5 year age groups and linear interpolation. (See Shryock and Siegel, *The Methods and Materials of Demography*, p. 292-3). Figures in brackets for 1974 are calculated using data on marital status by single years of age.

median age at marriage has risen for males of all races, though less rapidly than it has for females, with the result that for each race, the male-female differential in age at marriage had narrowed to 3 or 4 years in both 1970 and 1974.

The Currently Married Population

Among the younger age groups, the proportion currently married is to a large extent inversely related to the proportion single. Thus the proportion of females currently married in the age groups 15-19 and 20-24 fell sharply for all races over the period under study. At older ages, the proportion currently married is the net result of many different factors, including the extent to which people have entered the married state, the incidence of widowhood and divorce and the extent and rapidity of remarriage after widowhood and divorces. Trends in the proportion currently married *per se* are difficult to interpret without a detailed study of these other factors. However, in this section we present the data on proportions currently married without attempting a detailed interpretation (Table 6).

What does emerge clearly from Table 6 is that for all races, the proportion of females 15+ who are currently married has declined substantially between 1957 and 1974, and for Chinese and Indians the decline is entirely attributable to sharply declining proportions married at the younger ages. At ages above 30 (or above 35 in the case of Chinese women) the proportions married were *higher*—in some cases much higher[6]—in 1974 than in 1947. The main reason for this rise, as we shall see in later sections, is the decline in widowhood and, in the case of the Malays, a decline in the proportion currently divorced as well.

Among males, the proportion currently married also declined for all races between 1957 and 1970, and again the reason was a decline in the proportion married at ages 15-24, which more than offset a rise in the proportion married at ages above 35 (or above 25, in the case of the Indians). Again, the declining incidence of mortality among their spouses appears to have been the main reason for the rising percentage married at the older ages.

There is a notable disparity in the proportions of males and females who are currently married at ages above 50. In 1970, 85 per cent of Malay males aged above 50 were married, compared with barely 50 per cent of Malay females in the corresponding age group. One reason is that, because of the wide disparity in average ages between husbands and wives and the higher female expectation of life, women are much more likely to become widowed than are men. Another reason is that there is strong social pressure in Malay society for rapid remarriage of widowers, but not much pressure for women to remarry if they are widowed past the age of menopause. Among Indians

[6]For example, 72 per cent of Malay females aged 50-54 were married in 1974, compared with only 52 per cent in 1947; 78 per cent of Indian females aged 50-54 were married in 1974, compared with only 42 per cent in 1947.

TABLE 6

West Malaysia : Proportion Currently Married by Race, Sex and Age Group, 1947-1974

	Males				Females			
Age Group	1947	1957	1970	1974	1947	1957	1970	1974
				1. MALAYS				
15—19	5.7	7.2	3 3	1.5	50.7	50.0	21.4	15.7
20—24	40 0	49.7	30.9	23.5	81.5	84.2	64.2	55.9
25—29	74.1	83.0	74.4	70.0	86.7	90.7	86.4	79.9
30—34	85.8	91.5	90.2	90.6	85.4	89.7	90.5	88.3
35—39	89.6	93.4	93.5	94.7	82.2	85.8	89.4	90.2
40—44	90.3	93.4	94.2	95 3	73.0	77.5	85.0	84.4
45—49	89.9	92.9	93.9	95.9	65.1	67.6	79.0	78.9
50—54	88.4	91.7	92.8	96.6	52 0	55.3	67.0	71.9
55—59	88.2	90.0	91.7	92.8	47.6	44.0	57.1	60.2
60—64	84.8	87.6	88.9	92.3	30.8	32.6	42.1	43.4
65+	76.6	80.0	81.6	84.0	18.2	17.8	25.5	24.6
All ages 15+	67.2	69.8	62.7	61.7	68.4	70.6	63.3	59.8
				2. CHINESE				
15—19	2.3	1.4	1.5	0.5	17.2	10.2	5.8	5.4
20—24	22.4	20.7	13.5	14.3	71.6	56.1	39.9	42.4
25—29	54.5	61.5	54.6	52.5	88.3	86.7	77.4	76.1
30—34	70.7	82.2	80.2	82.3	89.5	92.3	88.2	87.6
35—39	74.2	87.3	88 7	90.4	86.8	90 2	89.9	88.9
40—44	73.8	87.7	91.3	96.1	80 0	84.5	87.4	89.0
45—49	73.3	84.0	91.2	95.4	72.7	76.4	82.1	79.7
50—54	68.8	79.1	89.2	94.7	59.7	64.9	74.0	74.6
55—59	66.4	75.6	85 9	85.8	50.5	52.5	64.2	66.1
60—64	61.2	69.0	80.0	88.6	35.6	39.8	51.0	51.2
65+	54.4	58.2	67.3	69.1	21.5	24.8	29.5	23.3
All ages 15+	53.9	55.2	52.8	56.1	64.1	59.4	55.2	56.4
				3. INDIANS				
15—19	1.5	3.1	2.6	0.3	50.7	52.1	16.6	7.7
20—24	19.0	31.9	24.1	12.2	88.7	88.3	61.6	53.9
25—29	44.4	64.5	66.8	64.9	91.5	94.4	85,7	83.2
30—34	60.5	81.4	86.1	86.3	87.3	93.3	91.5	92 1
35—39	70.2	84.6	91.3	91.5	79 7	89.0	90.3	87.9
40—44	73.8	83.4	91.3	95.9	67.8	79.4	85.7	85.9
45—49	74.0	80.9	89.4	97.6	56.4	66.8	78.9	82.3
50—54	70.2	77.4	85.3	93.3	41.6	51.2	67.6	78.3
55—59	70.1	73.4	81.1	88.2	32.3	38.3	55.8	53.3*
60—64	64.5	67.1	74.8	78.8	22.9	27 2	41.7	45.0*
65+	60.2	59.8	63.5	75.7	16.8	17.9	28.4	36.8*
All ages 15+	53.2	63.2	58.9	54.5	72.9	66.6	61.4	57.4

*Based on fewer than 50 women.

and Chinese, a similar though less dramatic differential is apparent in the 1970 figures: 77 per cent (Indians) and 79 per cent (Chinese) of males above age 50 are married, compared with 53 per cent of females.

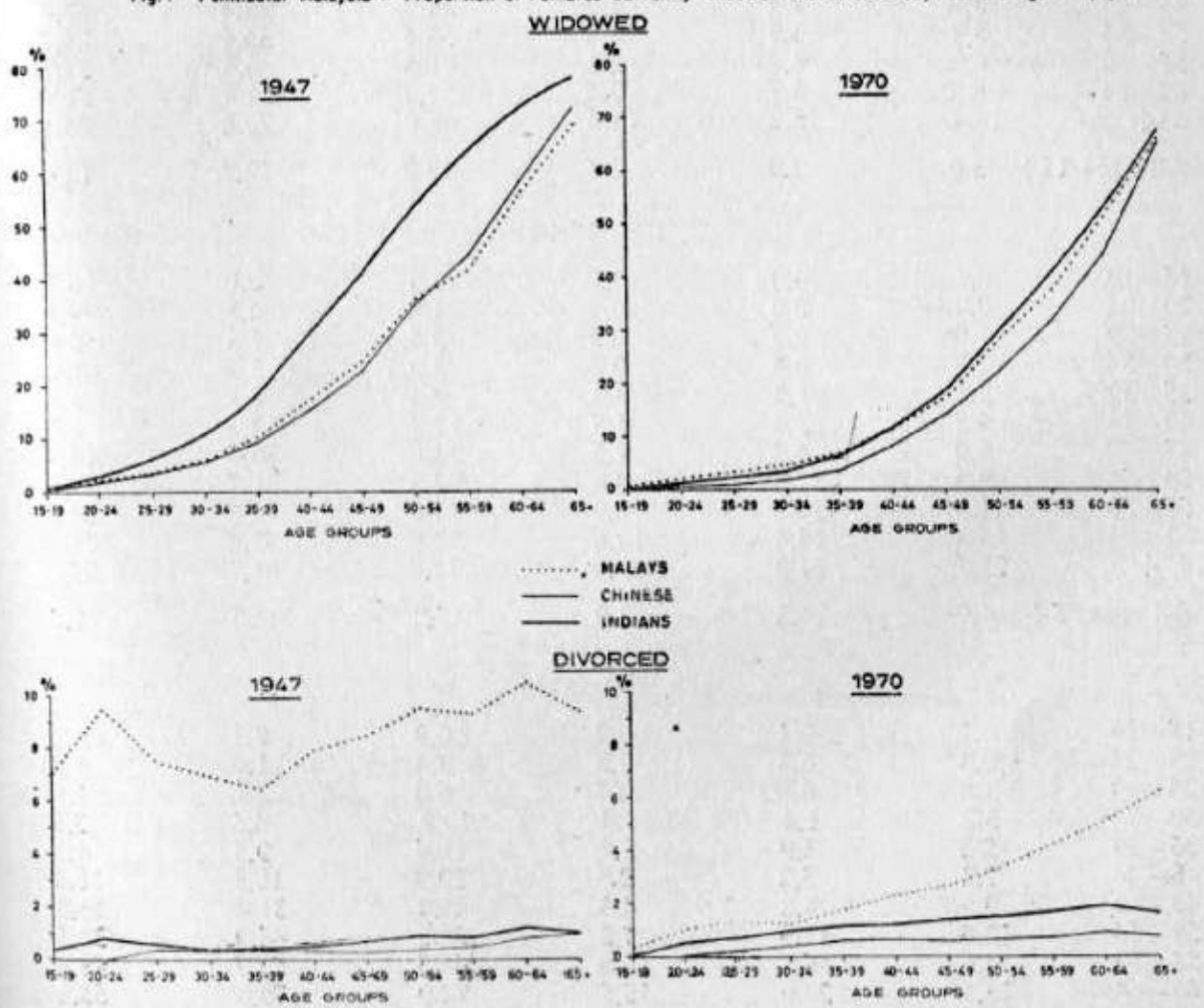
The Widowed Population

The percentage of the population aged 15+ who were currently widowed fell for males and females of all races between 1947 and 1957 and again between 1957 and 1970, the sole exception being Malay males between 1957 and 1970, who showed a slight rise (Table 7). This general downward trend in widowhood reflected the improved health conditions and rising longevity in Malaysia over the period. Expectation of life at age 20 (the remaining number of years expected to be lived, on average, by persons surviving to the age of 20, according to the prevailing mortality rates), rose as follows between 1957 and 1971[7]:

	1957	1971
Malay males	44.7	49.1
Malay females	44.3	50.3
Chinese males	45.4	47.8
Chinese females	52.4	54.9
Indian males	46.3	44.1
Indian females	42.1	46.4

It is therefore not suprising that in more

Fig. 1 : Peninsular Malaysia – Proportion of Females Currently Widowed and Divorced, by Race and Age Groups, 1947 & 1970.



[7]Sources of data are *1957 Population Census of the Federation of Malaya, Report No. 14* and Department of Statistics, *Vital Statistics, Peninsular Malaysia, 1971* (Kuala Lumpur 1974).

TABLE 7

West Malaysia : Proportion Widowed by Race, Sex and Age Group, 1947-1970

Age Group	Males			Females		
	1947	1957	1970	1947	1957	1970
			1. MALAYS			
15—19	0.1	0.1	0.2	0.9	0.3	0.7
20—24	0.6	0.3	0.7	2.4	1.0	2.1
25—29	1.1	0.6	1.4	3.6	2.0	3.3
30—34	1.6	0.9	1.7	6.2	4.0	4.6
35—39	2.0	1.2	2.0	10.2	7.6	6.9
40—44	3.0	1.7	2.5	17.7	14.7	11.6
45—49	3.9	2.4	3.2	24.9	23.4	17.4
50—54	5.4	3.5	4.2	36.5	33.6	28.7
55—59	6.2	4.8	5.2	41.6	44.6	37.7
60—64	8.5	6.7	7.6	56.3	54.9	51.5
65+	14.8	13.2	13.6	69.0	70.8	66.8
All ages 15+	3.0	2.0	2.6	14.9	12.7	12.4
			2. CHINESE			
15—19	0.1	0.0	0.1	0.3	0.0	0.1
20—24	0.4	0.0	0.2	1.8	0.3	0.3
25—29	1.0	0.3	0.3	3.4	1.3	0.8
30—34	1.8	0.6	0.6	5.9	3.3	1.8
35—39	2.8	1.2	0.9	9.4	6.5	3.7
40—44	4.5	2.6	1.5	15.8	12.3	8.2
45—49	6.0	4.5	2.5	23.0	20.5	14.3
50—54	9.3	7.3	4.6	35.3	31.7	22.2
55—59	11.4	10.3	6.9	44.3	44.2	32.0
60—64	16.3	15.4	10.6	58.8	57.6	44.8
65+	23.5	24.2	19.4	72.6	84.7	65.8
All ages 15+	4.9	4.2	2.9	15.2	14.4	11.5
			3. INDIANS			
15—19	0.1	0.1	0.2	0.9	0.3	0.2
20—24	0.3	0.3	0.3	3.4	1.0	0.9
25—29	1.4	0.8	0.7	6.0	2.1	1.8
30—34	3.3	1.4	1.3	10.9	4.6	3.5
35—39	5.2	2.9	1.8	18.6	9.5	6.3
40—44	7.2	5.2	2.5	29.9	18.8	11.6
45—49	9.5	8.2	4.3	41.0	31.4	18.7
50—54	12.9	11.9	7.3	54.5	46.9	30.1
55—59	14.6	16.3	10.6	64.5	59.7	41.4
60—64	18.5	22.0	15.5	72.9	70.8	55.1
65+	24.4	28.4	24.4	78.2	79.6	67.8
All ages 15+	5.5	5.2	4.1	16.3	12.3	10.0

recent years, fewer marriages were being broken by the death of one or other spouse until the couple had reached a more advanced age than previously.

As noted in the previous section, widowhood is a much more prevalent state among females. Among Malays aged 50-54, 29 per cent of females were widows in 1970 but only 4 per cent of males were widowers. The situation was similar for Chinese and Indians in this age group, although the differentials were not quite as sharp. (Figure 1).

Among females, the drop in proportions widowed was caused not only by increasing longevity of their spouses, but also by the narrowing of the average age gap between husbands and wives over the 1947-1970 period. These factors affected all races, but there were additional factors as well for particular races. For example, it is clear from Fig. 1 that the sharpest decline in proportions widowed between 1947 and 1970 was for Indian females, especially at the younger ages, a decline which eliminated much of the wide differential between Indians and other races apparent in 1947. The high rates for Indian females in 1947 were no doubt related to the strong bias against remarriage of widows in Indian society, a bias which appears to have weakened since that time.

It is also necessary to explain why the proportion widowed fell less sharply among Malays than among the other races. One might have suspected that this was due to a slower decline in mortality among Malays than among the other races, but this is not borne out by the figures above. The real explanation is that the alternative form of marital dissolution—divorce—was decreasing rapidly among the Malays, thus leaving a higher proportion of couples "at risk" of having their marriages broken by widowhood.

State differentials in proportions widowed can be compared from Tables 2, 3 and 4. For Malays the lowest proportions of widows and widowers are found in Selangor, no doubt partly due to the relatively low mortality rates found in this state, but also partly because the Malay population of Selangor has been greatly swelled by in-migrants, who are predominantly young and who also tend to return to their respective states upon retirement. Therefore the proportion of Selangor Malays in the older age groups, among whom most of the widowed are found, is lower than in other states. The highest proportion of Malay females widowed is found in Penang, Malacca and Kelantan, and it is hard to find any common factor to explain this grouping.

Among the Chinese and Indians, inter state differentials in proportions widowed are not very pronounced. This no doubt stems from the lack of very pronounced inter-state differences in mortality, education and culture among Chinese and Indians, in contrast to the important inter-state differences in such factors among the Malays.

The Divorced Population

Trends and differentials in divorce are of especial interest in Malaysia because of sharp differences inincidence of divorce between the different races, and sharp changes in recent years in divorce patterns amongst the Malays. Unfortunately, census data on marital status can only reflect these trends and differentials in a very imperfect and incomplete way, because a substantial proportion of divorced

TABLE 8

West Malaysia : Proportion Divorced by Race, Sex and Age Group, 1947–1970

Age Group	Males			Females		
	1947	1957	1970	1947	1957	1970
			1. MALAYS			
15–19	1.1	0.6	0.1	7.5	3.7	0.4
20–24	5.7	2.6	0.5	9.5	5.2	1.1
25–29	6.7	2.7	1.0	7.6	4.7	1.5
30–34	5.4	2.5	1.1	7.1	5.0	1.5
35–39	4.3	2.3	1.1	6.7	5.7	1.7
40–44	4.1	2.3	1.1	8.2	7.0	2.2
45–49	3.7	2.5	1.2	8.7	8.2	2.8
50–54	4.1	2.9	1.6	9.7	10.3	3.6
55–59	3.9	3.3	1.9	9.3	10.5	4.4
60–64	4.9	3.8	2.5	10.7	11.7	5.6
65+	5.7	5.0	3.7	9.6	10.7	6.8
All ages 15+	4.5	2.5	1.1	8.2	6.2	2.1
			2. CHINESE			
15–19	0.0	0.1	0.1	0.0	0.0	0.0
20–24	0.2	0.5	0.4	0.0	0.3	0.1
25–29	0.5	0.5	0.5	0.3	0.5	0.4
30–34	0.6	0.4	0.6	0.4	0.5	0.5
35–39	0.7	0.5	0.6	0.5	0.5	0.5
40–44	0.9	0.6	0.8	0.5	0.5	0.5
45–49	0.9	0.7	0.8	0.7	0.6	0.6
50–54	1.3	1.1	1.2	0.8	0.7	0.8
55–59	1.3	0.9	1.2	0.9	0.7	0.8
60–64	1.7	1.3	1.5	1.1	0.7	1.0
65+	1.6	1.3	1.5	1.2	0.7	0.9
All ages 15+	0.7	0.6		0.5	0.4	0.5
			3. INDIANS			
15–19	0.0	0.0	0.1	0.7	0.7	0.1
20–24	0.3	0.4	0.2	1.0	1.2	0.5
25–29	0.6	0.7	0.5	0.6	1.0	0.8
30–34	0.8	0.9	0.9	0.5	0.9	1.1
35–39	1.1	1.1	1.1	0.6	0.9	1.2
40–44	1.3	1.4	1.8	0.8	1.2	1.2
45–49	1.4	1.7	2.0	0.9	1.1	1.5
50–54	1.6	1.8	2.5	1.1	1.2	1·6
55–59	1.5	1.7	3.0	1.0	1.5	1.6
60–64	1.9	1.5	3.4	1.4	1.2	1.8
65+	2.1	2.1	4.4	0.9	1.1	1.7
All ages 15+	0.9	1.0	1.3	0.7	1.0	0.9

people remarry[8], and the porportion of people currently divorced will be related not only (positively) to the incidence of divorce, but also (negatively) to the extent of remarriage and (positively) to the length of time in the divorced state before remarriage. All of these variables can change over time, thus impeding interpretation of data on trends or differentials in proportions currently divorced.

Nevertheless, the census data themselves and some additional evidence from non-census sources make it quite clear that interracial differences in divorce are very pronounced and that some important trends have been occurring (Table 8).

Divorce among the Chinese and Indians is quite a rare occurrence but it is far more common among the Malays. Divorce is readily contracted by Moslem males and all Malays are (by definition) Moslems. However, it would be quite incorrect to attribute the high divorce rates amongst Malays to Islam alone because international evidence shows that the proportion of currently-divorced females has been much higher amongst Malays than in other Moslem countries such as Libya, Morocco, Iraq, and Turkey (Bogue, 1969). In other words what is being observed is a Malay, rather than an Islamic, phenomenon.

Thanks to the high rate of remarriage of divorced Malays, the proportion currently divorced among Malays, though relatively high, nevertheless fails to reflect the much higher porportion of Malays who have ever experienced a divorce.[9] Even so, the fact that it was much smaller in 1970 than it was in the earlier censuses reflects a sharp decline in the incidence of divorce among Malays over the period since World War II.[10] By 1970, the racial differential in proportions divorced was less than it had been earlier; in 1957, 6.2 per cent of Malay women were currently divorced, compared with only 1.0 per cent of Indians and 0.4 per cent of Chinese.

For all races, the proportion currently divorced rises steadily with age. This does not necessarily mean that divorce rates rise with age. It may be simply that with increasing age, there is less likelihood of remarrying (or of remarrying quickly) after a divorce occurs.

Divorce, among Malays in particular, needs to be studied on a state-by-state basis, as there are differences not only in the extent to which divorce is culturally supported in the different states but also in the laws governing the conjugal condition in each state, because in each state the Sultan is the sole authority in all matters pertaining to the Malay religion. Among Malays, divorce rates are much

[8]Many widowed people remarry but their proportion is much lower than the proportion of divorced people who remarry, for a much higher proportion of divorces occur at younger ages, thus increasing the likelihood that the parties will remarry; and whereas many widowed people do not want to remarry out of respect for the deceased spouse, no such motive is present in the case of divorce, which is so often contracted precisely because one or both of the parties wants to remarry.

[9]The Census data may tend to understate the proportions of Malay females who are actually divorced, because "some wives who have been divorced by a single *talak* or who, having been renounced by the *talak tiga* (the triple or absolute divorce) are still within the period of *iddah* within which they may not remarry, have returned themselves as married while the other partner of the severed union has not." (M.V. del Tufo. *Malaya—A Report on the 1947 Census of Population*, p. 65).

[10]See Yoshihiro Tsubouchi, "Islam and Divorce Among Malay Peasants", in Shinichi Ichimura (ed.), *Southeast Asia: Nature, Society and Development*, University Press of Hawaii, Honolulu, 1976.

higher in the northeastern states of Kelantan and Trengganu than in the remainder of the peninsula (Bogue, 1969). To some extent, this is reflected in Table 2, which also shows that Malacca and Johore have the lowest proportions currently divorced. But the differences in divorce rates between the states are not fully reflected in these data because of the custom of rapid remarriage of divorced persons in Kelantan and Trengganu.

It was mentioned earlier that the Chinese and Indians in the East Coast States of Kelantan and Trengganu appeared to have been to some extent socialized into the early marriage pattern characteristic of the dominant Malay population in these states. It appears, also, that they have been socialized into the divorce patterns prevailing in these states because the proportions of Chinese and Indians currently divorced are much higher in these states than they are elsewhere Tables 3 and 4.)[11] Among Indians, the proportion currently divorced among males is much higher than among females, a pattern not repeated by the Chinese.

Multiple Marriages

The 1970 Census was the first one to collect data pertaining to the number of marriages a person had contracted. Although these data are affected by remarriage after widowhood, and by polygamy, multiple marriages primarily reflect the effect of divorce and remarriage. Thus the data are especially important in the case of the Malay population, since both polygamy and divorce are allowed by their religion, Islam.

Tables 9, 10 and 11 show the proportion of the ever-married population in 1970 who had married one or more times. Multiple marriage was common for the Malays, but rare among Chinese and Indians.[12] Among all races, it was more common for males than for females to have been married more than once. At first sight, this is surprising because females are much more likely to have their marriages terminated by widowhood than are males. However, it is apparently more common for males to remarry after widowhood than for females to do so. The "one-sided" practice of polygamy: polygamy is allowed in Islam while polyandry is not—could also help explain the differentials. Practice of polygamy has been reasonably prevalent in the past among Malays and not uncom mon among the Chinese and the Indian Moslems. (Kasimin, 1978),

[11] One reason why the Indians have higher divorce rates in Kelantan and Trengganu is that a much higher proportion of Indians are Moslems in these states (16.3 per cent in Kelantan and 35.9 per cent in Trengganu in 1970, compared with 6.6 per cent in the remainder of Peninsular Malaysia). Whether this is due to conversion, or whether Indian Moslems were more inclined than non-Moslem Indians to migrate to these predominantly Islamic states, is not known.

[12] The report of the Malaysian Fertility and Family Survey, 1974, gives some additional evidence about number of marriages though it does not differentiate by race. Overall, 13 per cent of ever-married women interviewed had been married more than once, and the percentage rose with the length of the interval since first marriage, as follows:

interval of less than 10 years	—	3 per cent
interval of 10-19 years	—	12 per cent
interval of 20-29 years	—	20 per cent
interval of 30-34 years	—	32 per cent
interval of 35+ years	—	48 per cent

(R. Chander *et.al. Malaysian Fertility and Family Survey—1974 Country Report*, Department of Statistics and National Family Planning Board, Kuala Lumpur, 1977, p. 65).

TABLE 9

West Malaysia : Proportion of Malay Ever-Married Population Who Married Once or More Than Once, 1970

State	Married Once		Married Twice		Married Thrice		Married Four or More Times	
	Males	Females	Males	Females	Males	Females	Males	Females
Johore	82.8	87.6	12.1	9.5	3.1	2.0	1.8	0.7
Kedah	71.6	76.9	16.9	14.8	6.4	5.2	5.1	3.1
Kelantan	55.2	58.3	20.8	20.2	11.1	10.9	12.7	10.4
Malacca	80.8	84.9	13.3	11.4	3.6	2.6	2.2	1.0
Negri Sembilan	72.5	74.7	15.9	14.7	6.0	6.0	5.4	4.4
Pahang	72.6	77.1	16.4	14.3	5.8	5.1	5.0	3.3
Penang	80.9	84.6	12.8	11.2	4.0	3.0	2.4	1.2
Perak	79.8	85.7	13.2	10.3	4.0	2.6	2.7	1.2
Perlis	64.1	67.7	19.5	18.5	8.6	7.6	7.9	6.2
Selangor	84.9	88.0	10.3	8.9	2.8	2.1	1.8	0.8
Trengganu	61.4	64.5	19.1	18.6	9.4	9.1	9.9	7.6
All Peninsular Malaysia	73.1	77.1	15.5	13.8	6.0	5.2	5.4	3.8

TABLE 10

West Malaysia : Proportion of Chinese Ever-Married Population Who Married Once or More Than Once, 1970

State	Married once		Married Twice		Married Thrice		Married Four or More Times	
	Males	Females	Males	Females	Males	Females	Males	Females
Johore	97.0	98.7	2.7	1.2	0.2	0.0	0.0	0.0
Kedah	95.3	98.2	4.2	1.7	0.4	0.1	0.2	0.0
Kelantan	87.6	90.6	9.2	7.1	2.2	1.7	1.0	0.5
Malacca	96.0	98.4	3.6	1.6	0.3	0.0	0.0	0.0
Negri Sembilan	97.1	99.0	2.6	0.9	0.2	0.1	0.0	0.0
Pahang	96.2	98.4	3.5	1.5	0.2	0.1	0.1	0.0
Penang	96.4	98.8	3.3	1.2	0.2	0.0	0.0	0.0
Perak	96.9	99.1	2.8	0.9	0.2	0.0	0.0	0.0
Perlis	92.5	96.5	6.6	3.2	0.8	0.3	0.1	0.0
Selangor	97.6	99.3	2.2	0.7	0.2	0.0	0.0	0.0
Trengganu	94.4	97.4	4.8	2.3	0.5	0.2	0.3	0.1
All Peninsular Malaysia	96.7	98.8	3.0	1.2	0.2	0.1	0.1	0.0

TABLE 11

West Malaysia : Proportion of Ever-Married Indians Who Married Once or More Than Once, 1970

State	Married Once			Married Twice			Married Thrice			Married Four or More Times		
	M*	F*	T*	M	F	T	M	F	T	M	F	T
Johore	92.4	96.2	94.1	6.6	3.8	5.3	0.8	0.1	0.5	0.2	0.0	0.1
Kedah	88.9	95.0	91.9	9.4	4.6	7.1	1.3	0.2	0.7	0.4	0.0	0.2
Kelantan	85.0	95.3	89.1	10.8	4.3	8.3	2.6	0.2	1.7	1.5	0.2	1.0
Malacca	92.0	95.7	93.8	7.2	4.1	5.7	0.6	0.2	0.4	0.3	0.0	0.1
Negri Sembilan	93.3	97.3	95.3	5.8	2.5	4.2	0.7	0.1	0.4	0.2	0.0	0.1
Pahang	92.3	95.9	94.5	6.7	2.9	4.9	0.7	0.1	0.4	0.3	0.0	0.2
Penang	92.2	95.8	93.8	6.8	4.0	5.6	0.7	0.1	0.5	0.2	0.0	0.1
Perak	92.8	96.9	94.8	6.4	3.0	4.7	0.7	0.1	0.4	0.2	0.0	0.1
Perlis	85.3	90.4	87.4	11.1	8.9	10.2	3.2	0.2	2.0	0.5	0.5	0.5
Selangor	94.7	98.2	96.4	4.7	1.8	3.3	0.5	0.0	0.3	0.1	0.0	0.1
Trengganu	78.9	95.0	83.4	13.6	4.0	10.9	4.8	1.0	3.8	2.6	0.0	1.9
All Peninsular Malaysia	92.8	97.0	94.8	6.2	2.9	4.7	0.7	0.1	0.4	0.2	0.0	0.1

Note : M stands for Males, F for Females and T for Total.

There were striking regional differences in the incidence of multiple marriages. In the north-east states of Kelantan and Trengganu, around 30 per cent of ever-married Malays had been married more than once, and around 10 per cent of them had been married four or more times. In states such as Selangor and Johore, only around 15 per cent of ever married Malays had contracted more than one marriage, and only slightly over 1 per cent had indulged in four or more marriages. Among Chinese and Indians, although the incidence of multiple marriage was far less, similar regional differentials existed: multiple marriages were much more common in Kelantan and in the case of Indian males, in Trengganu as well, than they were in the other states. Even so, the percentage of multiple marriages among the Chinese in the state where it was most prevalent (Kelantan) was lower than the percentage of multiple marriages among Malays in the state where it was least prevalent (Selangor).

Summary and Conclusion

The data on marital status of the West Malaysian population over the period 1947 to 1974 reveal a number of important trends. In general, these trends have led to a narrowing of racial differences. In 1947, the Chinese and Indian populations still exhibited the distorted age and sex structure of immigrant populations, and a substantial proportion of older males remained unmarried. The fact that very little inter-ethnic marriage occurred in this situation serves to demonstrate the importance of the barriers of differences in religion, language and custom between the major races in Malaysia. By 1974, the Indians and Chinese had become settled populations with an adequate supply of female marriage partners. In 1947, Chinese females tended to marry at around age 20, whereas median age at marriage for Malay and Indian females was around 17. Since that time, median age at marriage has risen for all racial groups, but especially markedly in the case of the Malays and Indians, with the result that the earlier sharp racial differential has been narrowed.

In 1947, the Malay population was characterized not only by early but also by unstable, marriage. Divorce was very common, and because of high Malay mortality rates many marriages were also broken by the death of one or other of the spouses. Over the period under review, marital disruption due to divorce and widowhood at ages below 60 has become much less frequent, and children born to Malay parents now have a much better chance of living with both their natural parents throughout their adolescence than used to be the case. In this respect, the Malay population now resembles the Chinese population much more than it did in 1947. However, the earlier differentials between states remain, and marital disruption remains more common in Kelantan and Trengganu than elsewhere.

There are signs in the 1974 data that the Chinese age at marriage has peaked whereas the Indian age at marriage continues to rise. The continued rise for Indians may well be due to the especially difficult unemployment situation which they

face,[13] resulting in the delay of many marriages until the prospective husbands find secure employment.

One interesting finding is that the minority Chinese and Indian populations in Kelantan and Trengganu appear to have adapted to some extent to Malay patterns, not only in age at marriage but also in frequency of divorce and multiple marriage.

There is no clear evidence that the sharp rise in age at marriage for all three races has been associated with a tendency for females not to marry at all. However, judgement will have to be reserved on this question until the cohorts which have delayed their marriages should have reached the end of their reproductive period.

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[13]The unemployment rate among Indians was 11.0 per cent in 1970, rising to 12.2 per cent in 1975, a rate more than 70 per cent higher than the corresponding rate for Malays and Chinese in the same year, See *Third Malaysia Plan*, 1976-1980, Government Press, Kuala Lumpur, 1976, p. 143).

NON-AGRICULTURAL WORKERS IN RURAL INDIA

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The 1971 census revealed that 82.3 percent of the workers in rural India were engaged directly in agriculture as cultivators or labourers (Table 1). This lent a support to the popular notion that rural populations in developing countries are almost synonymous with agricultural populations. Anyhow 17.7 per cent of rural workers were outside agriculture and their numerical strength was no less than 26.3 million. Of all the non-agricultural workers in India in 1971, 48.0 per cent were rural by residence. In view of its peculiar nature, the non-agricultural sector of rural working force elicited a special interest and aroused a number of questions. What was the composition of the rural non-agricultural working force ? How many among them were simply serving the local population and how many were in the mainstream of regional or national economy ? How did the proportion and composition of non-agricultural workers vary from one part of India to another ? What explained these regional variations ? The present paper intends to look into these questions. The study is based on mapping and staeistical analysis of the 1971 census data for all the 356 districts in the country. Data were used mainly in three forms : (i) percentage of non-agricultural workers among rural workers, (ii) distribution of rural non-agricultural workers in various industrial categories, and (iii) occupational classification of rural non-agricultural workers.

A study of rural non-agricultural workers is crucial to an understanding of the regional pattern of diversification of rural economy. The magnitude and direction of shift from agriculture to non-agriculture is worth investigation and equally essential is to probe into the role of diverse factors in the process. This paper hypothesises a positive relationship between diversification of rural economy and the level of urbanisation, rates of rural literacy, density of roads, extent of rural electrification, index of agricultural productivity and degree of commercialisation of agriculture. A negative relationship with the size of agricultural landholding is also postulated. The findings may be of practical value to the formulation of suitable strategies for further diversification of rural economy.

TABLE 1

India : 1971

Industrial Composition of Rural Non-Agricultural Workers

Industrial category	Percentage in		Co-efficient of spatial disparity*
	Total rural workers	Non-agricultural rural workers	
1. Cultivation	51.6	—	34.4
2. Agricultural labour	30.7	—	60.6
3. Livestock, forestry, fishing, hunting & plantation, orchards and allied activities	2.5	14.3	99.1
4. Mining and quarrying	0.4	2.3	103.2
5. Household industry	3.2	18.1	53.4
6. Manufacturing, other than household industry	2.3	13.0	95.8
7. Construction	0.8	4.2	70.2
8. Trade and commerce	2.4	13.8	60.6
9. Transport, storage and communication	0.8	4.6	64.1
10. General services	5.3	29.7	35.2

SOURCE : Calculated from Census of India, 1971, *Union Primary Census Abstract*, pp. 4-301.

* Corresponds to coefficient of variability (in percentage) calculated by using data for various states in India.

Composition of Non-agricultural Working Force

The non-agricultural sector of rural working force may be first examined in terms of its composition. The 1971 census data on *industrial* classification of workers showed that nearly a half of the rural non-agricultural workers were engaged in general services and household industries, oriented mainly to local population. Trade and commerce and transport, again with a local bias, claimed about another one-sixth of the non-agricultural workers. Thus, almost two-thirds of the rural non-agricultural workers were simply providing goods and services to the local population. The remaining one-third were engaged in activities like livestock, plantations, fishing, mining, manufacturing and construction that had a wider regional or national context. The index of spatial disparity in the proportion of workers in general services and household industries was low while it was very high in the case of workers in manufacturing, mining and plantations (Table 1).

The data on *occupational* classification of workers contained in Table B V of the *Census of India, 1971, Series I - India, Part II Special* provided a far more detailed picture of the composition of the non-agricultural workers in rural areas. Workers were classified into about one hundred occupational groups, along with their further subdivisions. The data allowed grouping of the rural workers in four classes : (a) workers engaged in producing goods for and providing services to local population, (b) government instituted workers giving educational, medical, transportational and such like services to the people, (c) workers engaged in non-agricultural production and services oriented to non-local markets, and (d) adventious workers, such as technical personnel, administrative staff and proprietors working on various development projects in rural areas. The list of various occupational categories sharing at least one per cent of the total non-agricultural workers in rural areas is given in Table 2. The various categories have been arranged under the four classes mentioned above.

It was found that 49.4 per cent of the rural non-agricultural workers were engaged in providing goods and services to local population as self-employed persons while another 18.4 per cent of them were mostly government instituted to serve the rural population. Two-thirds of the rural non-agricultural workers or about 12 per cent of the total rural workers were evidently a part of the local rural economy. The remaining one-third of the rural non-agricultural workers or hardly 6 per cent of the total rural workers were engaged in production and services for a wider regional/national market. This signified that 94 per cent of working force in rural India was directly or indirectly dependent upon agriculture. This represented a very low degree of the effective diversification of rural economy.

Spatial Patterns

In spatial terms also, the level of diversification of rural economy was low in most parts of the country. In six out of every seven districts, more than 75 per cent of rural workers were directly dependent

TABLE 2

INDIA : 1971

List of Occupational Groups Each Engaging at least One Per Cent of the Rural Non-Agricultural Workers

Occupational group	Percentage in rural non-agricultural workers
(a) Serving local population	
1. Shop-keepers and merchants (retail and wholesale trade)	9.3
2. Spinners, weavers, knitters, dyers and related workers	5.7
3. Labourers	5.3
4. Bricklayers and other construction workers	2.9
5. Carpenters, cabinet and other related workers	2.9
6. Potters, glass formers and related workers	2.8
7. Tailors, dress makers, sewers, and related workers	2.7
8. Food and beverage processors (e. g. grain millers, sweet meats makers, *gur* makers, etc.)	2.5
9. Washermen, dry cleaners and pressers	2.5
10. Street vendors and salesmen	2.2
11. Hair dressers, barbers, beauticians and related workers	1.9
12. Blacksmiths, tool makers and machine tool operators	1.9
13. Shoe makers and leather goods makers	1.3
14. Cooks, waiters, bartenders and related workers	1.1
15. Jewellery and precious metal workers and metal engravers	1.1
Others	3.3
Total	49.4
(b) Government instituted workers to serve rural population	
16. Teachers	6.3
17. Clerical and related workers	3.6
18. Transport equipment operators (e.g. bus drivers and railway employees)	2.3
19. Protective service workers (e. g. policemen, chowkidars, gate-keepers, etc.)	2.2
Others	4.2
Total	18.6

(c) Workers in non-agricultural production & services for regional/national markets		
20.	Livestock rearers, gardeners, nursery workers, etc.	5.8
21.	Plantation labourers and related workers	3.9
22.	Basketry weavers, non-metallic/mineral products makers, musical instrument makers, etc.	3.5
23.	*Bidi* makers, tobacco preparers, cigar makers, etc.	2.5
24.	Fishermen and related workers	1.8
25.	Miners, quarrymen, well drillers and related workers	1.4
26.	Dairy farmers, poultry farmers, livestock farmers, etc.	1.4
27.	Machinery fitters, machine assemblers and precision instrument makers	1.2
	Others	5.3
	Total	26.8
(d) Adventious Workers		
28.	Workers not classified by occupations	2.6
	Others	2.6
	Total	5.2

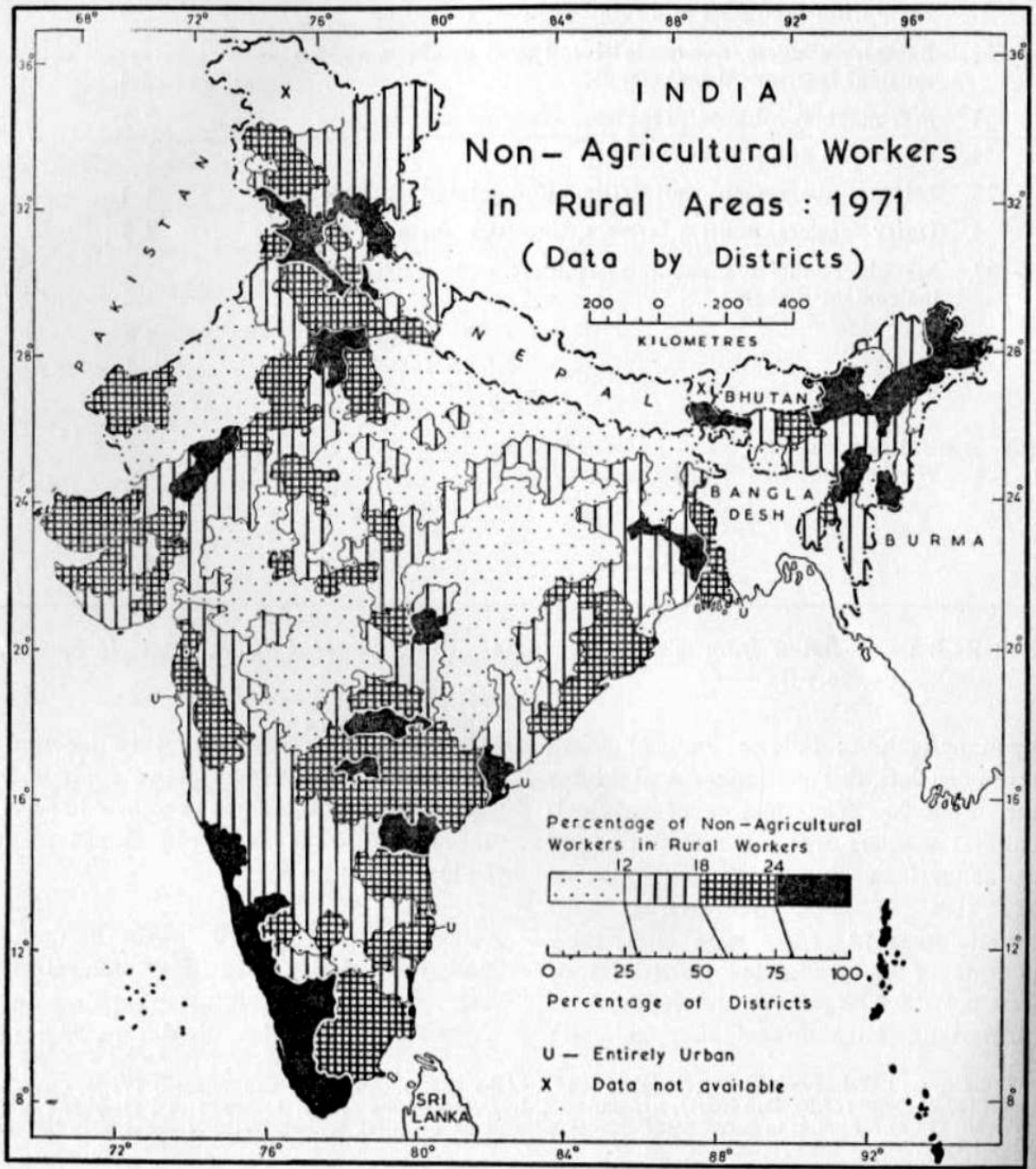
SOURCE : Calculated from Census of India, 1971, *Series I India, Part II Special*, pp. 30-101.

upon agriculture; in one out of every seven districts, this percentage was higher than even 90. The number of non-agricultural workers was more than that of agricultural in only 12 districts out of 352 (the remaining four districts were entirely urban).[1] These were either components of various union territories or were noted for large scale development of plantations. Nine of them were in south India and eight were coastal in location. By contrast, the percentage of rural non-agricultural workers was very low in several of the districts located in Ganga plain or in tribal regions.[2]

The figures presented in the footnotes underlined glaring disparities in the percentage of non-agricultural workers ranging from 5.5 in Bahraich district to 99.9 in

[1]These were Lakshadweep (99.9), Nilgiris (84.6), Mahe (82.8), Andaman and Nicobar (75.5), Chandigarh (67.2) Delhi (65.3), Diu (65.3), Ernakulam (52.0), Darjeeling (51.9), Coorg (51.4), Goa (50.4) and Trichur (50.2). Figures in parentheses denote percentage of rural non-agricultural workers in various districts.

[2]Bahraich (5.5), Jhabua (6.1), Churu (6.3), Panch Mahals (6.4), Gonda (6.7), Badaun (6.8), Tehri Garhwal (6.9), Mandla (7.1), Banswara (7.1), Kheri (7.2), Hardoi (7.2),Garo Hills (7.3),Champaran (7.5), Saharsa (7.7), Shahjahanpur (7.7), Sitapur (7.8), Basti (7.8) and Banda (7.9) had less than 8 per cent of their rural workers outside agriculture.


INDIA
Non – Agricultural Workers
in Rural Areas : 1971
(Data by Districts)
200 0 200 400
KILOMETRES
PAKISTAN
NEPAL
BHUTAN
BANGLA DESH
BURMA
SRI LANKA
Percentage of Non – Agricultural Workers in Rural Workers
12 18 24
0 25 50 75 100
Percentage of Districts
U — Entirely Urban
X Data not available

MAP 1

Lakshadweep. For obtaining a conveniently comprehensible regional picture in this respect, the various parts of the country were grouped as follows (Map 1) :

(a) Areas with High (24 and above) Percentage of Rural Non-Agricultural Workers;

(b) Areas with Relatively High (18 to 24) Percentage of Rural Non-Agricultural Workers;

(c) Areas with Relatively Low (12 to 18) Percentage of Rural Non-Agricultural Workers; and

(d) Areas with Low (below 12) Percentage of Rural Non-Agricultural Workers.

This categorisation was done by keeping in view two things : (i) nearly 18 per cent of the rural workers were in non-agricultural sector in India as a whole; and (ii) of them about two thirds or nearly 12 per cent of rural workers were engaged simply in serving the local population. As such, areas falling in category (a) were marked by considerable diversification of rural economy; in category (b) areas, the degree of diversification was somewhat higher than the national average; in category (c) areas, there was some diversification of rural economy but its degree was less than the average for the whole country; and in category (d) areas, the rural and agricultural populations were synonymous with each other if those deriving their livelihood by serving the local population were construed as a part of agricultural sector.

(a) Areas with High Percentage of Rural Non-Agricultural Workers

The percentage of rural non-agricultural workers was 24+ in only 67 districts. Hardly 12 districts had more than one-half of their rural workers in non-agricultural activities. In another 20 districts, the proportion of non-agricultural workers ranged from one-third to one-half of the rural workers.

With 45.4 per cent of its rural workers outside agriculture, Kerala outranked all other states in India in diversification of rural economy (Table 3). Of the rural non-agricultural workers in the state, about one-fourth were engaged in general services and almost one-fourth in manufacturing. Plantations, fishing and forestry shared one-sixth and the same proportion was claimed by trade and commerce activity. The high degree of diversification of rural economy in the state was associated with a rich variety of resources, traditional overseas contacts, high literacy rates, and rural electrification. The diversification took place despite low degree of urbanisation; only 16.2 per cent of Kerala's population in 1971 was urban as compared with 19.9 per cent in India (Table 3). The bounty of natural resources provided a sound foundation for plantations of tea, coffee and rubber; for fishing, both coastal and inland; for forestry to produce teak and industrial raw materials; and for household as well as manufacturing industries turning out coir goods, processing cashewnuts, curing coffee and making tiles. The industries were dispersed to rural areas in addition to various urban places, thanks to availability of power to all the villages. The high and rising rates of literacy also increased the number of tertiary sector workers many of whom commuted from the countryside to the towns (Woodcock, 1967). This process was accelerated by the intense pressure of population on land resources

TABLE 3

India : 1971

Rural Non-Agricultural Workers and Urban Population by State and Union Territories

	Percentage of	
	Non-agricultural workers in rural workers	Urban population in total population
INDIA	17.7	19.9
States*		
1. Kerala	45.4	16.2
2. Assam	27.9	8.8
3. Manipur	23.6	13.2
4. Haryana	23.0	17.7
5. West Bengal	21.9	24.8
6. Tamil Nadu	21.6	30.3
7. Punjab	21.6	23.7
8. Andhra Pradesh	20.9	19.3
9. Jammu & Kashmir	20.6	18.6
10. Karnataka	20.2	24.3
11. Himachal Pradesh	20.2	7.0
12. Tripura	19.1	10.4
13. Orissa	16.9	8.4
14. Gujarat	16.2	28.1
15. Rajasthan	15.4	17.6
16. Maharashtra	14.4	31.2
17. Uttar Pradesh	12.9	14.4
18. Nagaland	12.8	10.0
19. Meghalaya	12.1	14.6
20. Bihar	11.4	10.0
21. Madhya Pradesh	11.1	16.3
22. Sikkim	Data not available	
Union Territories*		
1. Lakshadweep	99.9	...
2. Andaman & Nicobar Islands	75.5	22.3
3. Chandigarh	67.2	90.6
4. Delhi	65.3	89.7
5. Goa, Daman & Diu	49.8	26.4
6. Pondicherry	35.7	42.0
7. Arunachal Pradesh	17.2	3.7
8. Mizoram	13.1	11.4
9. Dadra & Nagar Haveli	10.6	...

SOURCE : Calculated from Census of India, 1971, *Union Primary Census Abstract*, pp. 4-301.

*Arranged in descending order of the percentage of non-agricultural workers in rural workers.

that necessitated some shift from agriculture to non-agriculture. The shift from cultivation to labour on the farms was also staggering. Cultivator : agricultural labourer ratio was as high as 100 : 170 in Kerala.

As a northern continuation of Kerala, the Karnataka coastland and Goa also recorded one-third to about one-half of their rural workers as non-agricultural. With a variety of new development activities in the field of mining (chiefly iron ore), industries (coir, cashewnuts and country liquor) and construction, the rural economy of Goa got remarkably diversified during the recent years. The richness of natural resources coupled with liberal investment by the government in development was responsible for this. In the case of Karnataka coastland, forestry (teak, sandalwood, bamboos, honey and wax) was a more prominent rural activity in the northern half while household industries (especially coir goods and tiles) took a precedence in the southern half (Learmonth, 1962).

Like Goa, the union territory of Pondicherry was also noted for a considerable diversification of its rural economy. About one-third of the rural workers were outside agriculture, mainly in manufacturing (based on sugarcane, coconut and groundnut), fishing and salt making. The new industrial estates were established mainly in rural areas (Das, 1976). Among the agricultural workers, the landless labourers were almost three times the number of cultivators as a legacy of *zamindari* (absentee landlordism) system in the past.

Both the groups of the Indian islands—Lakshadweep as well as Andaman and Nicobar, had exceptionally high proportion of non-agricultural workers. Almost the entire rural working force was in non-agricultural activities in the former area and about three-fourths in the latter. The economy of Lakshadweep was virtually all dependent on fish and coconut and area under cultivation was negligible. The economy of Andaman & Nicobar was more diversified. Nearly one-fourth of its rural workers were in agriculture, and of the non-agricultural workers about one-third were in fishing and forestry and another one-third in construction. Some manufacturing, based primarily on forest produce, had come up. The economy of the islands has been considerably stimulated by substantial investments by the central government.

The tea plantation districts of Lakhimpur, Sibsagar, Darrang and Cachar in Assam, Darjeeling and Jalpaiguri in West Bengal, Nilgiris in Tamil Nadu and the coffee plantation districts of Coorg and Chikmagalur in Karnataka had one-fourth to more than one-half of their rural workers outside agriculture. Nearly one-half to more than two-thirds of the non-agricultural workers were engaged in plantations alone. Most of the plantation workers were non-local, being migrant from other areas (Gosal & Krishan, 1974). Plantations played a negligible role in further diversification of rural economy since their capital and markets were also distinctly non-local.

Mining of coal, development of coal based industries and clustering of several manufacturing towns explained the high proportion of rural non-agricultural workers in the Damodar valley (Chatterjee, 1968). Most of the non-agricultural workers either

worked locally on the mines or commuted to the manufacturing towns. Dhanbad district, located in this area, recorded more than a half of its non-agricultural workers in mining; its adjoining district of Burdwan also had more than one-third of its non-agricultural workers in this activity.

Many of districts in the north Punjab plain recorded one-fourth to one-third of their rural workers as non-agricultural. Developments associated with advancements in agriculture, growth of agro-based industries, proliferation of rural service centres and considerable magnitude of rural-urban commuting explained this phenomenon (Randhawa, 1974). General services and manufacturing shared about 60 per cent of the rural non-agricultural workers in these districts.

The great impact of commuting on diversification of rural economy was still more conspicuous in the case of the union territory of Delhi and its neighbouring districts of Haryana and Uttar Pradesh (Krishan & Chandna, 1974). Two-thirds of the rural workers in the union territory of Delhi were non-agricultural; this proportion was one-third in its adjoining districts of Meerut and Gurgaon. Manufacturing services and transport engaged most of the non-agricultural workers, many of whom commuted to places like Delhi, Ghaziabad and Gurgaon.

Some local factors explained the high proportion of non-agricultural workers in scattered districts. Construction of new roads and various project sites gave employment to many a worker in parts of Western Himalayas. The role of cities like Calcutta, Hyderabad, Varanasi and Chandigarh in diversification of economy of their neighbouring rural areas was also evident. Livestock raising was prominent in southern parts of the Aravallis. Rural industrialisation explained the high proportion of non-agricultural workers in districts like Coimbatore, Tirunelveli and Kanyakumari in Tamil Nadu.

If follows that the high proportion of rural non-agricultural workers was typical of a variety of areas. Basically all of them were resource rich with an additional advantage of exposure to development-oriented impulses. Several of them were coastal in location, some were noted for extensive development of plantations or mining, and the remaining were under the spread effects of big cities.

(b) Areas with Relatively High Percentage of Rural Non-Agricultural Workers

The percentage of rural non-agricultural workers ranged from 18 to 24 in 80 districts. These were the districts where the diversification of rural economy was more than in India as a whole but was less than in the areas discussed in the preceding section. Most of them adjoined or encircled the districts with 24+ per cent of rural non-agricultural workers.

Among the various tracts formed by these districts, a large part of Tamil Nadu, coastal section of Andhra Pradesh, south-eastern segment of Karnataka, Bombay-Thana-Poona belt, Hooghlyside region and the eastern Haryana may be noted first of all. Relatively high degree of urban development, including close spacing of towns, was a characteristic feature of all of these areas (Lall & Tirtha, 1971). Towns made significant impact on the economy of their

surrounding rural areas. Not only rural-urban commuting was common but also there was significant dispersal of manufacturing to villages. A majority of the rural non-agricultural workers was in manufacturing, transport and services. In case of coastal districts, fishing, salt making and household industries based on coir were additional activities.

Considerable development of household industries was largely instrumental in some diversification of rural economy in Telangana region of Andhra Pradesh and the Ganga-Yamuna *doab* in Uttar Pradesh (Gosal, 1958). Household industries, including handlooms, leather tanning, manufacture of leather goods, and *ghee* (animal fat), were based on local agricultural and livestock raw materials. *Toddy* (indigenous liquor) in Andhra Pradesh and *gur* (jaggery) in the Ganga-Yamuna *doab* were the other notable household industries. Telangana, in addition, was noted for its livestock activity, involving rearing of cattle and sheep. The Ganga-Yamuna *doab*, on the other hand, was witnessing a gradual development of agro-based manufacturing. Thus, the two areas were moving in slightly different directions in respect of diversification of their rural economy.

Pastoralism and household industries were responsible for raising the proportion of the rural non-agricultural workers in Jammu & Kashmir, the Aravallis and the Kutch. Rearing of sheep in Jammu & Kashmir, of cattle, goats and sheep in the Aravallis and of camels, horses and sheep in Kutch were the main pastoral activities (Singh, 1974). Handloom weaving of cotton and wool was common to all the three areas. Besides, forestry in Jammu & Kashmir, and mining of mica, beryl, lead and zinc in the Aravallis and salt making in the Kutch were the other non-agricultural activities.

The coastal plain and the Mahanadi valley in Orissa also recorded about one-fifth of their rural workers as non-agricultural. Fishing, agro-based industries and trade in the coastal plain, and mining and mineral and forest based industrialisation in the Mahanadi valley were the reasons behind the relatively high proportion of non-agricultural workers (Tripathi, 1973). A lot of this development was a recent phenomenon.

Evidently the areas discussed above fell in two categories : (i) those where the rural economy was diversifying under the impact of urbanisation, and (ii) those where this diversification was based on livestock, forestry and mineral resources. The diversification in the former case was toward secondary and tertiary activities while in the latter it was toward other primary activities. The former group of areas was at a higher level of socio-economic development than the latter

(c) Areas with Relatively Low Percentage of Rural Non-Agricultural Workers

This group of areas, comprising of 101 districts, had 12 to 18 per cent of their rural workers in non-agricultural activities. The rural economy was mainly agricultural but some tendency toward diversification was emerging as a result of incipient commercialisation of agriculture, agro-based industrialisation and construction of new roads, canals and project sites. General services and household industries oriented to the requirements of the local population,

however, remained the two chief non-agricultural activities in all of these areas.

The areas falling in this group were: (i) the western districts of Maharashtra plateau where sugar industry found a concentration (Deshpande, 1971), (ii) a large part of the Karnataka *maidan* where cotton based industries in the north and livestock raising in the east and south were notable (Learmonth, 1962), (iii) the south Bihar plain where some industrialisation based on agricultural products like sugarcane, tobacco, rice and pulses was observed (Ahmad, 1965), (iv) the western Haryana where livestock raising, particularly sheep and cattle rearing, was significant (N.C.A. E.R., 1970), (v) the western Orissa where mining, household industries and plucking of *kendu* leaves were noted (Tripathi, 1973), (vi) the eastern Rajasthan where livestock raising as well as livestock based industries were of some import (Misra, 1967), and (vii) Narmada–Son valleys where recent developments in mining and construction had somewhat diversified the economy (Spate & Learmonth, 1967). It may be pointed out that all the areas mentioned above have recently been undergoing a process of discernible development, especially in agriculture that has given a stimulus to other activities as well.

(d) Areas with Low Percentage of Rural Non-Agricultural Workers

The rural economy was overwhelmingly agricultural in 104 districts where less than 12 per cent of the rural workers were outside agriculture. These were the districts wherein almost the entire rural non-agricultural working force was engaged in providing goods and services to the local population. Most of the non-agricultural workers were either in service activities like retailing, village administration, police, teaching, religion, health, hair dressing and bricklaying or in household industries like handlooms, shoe making, leather tanning, pottery and food processing. Besides, some forestry in tribal areas and livestock raising in dry areas were the other notable activities.

Among the various areas falling in this group, the Oudh and north Bihar plain was the most extensive and populous. More than 90 per cent of the rural workers in this crowded region were recorded as agricultural. The pressure of population on land resources was intense as a result of which out-migration has been a continuous process at least for the last one hundred years (Singh & others, 1971). Degree of urbanisation was low. Despite small size of land holdings (average about 1.5 hectares), the proportion of landless agricultural labourers was high as a legacy of the *zamindari* system till recent past. In many districts, especially in north Bihar, the number of landless labourers was more than that of cultivators. This area, with very high population density and immense poverty, has rightly been labelled as a rural slum.

The hill districts of Uttar Pradesh constituted another area where dependence of rural population on agriculture was almost universal. Hardly one-tenth of the rural workers were non-agricultural. Practically all the agricultural workers were owner cultivators, the number of landless labourers being negligible. Cultivation was based on an elaborate, highly labour intensive system of terraces (Pant, 1935). Despite a low

arithmetic density of population, the nutritional density of population was very high due to limited extent of cultivated land. Land holdings were generally smaller than one hectare. Out-migration was a common feature of most parts of this region.

A large part of central India also recorded predominance of agricultural workers. The region was endowed with rich natural resources but remained backward due to administrative neglect of the erstwhile local princes and the British rulers. The level of industrialisation and urbanisation remained low, particularly in areas inhabited by the tribal population. The dependence of tribal communities on agriculture was more pronounced than that of the rest of the population (Saxena, 1964).

The Rajasthan desert was also characterised by predominantly subsistence agricultural economy. Hardly one-tenth of the rural workers were outside agriculture. Non-agricultural workers were mainly in general services, livestock raising and household industries as an integral part of the agricultural economy. There was a little scope for the rural economy to diversify in view of severe limitations of the physical resource base in this area with arid climate, sandy soils and scarce water; all resulting in low agricultural productivity. Density of population was low and average size of land holdings was large, being about ten hectares. Most of the agricultural workers were owner cultivators.

The east-central Maharashtra was still another area with very high proportion of agricultural workers accounting for about 90 per cent of rural workers. Its agricultural productivity was low due to the semi-arid environmental conditions together with prevalence of *zamindari* system till recent past. Incidence of landless labour was also high; the number of landless labourers was higher than that of cultivators in most parts of this tract. Land holdings were relatively large, being 5 hectares on an average as compared with 2.3 hectares in India as a whole.

Thus, the areas with predominantly agricultural working force significantly differed among themselves in terms of population density and agrarian structure (cultivator : landless labourer ratio). In some of them, such as Oudh-Bihar plain, pressure of dense population on resources was intense; in some, such as central India, the utilisation of resources was at a low level; and in still others, such as Rajasthan desert, environmental problems relating to resource utilisation were difficult to overcome. A low *per capita* agricultural productivity and meagre base of urbanisation was common to all these areas.

Summary

Despite considerable development since Independence, India's rural population has remained virtually synonymous with agricultural population. This conformed to the slow process of disagriculturalisation in all the developing countries of Asia (United Nations, 1971). Hardly 17.7 per cent of workers in rural India were recorded as non-agricultural in 1971. About two-thirds of the rural non-agricultural workers were engaged in serving the local population through goods and services. The remaining one-third were involved in a wider regional or national economy.

TABLE 4

India : 1971

Correlates of Non-Agricultural Workers in Rural Areas

Correlate	Coefficient of correlation with percentage of rural non-agricultural workers
1 **Percentage of workers in**	
a) trade and commerce	+0.92
b) transport	+0.90
c) manufacturing (other than household industry)	+0.80
d) livestock, fishing, plantation, etc.	+0.68
e) construction	+0.37
f) other services	+0.35
g) agricultural labour	+0.29
h) mining and quarrying	+0.23
i) household industry	−0.85
j) cultivation	−0.52
2 **Percentage of**	
a) literates in rural areas	+0.80
b) electrified villages	+0.61
c) urban population	+0.15
d) cropped area under foodgrains	−0.51
e) scheduled caste/tribe population	−0.26
f) female workers in rural areas	−0.19
3 **Density of**	
a) road length per 100 sq. kms.	+0.64
b) rural population per sq. km.	+0.62
4 **Average**	
a) agricultural productivity per hectare	+0.55
b) size of land holding	−0.59

SOURCE : Calculated from statewise data on the concerned variables.

TABLE 5

INDIA : 1971

Percentage of Non-Agricultural Workers in Rural Parts of the Districts Containing Million Cities

Name of the district with a 'million' city	Percentage of non-agricultural workers in rural parts of the district/s*
Delhi	65.3
Hyderabad	26.3
Calcutta**	24.2
Madras**	23.2
Bombay**	20.9
Ahmadabad	20.6
Bangalore	19.2
Poona	18.5
Kanpur	13.1

SOURCE : Calculated from Census of India, 1971, *Union Primary Census Abstract*, pp. 4-301.

*Districts have been arranged in descending order of the percentage of non-agricultural workers in their rural areas.

**In case of Calcutta, Bombay and Madras, which were entirely urban districts, the percentage of non-agricultural workers has been calculated for the rural parts of their neighbouring districts.

Diversification of rural economy was at a very low level in most parts of the country. In six out of every seven districts, more than 75 per cent of rural workers were directly dependent on agriculture; in one out of every seven districts, this percentage was higher than even 90. The number of non-agricultural workers exceeded that of agricultural workers in rural parts of only 12 districts. Broadly speaking, the percentage of rural non-agricultural workers was relatively high in the coastal regions of Kerala, Tamil Nadu and Andhra Pradesh; inland agriculturally progressive areas of the north Punjab plain, eastern Haryana and Ganga-Yamuna *doab*; plantation areas in Assam, West Bengal, Tamil Nadu and Karnataka; practically all the union territories that have been developing fast of recent; and the Bombay-Thana-Poona belt, south Gujarat plain, Damodar valley and environs of metropolitan cities like Delhi, Calcutta and Bombay where rural industrialisation and rural-urban commuting was considerable. Basically all of them were resource rich with an additional advantage of exposure to development-oriented impulses. By contrast, almost complete dependence on agriculture was a characteristic feature of the Middle Ganga plain, the Rajasthan desert, and a large part of central India. These areas differed strikingly in population density and cultivator : landless labourer ratio.

Diversification of rural economy in any part of India was found contingent upon the richness and effective utilisation of local resources, commercialisation of agriculture, rates of rural literacy, density of road network and rural electrification. The impact of urbanisation was feeble (Table 4). The proportion of rural non-agricultural workers showed a strong positive correlation with percentage of literates in rural areas (+.80), density of roads (+.64), density of rural population (+.62), percentage of electrified villages (+.61), and agricultural productivity per hectare (+.55). On the contary, a negative relationship existed with the average size of agricultural land holdings (–.59) and proportion of cropped areas under food grains (–.51). The co-efficient of correlation between percentage of rural non-agricultural workers and that of urban population was only +.15. Seven out of nine districts/groups of districts containing or adjoining the 'million' cities ofIndia recorded less than one-fourth of rural workers outside agriculture (Table 5). A low *per capita*, not necessarily per *hectare* agricultural productivity was common to all areas with overwhelmingly agricultural economy. Such areas, however, differed in their population density and agrarian stucture.

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