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CONTENTS

SPATIAL MOBILITY IN INDIA : EVOLVING PATTERNS, EMERGING ISSUE AND IMPLICATIONS 1
Swarnjit Mehta

DEMOGRAPHIC DEVELOPMENT IN AN INDIAN STATE : A CASE STUDY OF RAJASTHAN 11
Surya Kant

GROWTH OF INDIA'S SCHEDULED CASTE POPULATION, 1971-81 : A SPATIAL ANALYSIS 27
R.S.P. Gosal

REGIONAL DISPARITIES IN DEMOGRAPHIC DEVELOPMENT IN INDIA 45
K. N. Dubey

FEMALE LITERACY IN RAJASTHAN, 1961-1981 59
N.L. Gupta and Sadhana Kothari

DIFFERENTIAL URBAN GROWTH AS A PROCESS OF REDISTRIBUTION OF POPULATION : A CASE STUDY OF SAO PAULO STATE, BRAZIL 69
Odeibler Santo Guidugli

POPULATION GEOGRAPHY Volume 12 Numbers 1 & 2 June-Dec.1990

SPATIAL MOBILITY IN INDIA : EVOLVING PATTERNS, EMERGING ISSUES AND IMPLICATIONS

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This study examines the patterns of spatial mobility in India as expressed at the inter-state level for the post-Independence period. Comparing these patterns with those which had been evolving throughout the colonial period the paper probes into the processes of dislocation of people in the context of India's development strategy. Highlighting the persistence and stability of migration patterns at the macro scale, the analysis points out the complex interrelationships with the nature of socio-economic development and suggests alternatives for stemming distress migration from the backward regions. The inquiry follows a broad political economy framework and emphasises both the qualitative and quantitative aspects of spatial mobility in India.

Introduction

The main objective of the present exercise is to probe into the questions and issues which emerge out of a broad description of spatial patterns and trends relating to internal migration in India. Spatial mobility needs to be seen in the context of socio-economic conditions, the pace at which these conditions are changing, and the results to which it is leading. Besides, we also need to examine in a more penetrating manner (i) the processes responsible for dislocating people on such a massive scale; (ii) the role our development strategy has played in accelerating or halting the operation of the migration process itself; and (iii) the policies which may be adopted to correct migration-development interrelationship.

Migration statistics based on '*Place of Birth*' are available from Census of India from 1881 onwards. Till 1931 these data indicated only inter-state mobility. The following census in 1941 was handicapped in several ways and did not generate information on migration. After the partition of the country in 1947 the census of 1951 made available more detailed data not only on inter-state level but also on inter-district basis. In 1961, in addition to place of birth (POB) migration data on duration of residence and rural-urban break up were also collected. The 1971 census introduced the concept of 'last residence' along with that of 'place of birth' which suffers from some limitations.[2] The scope of inquiry was further widened in 1981 census to cover 'reasons for migration' from place of last residence. The census of 1991 being held between this month will generate more detailed data on 'reasons for migration' besides several important additions made in items on workers and living conditions.[3]&[4]

A. Trends in Mobility Levels

Mobility levels in India have indeed improved significantly since 1951. On the basis of POB data mobility levels have shown

almost three-fold improvement during this period from 10.8 per cent in 1951 to 30.60 per cent in 1981. This increase becomes all the more striking when it is compared with the preceding 30 year period. It may be noted that during 1921-51 the mobility level increased from 9.8 to 10.8 an improvement by 1 per cent point in these decades. Even with low, though improving mobility levels, the migration streams in absolute sense are of gigantic size involving millions of people.

How are these trends to be viewed ? On the one hand these do indicate enhanced spatial mobility in free India in comparison to colonial India and is associated with the development processes. On the other hand, mobility in developing countries like India is different from mobility associated with developed economies. In countries like India internal mobility symbolises, among other things, movement away from total unemployment, deprivation and starvation to a condition of underemployment and bare survival. It is largely horizontal displacement from one kind of poverty to another. In the developed countries mobility is equated with vertical shift in employment status directed and controlled by wage differentials in relative terms. This is, however, not to deny the role migration plays in altering the patterns of population distribution and its impact on spatial variations in net population growth, age-sex structure in areas of origins and destinations of migrant involved in this process.

In comparison to mobility at inter-district level and inter-district level within the same state inter-state migration in India is small. Of the total migrants in 1981, those who migrated within the district of enumeration accounted for about 60 per cent while those who migrated from one district to another of the state made up another 20 per cent (Census of India, 1988 p-121). Thus, mobility at these two spatial scales constituted the bulk while inter-state migration involved small proportion, even though the total numbers involved were considerable.

Inter-state migration in the Indian context, however massive in numbers, is quantitatively and qualitatively not compareable to similar manifestations of spatial mobility in the developed countries. Negligible mobility of population practically in all the developing countries notwithstanding, in case of India, the constituent states are much larger in territorial size and population in comparison to 'regions' of European U.S.S.R., 'provinces' of Poland, 'Lands' of Germany, 'departments' of France and 'states' of the U.S.A. This fact further depresses the magnitude of inter-state migration. By comparison, mobility *within* boundaries of individual states rather than *across* states assumes larger dimension (Petrov, 1978, p-187).

B. Directions of Inter-State Migration : First half of the twentieth century

Census data from 1881 onwards till the partition of the country indicate that migration streams were following three main directions : towards north-eastern region, western region and region around Delhi and neighbouring parts of the then Punjab including present Haryana. Besides, influx of people into towns and cities (especially the largest one in each region : Calcutta in the east, Bombay in the west, Delhi in the northwest and to some extent Madras in the southeast (which otherwise witnessed con-

siderable outmigration) also continued throughout this period. In each of the larger cities every census revealed a sizeable proportion of inmigrants (born elsewhere within the state of enumeration as also in other states). For example, a century ago in Bombay city the proportion of in-migrants to the city's total population was as high as 75 per cent in 1891. With only minor fluctuations, the tempo of inmigration to this city continued through the period under consideration. The trend was no different for Calcutta. In the case of both Bombay and Calcutta the flows of inmigrants displayed an overwhelming concentration at these two centres rather than other towns in the respective regions. Along with inter-state migration short-distance migration including inter-state and inter-district/inter-village movements associated basically with family ties, marriage patterns, inheritance of property, etc. remained numerically significant However, the focus in the present study is on the macro patterns only and their evolution through the successive decades.

Directions since the 1950's

The main directions identified for the period prior the 50's have broadly remained unaltered at the inter-state level.

During 1951-61, the major decadal migration inter-state flows were again found to be focussed on : West Bengal (Net gain by about 0.99 m) ; Assam (0.19m) : Maharashtra (0.84 m) ; Delhi (0.54 m). Major losses through net outmigration were witnessed by Uttar Pradesh (1.01 m); Bihar (0.72 m); Tamil Nadu (0.36 m); Punjab (0 35 m). Some other states such as Kerala, Rajasthan, Gujrat, Orissa, Andhra Pradesh also experienced the loss though the numbers involved were less.

In 1971, the inter-state migration flows obviously became larger in magnitude (especially if life time migration is considered as against decadal migration during 1951-61). (Kayastha and Mukerji 1979, p 48). But in so far as major directions are concerned one is immediately struck by the similarity of patterns of 1971 and those obtained in the earlier decade.

Net losses through outmigration amounted to 2.1 m for Uttar Pradesh ; 1.15 m for Bihar; 0.67 m for Rajasthan; and 0.65 m for Kerala. As earlier Punjab, Andhra Pradesh and Gujrat also experienced net loss. By contrast, prominent areas of net inmigration included Maharashtra (2.04 m); Delhi (1.18 m); West Bengal (1.12 m); Madhya Pradesh (0.79 m) and Assam (0.39 m).

No major disruption in the esatablished pattern of migration fflows seems to have occured during 1971-81 decade. As per 1981 data prominent flows originated from those very areas which had been witnessing considerable net outmigration since 1951. At the same time the flows were directed towards familiar destination areas : West Bengal (5.58 m); Maharashtra (4.67 m); Madhya Pradesh (2.36 m); Delh) (2.82 m). (Census of India, 1989, p 164) among some others The proportion of in-migrants among gross migrants was more than 75 per cent in the northeastern region (Arunachal Pradesh 97.59 ; Tripura 94.85 ; Nagaland 92.85 ; Maghalaya 89. 29; Sikkim (83.96 ; Mizoram 80.42). (Census of India, 1989, p 33) It was equally high in Maharashtra (75.52). By comparison, Kerala, Uttar Pradesh, Bihar, Andhra Pradesh, Himachal Pradesh, Tamil

Nadu and Rajasthan emerged as states recording net loss as the outmigrants far outnumbered the in-migrants who constituted less than 50 per cent of the gross migrants. However, during 1971-81 decade at the inter-state/Union territory level, the percentage of in-migrants to gross migrants came down in all areas (notably in Maharashtra and West Bengal) except in parts of north-eastern region (Arunachal Pardesh, Sikkim) as also in Rajasthan, Himachal Pradesh and Kerala signalling farther limits of scope for inmigration into these areas.

The general urbanward flows have not only continued through these decades, their direction-bias in favour of big cities with population exceeding 1 m. each (designated as Mega cities by Census of India) has been further snarpened : Delhi now accounting for 26 per cent of the urban population of the northern zone; Bombay has 25 per cent of the urban population of western zone and Calcutta has 31 per cent of the urbanites living in the eastern zone. In most of the millionplus cities migrants constitute one-third to one-half of the total population Census of India, 1988, p. 121)

In terms of economic pulls the major migration flows, as expected, have followed urban-industrial nodes/zones and minor ones towards areas of plantation agriculture in north Bengal and Assam which can be traced back to the middle of the nineteenth century.[12] Besides, areas covered by multi-purpose projects initiated under various plans during the post-independence period also attracted migrants in sufficient numbers.

C. The Emerging Issues and Implications

Having identified the broad patterns of spatial mobility as these evolved through almost a century extending approximately equally over the colonial phase as also in free India, we may now concentrate on : (i) some features of this spatial mobility *vis a vis* the political-economic context : (ii) the issues emerging out of the interrelationships between the evolved patterns and the nature of socio-economic development and (iii) the ways and means of transforming the nature of spatial mobility in India.[13]

i) The most striking feature of spatial mobility at macro-scale is the stability and persistence of patterns for almost a century. Whereas some dispersal in destinations of migrants took place mainly during the post-independence period, areas/states of considerable population dislocation have changed little since the introduction of colonial rule under the colonial adminis tration, with a view to bringing India into the international market system, Indian economy was oriented to exports of agricultural and mineral raw materials. This came as a major intervention in the established subsistence economy in different parts of India. (Dutt, 1903, p 283-304). Throught out the colonial period concentrated development proceeded along the 'penetration lines' starting in the major sea ports. Capitalist plantation agriculture and mining activities were developed mainly in the eastern region. The migration streams followed these developments. The then existing trade circuits. (Singh, 1968, pp 203-220) though limited in extent and development, were disrupted and instead only a few nodes including the port cities (Bobmay, Calcutta, Madras, Delhi) emerged as prominent destinations of migration streams.

During the post-independence period for which we have traced the patterns of flows, the patterns inherited from the colonial period have been further consolidated especially in terms of the dominating positions of large cities and ports in different regions of the country. At least at the macroscale the patterns seem to have perpetuated through the support provided by the development strategy of free India. The states of Uttar Pradesh, Bihar and Orissa stand out for their sizeable outmigration decade after decade.

ii) To examine the persistence of migration patterns in some detail let us consider the case of three Indian states and their development experience during the post-independence period in which their respective economies have been unable to check dislocation of population on a large scale.[16] For the three states selected as typical cases let us examine some of their development parameters. In the context of variations in the level and distribution of income among some major states Orissa Uttar Pradesh and Bihar have peculiarly low rank when compared with some relatively developed states.[17] The extent of total, rural/urban poverty in these three backward states is dismally high.[18] In all the three states the proportion of casual workers in labour force is high and so is the incidence of unemployment. The social backwardness of these states is amply clear from their continuing low literacy rates especially among the females and scheduled castes and scheduled tribes as also very high infant mortality rates (IMR).[19]

Certain features of the economic and social backwardness of selected states have been highlighted to explain (i) continuing outmigration; (ii) quality of spatial mobility; (iii) insignificant changes in their economic and social structure during the post-independence period; and (iv) limited role of inter-state mobility in transforming the prevailing socio-economic context. The details are helpful in visualising that distress-migration component in the total migration especially from the states characterised by a stagnant milien is very large.[20] As such spatial mobility qualitatively is largely compulsive in nature-people move because they have to and not because they wish to. This is not to deny that some relatively developed states such as Punjab also experienced outmigration including emigration which indicate mobility by choice-motivated more by a desire to improve life standards rather than to escape malnutrition, deprivation and distress. Thus, spatial mobility in the case of developed regions is qualitatively different.

iii) Despite massive and continuing outmigration from the backward states neither have their growth rates of population been affected nor have outflows provided relief in so far pressure on resources of these regions is concerned. The number and proportion of the unemployed/underemployed has been increasing. In the country as a whole the productive forces continue to be polarized and within individual states are concentrated at a few locations. Internal economic linkages within states and regions suffer as the national

economy is keeping up a major thrust on export orientation (Kayastha & Mukerji, 1979, p-48)

Clearly, without substantial restructuring of economy as also society neither it is possible to minimise regional inequalities nor can the process of development be accelerated. In the prevailing context, therefore, spatial mobility in a country like India may be viewed more as a process affecting the size of population at the different spatial scales rather than as an expression of socio-economic dynamism.

D. Some Questions

The preceding observations on general mobility levels; evolution, stability and persistence of migration flows at least at the inter-state level raise some basic questions on our development strategy and its attendant spill offs :

(i) Can we afford to continue with our strategy based on and perpetuating polarized concentration in a few core areas and big cities to the neglect of the sluggishly growing/decaying perepheries and small towns ?

ii) Can we or should we stick to a strategy of heavy export-orientation at the cost of internal economic circuits ?

iii) In symptomatic terms how should spatial mobility be viewed ?

These are complex, if not formidable, questions. Obviously, there are no straight answers. The need to reorient spatial linkages (from export-orientation) towards internal markets is imperative. A better integration of our domestic economy/market geared to self-sustainable development is equally important. The rural poor in the backward states who are forced to move out must form a target group in any policy of land redistribution or restructuring of land relations. As land in itself may mean little for the landless, additional benefit in the form of credit for inputs and development of infrastructure would also be crucial.

In order to stem distress migration from rural areas employment opportunities will have to be created in the rural sector. Any planning strategy which purports to influence spatial mobility would be directed by at least two considerations : first, as far as possible raw materials may be processed upto a semi-finished form using indigenous technology, in small and medium size d units within the rural areas; second, a large number of activities based on agricultural produce may be encouraged at important rural service centres each having productive catchment areas. In the backward regions with low literacy rates but ironically having educated unemployed in large numbers a more profitable and workable strategy would be to go in for massive expansipn of education at the school level and thus create jobs in schools. The illiteracy barrier can be more effectively broken if under the programme of expansion of educational facilities, instructions are imparted in the regional languages/dialects such as Rajasthani, Bhojpuri, Awadi, Maithili, Santhali, etc.

What is to be ensured is optimum utilization of resources of *all states* and not a few selected ones and consolidating economic base of towns of *all sizes* and not just megacities (Mehta, 1990, p 201). Economic linkages at all levels will have to be strengthened for reorienting the national

economy by introducing institutional changes. Restructuring of property relations in land in conditions of democracy, a huge and rapidly growing rural population is not easy unless similar restructuring is also done simultaneously in industry. Property relations both in the rural and industrial commercial sector have to be altered so that compulsive migration flows associated with distress situation can be regulated. (Mehta, 1987, p-1-15)

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NOTES AND REFERENCES

1. Throughout the present study 'Spatial mobility' refers to mobility at inter-state level only.

2. These limitations have been commented upon by Davis, Gosal among others. see Davis, Kingsley (1951), *Population of India and Pakistan, Princeton*. Gosal, G.S. (1961), "Internal Migration in India: A Regional Analysis", *India Geographical Journal*, 36, 106-21.

3. *Census of India* has not only made population statistics available to scholars, planners and others, this organization sponsored some notable migration studies : *Internal Migration and Urbanization in India* by G.K. Mehrotra (1974) ; *Geographic Distribution of Internal Migration in India* by B.K. Roy (1979) ; *Internal Migration in India, 1961-81* by S.K. Sinha (1986) ; *Geographic Distribution of Internal Migration in India 1971-81* by B.K. Roy (1989).

4. Besides four major categories of reasons used in 1981 i.e. employment, education, family moved, and others, the current census has included business, natural calamities like drought, famine etc. as some other reasons. See, Rama Rao, Planning for the 1991 Census of India" in *Population Transition in India* by Singh S.N., Premi, M.K. et al (1989), Delhi, B.R. Publishing Corporation, 3-11.

5. Census of India, (1988) *A Handbook of Population Statistics*, p-121.

6. Petrov V. (1978) *India : A Spotlight on Population*, Moscow, Progress Publishers, p. 187.

7. See Gosal (1961) op. cit., Gosal, GS and Krishan G (1975), 'Patterns of internal migration in India' in Kosinski, L.A. and Prothero, R.M. (eds) *People on the Move*, London, Kayastha, S.L. and Mukerji, Shekhar (1979) 'Spatial Disorganization and Internal Migration in India", *Canadian* Studies in Population, 6, 45-61.

8. Kayastha & Mukerji (1979) *op, cit.*, p.48.

9. Census of India (1989), *Geographic Distribution of Internal Migration in India*, 1971-81, Table 16, p. 164.

10. Census of India (1989) *op. cit.*, p 33.

11. Census of India (1988) *A Handbook of Population Statistics*, p. 121.

12. According to 1931 census there were approximately 1.4 m Coolies in Assam of whom 0.9 m worked on tea plantations. See some details on labour migration in Petrov (1978) *op. cit.* p. 190-191.

13. Mobility at other spatial scales such as inter-district in individual states, from rural to rural areas; rural to urban; urban to urban ; and urban to rural streams ; intervillage migrations commuting/circulation and intra-urban movements have not been included within the scope of this paper.

14. Dutt, R. (1903) *Economic History of India Vol. II*, London, Allen & Unwin, 283-304.

15. See Singh K.N. (1968) 'The territorial basis of medieval town and village settlement in eastern Uttar Pradesh, *Annals of the Association of American Geographers*, 58" 230-220.

16. It may be noted that in the present study no attempt is being made to disaggregate data for male and female migrants or for the rural-urban componets. Females who outnumber male migrants in practically all migration streams migrate largely on account of marriage/family move. The economically motivated migration (for employment) among the females is still very meagre.

17.

	Index of Per Capita SDP		*Rate of Growth of SDP*
	1979/80	1960/61	1960/61 to 1979/80
India	100	100	3.4
Orissa	76	71	3.1
U.P.	72	82	1.9
Bihar	62	70	2.0
Punjab	198	120	5.5
Maharashtra	162	134	4.0
Gujrat	147	118	4.4

For details see Sundram (1987) *Growth and Income Distribution in India*, New Delhi ; Sage, Appendix 2.3, p. 47.

18. As against the all-India average of 48.1, 50.8 and 38.2 per cent for total, rural and urban population the poverty figures for selected states are : Orissa 66.4; 69.0; 42.2. Uttar Pradesh: 50.1, 50.2, 42.2. Bihar : 57.5, 58.9, 46.1. See more details on this

aspect in Sundram (1987) *op. cit.*, p. 50. Also Visaria, P. (1981) 'Poverty and Unemployment in India : An Analysis of Recent Evidence ; *World Development*, 9 (3), 277-300.

19. General and female literacy rates as per 1981 census were : Bihar (26.20; 13.62); Uttar Pradesh (27.16 ; 14.04) ; Orissa (34.23; 21.12) IMR (1982) for Bihar 116; Uttar Pradesh 156; Orissa 139.

20. See Similar remarks for Orissa in Bose, A (1988) *From Population to People* Vol. II, Delhi, B.R Publishing Corpopration, 379-386.

21. Kayastha & Mukerji (1979) *op. cit.*, p. 48.

22. For rationale of territorial-economic integration see Sdasyuk, G. India: Ways and problems of territorial-economic integration' in *India : Problems of Development (1984)*, Moscow, USSR Academy, of Sciences, pp. 64-73. The 'integration' is suggested as a method for overcoming the colonial nature of economy.

23. Mehta Swarnjit (1990) *Migration : A Spatial Perspective* (A Case Study of Bist Doab-Punjab), Jaipur, Rawat Publications, p. 201.

24. Mehta, Swarnjit and H.S. (1987) 'Political Economy of Population Growth', *Population Geography*, 9, pp. 1-15.

POPULATION GEOGRAPHY Volume 12 Numbers 1 & 2 June-December 1990

DEMOGRAPHIC DEVELOPMENT IN AN INDIAN STATE : A CASE STUDY OF RAJASTHAN

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The paper attempts to analyse the patterns of and trends in demographic development in Rajasthan state by employing the indices of urbanization, literacy and occupational diversification. In the course, however, an effort has also been made to define the concept of demographic development which notwithstanding its vital significance is vaguely defined in the existing literature.

Introduction

Demographic development has been recognised as the core of development which in ultimate analysis is nothing but betterment of human quality of life. That is why it attracted the attention of several scholars for its analysis in spatio-temporal framework (Schwartzberg, 1962; Harvey and Bhardwaj, 1973; Social Statistics Division of United Nations, 1977; Rao, 1977; Gosal and Krishan, 1984; and Singh and Dubey, 1985).

Indian Five Year Plans from their inception in 1951 always accorded important priority to the development of human resources. Development priorities were recognised in the context of demographic situation. Constitutional provision for universal literacy, development and extension of family welfare and health care facilities, minimum needs programme, target groups oriented programmes and constitution of separate Ministry for Human Resource Development are important steps in the direction. Approach paper to Eighth Five year Plan, 1990-95, has promised to give highest priority to the problem of unemployment, illiteracy, ill-health and decline in living conditions of poor and vulnerable sections.

Notwithstanding the importance of demographic development to overall development process and the academic interest in it, as a research theme, the concept of demographic development is vaguely defined. In the existing literature, it is difficult to get a proper definition of demographic development. A perusal of some important studies employing demographic indicators may throw some light on the issue.

Schwartzberg (1962) while studying the regional variations in economic development in India used seven demographic indicators including proportion of urban population, share of urban population in towns having population of more than one lakh, and proportions of non-agricultural population, agricultural labourers, employees in self-supporting non-agricultural labourers and factory workers per thousand of total population. Notably, indicators of the quality of population such as literacy were not included by him.

Social Statistics Division of United Nations identified 16 demographic indicators of average annual rate of population growth, average age, dependency ratio, sex ratio, crude birth rate, general fertility rate, net reproduction rate, still-births as proportion of total births, illegitimate births as proportion of all live births, crude death rate, standardized death rate, expectation of life at ages 0, 30, 60, crude immigration rate, crude emigration rate, crude net migration rate and crude internal migration rate. And grouped them into four categories : population stock (4), births (4), deaths (4) and migration (4). Some additional components of demography were also listed under other categories (Social Statistics Division, 1977). The underlying idea was that the demographic characteristics of an area reflects in the level of socio-economic development. However, in traditional high population zone, for a variety of reasons, population stock is hardly an index of development. Further, the reliability of data on the outlined components of demography such as deaths, births and migration in India and several other developing country is questionable.

Rao (1977) suggested six demographic indicators to discern the stage of socio-economic development : growth rate, birth rate, death rate, general fertility rate, net rural-urban migration rate and proportion of urban population. His focus was mainly on different elements of population dynamics as representative of development level. Here, a major point of caution is that the interpretation of a given population dynamics has to be done in the context of total situation of an area. For example, rural-urban migration may suggest a high employment potential of towns in general, but in some real world situation it may be the result of rural impoverishment as is the case in many of the densely populated developing countries and areas within them.

Harvey and Bhardwaj (1973), using Indian Census data, worked out 14 indicators to represent socio-economic dimensions of modernization. They succeeded to a large degree in demonstrating that how the census data could be put to service to arrive at sensible measures of modernization.

Gosal and Krishan (1984) were pioneers to examine the demographic aspects of development. They employed 14 indicators of demographic development pertaining to : urbanisation (1), literacy (4), and occupational structure (9). However, they offered neither any definition nor explained why the number of indicators differed so greatly : one only from urbanization and as many as nine from occupational structure. Further, important indicators such as scheduled castes literacy and rural-urban literacy differentials were not taken into consideration.

Singh and Dubey (1985) in their study of demographic development in Uttar Pradesh attempted to define demographic development and also examined the nature of association between the level and structure of demographic development at tahsil level. They employed 16 indicators by grouping them into three categories : urbanisation (4), literacy (8), and occupational structure (4). They did the job sensibly particularly in studying the nature of association between the level and structure of demographic development. However, they also failed to conceptualise and define demographic development properly and also committed the error of selecting unequal number of indi-

cators from different dimensions of demographic development. Their argument that the methodology they adopted is based on multiple level check and balance principle, so that varying number of indicators in a component would have no undesirable bearing on aggregate index of demographic development, is not logically correct. A proper method to eliminate the effect of under/over representation of any component caused due to selection of unequal number of indicators was to use surrogate indicator where the number of indicators was large. For example, proportion of female literates and proportion of male literates could have been combined at first level to make them one surrogate indicator for final analysis (See. for details Kundu, 1980, pp. 112-116).

The above review of literature reveals that the concept of demographic development is still not clearly defined. Mostly, the demographic attributes are used by scholars as indicators of economic and social development rather than that of demographic development.

Theoretically, demographic development must encompass the spirit of both demography and development. The people have twin role in the process of development. On one hand, they are factor of production as workforce and effective market for goods and services. On the other hand, the people are the sole beneficiary of the process of development. In this way, development process and the people are intimately associated. In this light, demographic performance of an area, may be defined, in terms of pattern of life as seen in its urban-rural components, quality of life as manifest in its literacy rates and the level of economic diversification. In brief, demographic development refers to improved quality of the people in an area.

In the light of above definition of demographic development one may think of indicators to represent it. Given the Indian economic-demographic scenario, decline in fertility and mortality rates, particularly infant mortality rates and an increase in life expectancy would make strong indicators of demographic development. Unfortunately, however, the reliability of available data on such indicators, particularly below the state level, is always questionable in the Indian context. The reliability of such data is all the more questionable in the case of Rajasthan, selected for the present exercise. The issue of reliability of fertility and mortality data will be taken in details in the section on methodology.

Alternatively, keeping into mind the serious draw-backs with available data on fertility, mortality and life expectancy, urbanization, literacy and occupational composition of population can be taken as component/indicators that would take care of quality of the people in an area. Increased tempo of urbanisation may be taken as a clear gain for attitudinal change. It infuses the new value system for progressive outlook, resulting in loosing the rigour of conservative and caste oriented thinking. Modern impulses diffuse from urban centres in their hinterlands at various levels of urban hierarchy. Urbanisation, oriented to regional economy work for transformation of the rural economy in the hinterland by offering urban employment to surplus rural workforce. However, the serious reservations expressed recently about role of urbanisation in enhancing development in Third World countries though are

not wholly unfounded, yet to make a general statement about the role of rapid urban growth in relation to development process in Third World countries as a whole will not be advisable. Definitely its role in development will vary from place to place. There are situations where urban expansion will result in achieving the goals like, economies of agglomeration, better rural-urban interaction and so on. In an area such as Rajasthan where settlements are widely dispersed over predominantly desert topography urban centres play a high positive role in diffusion of modern impulses, provision of social infrastructural facilities and transformation of rural economy of surrounding hinterlands. Moreover, how poor may be the living standards in urban centres of Third World countries these are far better than in large majority of rural areas. The urban incomes are practically always higher than rural ones. Migrants to cities in general seem to fare well with respect to acquiring jobs and improving their standards of living ..... Urban standards of public services usually exceed rural ones (Gugler, 1989, p. 27). And opportunities for non- agricultural work are negligible in rural areas (Dickenson, et. al, 1983, p. 176).

Evidently in the light of above statements, degree of urbanisation (i.e. urban population as per cent of total population) alone cannot be taken as representative of urbanization component. It has to be supplemented with effectiveness of urbanisation (i.e. population in 20,000 plus towns as per cent of total population) and service components of urban centres to rural population (i.e. towns/population in rural areas) and to surrounding rural hinterlands (i.e. towns/ rural areas).

Improvement in literacy rate is of pivotal significance to the development of traditional societies. Literacy helps an individual to improve over his/her skill, to shed his/her ignorance and to understand the value of social justice. Literacy is all the more important in case of socially deprived groups like the females and scheduled castes and scheduled tribes. The female literacy in development literature is termed as the 'best contraceptive'. Educated women are known to be the most responsive to family planning methods. The role of female literacy is extremely important for Rajasthani society due to prevalence of deep rooted feudal values.

Structural transformation of working force which manifests economic diversification of an economy may be taken as the barometer of economic well-being of the people of an area. And, thus, form an important dimension of demographic development. In economically less developed societies it helps to increase income level, stimulating the development in other dimensions of demographic development. In context of developing societies, female work in non-agricultural activities may be of particular significance to the well-being of individual household, on one hand, and for the society, in general, on the other. Discouragement to child labour but expansion in rural non-farm employment are also of vital significance to demographic development.

To capture all these intricacies of demographic development, the indicators have been evolved for undertaking the present exercise (Table 1).

The Study Area and Objective of Study

Rajasthan, situated in northwestern part of India, has been selected for the present

Table 1

Rajasthan : Indicators of Demographic Development

Subset	Indicators/Components and composite indices
Urbanisation	Urban population as per cent of total population
	Population in 20,000 plus towns as per cent of total population
	Towns per lakh of rural population
	Towns per thousand square kilometres of rural area
	Index of Urbanization
Literacy	Literates as per cent of total population
	Literate females as per cent of total female population
	Rural literates as per cent of population in rural areas
	Index of rural-urban literacy differential
	Index of Literacy
Occupational Structure	Workers in non-agricultural activities as per cent of total workers
	Workers in non-agricultural activities as per cent of total workers in rural areas
	Workers in household activities as per cent of total workers
	Workers in 'other activities' as per cent of total workers
	Index of Occupational Structure
	Aggregate Index of Demographic Development

study. According to 1981 census, it has a population of 34.3 million over 3.42 lakh square kilometres of area, making a density of 100 persons per square kilometre. Against this average density for India is 221. This second largest area size state of India is thus relatively low populated.

Administratively, Rajasthan attained its present shape after 1956 reorganisation of states on lingual basis. Earlier, it was a conglomerate of a number of princely states and chiefships varying in area and population size, physical resource base, socio-economic development and their political strength. Ajmer-Merwara, a small territory, was the sole British province. Thus, in the state colonial imprint is almost absent and planned development has hardly completed its four decades. The state is currently divided into 27 districts including Dholpur which came into being in 1983.

Rajasthan, intersected by the Aravallis in the northeast-southwest direction is divided physiographically into two broad ecosystems : the eastern plains and the western desert, on one-third and two-thirds

basis. Eastern plains, both from ecological and socio-economic angle, is placed comfortably than the western *Thar* desert.

Demographically, the state is not only poorly developed but also has striking spatial disparity. The female literacy rate (11.4 per cent) in Rajasthan is the lowest among the states. National average (24.8 per cent) is more than twice of state average. Within the state female literacy varies from a highest of 22 per cent in Ajmer district to only 3 7 per cent in Barmer district. Rural-urban differential in female literacy is more glaring. The urban female literacy is 34.2 per cent against only 5.4 per cent rural.

The degree of urbanisation is also fairly low The state ranks tenth with only 20.9 per cent urban population. Against this national average is 24.0 per cent and Maharashtra, ranking at top among states, has 35.0 per cent.

Within the state there are wide spatial differences in degree of urbanisation. The urban proportion varies from a highest of 42.5 per cent in Ajmer district to only 6.2 per cent in Banswara. More than one-fourth of total 197 tahsils are without any urban centre. In contrast, largest population size towns which make only one-tenth of total urban centres accommodate more than one-half (56 per cent) of the total urban population in the state.

Diversification of economy has also been of low level. Only three of each ten main workers in the state are engaged in non-agricultural activities. Females, whose employment in non-agricultural activities play a vital role in increasing household income and improving female's status in the family as well as in the society, are only few in the non-agricultural occupations. Hardly two of each ten female workers are engaged in non-farm activities. Among the districts, this ratio varies from about four in each ten in Bikaner to less than even one in Nagaur district.

Above statements give rise to following questions which need a systematic and comprehensive analysis of demographic development in the state : (i) why is the demographic development relatively low in Rajasthan ? How does it vary spatially ? What are the associate factors of spatial variations in it ? How different dimensions of the demographic development behave individually and collectively ? and whether the physical or socio-economic factors have greater say or it is the feudal legacy which still prevails on the pattern of demographic development in the state ?

Hypotheses

Besides, the paper intends to probe into the following hypotheses :

1. The present state was formed by a number of erstwhile princely states hence, compact spatial pattern of demographic development is not visualised. The nodes which were the capitals of erstwhile native states would display the high level of demographic development.
2. In contrast, the peripheral areas would display a low to very low level of demographic development, since they were badly neglected by the long exploitative feudal economy of pre-independence era.
3. The planned development initiated after Independence in 1947 would show its impact on the structure and pattern

of demographic development in the state. Its impact would, however, vary with physical structure and response to new development process shown by the different sub-regions of the state.

Methodology

Population characteristics reflect the level of development of a country or region. Fertility and mortality rates of population are often used as the indicators of development. However, for incomplete coverage and under registration their reliability is never beyond suspicion in the Indian context. Much difficulty is faced in case of states where under-registration problem is of greater seriousness. Rajasthan falls in category of states where registered births as compared to Sample Registration Survey (SRS) estimates are lower than 25 per cent. Other such states are Karnataka, Meghalaya and Arunachal Pradesh (Vital Statistics of India, 1982, pp. 8-9). Therefore, the available districtwise data on fertility and mortality rates for Rajasthan are not pressed into service in the present exercise. Instead, a variety of census data are put to service for grouping the districts according to their level in demographic development. Twelve demographic indicators, on which data are collected from Census of India, 1971 and 1981 for Rajasthan, relating to three components (urbanization, literacy and occupational structure) of demographic development have been selected for the analysis. Care has been taken that none of the three components, mentioned above, is over/under represented in preparing the composite index. For this, number of indicators for each component has been kept equal (i.e. four). The rationale for selection of indicators has already been discussed.

Table 1 lists the indicators/components of demographic development used for the analysis. Available districtwise data are processed in the manner outlined below :

i) Ranking method is used for removal of bias of scale in indicators of demographic development and to discern the development level. The ranks are summed up separately for individual districts and then divided by the total number of indicators, included in the respective component. The purpose is to discern the value of the score for each components, termed as 'index of urbanization', 'index of literacy', and 'index of occupational structure'. Any scheme which assigns different weightages to indicators was avoided to keep the methodology of the exercise comprehensible even to a layman. Moreover, it is effective and is commonly used in development studies. Though, like other techniques, it has also some weak points.

ii) In the next, the districts are ranked in terms of the scores arrived at in individual components, then to divide the summed ranks by three, corresponding to the number of component indices included. This is done to discern the aggregate of demographic development.

iii) For the cartographic representation the range between top and bottom index values is calculated and divided by four to find out interval for the four-fold categorisation.

iv) For measuring regional disparities in respect of each indicators, an index of disparity (D.I.) has been calculated by the formulae $= DI = \frac{d_t - d_b}{d_m}$ where d_t stands for the value in the district at the top rank

Table 2

Rajasthan : A Comparative Picture of Regional Disparities in Demographic Development, 1971-81

Indicators	Disparity Index* 1971	1981
Urban population as per cent of total population	2.65	2.15
Population in 20,000+ towns as per cent of total population	7.44	3.17
Towns per thousand square kilometres of area	3.46	3.12
Towns per lakh population in rural areas	11.14	1.68
Literates as per cent of total population	1.16	1.05
Literate males as per cent of total males	0.93	0.81
Literate females as per cent of total females	2.16	1.96
Rural literates as per cent of rural population	0.98	0.99
Urban literates as per cent of urban population	0.53	0.50
Scheduled caste literates as per cent of scheduled caste population	1.89	1.29
Scheduled tribe literates as per cent of scheduled tribe population	4.73	1.91
Non-Scheduled caste and tribe literates as per cent of non-scheduled caste and tribe population	1.03	1.07
Workers in non-agricultural activities as per cent of total workers	1.36	0.99
Workers in non-agricultural activities as per cent of workers in rural areas	1.40	1.17
Workers in household industry as per cent of total workers	1.33	1.33
Workers in 'other activities' as per cent of total workers	1.44	1.05

* Disparity index has been calculated by the formulae : $DI = \frac{d_t - d_b}{d_m}$,

where d_t stands for the value of the district at the top rank in an indicator, d_b for the value of the district at the bottom rank; and d_m for the value of the district at the median position.

in an indicator; d_b for the value in the district at the bottom rank; and d_m for the value in the district at the median position.

Discussion

As is evident in table 2 from the index of disparity values for different indicators, the differential in various demographic indicators were decelerating in the state over the period (1971-81). The decrease is more pronounced in case of urbanization. The index of differential in case of towns per lakh population in rural areas decreased to 1.68 in 1981 from 11.14 in 1971. Such an abrupt decline in disparity index value gives a clear indication of spatial diffusion of urbanisation process in the less urbanised state of Rajasthan. As many as 44 new towns which make more than one-fifth of total 201 towns in 1981 emerged during 1971-81 census decade. Besides, a decline of 4.27 points (from 7.44 in 1971 to 3.17 in 1981) in the disparity index of effective degree of urbanisation, measured by population in 20,000 plus towns as per cent of total urban population, reveal rapid urban growth during 1971-81 in the state. Tribal/hill districts in south and green revolution districts in northeastern Rajasthan were particularly marked for fast urban growth (Bala, 1986, p. 134). By 1981, all 27 districts had towns of 20,000+population. In contrast, at least three districts namely Dungarpur, Jalor and Jaisalmer had no such towns in 1971. The differential in degree of urbanisation also decelerated as the index for 1981 was 2.15 against 2.65 for 1971.

Similarly, regional differential in occupational structure registered a decline. The decrease was more pronounced in 'other activities' and the least in rural non-agricultural workers. Relatively large decline in 'other activities' indicates success of those efforts of the government which try to provide various administrative and social infrastructural facilities, in the districts, on uniform basis.

However, the trend in differential was mixed in the component of literacy. Regional disparities in total literacy, scheduled caste and scheduled tribe literacy, male literacy, female literacy and urban literacy registered a decline. It was more pronounced in scheduled tribe literacy followed by that in female literacy. This indicates the success of government programmes and policies aimed at propping up of the female and scheduled tribe literacy in lagging areas. In contrast, an increase noted in differential index for rural literacy and non-scheduled caste literacy (from 0.98 and 1.03 in 1971 to 0.99 and 1.07 in 1981, respectively) though was marginal yet a matter of concern for policy makers in state government. The conflicting trends in literacy indicate that literacy drive oriented to target groups, on one hand, and the general literacy, on the other, were operated in incoordinated manner.

Components of Demographic Development

For a comprehensive understanding of the spatial pattern of demographic development an analysis of its different components is essential.

A crescent shaped belt of high urbanisation was lying in north-central Rajasthan. It comprised of Ajmer, Jaipur, Churu, Sikar, Jhunjhunun and Bikaner districts. This apart, Kota, in southeastern Rajasthan also falls in this category. Kota has witnessed accelerated urban-industrial growth due to its location on Delhi-Bombay

rail route, cheap labour supply from adjacent tribal belt and nearby hydro-electric power available from Chambal valley power projects.

A variety of factors such as British influence in case of Ajmer district; proximity to national capital (Delhi) and presence of state headquarters at Jaipur city in case of Jaipur district ; contribution made by famous *Marwari* business community plus post-independence developments in case of Jhunjhunun, Sikar and Churu districts ; and agricultural development and stationing of troops along the Pakistani border in Bikaner district were responsible for high level of urbanisation.

Besides, historical factors also explain high urbanisation in case of some districts. In the pre-Independence era, the capital of the princely states were 'parasitic' cities which were developed at the cost of vast peripheral areas (Khan, 1979, p. 38). Jaipur, Kota and Bikaner which remained the capital headquarters of three the most power ful princelings of pre-independence Rajasthan are the outcome of the same process. Post-independence developments also reinforced further the distortions already existing. The result of all this was the multi-nodal nature of urbanisation in present state of Rajasthan (Bala, 1984, p 19). Thus, high urbanisation in the state was typified by the islandic character.

Spatially, urbanisation level was low in western desert and southern hill regions because of their hostile topography, peripheral location, poor resource base, poor accessibility and long neglect in development matters. Nevertheless, recent development associated with expansion of administrative and mining activities, particularly in southern hill region was responsible for fast urban growth during 1971-81, hinting at better urbanisation prospects in the future. The areas of moderate urbanisation are between the areas of low and high urbanization in central and eastern Rajastan. Presence of moderately low urbanisation in Nagaur district in between the areas of high to moderately high urbanisation was rather intriquing.

Above discussed pattern of urbanisation level, with some exceptions, conformed to that of literacy in the state (Fig. 1 and 2). Statistically also, both had high positive correlation ($r=0.85$). This finding is in conformity to that arrived at national level (NIUA, 1988, p. 8). In turn, pattern of literacy conformed to that of occupational structure (Figs. 2 and 3). Both were positively highly correlated ($r=0.52$). However, the association between occupational structure and urbanisation was weak positive ($r=0.36$). For example, Churu district had high urbanisation level, against low level of occupational diversification. This indicates that much of the urbanisation in the state was not accompanied by industrialisation which transforms the occupational structure of workforce (Mehta, 1978, p. 23). It seems that a large number of urban centres were overgrown villages, rendering social services to local population in their hinterlands.

Five districts, namely Ajmer, Jaipur, Kota, Jhunjhunun and Sikar fall in high category in all the three components of demographic development. The reverse was true of the majority districts in western desert and southern hill/tribal areas. Ajmer, Jaipur and Kota held three top positions

both in urbanisation and literacy. In female and scheduled caste literacy also Ajmer was at top rank. Commendable work done by Arya Samaj and Christian missionaries in the field of education in the district was largely responsible for general spread of literacy here. Whereas Jaipur and Kota are two well known urban-industrial and administrative centres in Rajasthan. This attracts the potential job seekers to migrate to these centres.

Shekhawati region, comprising Jhunjhunun, Sikar and Churu districts, largely benefitted from the liberal investments made by the famous *Marwari* trading community, hailing from the region in establishment and running of educational institutions at places of their ancestral home left to achieve distinction in trade and industry at national level. In addition, the interests taken by the retired military personnel, who make here a substantial part of local rural population, in the development of educational institutions narrowed the rural-urban differential in literacy here to the lowest level in the whole state. Recent agricultural prosperity due to Rajasthan Canal irrigation was responsible for higher thrust on education and literacy in Ganganagar district in north Rajasthan.

Low literacy level in western desert and southern hill/tribal districts was associated with their hostile topography, poor economy, low accessibility and lack of awareness. In widely distributed settlements to make provision for educational and other social facilities by the government was not only economically inviable but also difficult at times due to non-availability of threshold population. The level of occupational diversification too was very low here.

Moderate literacy and occupational diversification were observed into two contrasting type of areas : (i) where administrative, mining and industrial activities expanded in post-Independence period; and thus attracted a sizeale number of inmigrants Jodhpur, Udaipur, Bikaner, Chittaurgarh, Banswara and Dungarpur districts come in this category; and (ii) where highly pressurised agricultural land, divided into small and marginal landholdings, leave little scope for labour absorption in agriculture. A way is found in to educate the male children for jobs in low paid tertiary sector in nearby urban centres. Bharatpur, Alwar, Dholpur, Sawai Madhopur and Tonk districts are well noted for such a situation. Of the two type of areas included in moderate category, former represent the case of development potentialities while the latter of economic distress.

Now in the following the structure of demographic development is analysed and compared with the development level.

Structure of Demographic Development

The demographic development showed a meaningful pattern not only in spatial spread but also in its structure as manifested by grouping of districts by their level and structure (Table 3). Of the total 27 districts in the state, six had homogeneous demographic development structure, being within the same quartile-position in each of the three dimensions; 13 had relatively homogeneous, being within one quartile in two dimensions with deviation of one quartile in one dimension; one had relatively heterogeneous, being within one quartile in two dimensions with deviation of two quartiles in one dimension; and the remain-

Table 3

Rajasthan : Grouping of districts by their level and structure of demographic development, 1981

Level of demographic development	Structure of demographic development, 1981				Total
	Homogeneous	Relatively homogeneous	Relatively Heterogeneous	Heterogeneous	
First Quartile (High)	Jaipur, Ajmer, Kota, Jhunjhunun	Sikar, Bikaner	—	Pali	7
Second Quartile (Moderately high)	Jodhpur	Tonk, Bundi	—	Sirohi, Bharatpur, Ganganagar, Alwar	7
Third Quartile (Moderately low)	—	Udaipur, Sawai Madhopur, Nagaur, Chittaurgarh, Bhilwara	Jaisalmer	Churu, Jhalawar	8
Fourth Quartile (Low)	Barmer	Dholpur, Dungarpur, Banswara, Jalor	—	—	5
Total	6	13	1	7	27

ing 7 had heterogeneous, being in separate quartile position in each dimension. Thus, the homogeneity was the marked feature of majority of the districts in the state.

Spatially too, the pattern of convergence and divergence of different components of demographic development was quite revealing. As in table 3, seven of eight districts falling in relatively heterogeneous to heterogeneous categories of demographic structure were at moderate level of demographic development. It reveals that heterogeneity was the characteristic feature of moderate level of demographic development in the state. A majority of such districts was ahead in literacy, moderate in occupational diversification and low in urbanisation level. Spatially, they were distributed in different parts of the state.

Complete homogeneity in the level and structure was observed in the districts of Jaipur, Ajmer, Kota, Jhunjhunun, Jodhpur and Bikaner. Homogeneity in Jaipur, Ajmer, Kota and Jhunjhunun was at high level; in Bikaner at low; and in Jodhpur at moderate level. The former three districts were known urban-industrial districts and the fourth one benefited from the liberal investment in education and medical facilities by famous *Marawari* business community coupled with the contribution made by military retired personnels in spread of literacy and investment made by Central government through centrally sponsored schemes under Desert Development Programme and by establishment of Copper Project at Khetri.

All this reveals the structure of demographic development in the state was

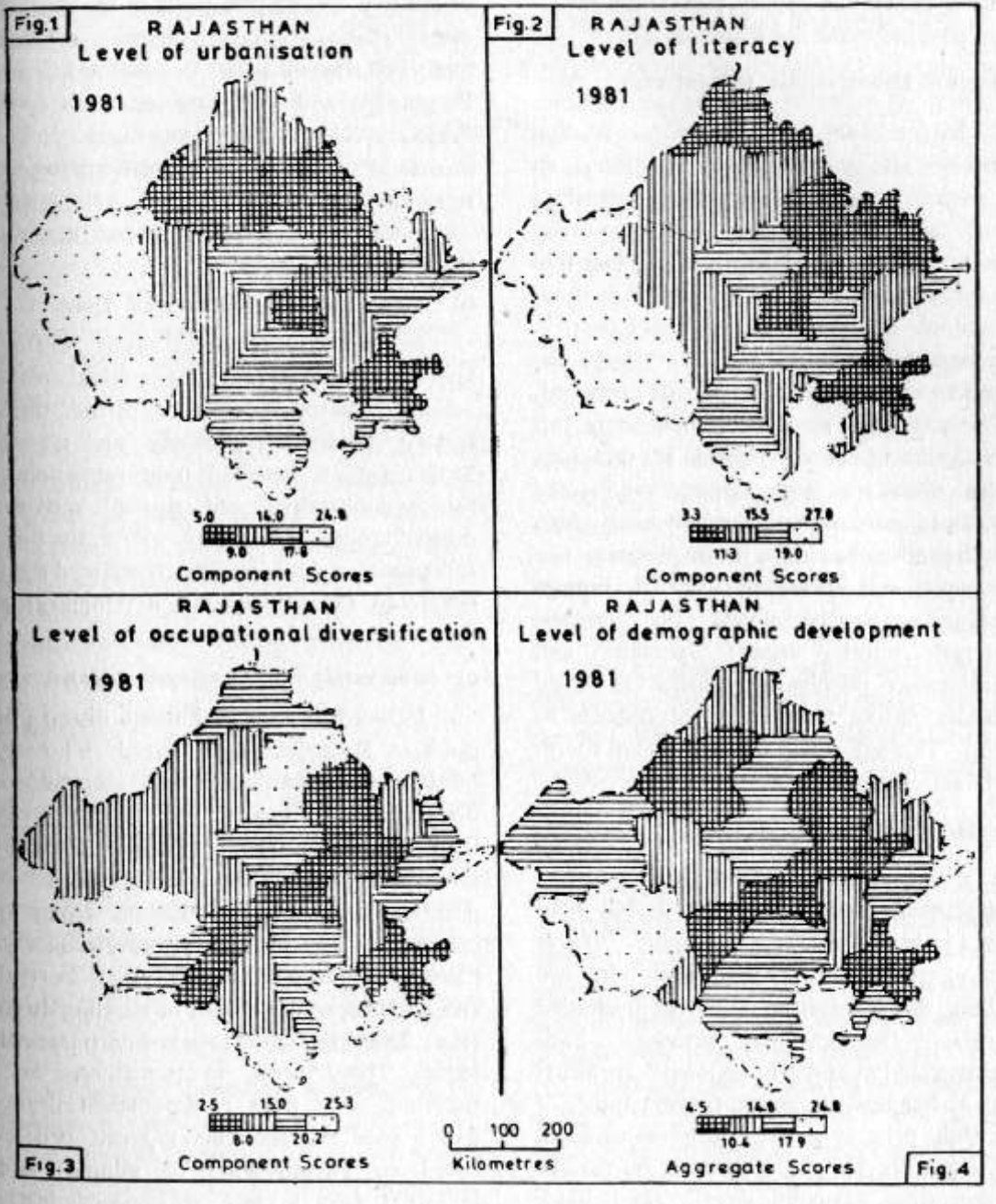
Fig.1
RAJASTHAN
Level of urbanisation
1981
5.0 14.0 24.8
9.0 17.8
Component Scores
Fig.2
RAJASTHAN
Level of literacy
1981
3.3 15.5 27.8
11.3 19.0
Component Scores
RAJASTHAN
Level of occupational diversification
1981
2.5 15.0 25.3
8.0 20.2
Component Scores
Fig.3
0 100 200
Kilometres
RAJASTHAN
Level of demographic development
1981
4.5 14.8 24.8
10.4 17.9
Aggregate Scores
Fig.4

influenced by a variety of factors including physiographic diversity, pre-Independence feudal economy and polity, private investment and post-Independence developments.

Levels of Demographic Development

By combining the indices of urbanisation literacy and occupational structure, an aggregate picture of demographic development has been discerned (Fig. 4). For obtaining its spatial picture, a four-fold grouping of districts (using quartile method) was done on the basis of aggregate scores in demographic development. Accordingly, the districts are categorised as development, moderately high developed, moderately low developed and underdeveloped. In this way, seven districts in top category are deemed developed another seven as moderately high developed, another eight as moderately low developed and remaining five, in bottom category as underdeveloped. For identical aggregate score values Jaisalmer and Chittaurgarh districts are placed in third category, raising the number of districts to eight. This left only five districts in fourth and final category.

a) **Developed Areas**

Seven districts : Jaipur, Kota, Ajmer, Jhunjhunun, Sikar, Bikaner and Pali were placed in high development category. Jaipur Ajmer, Kota, Bikaner and Pali were the known urban-industrial and administrative centres. Developmental activities have agglomerated in and around them. Incidentally, all happened to be the former capitals of erstwhile princely states. Post-Independence developments also, for existence of various infrastructure, favoured them. Jhunjhunun and Sikar districts benefited from the liberal private investment in educational, medical and other social infrastructure made by *Marwari* business community, contributions of military retired personnels in the development of education, various centrally sponsored schemes under Desert Development Programme and establishment of Copper Project at Khetri (Jhunjhunun district). The process of socio-economic transformation has peneterated deep here in the countryside. Rural-urban differential in literacy here was the lowest in the state.

b) **Moderately High Developed Areas**

In Ganganagar and Alwar districts included in this category, agricultural colonization in post-Independence period transformed rapidly the economy and society. Sirohi district benefited from expansion in the administrative and tourist activities centred around Mount Abu. Thus, the post-Independence developments contributed significantly to the demographic development in the areas included in this category.

c) **Moderately Low Developed Areas**

Included in this, hill-tribal districts of southern Rajasthan were ahead in literacy but lagged in urbanisation and occupational diversification, Pressure of population on land was high. Outmigration in search of jobs outside the region was considered a possible way out. It will not be wrong to call this an area of money order economy. Patchy development taking place in and around Udaipur was devoid of trickling down effect and high cost in eco-environmental terms. Tribal areas, in particular, were suffering badly from environmental degradation since the recent development process based on intensification of mining and industrial activities such as cement industry was inharmonous to local environment and ecology.

d) Underdeveloped Areas

In five districts namely Barmer, Dholpur, Dungarpur, Banswara and Jalor level of demographic development was low. All of them have peripheral location and suffer from physical disabilities. Barmer, bordering to Pakistan was a desert district. Dholpur, bordering Uttar Pradesh, is a district where soils were extensively ravineous. Dungarpur, Banswara and Jalor, in southern Rajasthan, are hill-tribal districts. Their peripheral location, physiographic disabilities and long neglect in developmental matters were chiefly responsible for their socio-economic underdevelopment.

In sum, the levels of demographic development in Rajasthan are influenced by a variety of factors including the adverse role played by physiographic factors such as hill and desert topography, impact of feudalism, private investment in social infrastructure and post-Independence developments.

Conclusion

The regional disparities in most of the indices of demographic development are decelerating in the state. This is a healthy trend, nevertheless, needs an elaborate analysis of longitudinal data before making an objective assessment of the role played by the post-Independence planned developments in narrowing down the regional disparities in demographic development.

Of different dimensions of demographic development urbanisation and literacy find strong positive association with each other. However, the association between urbanisation and occupational diversification is weak positive. This indicates that much of the urbanisation in the state is not accompanied by industrialisation. In other words one can state the high degree of urbanisation is not necessarily the basis of development.

Peripheral areas throughout the state are the areas of acute distress in terms of demographic development. It indicates that it was not only the erstwhile feudal rule but the post-Independence democratic process also ignored them in developmental matters. From policy angle, such areas require the highest attention of the government to improve the level of demographic development. Southern tribal belt of Rajasthan, being an area of economic distress requires high priority attention to the diversification of its economy. On the other hand, western desert being the area of dispersed settlement need greater attention to socio-economic integration of rural-urban counterparts to channelise properly the urbanisation process in the region.

Against this, areas where infrastructure was already in existence display high level of demographic development. Included in such a category are the seats of former feudal powers such as Jaipur, Kota, Bikaner and the areas of British influences such as Ajmer.

Shekhawati region comprising Jhunjhunun, Sikar and Churu districts demonstrate an outstanding example of how liberal private investment in social infrastructure made by famous *Marawari* trading community of local origin transformed the social well-being in the region. Supported by efforts of military retired personnels demographic development process has penetrated so deep in the countryside that the rural-urban differential in various dimensions of demographic development, particularly in literacy, is

the lowest here in the whole state. Defying the curse of their peripheral location new agriculturally colonised areas in Ganganagar, Bikaner, and Alwar districts have come up fast in development.

A grouping of districts by level and structure of demographic development reveals that homogeneity is the marked feature of majority districts. However, for moderate level heterogeneity is found a noted characteristic. In contrast, almost complete homogeneity is noted for high level. In this light one can assume that it is the moderate level in development process where disproportionate development of different dimensions of demographic development come into existence. Therefore, the planners and policy makers should pay higher attention to areas at this level of development, so as to strike a harmony in different dimensions of demographic development.

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GROWTH OF INDIA'S SCHEDULED CASTE POPULATION, 1971-81 : A SPATIAL ANALYSIS

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The scheduled caste population of India increased by 32.4 per cent during 1971-81 as against 23.4 per cent increase in the rest of the society. The continuance of their birth rate at a high level and a sharply declining rate of mortality account for this spurt in growth rate.

With 76.9 per cent increase in their population in urban areas and 26.4 per cent increase in rural areas, the scheduled castes experienced an unusually larger rural-urban differential in growth than the non-scheduled caste sections of the Indian populace. Almost three-fifths of their growth in urban areas is attributable to rural-urban migration. Their fast increasing population, shrinking avenues of employment, and exploitation by feudal landlords have provided strong push factors for the scheduled caste people in the villages, while prospects of more remunerative employment and relatively less discriminatory environment in the towns are the emerging pull factors.

There are wide regional disparities in their rates of population growth. Areas with relatively high growth rates are associated with (i) accelerated process of urbanisation and industrialisation, (ii) expansion in mining activity, and (iii) intensification and commercialisation of agricultural development based on irrigation. By contrast, areas experiencing low rates of growth are associated with (i) continuing high mortality rate, and (ii) net out-migration arising from scarcity of resources, acute poverty and subjection to deprivations and denials under conditions of feudal landlordism.

Introduction

Staggering population increase has been a significant feature of the Indian experience during its post-Independence period. A notable dimension of this increase, particularly during 1971-81, however, was the substantially varying rates of growth of different sections of its society. The scheduled caste population which constitutes one of the major segments of the Indian populace (15.7 per cent), experienced a growth rate of 32.4 per cent as against 23.4 per cent in the case of the non-scheduled caste sections put together during 1971-81. During 1961-71, on the other hand, growth rate of the scheduled caste population (24.1 per cent) was marginally lower than that of the non-scheduled caste persons (24.9 per cent) (Table 1). The sharp rise from 24.1 per cent to 32.4 per cent in the growth rate of the scheduled caste population in a short span of ten years has been an alarming development, fraught with serious demographic and socio-economic implications. Although precise data on birth rates, death rates and migration separately for the scheduled caste population are not available, this substantial

rise in their rate of growth seems to be the outcome of their birth rate continuing at a high level, presumably well above 40 per thousand, and their death rate declining sharply during the decade. The continuance of their birth rate at a persistently high level indicates lack of diffusion of the family planning programme among them, while several other sections of the society have registered gradual but sure decline in their fertility rates (Wyon and Gordon, 1971, pp. 139-140). But the impact of developing medical and health care programmes on mortality rates is apparent among all groups of people, though in varying degrees. Consequently, the disparity in population growth rates between the scheduled caste and non-scheduled caste sections has widened. If the recent trend of their birth rates staying at a high level and death rates declining consistently continues, the scheduled castes are likely to experience a still more explosive rate of increase in the coming years, further improving their proportion to the country's total population. This development is only expected since it is a common truism that socially and economically backward groups generally suffer from a time lag in their movement through different phases of the demographic transition as compared to those who are relatively better off in socio-economic terms.

In addition to the inter-sectional variations in population growth, the villages and towns, as also different areas of the country, presented contrasting trends in the change of numbers during the decade.

Table 1

INDIA : Percentage Growth of Population : 1961-81

Period	Scheduled Caste Population			Non-Scheduled Caste Population			General Population		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
1961-71	24.1	22.4	38.9	24.9	21.9	38.2	24.8	21.8	37.9
1971-81	32.4	26.4	76.9	23.4	18.0	43.3	24.8	19.3	46.3

Source : Computed from :

(i) Census of India (1961) : *Final Population Totals*, Paper No. 1 of 1962, The Manager of Publications, G.O.I., Delhi.

(ii) Census of India (1971) : *Union Primary Census Abstract*, Series I, India, Part II-A (ii), The Controller of Publications, G.O.I., Delhi.

(iii) Census of India (1981) : *Primary Census Abstract - General Population*, Series I, India, Part II-B(i), The Controller of Publications, G.O.I., Delhi.

(iv) Census of India (1981) : *Primary Census Abstract - Scheduled Castes*, Series I, India, Part II-B (ii), The Controller of Publications, G.O.I., Delhi.

Rural-Urban Differential

The scheduled castes have been experiencing an unusually wide rural-urban differential in population growth, particularly during recent years. During 1971-81, while their rural population increased by 26.4 per cent, the corresponding rate for the urban areas was as high as 76.9 per cent. Evidently almost three-fifths of the increase in their population in urban areas during the decade was attributable to rural-urban migration. It might also be partly due to some element of misreporting on the part of backward classes to register themselves as scheduled castes in urban areas with a view to getting some of the benefits to which the latter are entitled constitutionally. It may further be mentioned that the rural-urban differential in their population growth was much higher than that in the non-scheduled caste population (Table 1). This resulted largely from a relatively strong current of rural-urban migration in their case as compared to what might be said about the non-scheduled caste sections of the society. A relatively large influx of people belonging to socially and economically backward groups into the urban areas has given a new slant to the processes of urbanisation, as also to the urban environment.

Such an explosive growth of scheduled caste population in the urban areas reveals the presence of push factors in the villages from where they have been moving out, and pull factors in the towns and cities to which they come. A wide rural-urban disparity in their growth rates was also experienced during 1961-71 in the context of certain push factors in the villages and attractions in towns and cities (Chandna,1989, pp. 24-25). In several rural areas of the country, the farm economy has been showing its incapacity to absorb their increasing manpower in its various activities. Only in areas where 'green revolution' took place the demand for agricultural labour increased. The traditional cottage industries with which the scheduled castes have been associated for centuries in the villages have been declining in recent decades in the face of competition from factory manufactured articles both in terms of price and quality (Basant, 1987, p. 1299). Also, wages in the villages are much lower than those in towns and cities. For the few scheduled caste persons who are literate/educated and skilled, the potentialities of suitable employment are extremely limited in the villages. As against these push factors of the rural areas, there are some attractions in the urban areas. The textile and leather industry centres in cities offer employment to people who have been engaged in weaving and leather work in the villages (Usha, 1985, p. 167). Other industrial activities which are not too specialised or do not require much skilled labour also offer opportunities of work to these people. Further, increasing construction and road building activity in recent decades has opened up new vistas of employment to unskilled workers belonging to these castes (Gill, 1984, p. 962). In recent years transport activities, like plying of rickshaws, carts, etc., in towns and cities have been attracting a sizeable number of people from among the underprivileged classes. In addition, the special concessions and reservations provided to the scheduled castes in various state sectors of employment by the Constitution of free India have been instrumental in pulling them out of their traditional vocations or lowly activities in villages and bringing them into better

Table 2

INDIA : Growth of General and Scheduled Caste Population : 1971-81

State/Union Territory	Growth of Scheduled Caste Population (per cent)			Growth of General Population (per cent)		
	Total	Rural	Urban	Total	Rural	Urban
INDIA*≠	32.4	26.4	76.9	24.8	19.3	46.3
States						
Sikkim	92.0	84.9	125.5	50.1	38.7	159.8
Tripura	60.9	59.2	91.8	31.9	31.0	38.9
Maharashtra	48.0	34.5	89.3	24.5	17.5	39.9
Karnataka	45.3	36.4	89.5	26.7	19.0	50.6
Kerala	43.8	39.9	80.3	19.2	15.6	37.6
Rajasthan	43.2	37.1	80.0	32.9	27.4	58.6
Meghalaya	41.2	76.3	14.8	32.0	26.5	63.9
Andhra Pradesh	37.8	32.6	77.2	23.0	16.9	48.6
Himachal Pradesh	36.9	35.8	59.2	23.7	22.8	34.7
West Bengal	36.1	29.8	106.0	23.1	20.3	31.7
Madhya Pradesh	34.9	26.6	92.6	25.2	19.2	56.0
Punjab	34.7	28.3	71.7	23.8	17.4	44.5
Gujarat	33.5	23.5	60.2	27.6	22.3	41.4
Jammu & Kashmir≠	30.4	25.8	81.5	29.6	25.7	46.8
Haryana	29.9	23.2	88.8	28.7	22.1	59.4
Bihar	27.5	24.8	67.3	24.0	20.6	54.7
Uttar Pradesh	26.4	22.4	74.9	25.4	19.7	60.6
Tamil Nadu	21.4	17.2	41.5	17.4	12.9	27.9
Orissa	16.7	12.8	75.0	20.1	15.7	68.5
Manipur	8.4	-6.3	41.3	32.4	12.2	165.3
Nagaland	N	N	N	50.0	40.7	133.9
Union Territories						
Arunachal Pradesh	761.0	479.1	2447.0	35.1	31.1	139.6
Chandigarh	118.8	29.2	1138.6	75.5	18.3	81.5
Delhi	76.4	-0.9	91.7	52.9	8.0	58.1
Dadra & Nagar Haveli	53.2	36.4	+	39.7	30.4	+
Goa, Daman & Diu	41.8	30.2	64.8	26.6	16.4	55.1
Mizoram	64.6	25.9	660.0	48.5	26.2	222.6
Pondicherry	32.5	8.5	122.8	28.1	5.4	59.3
Andaman & Nicobar Islands	N	N	N	63.9	56.4	89.3
Lakshadweep	N	N	N	26.5	32.0	+

* Excludes Assam where census could not be held owing to disturbed conditions prevailing there at the time of 1981 census.

≠ Excludes the population of areas under unlawful occupation of Pakistan and China where census could not be taken.

N No castes were scheduled by the President of India for Nagaland, Andaman and Nicobar Islands and Lakshadweep.

\+ No urban population in 1971.

Source : Computed from :—

(i) Census of India (1971) : *Scheduled Castes and Scheduled Tribes*, Series I, Paper 1 of 1975, The Manager of Publications, G.O.I., Delhi.

(ii) Census of India (1971) : *Union Primary Census Abstract*, Series I, India, Part-II-A(ii), The Controller of Publications, G.O.I., Delhi.

(iii) Census of India (1981) : *Primary Census Abstract General - Population*, Series I, India, Part-II B(i). The Controller of Publications, G.O.I., Delhi.

(iv) Census of India (1981) : *Primary Census Abstract - Scheduled Castes*, Series I, India, Part II-B(ii), The Controller of Publications, G.O.I., Delhi.

placements particularly in urban areas. Thus, the push factors of villages and pull factors of towns, have worked in unison to stimulate a substantial rural-urban migration from among them during recent years. This type of migration has largely contributed to a widening disparity in their population growth in rural and urban areas. Table 2 reveals wide state to state variations in the disparity between rural and urban growth rates, the phenomenal increase in their population in urban areas notwithstanding.

Spatial Pattern

In the context of widely differing historical, cultural and socio-economic backgrounds, the processes of population growth varied considerably from area to area during the decade, giving rise to significant spatial disparities in demographic dynamism of the scheduled castes. In Sikkim, Tripura, Maharashtra, Karnataka, Rajasthan and Meghalaya states, for example, their numbers increased by over 40 per cent during 1971-81, while in the states of Bihar, Uttar Pradesh, Tamil Nadu and Orissa the rate ranged between 16 and 28 per cent. However, average figures for states, which are fairly large administrative units, cannot adequately bring out interzonal and local variations in the growth rate. It is necessary to have a closer look at the problem to understand it in any reasonable spatial perspective. Map 1 portrays the spatial patterns of population growth of the scheduled castes during 1971-81 on the basis of district-wise data. Following three types of areas are identifiable on this map :

A. Areas of high rates of growth (more than 40 per cent)

B. Areas of low rates of growth (less than 20 per cent)

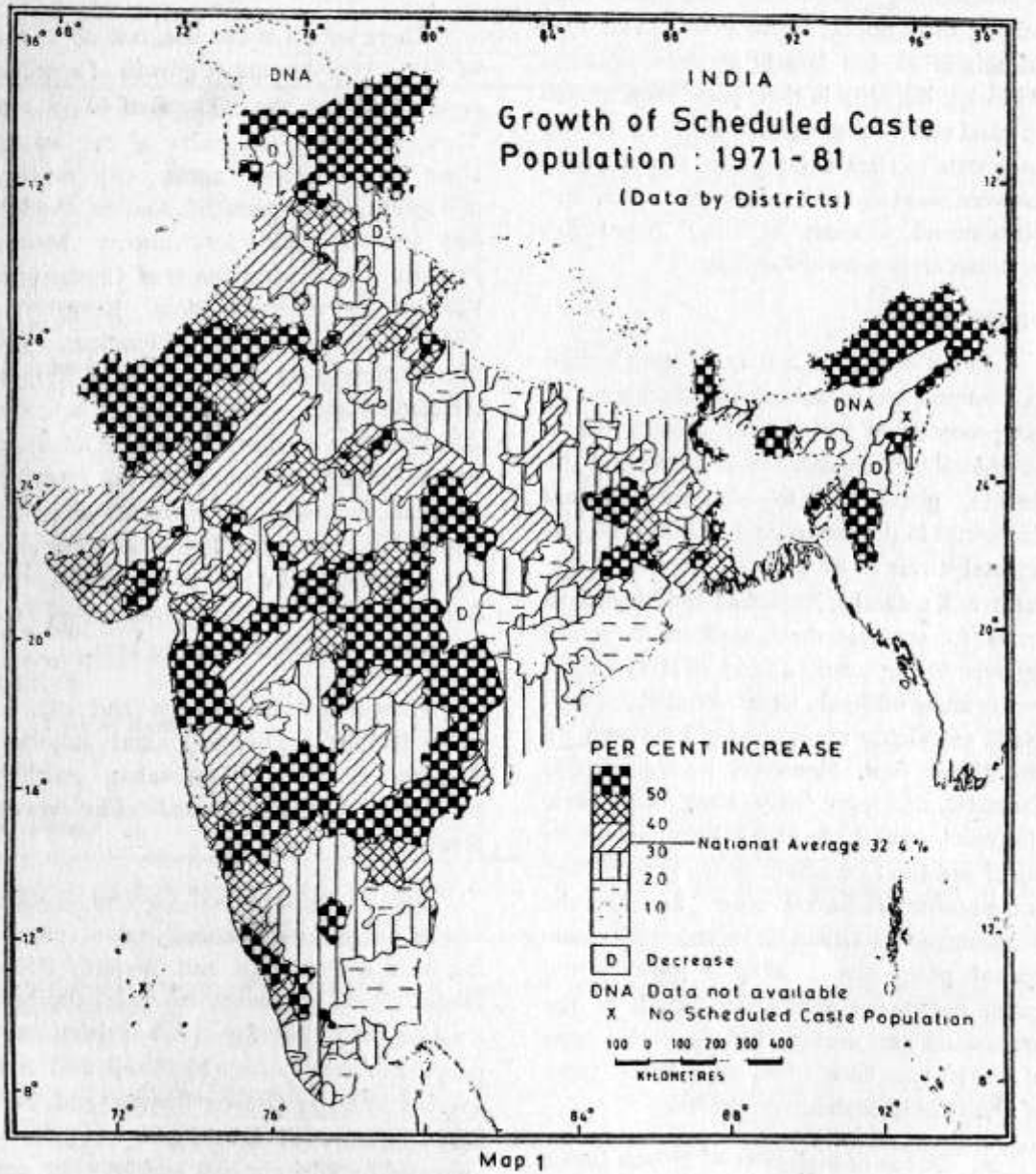
C. Areas of moderate rates of growth (20 to 40 per cent)

A. Areas of High Rates of Growth

There were 126 districts, out of a total of 391, where the rate of growth of scheduled caste population was in excess of 40 per cent. These covered : (i) parts of the western coast and adjacent areas, (ii) northern and southeastern parts of Andhra Pradesh, (iii) central and southeastern Madhya Pradesh, (iv) eastern parts of Chotanagpur Plateau, (v) northern West Bengal and Sikkim, (vi) western Rajasthan, (vii) northeastern hilly region, (viii) Kashmir Himalayas, and (ix) a number of scattered districts/union territories. Making allowance for the natural increase (national rate 32.4 per cent), over one-fifth of the actual growth of scheduled caste population in these areas was attributable to net in-migration. The factors with which this in-migration was associated varied from area to area.

Parts of the western coast and adjacent areas include : Bombay and adjoining districts; northern Karnataka; northern Kerala; and southern and southwestern Saurashtra.

Highly industrialised Greater Bombay and its adjoining urbanised tracts comprising Bombay-Pune area and Bombay-Thane-Nasik-Jalgaon-Hoshangabad zone have been a major attraction for the scheduled caste people in recent years (Mukherji and Sita, 1982, p. 79). In Greater Bombay and Pune districts, the scheduled caste population increased by 89.5 per cent and 78.9 per cent respectively during 1971-81. In the other zone, the districts of Thane, Nasik, Jalgaon and Hoshangabad experienced an increase


INDIA
Growth of Scheduled Caste Population : 1971 - 81
(Data by Districts)
DNA
DNA
PER CENT INCREASE
50
40
30
National Average 32 4 %
20
10
D Decrease
DNA Data not available
X No Scheduled Caste Population
100 0 100 200 300 400
KILOMETRES

Map 1

of 75.8 per cent to 131.7 per cent. In all the highly industrialised and urbanised districts connected with Greater Bombay, the urban scheduled caste population far more than doubled during the decade—Thane recorded 220.4 per cent Raigarh 140.7 per cent, Hoshangabad 160.8 per cent, Nasik 135.2 per cent, and Pune 112.7 per cent increase. These figures reveal a strong trend among the scheduled castes to reach cities/major urban areas for making a living. The textile industry is one of the main industrial activities of this region. Apart from many other industries and miscellaneous services, it provided a major potential source of employment for skilled, semi-skilled and unskilled persons belonging to the scheduled castes. Some of the scheduled castes with their traditional association with weaving of cloth on handlooms found ready absorption in textile industries (Gosal and Mukerji, 1972, p. 475). The alarmingly increasing proportion of slum dwellers in Bombay and other major industrial cities has been the product of such an influx of low income groups, particularly the scheduled castes. Apart from working as industrial labourers, they also found employment in transport, construction and domestic services

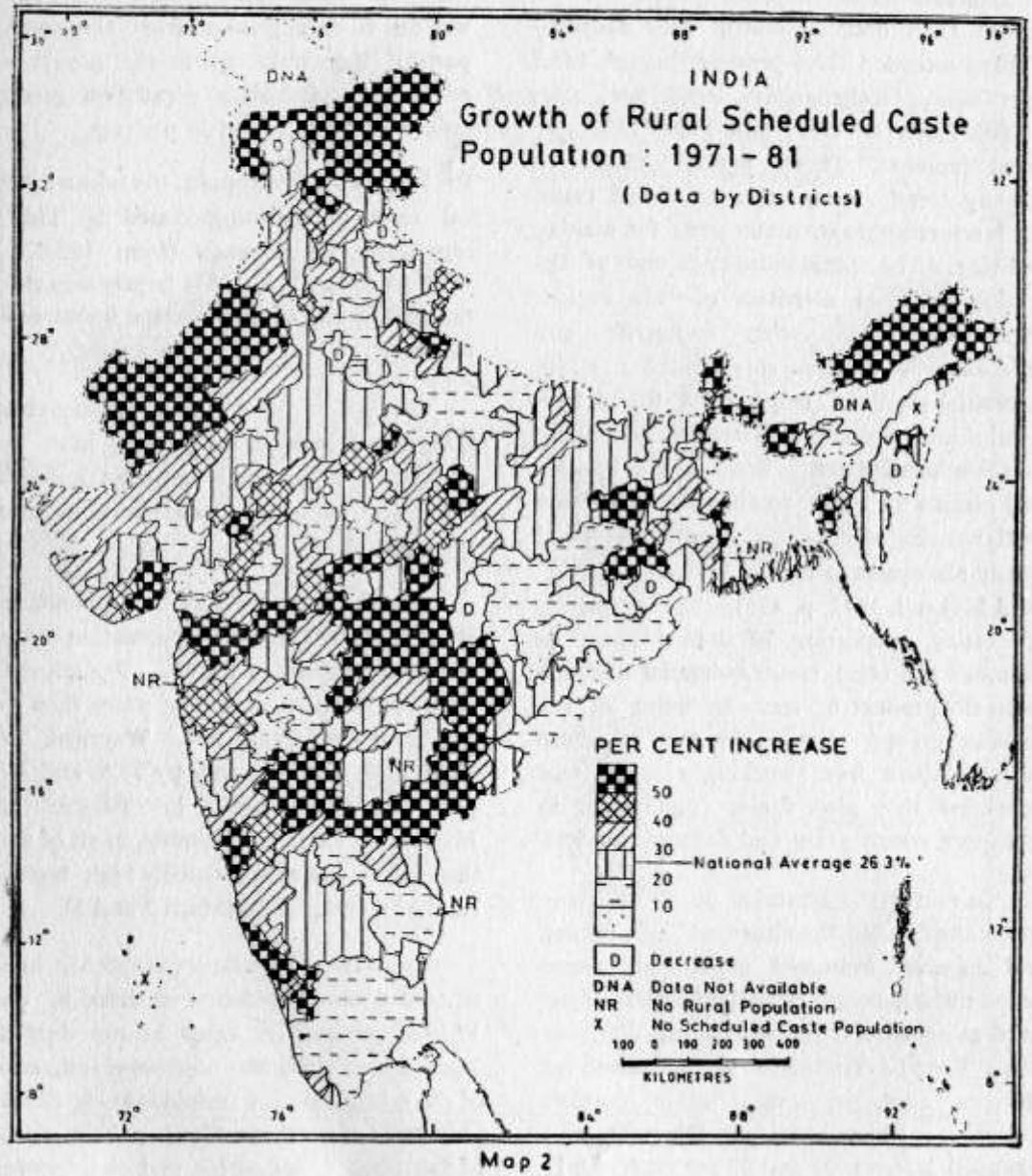
In northern Karnataka in which there was considerable development of mining and dispersed industrial activity in recent years, the scheduled caste population registered an impressive growth rate. While in Uttar Kannad district it was as much as 146 per cent, in several other districts (Gulbarga, Raichur, Bijapur, Dharwar, etc.) it ranged between 60 and 80 per cent. Only in Belgaum, Dakshin Kannad, Shimoga, and Bellary districts, it was between 40 and 45 per cent. Invariably, in all of them the scheduled caste population in urban areas grew at highly accelerated rates ranging between 80 per cent and 160 per cent (Map 3). A substantial part of this growth was due to in-migration from the southern parts of Karnataka where the growth rate of the scheduled caste population generally ranged between 20 and 30 per cent.

In Bangalore metropolis, the urban scheduled caste population increased by 110 per cent during the ten years (from 192,675 in 1971 to 404,999 in 1981) largely because of the pull factors of its growing industry and diverse services.

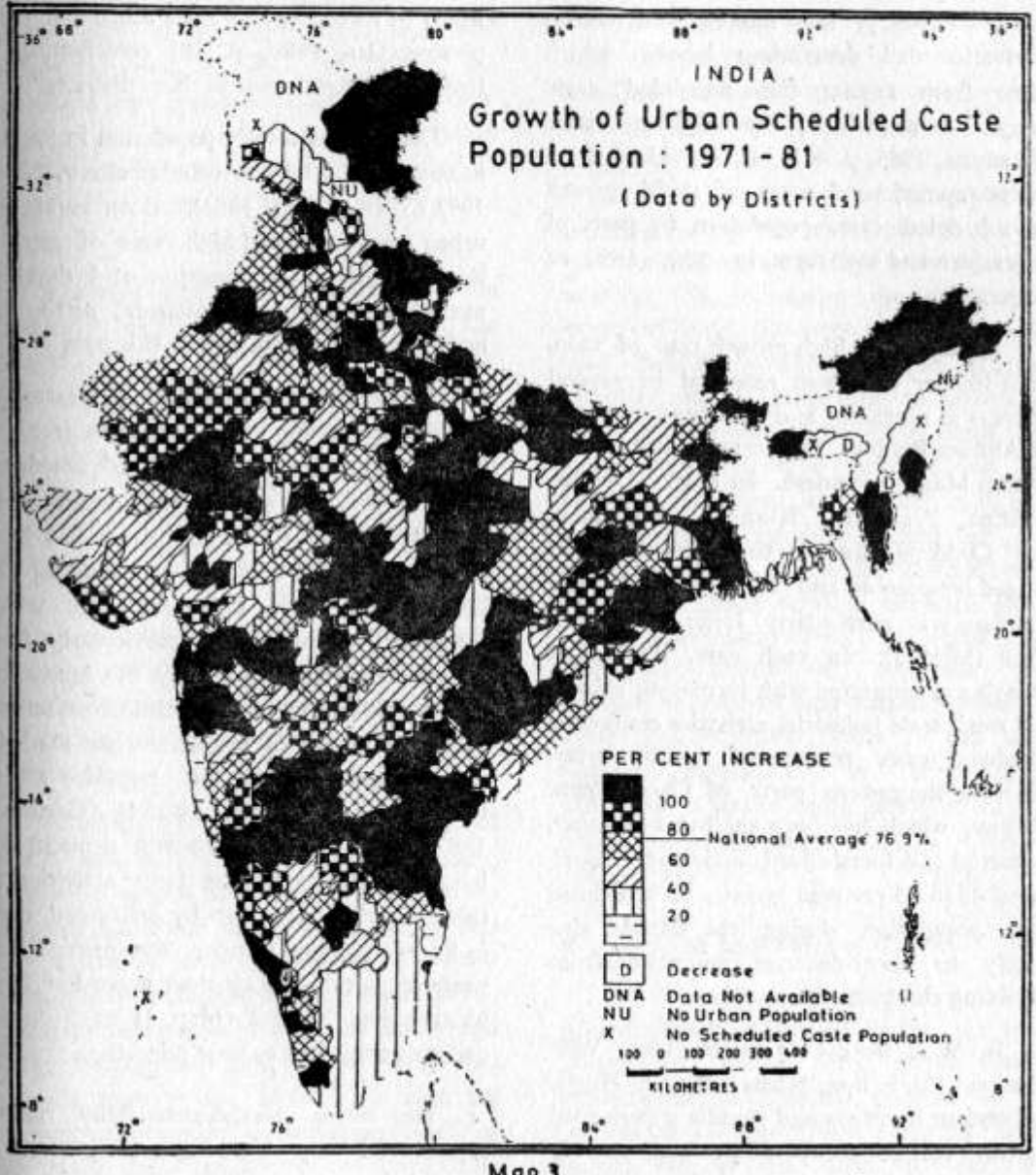
The above observations bring out clearly that the scheduled caste persons have been moving to large rapidly growing industrial/urban centres in all these areas in search of employment.

Another area experiencing phenomenal growth of scheduled caste population comprised northern parts of Kerala. The scheduled caste population grew by more than 140 per cent in Cannanore, Wayanad, and Kozhikode districts; and by 78.6 and 47.7 per cent respectively in Palghat and Malapuram districts. Notably, in all of them the growth was almost equally high both in rural and urban areas (Maps 2 and 3).

In southern Kerala, on the other hand, scheduled caste population increased by only 17 to 25 per cent in most of the districts. These figures indicate northward migration of the scheduled caste people into the developing areas of northern Kerala. The growth of forest-based industries and development of hill lands for agriculture, both of which require a lot of cheap, unskilled labour, account for this in-migration.


INDIA
Growth of Rural Scheduled Caste Population : 1971-81
(Data by Districts)
DNA
NR
D
X
PER CENT INCREASE
50
40
30
National Average 26.3%
20
10
Decrease
Data Not Available
No Rural Population
No Scheduled Caste Population
100 0 100 200 300 400
KILOMETRES

Map 2


INDIA
Growth of Urban Scheduled Caste Population : 1971-81
(Data by Districts)
DNA
NU
X
D
PER CENT INCREASE
100
80
National Average 76 9%
60
40
20
Decrease
Data Not Available
No Urban Population
No Scheduled Caste Population
100 0 100 200 300 400
KILOMETRES

Map 3

The scheduled caste population in southern and western Saurashtra increased by 41 to 57 per cent. The factors associated with this growth include expansion of cotton textile industry, salt mining and cotton cultivation—all demanding labour which came from among the scheduled caste people from within the Gujarat state (Chandna, 1989, p. 43). It is evident from the juxtaposition of areas of rapid growth of scheduled caste population in parts of Saurashtra and low rates in other areas of Gujarat.

An unusually high growth rate of more than 100 per cent was recorded in several districts in northern and southeastern parts of Andhra Pradesh and central and southeastern Madhya Pradesh. In Bastar, Guntur, Krishna, Prakasam, Kurnool, Khammam and Cuddapa districts the growth rates ranged between 46 and 132 per cent. The increase was particularly large in urban areas (Map 3). In each case, this rapid growth was connected with increasing mining and small scale industrial activities employing scheduled caste people of nearby areas. Likewise, the eastern parts of Chotanagpur Plateau, which has been the hub of mining, industrial and forest-based activities, experienced 45 to 75 per cent growth of scheduled caste population during the decade, due largely to short-distance migration from adjoining rural areas.

In West Bengal districts like West Dinajpur, Darjeeling, Nadia, Howra, Hugli, Twentyfour Parganas and Purulia experienced a growth rate of 40 to 65 per cent among the scheduled caste people during 1971-81. The increasing developmental activities in these areas drew in a large number of scheduled caste workers both to rural and urban areas, but more so to the latter. The border districts of West Bengal had been receiving large number of infiltrators from Bangladesh ever since its formation in 1971. Many of such migrants were scheduled caste persons (Das, 1980, p. 10) contributing to their high growth rate in these districts.

The scheduled caste population in Sikkim increased by 92.3 per cent (from 9,502 in 1971 to 18,281 in 1981). Both rural and urban areas registered high rates of growth. Road building, construction and developmental activities in agricultural sector has been the main pull factors in this state.

Western Rajasthan was another extensive area experiencing rapid growth (ranging between 40 and 80 per cent) of scheduled caste population during the decade. In several areas of this tract, there has been increasing mining activity, road building and construction work in recent years which stimulated in-migration, particularly from eastern Rajasthan. Similarly, the increasing commercialisation of agriculture associated with extension of irrigation has made its own contribution in this regard, as in Ganganagar and Bikaner districts (Gardiner, 1987, p. 252). The growing demand for labour for the expanding farm activities in these districts was met by scheduled caste in-migrants. No wonder, the eastern and western parts of Rajasthan recorded contrasting growth rates (Map 1) as a consequence of this east to west migration.

The entire northeastern hilly region experienced very high rates of growth of scheduled caste population. However, the absolute numbers involved were very small. In this overwhelmingly Christian tribal tract the scheduled caste people are largely recent

migrants, mostly male. This is corroborated by their abnormally low sex ratios. The development of roads, recruitment to paramilitary forces and other services were the main avenues of employment with which this in-migration was associated (Chandna, 1989, p. 98). In Tripura the scheduled caste population increased by over 60 per cent, partly because of infiltration from Bangladesh (Das, 1980, p. 6). Consequently, their number in the state swelled to over 3,00,000.

Similarly in the Kashmir Himalayas the extremely high rates of increase of the scheduled caste population, as in Baramula, Kupwara, Kargil and Ladakh, are misleading, because the actual numbers involved were very small indeed. Only in Rajauri district where the scheduled caste population increased from 14,682 in 1971 to 22,519 in 1981, the growth rate was meaningfully high (53.3 per cent) With the exception of Rajauri district, all other districts have an extremely low sex ratio, indicating a male selective in migration. Most of the scheduled caste males here are in armed forces or in other services.

In addition to the above areas, each of which had a fair amount of contiguity, there were several districts/union territories scattered all over the country where also the scheduled caste population increased substantially during the decade. For instance, in the union territories of Chandigarh and Delhi their numbers grew by 118.0 and 76.0 per cent, respectively. In both of them the accelerated process of urbanisation acted as the main pull factor. It attracted the scheduled caste as well as other people of low income groups, backward classes etc. for a variety of services and jobs. In Goa, however, the high growth rate was mainly attributable to the growing mining activity in the countryside and increasing demand for miscellaneous services in towns.

Thus, in-migration accounted for a large component of the high growth rate of the scheduled caste population in the areas discussed above. The in-migration was largely associated with : (1) increasing degree of urbanisation / industrialisation accompanied by the development of allied activities and services; (2) growing mining activity; (3) increasing diversification of irrigation-based farming; (4) expanding road building, construction and transport activities; and (5) recruitment to armed and paramilitary forces. Broadly speaking, while major industries, road building and construction activities, and armed and paramilitary forces attracted scheduled caste migrants from far and wide, mining, plantation and minor services attracted people mainly from nearby areas. In north India, the rapid growth of scheduled caste population involved long-distance migration, while in Peninsular India it was short-distance movement in corresponding situations. It was in continuation of a similar trend experienced during 1961-71 (Chandna, 1989, p. 44).

B. Areas of Low Rates of Growth

In 59 districts the rate of population growth of the scheduled castes was below 20 per cent. Out of these, eleven districts experienced an absolute decrease in their population while fifteen districts had a growth rate of less than 10 per cent. Keeping in view the high rates of natural increase among the scheduled castes, such low rates of actual growth indicate their

substantial out-migration from these districts. Areas of low rate of growth of scheduled caste population included : (i) Konkan coastal zone, (ii) southeastern Tamil Nadu, (iii) most of Orissa, (iv) northern parts of Bihar and northeastern Uttar Pradesh, (v) parts of Gujarat Plain and (vi) a number of districts dispersed all over the country.

The Konkan cost, particularly Ratnagiri district, has been traditionally an area of very low rate of population growth arising mainly from continuing massive out-migration to Bombay and other growing industrial cities in the region (Mukherji and Sita, 1982, p. 79). This has been true of both the scheduled caste and the non-scheduled caste sections of population. This poorly endowed coastal tract has been the scene of depopulation for decades. During 1971-81, the rate of increase of general population in Ratnagiri was as low as 5.9 per cent and that of the scheduled castes 4.9 per cent. Likewise, in Bid and Solapur districts, the scheduled caste population increased only by 5.7 per cent and 16.4 per cent respectively. In all these tracts, the rural areas in particular experienced extremely low rates of population growth (Map 2), ranging between 2.8 and 9.4 per cent. It indicated that even the natural increase was being neutralised by out-migration in these areas. The prevailing poverty among the scheduled castes and the scarcity of local resources were the real push factors impelling this mobility. The out-migrants from among the scheduled castes found employment in textile industry, construction work, transport, domestic services and a variety of other miscellaneous jobs in Greater Bombay, Pune and other growing urban industrial centres in the region.

Southeastern Tamil Nadu was also a major area of relatively low rate of growth of scheduled caste population - generally between 15 and 20 per cent. This was attributable to out-migration of scheduled caste people mainly from rural areas to not only other parts of the Peninsula but also to north Indian areas. Mostly these people found employment in road building activities, construction and domestic services.

Orissa and adjoining areas of Madhya Pradesh constitute another area where the scheduled caste population increased by less than 20 per cent. In Mayurbhanj, Ganjam, Bolangir and Kalahandi districts it was less than 10 per cent. Elsewhere, it ranged between 10 and 20 per cent. In this region as a whole, the scheduled caste people have been suffering from acute poverty, backwardness and a state of deprivation. The mortality rate in the general population of this region has been high. It was expected to be even higher among the scheduled castes. As a result, the rate of natural increase had to be low. In addition, there was out-migration from among the scheduled castes to areas of southern Bihar where mining, industries and forest-based activities offered possibilities of employment to them. The break-up of growth data separately for rural and urban areas in Orissa demonstrates that out-migration was very largely from the villages

In a few districts of northern Bihar and of northeastern Uttar Pradesh too, the scheduled caste population increased by less than 20 per cent These were the areas from which there had been considerable out-migration, particularly from among the rural scheduled caste people, to Delhi, Punjab and Haryana. While in towns and

cities they provided labour in industries, construction work, and transport (plying of rickshaws, carts, etc.), in the agriculturally prosperous rural areas of Punjab and Haryana they supplied farm labour, particularly for transplantation of rice and harvest of both *Rabi* (winter) *Kharif* (summer) crops (Sidhu and Grewal, 1984, p. 35). Not that there was no rural to urban movement within these two states. Locally also some of the scheduled caste people moved from the countryside to the regional urban centres. That is why, almost all the districts recorded a growth rate of over 40 per cent in their scheduled caste population in urban areas. The traditionally oppressive and exploitive conditions in which they have been living in the villages under the feudalistic system of land tenure provided them great push to move out for better wages and prospects

In parts of the Gujarat Plain, the Scheduled caste population increased by 11.0 to 19.0 per cent. The juxtaposition of these parts with some of the areas of high rates of growth of scheduled caste population indicates local migration of these people to nearby industrial and administrative cities where they provided labour in textile mills, cottage industries and service activities.

Lastly, there were a number of scattered districts where the growth of scheduled caste population was less than 10 per cent during the decade. In Almora District of Uttar Pradesh it was only 7.8 per cent. This was attributable primarily to large scale of migration. A large number of the out-migrants worked as domestic servants in large cities in northern India, while some went to the armed forces.

Thus, out-migration of varying degrees triggered off by the incapacity of the local areas to support the increasing population was responsible for wiping out even the natural increase in these areas. However, in some areas relatively low rates of natural increase resulting from high infant and general mortality also contributed to overall low rates of growth of scheduled caste population.

C. Areas of Moderate Rates of Growth

Areas experiencing moderate rates of population growth during the decade comprised as many as 206 districts. This category has a wide range of growth rates. The national average growth rate of the scheduled caste population (32 per cent), which practically represented their rate of natural increase during the decade, falls almost in the middle of this category. For a better understanding of the patterns of population growth of these castes, the category can be further divided into two sub-categories :

(a) areas (123 districts) where the growth rate was between 20 and 30 per cent i.e , below their natural growth rate ; and

(b) areas (83 districts) where the rate was between 30 and 40 per cent i.e., above their natural growth rate.

The first sub-category has characteristics which are closer to those of areas of low rate of growth, while the second sub-category has associations which have an overlap with those of high rate of growth.

(a) Among the areas where the growth rate was between 20 and 30 per cent are

included (i) western and northern parts of Tamil Nadu, southeastern Karnatka, and southern Kerala - all forming a fairly contiguous tract, (ii) northeastern and interior districts of Andhra Pradesh (iii) a large part of Madhya Pradesh, and (iv) large parts of the north Indian Plain and northwestern mountainous region. In all of them not only was the rate of natural increase below the nationl average, but also they had been experiencing a considerable amount of out-migration to outside areas in search of employment. Irrespective of the overall rates of population growth in all these areas, their urban places experienced relatively high rates of growth (above 40 per cent) (Map 3), while the rural areas had strikingly low rates of growth (Map 2). The metropolitan areas and large cities were generally the centres of major attraction (Table 3). It indicates large scale in-migration of scheduled caste people to the metropolitan cities. It is amply brought out by the all-pervasive rural-urban migration that the villages are no longer in a position to support the increasing scheduled caste population. They must move to developing towns and cities to find work for earning a livelihood both within and outside their regions.

Likewise, a large part of the north Indian Plain covering parts of northern Bihar, and eastern and central Uttar Pradesh also experienced 20 to 30 per cent growth of scheduled caste population. In this entire tract the rate of natural increase of scheduled caste population was much below the national average because of higher mortality. Among the states, Uttar Pradesh has by far the highest infant mortality rate. It was generally above 160 deaths per thousand live births during 1971-81. By 1981 it had come down to 159 (Registrar General, 1983, p 12). Also, acute poverty, and conditions of deprivation and exploitation among the scheduled castes in these areas of strong feudal background have been acting as push factors. As a result, their scheduled caste workers have been moving to Delhi, Chandigarh, Ludhiana and similar other cities for employment in construction, transport, industry and miscellaneous service activities, apart from migration to rural areas in Punjab to work as farm labourers. Within the north Indian Plain, as in Peninsular India, the scheduled caste people have been moving from rural to urban areas in a big way. Within Bihar, the scheduled caste population in rural areas increased by 24.8 per cent, while that in urban areas increased by 67.3 per cent. Similarly, in Uttar Pradesh it increased by 22.4 per cent in rural areas, and by 74.9 per cent in urban areas. No doubt, growing large cities, with expanding employment opportunities, were locally providing a new attraction to the poor scheduled caste people.

Garhwal Himalayas and parts of Himachal Pradesh constituted another area of below average rates of growth among the scheduled caste people. This too was attributable largely to out-migration from these areas to other parts of the country.

The areas in the second sub-category (30 to 40 per cent growth) experienced population growth which was in several cases in excess of the national rate of natural increase. Areas included in this sub-category comprise parts of West Bengal, western Uttar Pradesh, a large part of Punjab, Haryana, eastern Rajasthan, former Vindhya Pradesh area, northern Gujarat and parts of eastern

Table 3

INDIA : Growth of Scheduled Caste Population in Million Cities : 1971-81

Cities	Scheduled Caste Population		Growth Rate in per cent
	1971	1981	
Calcutta	293,480	705,743	140.4
Bombay	210,497	399,076	89.5
Delhi	530,699	1,005,954	89.5
Madras	379,818	609,071	60.3
Bangalore	169,901	371,882	118.8
Ahmedabad	194,170	293,725	51.2
Hyderabad	144,478	259,184	79.3
Pune	73,236	160,715	119.4
Kanpur	180,530	233,928	29.5
Nagpur	36,776	98,204	167.0
Jaipur	62,466	115,567	85.0
Lucknow	77,241	96,591	25.0

Source : Computed from :

(i) Census of India (1971) : *Union Primary Census Abstract*, Series I, India, Part II-A (ii), The Controller of Publications, G.O.I., Delhi.

(ii) Census of India (1981) : *Primary Census Abstract-Scheduled Castes*, Series I, India, Part II-B (ii), The Controller of Publications, G.O.I., Delhi.

Maharashtra. Taking into consideration the state-level estimates of population growth in these areas, it appeared that they experienced a small trickle of in-migration of scheduled caste people in response to employment opportunities arising from developments in agriculture, industry, mining and services.

The two sub-categories put together cover extensive areas both in northern and southern India. Generally, while the north Indian areas experienced long-distance (inter-regional) as well as short-run (intra-regional) migration, those in south India had more of short-distance migration. But the overall moderate and below average growth rates in all these areas notwithstanding, the scheduled caste population in their local urban areas experienced considerably high growth rates during 1971-81. The almost universal town-ward movement of the scheduled caste people is of great social, economic and political significance.

Conclusion

The decade 1971-81 was marked by unprecedented acceleration in the rate of

growth of scheduled caste population in India, by-passing other major sections of the society in this regard. During 1961-71, their growth rate closely corresponded to that of the general population. The 1971-81 acceleration was the outcome of the continuing high birth rates among the scheduled castes, much higher than those of the rest of the population, and sharply declining death rates which were only marginally higher than those of the remaining population. These demographic trends gave rise to a phenomenal rate of increase of 32.4 per cent in their case, as against 23.4 per cent in the remaining population during 1971-81*. As a consequence of this stepped-up growth, the proportion of scheduled caste population to total population increased from 14.6 per cent in 1971 to 15.7 per cent in 1981. If the above growth pattern continues, which is very likely, their proportion will improve still further, giving rise to new implications in demographic, social, economic and poiltcal terms.

The scheduled caste population witnessed contrasting trends of growth in rural and urban areas during 1971-81. While in villages their population increased by 26.3 per cent, the urban population experienced a phenomenal growth of 76.9 per cent. The rural-urban differential in their growth was much larger than that in case of non-scheduled caste population. This indicates that, relatively speaking, more scheduled caste persons were moving to urban areas. This fact has its own demographic, social and economic consequences. With more and more education spreading among them, the tempo of their movement to urban areas is likely to become still stronger, It is significant to note that even in areas of their overall moderate and below average growth rates the urban areas experienced phenomenal increase in their numbers as a result of local rural-urban migration. It reveals that the traditional concentration of scheduled caste population in rural areas has started breaking up because of the shrinking avenues of employment in farming (except in areas of 'green revolution' and of general intensification/diversification of agriculture), services and cottage industries in the villages, and increasing possibilities of earning livelihood in urban areas. The urban areas are socially less discriminatory for them than what has generally been seen in the villages. It is almost a nation-wide trend, which is of great significance.

Spatially there are wide variations in the rate of growth of scheduled caste population, occurring in response to the combined effect of demographic and socio-economic processes operating in the country.

Areas of high rates of growth of scheduled caste population (more than 40 per cent) are those where : (1) the processes of urbanisation/industrialisation have been strong, creating additional avenues of employment in industry, construction, transport and a variety of services, and this in turn inducing rural-urban migration from among the scheduled caste people; while migration to small and medium towns has largely been from local areas, that to large

* At the national level, the actual growth rate is practically synonymous with natural growth rate because of the extremely insignificant effect of net migration.

cities and metropolises has been from far and wide; (2) mining activity has grown, providing a major pull factor to the scheduled caste people living in adjoining rural areas; (3) agriculture has experienced intensification and commercialisation under increased irrigational facilities, stimulating in-migration of farm labour. Areas experiencing 'green revolution' have attracted farm labour even from far off areas.

By contrast, areas of low rates of increase (less than 20 per cent) of scheduled caste population are those : (1) where the rate of natural increase was relatively low because of persisting high mortality and (2) which exerienced net out-migration arising from acute poverty and conditions of deprivation so characteristic of areas of feudal landlordism and scarce resources.

The above spatial disparities apart, the overall spiralling rate of increase of scheduled caste population experienced during 1971-81 is sure to work against the efforts being made at national level toward their socio-economic amelioration. Measures of population control which are markedly urgent for the Indian society in general, have a special relevance for the scheduled caste people so as to avoid neutralisation of the progress in their social-economic development. All efforts need to be made to drive this realisation to them in their own as well as in the national interest.

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REGIONAL DISPARITIES IN DEMOGRAPHIC DEVELOPMENT IN INDIA

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The main objective of the present paper is to discern the changing pattern of regional disparities in demographic development in India. The analysis pertains to 1971-81 decade using district level data. Indicators have been selected from the demographic components of urbanisation, literacy and occupational dynamism.

The paper finds that two popular concepts forwarded in regards to development in India are deceptive. Firstly, there is no 'hungry belly' and secondly, there is no 'BIMARU' India. Rather, these two concepts are the by-products of *birmaru* (wrong) methodology. The study notes that in the measurement of regional disparities judicious selection of indicators and appropriate choice of aggregation unit are the two crucial factors. In Indian situation where development is not comprehensive increase in the number of indicators and/or selection of bigger units such as state/NSS region, for arriving at development level will give a distorted picture of ground realities.

The study reveals that there are only 'BIMARU' spots associated with innervating physio-ecological conditions and inhibting cultural-ecological conditions. Further, much propogated dichotomy of peripheral and central India could not be validated.

The findings suggest that in view of existing wide diversities at grass-root level, decentralised planning and development strategy in accordance to socio-cultural attributes of the area is essentially required for accelerating process of socio-economic development in underdeveloped parts of the country as well as to reduce the regional disparities in development.

Introduction

The basic objective of developments is the improvement of quality of life of the people in all the areas. In fifties and early sixties ideas of economic determinism was too strong. Prevailing notion of the time was that if economic growth, especially GDP (Gross Deomestic Product) was taken care that would automatically take care of other aspects. Subsequently substantial economic development took place. Especially in, Third World Countries development was also accompanied by poverty, illiteracy, malnutrition, hunger, structural inequality and regional disparities[1]. All this made the early notion untenable. In the development process large section of the population was left behind. Development became lopsided. The gap between rich and poor people and between rich and poor areas remained high. In some cases the gap was further widened. (*See* Misra *et al.* 1974; Bhat *et al.* 1982; Misra *ed.*, 1985).

Due to this a new thinking started gaining momentum. This is along with development direct measures for the improvement of quality of life is essential (*Seers, 1969, ILO, 1977; Gosal and Krishan, 1984; Singh and Dubey, 1985)*. Reasoning behind this change in development thinking is

simple. The people have double role in the process of development. On one hand, they are factor of production as work force and effective market for goods and services. On the other people are sole beneficiary of the entire process of development. Therefore, all development should address the people. Increase in welfare and improvement in quality of life of the people should be the main concern of the development.

In India since independence, people's welfare and development have acquired high attention. Gandhian concept of *Achhutodhar* (upliftment of untouchables) and *Mahilothan* (upliftment of women), *Nehruvian* concept of wiping the tears from every eyes, and Jayaprakash Narayan's concept of *Sarvodaya* (upliftment of all) are clear evidences. Constitution of India lays down the provisions of universal literacy, health services and rise in the level of nutrition and standard of living of the people (Article 47). In planning and development process, initiation of people welfare programmes, adoption of Target Group Oriented Development Approach[2], Minimum Needs Programme,[3] direct assault on poverty and recent formulation of Ministry of Human Resource Development have been the significant steps in this direction. Even then the process of people's development was slow and uneven.

Literacy, an essential element for good quality of life, was 16.67 per cent in 1951, remained 24.02 per cent in 1961, slowly picked up to 29.46 per cent in 1971 and 36.23 per cent in 1981. The urban male non-scheduled castes literacy (67.99%) was almost eight times higher to that of rural female scheduled castes (8.45%) in 1981. Urban literacy (57.40%) was almost double to rural literacy (29.68%). In the same way male literacy (46.89%) was far ahead to female literacy (24.81%) and non-scheduled castes literacy position (39.01%) was far better in comparison to that of scheduled castes (21.38%) and scheduled tribes (21.38%) (Dubey 1989, 26).

Apart from high inequality in literacy among different socio-economic groups of the people, the country suffers from high regional disparities in demographic conditions. At one hand Ernakulum district (Kerala) has attained universal literacy (1990). On the other in East Kameng district of Arunachal Pradesh 93 persons out of each hundred were incapable to read and write (1981).

In the country five districts were urban. In just contrast ten districts were rural devoid of urban population. Kerala state, not a very rich state even on Indian standard, with 23.3 per thousand birth rates and 6.8 per thousand death rates (1985) attained demographic transition[4]. Contrastingly Haryana one of the developed states with 33.0 birth rates and 10.8 death rates was far behind on the scale of demographic transition. The position of Bihar, Madhya Pradesh and Uttar Pradesh were more disappointing. The present paper is an endeavour to analyse these intricacies. It attempts to visualise regional disparities in demographic development and suggests remedies for the removal of those disparities.

The paper starts with reassertion of two seminal hypotheses : one by Raza and another by Bose. Raza (1978) postulated that regional pattern of development in India consisted of a hungry belly most extensive in Central India and relatively developed

periphery. His unit of observation was NSS Regions.[5] Bose (1988) also made similar observation. He characterised central part of India consisting of Bihar, Madhya Pradesh Rajasthan and Uttar Pradesh as BIMARU (Sick) states. His observation was based on demographic behaviour of these states.

In the light of above two statements the present paper starts with two basic premises. First, in analysis of regional disparities units of investigation should be as homogeneous as possible and practicable. The NSS Regions and more so the states[6] are too large and too diverse units. In other words intra-unit diversities are not less pronounced than the inter unit diversities. This study adopts district as unit of investigation which has been acclaimed as most effective unit to represent the grassroots realities (Dubey and Singh, 1990; Krishan, 1984; Planning Commission, 1984).

Secondly Raza employed a volley of 102 indicators of development representing all possible gamut of development. But Bose made his observation primarily on the basis of two elements of demography : fertility and mortality. The present study is limited to demographic development. It takes a comprehensive view of demographic development. In consonant with the basic premise remaining part of the paper is organized in order of a methodology, alalysis and synthesis.

Methodology :

A perusal of the literature available on demographic development (see Pressant, 1969; Dyson and Crook, 1984; CDP Report, 1988; Jayagopal, 1990; Schwartzberg, 1962; Social Statistics Division, 1977; Rao, 1977; and Gosal and Krishan, 1984) reveal that, as a concept, it has neither been defined properly nor the selection of indicators to represent it has been objective and rational. Most of the scholars, with a few exceptions, used demographic attributes as indicators of economic and social development rather than of demographic development.

After a critical examination of all the aspects related with the issue, twelve indicators from the dimensions of urbanisations, literacy, and occupational dynamism has been selected for undertaking the present exercise. All the twelve indicators, four from each of the above said dimensions of the demographic development have been presented in the table 1. It is expected that these will take care of physical quality of life which is the essence of the demographic development.

Table 1

India : Indicators of Demographic Development

1. Urban population as per cent of total population.
2. Population in 20,000+towns as per cent of total population.
3. Number of towns per lakh of rural population.
4. Number of towns per thousand square kilometers of rural area.
5. Literates as per cent of total population.
6. Literate females as per cent of total female population.
7. Rural literates as per cent of total rural population.
8. Scheduled Caste literates as per cent of Scheduled Caste population.
9. Workers in non-agricultural activities as per cent of total main workers.
10. Rural workers in non-agricultural activities as per cent of total rural main workers
11. Workers in household industry, manufacturing, processing, servicing and repairs as per cent of total main workers.
12. Other workers as per cent of total main workers.

Theoretically each indicator included in the measurement of demographic development is significant. Therefore, it would be appropriate to measure regional disparities in respect of each indicator. The absolute disparities on those indicators may be discerned by subtracting the value of bottom position unit from the value of top position unit. But in Indian condition where exceptions are the rule, jumping and sinking of values are usual. As such range of top and bottom ranking units would provide a distorted figure. Therefore disparity index was calculated by :

> Value of top position unit *minus* value of bottom position unit *divided* by value of median position unit.

This index takes care of excessive distortion. At the same, it does not eliminate altogether impact of jumping and sinking which are a part of grassroots reality.

The next important step is computation of the aggregate score of demographic development of each aggregation unit. For this principal component technique as provided in SPSS/PC+statistical package for IVMPC was employed. On the basis of derived score all the districts were arranged in descending order, break points were located and category positions were mapped (Map 1).

Analysis

In India the regional disparities in various dimensions of demographic development were very high. It was highest in urban development followed by in occupational dynamism and literacy development (Table 2).

Within urban development disparity was highest in case of urban efficiency (10.33) represented by proportion of urban population in living 20000 + towns to total population But it was relatively low in case of urbanisation (6.36) Disparity was further high in regard to sufficiency of towns in terms of rural population (7.47). It was too high in case of accessibility of towns in terms of rural areas (121.20).

Like urban development, degree of disparity varied in literacy rate of different socio-economic groups. It was higher in case of weaker sections of population like scheduled castes (4.78), females (3.95) and rural population (2.78). High disparity of scheduled castes literacy needed some indepth probe. A few districts in Jammu & Kashmir where scheduled castes population was negligible and consisted of mostly migrant one had very high scheduled castes literacy rate inflated the degree of disparity in scheduled castes literacy. High disparity in weaker section population further aggravated their low position.

Disparity in case of occupational position stood in between the disparity in urban and in literacy development. Again it was relatively low in case of diversification of total main workers (3.51) than in case of total main workers in rural areas (3.98). It is very high in case of household workers (7.51) followed by other workers (3.98).

Not only disparity was high at macro national level but also at meso state level. Table 3 presents the degree of disparity in select components of demographic development within the states. In urbanisation, small state like Sikkim (9.81) and major states namely Andhra Pradesh (8.42),

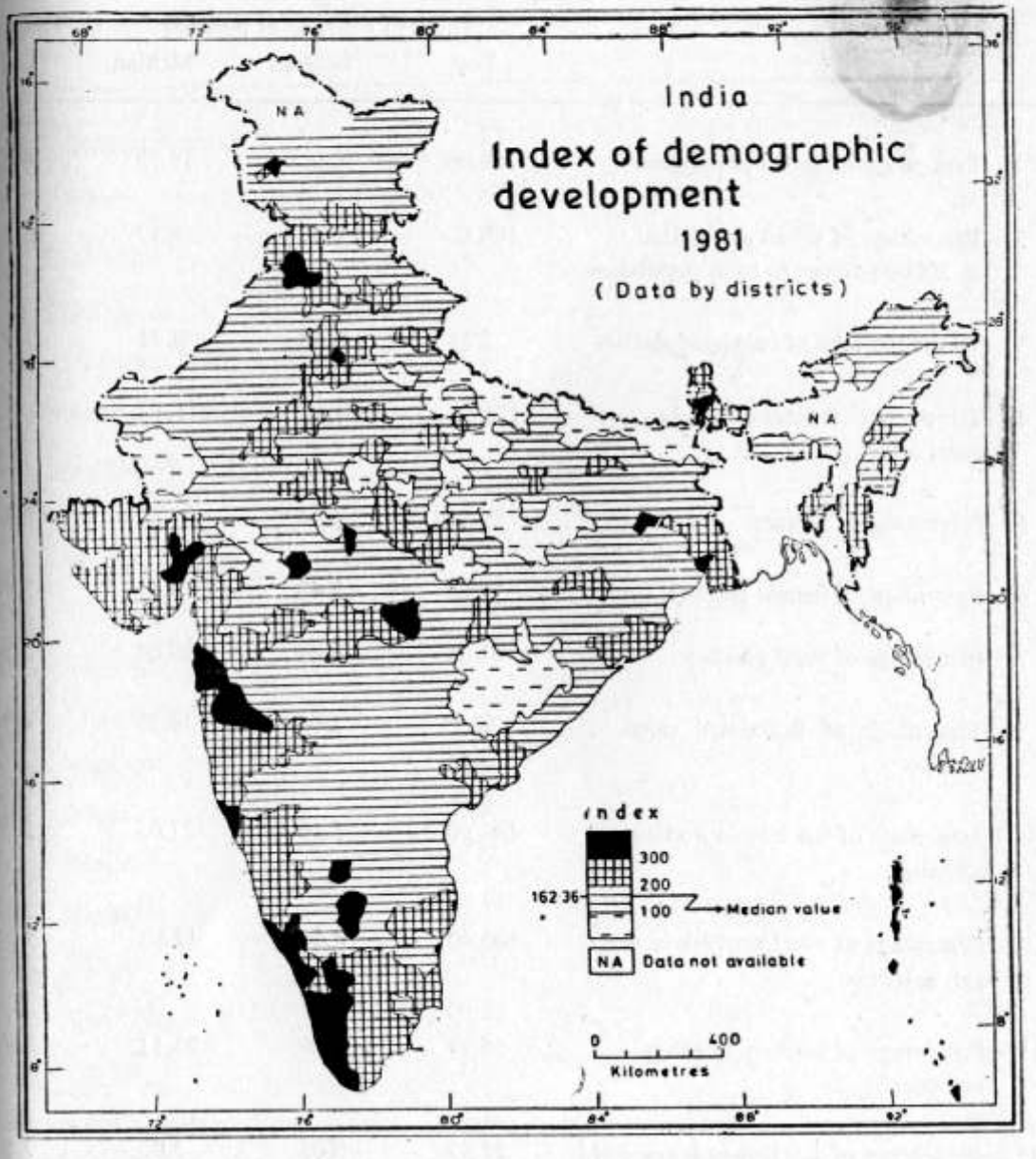
India
Index of demographic development
1981
(Data by districts)
N A
N A
Index
300
200
100
162 36
Median value
NA
Data not available
0
400
Kilometres

Table 2

Regional Disparities in Demographic Development, 1981

Indicator	Value of district at position			Disparity Index
	Top	Bottom	Median	
1. Percentage of urban population	100.00	0.00	15.72	6.36
2. Percentage of urban population in 20000+towns to total population	100.00	0.00	9.77	10.23
3. Towns per lakh of rural population	5.31	0.00	0.71	7.7
4. Towns per thousand sq. km of rural areas	133.33	0.00	1.10	121.20
5. Percentage of literacy	81.35	6.94	31.57	2.35
6. Percentage of female literacy	79.13	2.48	19.40	3.95
7. Percentage of rural literacy	81.25	6.94	26.64	2.78
8. Percentage of Scheduled caste literacy	96.55	3.96	19.39	4.78
9. Percentage of workers in non-agl. activities	100.00	5.00	27.05	3.51
10. Percentage of rural workers in non-agl. activities	100.00	4.66	17.82	5.35
11. Percentage of workers in other activities	96.99	4.80	23.11	3.98
12. Percentage of workers in house-hold activities	22.97	0.05	3.05	7.51

Table 3

India : Pattern of Disparity in Select Components of Demographic Development, 1981

	State	Urbanisation	Literacy	Occupational diversification
1.	Andhra Pradesh	8.42	1.33	2.97
2.	Bihar	5.97	0.85	3.35
3.	Gujarat	2.75	0.78	1.58
4.	Haryana	1.52	0.53	1.59
5.	Himachal Pradesh	2.23	0.66	0.99
6.	Jammu & Kashmir	—	1.32	1.92
7.	Karnataka	2.23	0.75	1.69
8.	Kerala	3.00	0.37	1.03
9.	Madhya Pradesh	5.23	1.47	3.00
10.	Maharashtra	4.25	0.89	3.44
11.	Manipur	4.15	0.31	2.44
12.	Meghalaya	3.09	0.62	3.43
13.	Nagaland	2.42	0.94	1.29
14.	Orissa	2.46	0.97	1.18
15.	Punjab	1.20	0.56	0.67
16.	Rajasthan	2.12	1.05	1.08
17.	Sikkim	9.81	0.63	1.48
18.	Tamil Nadu	3.46	0.83	2.32
19.	Tripura	1.15	0.26	0.51
20.	Uttar Pradesh	3.72	1.34	2.53
21.	West Bengal	6.76	1.25	2.54
	INDIA	6.36	2.35	3.51

West Bengal (6.76), Bihar (5.97) and Madhya Pradesh (5.23) have more than or equal to all India disparities within the state. Similar was position in case of literacy and occupational dynamism measured by proportion of workers in non-agricultural activities to total main workers.

In all the states, disparity was highest in case of urbanisation followed by in occupational dynamism and in degree of literacy. It is in just consonant with all India position. Dispaity in aggregate demographic development presented a very intricate association with the per capita state Domestic Product (SDP). Out of 69 districts in high income group of states, Maharashtra, Gujarat, Haryana and Punjab were in demographic high and peaks, 36 were at high demographic plain, 25 at low plain of demographic development. The districts of middle income group states were relatively in better position than that of high income group states. Out of total 85 districts in such states, 20 were in high and peaks, 23 at high and 42 at low plain of demographic development. The position in low income states was altogether different. Out of 171 districts of such states only 3 districts were in demographic high and peaks 21 and 109 districts were at high and low plain respectively and as much as 38 districts were in position of demographic trench and deeps (Table 4). All this signify that in low income group states increase in per capita income has high positive impact on demographic development. But it is not true in case of moderate and high income group of states. In a few cases increase of income in relatively affluent states has negative impact on demographic development. In other words the association between economic and demographic development is a curvilinear. It is high positive at low level of economic development, weak at moderate level and rather negative at high level of economic development.

Demographic development does not go by the states. All the states consisted of district of high and low plain of demographic development. Kerala state is only exception where all the districts are highly developed. Even micro states like Sikkim, Tripura, Manipur, Meghalaya and Nagaland had highly uneven spatial position in demographic development.

The pattern of demographic development in peripheral zone and in central part of the country was almost similar. Out of total 129 coastal, islandic and border districts 24 were in high and peak category, 37 at high plain, 53 at low plain and 15 in trench and deeps of demographic development. Out of 100 districts bordering the first category districts termed here as second zone of periphery 10 fell under high and peaks, 33 in high plain, 47 in low plain and 20 in trench and deeps. The remaining 173 districts that are located in central part of the country 10 were at high and peaks level, 33 at high plain, 109 at low plain and 21 in demographic trench and deeps. Thus there is no conspicuous difference between periphery and central part of the country in demographic development. At the most coastal India particularly western coastal zone is at high level of demographic development. The districts adjoining international border have most distressing position in demographic development.

Pattern of Demographic Development

Map 1 presents the spatial pattern of demographic development that reveals

distressing position in most of the areas Only exceptions are one high and a few peaks associated with high development and a few trench and deeps associated with enervating ecological and demographic conditions. The position of Kerala state as highland of demographic development is conspicuous. Here a long tradition of high literacy interconnected with Christain traditions and Christain missionary activities, plantation agriculture, continuous series of settlement pattern and overall welfare activities initiated by leftist state government have positive impact on development of the people.

Apart from this high land of demographic development erstwhile colonial enclaves of port towns namely Bombay, Calcutta, Haora, Ahmedabad, Madras, Pondicherry, Yanam, Mahe, Goa, Daman and Diu and a few administrative towns like National Capital New Delhi and State capitals Hyderabad, Gandhinagar, Bhopal, Srinagar raised the status of their respective districts in demographic development.

In just contrast to scattered high and peaks of demographic development, trench and deeps of demographic distress are more pronounced and highly contiguous. The most extensive trenches are associated with two physical ecological conditions and two with tribal ecology. Out of two physical ecological trenches one is coterminus with *terai* belt in the state of Uttar Pradesh and Bihar, The Gorakhpur district divides this belt into two equal halves : western and eastern. This trench starts from Kheri district and incorporating Behraich, Gonda, Bara Banki, Deoria, Siwan, Gopalganj, Paschim Champaram, Purba Champaran, Sitamarhi, Madhubani, Saharsa, Purnia, reaches upto Katihar in the east. The one arm of this trench passing through poverty trough of Uttar Pradesh reaches upto Panna district in Madhya Pradesh. In this area ecological condition of enervating Terai hindered the process of demographic development. Its southward extending arm is associated with submergence of development impulses coming from the west and good physical conditions moving from east to west direction.

Apart from this extensive trench of demographic distress four other wide demographic deeps are much pronounced. One is associated with desert ecology located at Indo-Pak border in Thar desert covering the districts of Barmer and Jalor in Rajasthan. The remaining three deeps are associated with cultural ecology. Among them the most extensive is at tri-junction of Madhya Pradesh, Orissa and Andhra Pradesh coterminus with the district of Bastar, Koraput and Kalahandi. Second one is on Bihar and Madhya Pradesh border in the districts of Sidhi, Sarguja and Palamu. Lastly third one is on Madhya Pradesh and Rajasthan border comprising the districts of Dhar, Jhabua and Banswara.

With the exceptions of above high and peaks and trench and deeps of demographic development a girdle of low demographic plain starting from Ludhiana in the west covering whole of Rajasthan desert, incorporating Vindhyachal mountain, Kaimur range, submerges in the demographic trench of *Teral* in north Bihar. This gridle divides India into two parts : India of inside the gridle and India on outside of the girdle. The inside girdle covers most of the north Indian plain. In this part level of demographic development decreases from west to

Table 4

India : Distribution of Districts by Level of Economic and Demographic Develepment, 1981

State	Level of Demographic development				
	Hiigh & peak	High Plain	Low Plain	Trench & deeps	
1. Maharashtra	04	14	11	00	26
2. Gujarat	02	12	05	00	19
3. Haryana	00	07	05	00	12
4. Punjab	02	06	04	00	12
A. High Income States	08 (11.59)*	36 (52.77)	25 (36.24)	00 (00)	69 (100)
5. Andhara Pradesh	01	02	20	00	23
6. Karnataka	02	05	12	00	19
7. Kerala	10	02	00	00	12
8. West Bengal	03	05	07	00	15
9. Tamil Nadu	04	09	03	00	16
B. Middle Income States	20 (23.53)	23 (37.06)	42 (49.41)	00 (00)	85 (100)
10. Bihar	01	01	19	10	31
11. Madhya Pradesh	02	04	29	10	45
12. Orissa	00	03	08	02	13
13, Uttar Pradesh	00	10	34	12	56
14. Rajasthan	00	03	19	04	26
C. Low Income States	03	21	109	38	171
15. Himachal Pradesh	00	04	08	00	12
16. Jammu & Kashmir	01	02	11	00	14
17. Manipur	00	01	05	00	06
18. Meghalaya	00	01	04	00	05
19. Nagaland	00	01	06	00	07
20. Sikkim	00	02	02	00	04
21. Tripura	00	01	02	00	03
D. Non-classified States	01 (1.97)	12 (23.53)	38 (74.50)	00 (00)	51 (100)
E. Union Territories	10 (33.46)	03 (11.54)	10 (38.46)	03 (11.54)	26 (100)
INDIA	42 (10.45)	95 (23.63)	224 (55.63)	41 (10.20)	402 (100)

Notes : * Figures in parentheses are percentages. The economic grouping of the states has been adopted from the first Report of the Ninth Finance Commision (1988).

east. Obviously, it follows the direction of green revolution impulse that decreases from west to east. It has inverse auto correlation with the amount of average annual rainfal that increases from east to west. Again it has inverse association with the erstwhile colonial penetration and influence, the diffusion of which spread from east to west direction.

In just contrast out side of the dividing girdle that extends in peninsular south India demographic development decreases from coastal area to interior part of the country. In general, the direction of demographic development is in conformity with erstwhile colonial influence in the Southern India.

The most conspicuous feature of demographic development in India is that unlike other countries of the world, southern India is relatively at higher demographic development plain than the north India. It is significant that tropical climatic conditions are more enervating in the south than in the north India. Meaning by that the most part of the country has attained the state where physical factors in the determination of demographic performance of the area are relatively less significant than the socio-economic and cultural factors

The grassroots spatial realities of demographic developments falsify the concept of 'hungry belly' in central India. At the same spatial structure of demographic development in all the states is highly variable.. Hence the concept of BIMARU states of Bose is over generalisation of the reality.

One important feature so called BIMARU states of India is extensive stretches of demographic trench and deeps associated with physical and tribal ecology. The dragged the state average position downward. On the other end of spectrum Bhopal and Indore in Madhya Pradesh ; and Dhanbad in Bihar are among the peaks of demographic development. Western part of Uttar Pradesh; and whole of Uttar Pradesh mountain are at part with the developed region of India. Hence it would be plausible to state that there are no BIMARU STATES in India. Only a few BIMARU (Sick) tracts exist. The area designated demographic trench and deeps are those BIMARU tracts.

Policy Option

In India the grassroots demographic development conditions do not conform national or state average position. The policy formulation on the macro and meso basis would be far from grassroots realities. This reasserts the need of decentralisation of planning process at grassroots level. This will bring the input of local wisdom for the removal of local demographic development hindrances.

Secondly, at least four types of demographic development areas are easily discernible. One, the tracts of demographic trench and deeps that could not absolve from their physical and cultural ecological constraints. Such tracts are economic as well as demographic distress zones. These are the real sick tracts and need greater care like a sick persons Effective answer to their problems would be big push and alround development. The second is the peaks of demographic development associated with urbanisation and large concentration of people. Here beneath the glitering urban civilisation increasing slums, pollution and congestion are not less problematic, In such centres deconcentration of population is needed to protect

the quality of life of the people from further deterioration.

The third type of area is the high plain of demographic development. In this area, economic development is relatively ahead to demographic development. In this area direct measures for the improvement in quality of life of the people are required. Fourth one is the area of low plain of demograpoic development Such areas are highly extensive and comprise highly densily populated tracts of east Uttar Pradesh, Bihar and West Bengal; moderately, populated tract of Deccan plateau; and low density populated tracts of Rajasthan desert and *Uttra Khand* mountainous zone. What is common in these tracts ? answer is acute poverty. Hence the direct assault on poverty is first and foremost requisite for the demographic develoment in the areas.

Finally whether Kerala, the state of high demographic development, may be a model for demographic development in other parts of the country ? the answer is not positive. The history, culture and settlement pattern of Kerala state are area specific and unique. These characteristics are non-existing in other parts of the country. Hence area specific indigenous strategy for demographic development is the need of the time.

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NOTES

1. Structural inequality has been used in reference to uneven position among different socio-economic groups living in the same area. In contrast the term regional disparities is used in reference to the variation of position of one socio-economic group across the spatial units like states and districts.

2. Target Groups : Assistance is given to the rural families of target group having annual income below the cut off line of Rs. 4,800. The poveriy line income is identified at Rs. 6,400/-. The target group includes small and marginal farmers, agricultural labourers and rural artisans. At least 30% of the assisted are scheduled castes and scheduled tribes. Now it has been decided that 30% assisted should be women. (Department of Rural development, Government of India, Annual Report 1989-90 p.21)

3. Minimum Needs Programme is an integrated package programme initiated since Fifth Five Year Plan (1974-79). The programme includes : (i) elementary education, (ii) adult education, (iii) rural water supply, (iv) rural roads, (v) rural electrification, (vi) house sites/houses for landless labourers, (vii) environmental improvement of slums and (viii) nutrition. The programme is the expression of the committment of the Government for the social and economic development of the community, particularly the underserved and under privileged segment of population (Mazumdar and Wasan).

4. Demographic Transition Theory was postulated by Thompson (1929) and Notestein (1945). The theory postulates that demographic transformation of society moves together. This progress from high fertility, high mortality, largely rural agrarian and illiteracy stage to low fertility, low moratality, highly urban industrial and universal literacy stage.

5, National Sample Survey Organisation divides the country into 56 units. On average one unit comprised 7.36 districts in 1981. (Based on NSS. 1971)

6. In India there were 22 States in 1981. The largest State in population, Uttar Pradesh, with 110.86 million population was more than 350 times bigger to smallest State Sikkim which had only 0.31 million population.

7. Dubey (1981) discovered a poverty trough in Uttar Pradesh starting from Bahraich district on northern boundary of the state covering Bara Banki, Faizabad, Sultanpur, Pratapgarh, Rae Barely, Fathpur and Banda district on the southern boundary. It is a zone of submergence of natural impluses of development coming from the east and man made impulses of development from the west.

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FEMALE LITERACY IN RAJASTHAN, 1961-1981

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The paper attempts to highlight the significance of female literacy in Rajasthan as an instrument of socio-economic change, specially among its scheduled tribe and scheduled caste components. The spatio-temporal analysis of female literacy at state, district and tehsil levels when compared with its other adjoining states and between themselves, particularly during 1961-1981 period reveal wide gaps and much which need to be achieved.

The analysis-focus centres round literacy at total, male-female differential, and rural-urban female percentages and over-all progress of female literacy in Rajasthan during 1901 to 1981 period, specially over the last five decade. The aspect of female literacy and castes has been examined at length on district and tehsil levels as well using tables and maps and other cartographic means. Comparison of circumstances of female literacy during 1961 and 1981 between scheduled tribes, scheduled castes and the non-scheduled population component further reveals marked intra-regional spatial contrasts within Rajasthan viz., between its desertic western portion, southern tribal dominant hilly region and north eastern relatively more-exposed plain area.

Even while the paper throws enough light on the slow rate of progress in the field of female literacy at different levels during the post-independence period despite rapid strides for its advancement, at the same time it emphasizes on the needed thrust to raise female literacy rate taking advantage of the right type of policy strategies and programmes specially among its scheduled tribe and caste pockets to change the existing scenario substantially, bringing it at par with other adjoining states in foreseable future.

Education, formal as well as informal, is one of the important agents of social change, particularly among the females, by exposing them to outside world, widening their horizon and providing with information about many matters relevant to life. Its effective role in bringing about socio-economic development and change in all societies including the basic aspects of literacy among the depressed, poor and majority of tribal communities is essential to take advantages of all round developmental schemes, socio-economic development and expansion of education thus get closely interlinked and an inevitable element of interdependent processes.

Thus the new educational design should be geared up to meet the challenges of the 21st century on one hand and seek to provide a strong base of scientific humanism, pride in our rich cultural heritage and forging of essential values - promoting just development and social transformation on the other. It will be, therefore, of interest to trace out the progress of literacy in Rajasthan and particularly among females, broadly over the last few decades at the state, district and

tehsil levels. The situation among females of scheduled tribes and scheduled castes in contrast to non-scheduled population will reveal further its spatio-temporal variations and developments.

Literacy in Rajasthan and its adjoining States

Rajasthan and its adjoining states of Punjab, Haryana, Uttar Pradesh, Madhya Pradesh and Gujarat cover most of the Western India. Table 1 reveals that Rajasthan state has lowest percentage in all types of literacy in comparison to all these states and India as a whole. The overall literacy of 24.4 per cent in 1981 in the state was conspicuously low, against a maximum of 43.7 per cent for Gujarat and 36.2 per cent for India. In respect of male and female literacy, Rajasthan's proportion of 36.3 and 11.42 per cent respectively also sounds low against 54.4 and 32.3 per cent for Gujarat, 47.2 and 33.7 per cent for Punjab and 46.9 and 24.8 per cent of India. In case of rural and urban literates, the state with the figures of only 18.0 and 48.4 per cent respectively also registers the lowest proportions (Table 1).

However, Rajasthan's female literacy proportion of only 11.4 per cent and 5.5 per cent in total and rural and 34.5 per cent in urban areas is still far from being satisfactory, reflecting literacy backwardness of the state in general and rural areas in particular. Fig. 1-D additionally provides an index of the structural part of literacy scene in the state during 1960-61 and 1982-83, showing its related facts of the number of institutions, teachers and scholars.

Table 1

Literay in Rajasthan and its Adjoining States, 1981

(Figs are in percentage)

States	Total Literates			Male Literates			Female Literates		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
India	36.2	29.7	57.4	46.9	40.8	65.8	24.8	18.0	47.8
Rajasthan	24.4	18.0	48.4	36.3	29.6	60.0	11.4	5.5	34.5
Gujarat	43.7	36.2	60.3	54.4	47.9	68.6	32.3	24.1	51.1
Madhya Pradesh	27.9	21.2	54.0	39.5	32.9	64.4	15.5	9.0	42.3
Uttar Pradesh	27.2	23.1	45.9	38.8	35.2	54.7	14.0	9.5	35.4
Haryana	36.1	30.3	56.9	48.2	43.3	64.9	22.3	15.4	47.4
Punjab	40.9	35.2	55.6	47.2	41.9	60.7	33.7	27.6	49.7

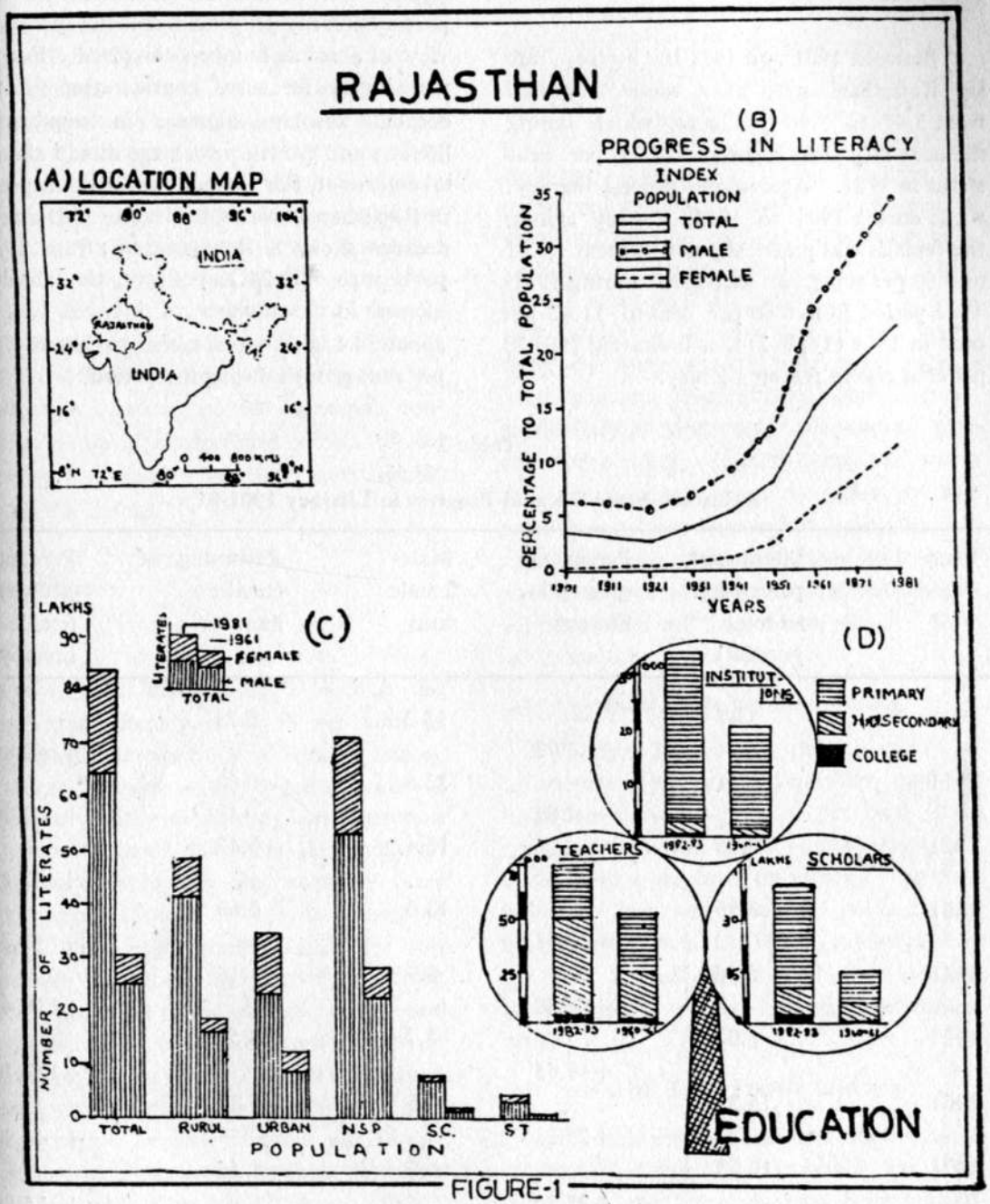
RAJASTHAN
(A) LOCATION MAP
INDIA
RAJASTHAN
INDIA
(B)
PROGRESS IN LITERACY
INDEX
POPULATION
TOTAL
MALE
FEMALE
PERCENTAGE TO TOTAL POPULATION
YEARS
(C)
LAKHS
NUMBER OF LITERATES
1981
1961
FEMALE
MALE
TOTAL
TOTAL
RURUL
URBAN
NSP
SC.
ST
POPULATION
(D)
INSTITUTIONS
PRIMARY
HIGHSECONDARY
COLLEGE
TEACHERS
SCHOLARS
EDUCATION

FIGURE-1

Progress of Literacy in Rajasthan State 1901-1981.

Between 1901 and 1931 the literacy rate for Rajasthan state as a whole, increased from 3.47 to 3.96 per cent, which during the next fifty years registered 24.38 per cent status in 1981. Against this general literacy, while during 1901 to 1931, literacy among the females was practically non-existent (0.21 to 0.60 per cent), it increased during 1931-1981 period from 0.60 per cent to 11.42 per cent in 1981 (Table 2) thus indicating 1903.33 per cent rise in female literacy.

A simple comparison of percentage figures for the decadal variations do not portray literacy progress from the point of view of absolute numbers involved. For its meaningful measure, consideration of the decadal absolute increase in number of literates and growth percentage should also be taken care of. For example, while literacy rate in Rajasthan between 1971 and 1981 census decades shows a slow progress : from 19.07 per cent to only 24.38 per cent, the absolute increase in the number of literates was of about 34.4 lakhs which comes to about 70.0 per cent growth during the period.

Table 2

Rajasthan State Decadal Progress in Literacy 1901-81

Year	Literates as percentage to total population	Percentage growth in literacy	Male-female ratio	Percentage of female literates	Percentage growth in female literacy
1901	3.47	—	33.3	0.21	—
		— 1.73			+ 42.86
1911	3.41		23.0	0.30	
		— 4.69			+ 40.00
1921	3.25		15.4	0.42	
		+21.85			+ 42.86
1931	3.96		13.0	0.60	
		+37.88			+ 93.30
1941	5.46		8.9	1.16	
		+46.89			+116.40
1951	8.02		5.7	2.51	
		+89.65			+132.70
1961	15.21		4.5	5.84	
		+25.38			+ 44.90
1971	19.07		3.7	8.46	
		+27.84			+ 35.00
1981	24.38		3.5	11.42	

In 1901, against 6.42 per cent male literacy, 0.21 female literacy was negligible showing a ratio of 33.3:1 between the two sexes. (Table 2). In recent decades, however, impediments against female literacy have been gradually disappearing and their literacy is increasing at a faster pace than that among the males; the male-female differential-being consistently narrowed down (Fig. 1). Thus, during 1901-1981, this male-female literacy ratio has come down from 33.3 : 1 to 3.5 : 1 only. Substantial advances of the last five decades in the form of intensified network of communications, rural-urban interaction, and improved economic conditions alongwith a concerted efforts of the state government have been instrumental for such a change.

Total Literacy

Table 3, presents the total literacy figures on tehsil basis in 1981. Against the overall state literacy of 24.38 per cent in 1981, tehsilwise variations of female literacy in rural and urban areas reflect marked contrasts. Tehsilwise literacy categorisation in per cent shows that only 3 tehsils fall under less than 10 per cent category (very low) whereas 85 and 94 tehsils belong to 10 to 20 per cent (low) and 20 to 30 per cent (moderate) categories respectively covering western (i.e. most of the desertic area), and north-eastern and eastern parts (relatively plain areas) of the state (Table 3). Only 6 tehsils which register above 40 per cent (very high) literacy figures are largely associated with the urban centres of Jaipur (52.28 per cent), Kota (49.89), Ajmer (46.55), Udaipur (41.86), Jodhpur (40.73) and Ganganagar (40.73).

Female Literacy and Caste

In a low female literacy state of Rajasthan, its association with castes specially scheduled tribes and scheduled castes and castes having agriculture as their chief occupation like Jats and Dangis need no emphasis. Females and even children are considered additional hands contributing in numerous ways in various agricultural activities and daily domestic routines that their literacy base, what to say of education as such, fumbles before even a start and everything else gets priority over basic literacy need and its evolutionary environment, particularly in rural areas and among high cultivating castes. Even the erstwhile rulers in Rajputs, also appear to suffer on this score from female literacy in particular. A closer keep into scheduled tribes and castes and its relative position vis-a-vis non-scheduled population will help throw further light in the matter.

(a) Scheduled Caste Female Literacy

The Fig. 2-C reveals that as many as 12 districts in western and northern parts of Rajasthan show less than 2 per cent (low) female literacy rate while eleven range between 2 and 4 per cent (moderate), covering southern and north-western parts. Only the three districts (high) of Ajmer (10.56 per cent), Kota (5.06 per cent) and Udaipur (4.14 per cent) register relatively substantial rate.

(b) Scheduled Tribe Female Literacy

Similarly Fig 2-D indicates that out of 26 districts, eleven districts record less than 1 per cent (low) female literacy, being located largely in the western portion of the state. Another 7 districts range between 1 and 2

Table 3
Tehsilwise Literacy in Rajasthan, 1981

Total Literacy			Total Area			Rural Area			Urban Area		
Category (in Percentage)	No. of tehsils	% of total tehsils	Category (in percentage)	No. of tehsils	% of total tehsils	Category (in percentage)	No. of tehsils	% of total tehsils	Category (in percentage)	No. of tehsils	% of total tehsils
1	2	3	4	5	6	7	8	9	10	11	12
< 10	3	1.52	< 5	35	17.77	< 2.5	9	4.57	Entirely rural	57	28.93
10-20	85	43.15	5-10	104	52.79	2.5- 5 0	78	39.59	10-20	23	11.17
20-30	94	47.71	10-15	40	20.30	5.0- 7.5	79	40.10	20-30	62	30.96
30-40	9	4 57	15-20	9	4.57	7.5-10.0	23	11.68	30-40	40	19.80
> 40	6	3.05	> 20	9	4.57	> 10.0	8	4.06	40-50	15	7.11
Total	197	100.00	Total	197	100,00	Total	197	100.00	Total	197	100.00

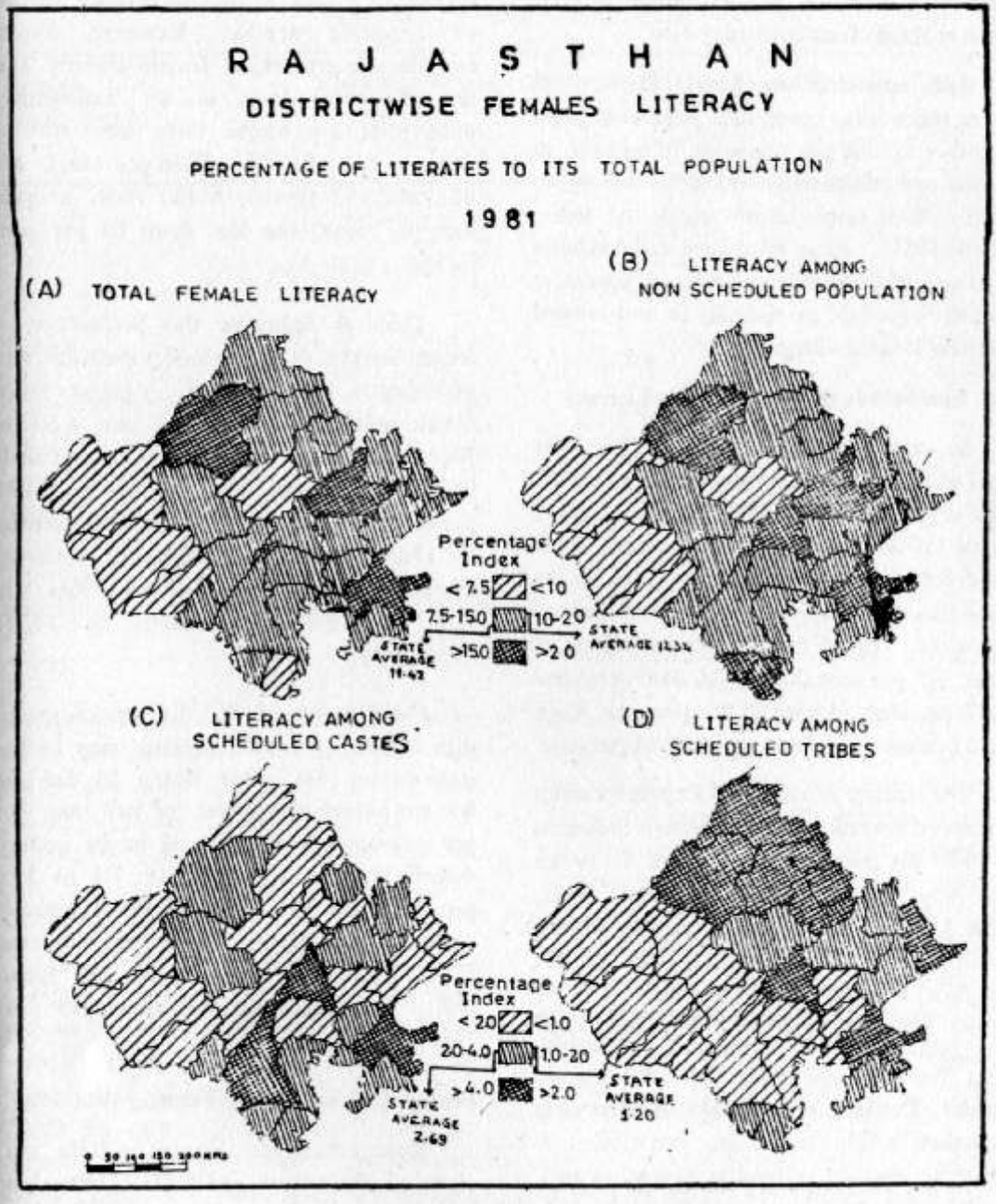
RAJASTHAN
DISTRICTWISE FEMALES LITERACY
PERCENTAGE OF LITERATES TO ITS TOTAL POPULATION
1981
(A) TOTAL FEMALE LITERACY
(B) LITERACY AMONG NON SCHEDULED POPULATION
Percentage Index
< 7.5 <10
7.5-15.0 10-20
>15.0 >20
STATE AVERAGE 11.42
STATE AVERAGE 11.34
(C) LITERACY AMONG SCHEDULED CASTES
(D) LITERACY AMONG SCHEDULED TRIBES
Percentage Index
< 2.0 <1.0
2.0-4.0 1.0-2.0
>4.0 >2.0
STATE AVERAGE 2.69
STATE AVERAGE 1.20

FIGURE NO. 2

per cent (moderate) rate. The remaining northern 8 districts, register more than 2 per cent (high) female literacy rate.

This apparent low female literacy till recent times is the result of a long continued prejudice against the education of women in general and additionally reflective of opposition to their employment outside the home (Davis. 1951). Early marriages still continue to be one of the significant factors operative against its growth, particularly in and around remotely located villages.

(c) Non-Scheduled Caste Female Literacy

In contrast to less than 10 per cent (low) of literacy category dominating western portion of the state (Fig 2), 16 districts record 10-20 per cent (moderate), non-scheduled population female literacy, these being mostly located in northern and eastern Rajasthan. Only 6 districts indicate figure of about 20 per cent (high), viz. Banswara has 29.57 per cent, Ajmer 25.06 per cent, Kota 24.15 per cent and Dungarpur 22.38 per cent

The literacy in tehsils of Rajasthan stand in marked contrast to each other, indicated by 34.45 per cent literate females in urban and only 5.45 per cent in rural areas. Table 3, show 85 per cent of tehsils having rural female literacy rate of less than 7.5 per cent (low) whereas only 15 per cent (i.e. 31 tehsils) register between 7.5 and 15.57 per cent.

Spatial Pattern of Female Literacy in Rajasthan

In our contemporary world, the position of women in society helps to judge the progress of a community towards its socio-economic advancement. Female literacy and education is an essential ingredient of this position. A review of female literacy in Rajasthan during the present century reveals its appalling apathy. However, despite considerable progress in female literacy and the narrowing down in its male-female differential as a whole, there were still as many as 139 tehsils (i.e. 70.56 per cent), out of a total 197 tehsils in the state, wherein the per cent was less than 10 per cent in 1981 (Table 3).

Table 4 indicates the percentage of female literates in all types of population and male-female literacy ratio. Against male-female literacy ratio of 3.5:1 and 4.5:1 in 1961 and 1981 respectively, the female literacy rate moved up from 5.84 to 11.42 per cent. In contrast, this ratio differential in 1961-81 was much higher in both the scheduled castes and scheduled tribes viz. 15.8:1 to 9.9:1 and 28.4:1 to 16.7:1 respectively.

Fig 2-A reveal the districtwise spatial distribution of female literacy rate in the state during 1981. Out of the 26 districts, five are having literacy rate of less than 7.5 per cent (low) being located in its western desertic portion and 17 indicate 7.5 to 15.0 per cent (moderate), whereas the remaining 4 districts of Ajmer (21.92 per cent), Bikaner (17.57 per cent), Kota (17.39) and Jaipur (17.18 per cent) register above 15 per cent (high).

Female Literacy Changes during 1961-1981

During these two decades, all the districts of Rajasthan individually reveal an increase in the female literacy against the state increase, as a whole, of 247.79 per cent which compares high to 152.9 per cent of India. While nine districts register below

Table 4

Rajasthan : Female Literacy Rates

Female population	Percentage of literates in		Percentage growth in 1981 over 1961	Male-female literacy ratio in	
	1961	1981		1961	1981
Total	5.84	11.42	+ 95.54	4.5	3.5
Rural	2.65	5.46	+106.04	7.6	5.8
Urban	22.55	34.45	+ 52.78	2.6	2.0
Scheduled population	0.96	3.89	+329.44	22.1	13.3
Scheduled Caste	0.71	2.69	+278.87	15.8	9.9
Scheduled Tribe	0.25	1.20	+380.00	28.4	16.7
Non-Scheduled population	7.95	12.34	+ 55.22	4.1	3.0

average increase, the remaining 17 record above average figure. Categorywise, only five districts record an increase of less than 200 per cent while 17 and 4 districts respectively register 200 to 400 and above 400 per cent increase in female literacy during 1961-1981 period.

In urban places where females are socially more aware and economically more independent literacy tends to register higher percentage, viz. three tehsils have more than 50 per cent female literates : Laxmangarh (50.22 per cent), Kushalgarh (51.26) and Girwa (50.80 per cent). Surprisingly, about one-third of the total tehsils have no urban population (Table 3).

Literacy rates at district level reveal marked spatial variations (Fig 2-B to D) particularly in case of castewise female population in Rajasthan. Thus 2.69 per cent and 1.20 per cent of the respective scheduled castes and tribes literate females stand in utter contrast to 12.34 per cent among the non-scheduled population. This situation as a whole is highly disappointing in view of the conscious efforts made towards their socio-economic amelioration during the entire post-independence period. More vigorous, target-oriented strategies and programmes and concerted efforts will surely bring the desired results in respect of raising female literacy among scheduled tribes and castes as much as among its other constituents, particularly when a kind of literacy drive and environment has been generated throughout the state of Rajasthan during eighties as such.

Conclusion

It may be concluded that despite considerable progress in education during recent years, particularly since Independence, Rajasthan's female population is still least literate in India. It is no doubt a tragic state of affairs that this past legacy in the State of Rajasthan still persists. Even in modern times, education is being looked upon by many mainly from the point of view of occupational necessity. It seems that the denial of equal social status to females; and the continuing prejudice (though reducing now) against their taking up professional employment, especially in villages, have worked as deterrents to female education as a whole in Rajasthan state. The foregoing analysis of 1961-1981 period only substantiates this scenario which therefore, demand newer female literacy policies, strategies and developmental thrusts to further minimise the existing male-female literacy differential.

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DIFFERENTIAL URBAN GROWTH AS A PROCESS OF REDISTRIBUTION OF POPULATION : A CASE STUDY OF SAO PAULO STATE, BRAZIL

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The questions related to the spatial distribution of population are growing rapidly. As a consequence, many a scientist and local Governments are worried over the implementation of development plans. In Brazil and particularly in the Sao Paulo state, the respatialization of the population has developed into a dramatic situation in the last two decades. The population of the state increased approximately by 250 per-cent between 1940-1980. Meanwhile the urban growth was to the tune of 600 per-cent. In the same period, the metropolitan population of Sao Paulo witnessed explosive increase of the order of 1495 per-cent and the population of Sao Paulo city alone gained by 3080 perc-ent. This paper identifies the process of the differential concentration of population in urban areas. The Sao Paulo state has been subjected to an ambiguous model of development. This model is reflected in the pattern of population distribution. The state needs a new development strategy which must reflect the importance of the medium and the small sized cities, in order to produce a better social and spatial justice.

The principal objective of this paper is to evaluate some relevant questions to studies of spatial distribution of the population and analysis of aspects of the most recent changes in the process of respatialization of the differential growth in the Paulista territory. It explores the role of the differential growth in the urban places as an important factor in the explanation of ways and processes that justify situations and spatial problems of population in the state.

Although the phenomenon of the spatial distribution of the population can, in a macro way, be easily observed or even measured, it reveals however a great complexity when one wants to make analysis in details with well defined objectives involving not only the aspects related to the spaces marked by different distributions but also at their various levels and the population itself differentially distributed. In short, the question of the spatial distribution of the population is simultaneously theoretical, practical and applied. As a consequence, it demands interventions of rather varied nature for the comprehension of the process seeking its monitorization.

Spatial Distribution

The questions involving spatialization of the population have become an important theme of investigation, ever since the fears and worries about the empirical verifications of the models of natural growth of the

population have been overcome. The comparisons made between the different behaviours of growth and the problems associated with them show the spatialization of population. It has become evident that not only significance of the distribution question is immense but as its possible separation from situations derived from the quantitative growth is equally important.

The analysis of the spatial behaviors of the demographic values has revealed that the populations are permanently submitted to complex and dynamic processes of distribution and spatial redistribution in which it is possible to identify the inertia whose effects, besides exerting themselves on a given area, also involve a certain temporal dimension. The dimension of this period and the permanence of the inertia are fundamental aspects in the explanation of the processes of spatialization of the population. Also the simplest observation that is made about the spatial structure and spatial behavior of a given population reveals, two important aspects :(1)that the spatialization of the population is not a result of bad luck, (2)that each distribution does not behave as an "isolated island" but, on the contrary, it behaves as though it belongs to a wider scheme in which a situation of interdependence with other spatial distribution (demographic or not) is developed. The location of the cities in their municipalities serve as an example of this aspect when, by proximity, cities generate the processes of conurbation. Thus, considering the first aspect, the search of explanations becomes easier given the possibilities of a wider generalization resulting from the verification of the presence of some determinant factors in the process of spatialization of population.

The comprehension of the processes that lead to different forms of spatialization through population settling and resettling either in regions or in smaller units such as municipalities and cities also has a very great practical importance. For example, the question of the leasing of investments at local or regional level demands different approaches, information and techniques of analysis regarding the demographic dimension that involve, simultaneously, not only the aspects of quantity but also its spatial concentration. This last aspect presents strong inter-relation between the global behaviour of the population of any area and its spatialization. Varied combinations are revealed such as increase in the population with concentration or dispersion or, in the other extreme, processes of concentration or of dispersion without a corresponding correlate increase or decrease of population. These differentiated situations generate a diversity of problems such as the increase in the demand of services in the case of growth with concentration or underutilization of infra-structures in the case of dispersion without growth.

Whether we consider in a theoretical perspective or practical one, the spatial distribution of the population has become a theme of great interest, for various social scientists such as Regional Economists, Sociologists, Architects and Urban Planners, Regional Planners, Geographers, etc., All have tried, in differentiated ways to tackle this important theme. However, not many answers have been forthcoming which are simultaneously understandable and satisfactory. Since the problems of spatial distribution of population are essentially interdisciplinary, we can affirm that there is

a certain logic in this incomplete character. It is important to recognize, for benefit of science itself, that the explanations remain insufficient so long as they remain compartmentalized in various segments of scientific knowledge. Particularly in the case of the geography whose object of knowledge has strong spatial linkages it is possible to affirm, from recent contributions involving population studies, that the question of spatialization of population interferes in the organi zation of the space. This issue has not been contemplated in an adeqate manner in the interdisciplinary spirit. The analysis of recent literature, regarding "spatialization of the population" has revealed two basic directions : the contributions that try to evaluate the components of the population growth (fertility, mortality and migrations) without establishing in detail, the linkages with the spatial variations in the patterns of growth which generate differentiations in the spatializations. Relations between models of demographic growth with models of spatial distribution are not established. General rule the reflections are centered in the ways how these components behave altering the demographic values without bothering about their spatial reflexes The Contributions of Woods (1979), Huw (1981) and Newman & Matzke (1984), fit in this perspective.

The second group comprises of those contributions which devote a specific chapter to the question of the spatial distribution such as books by Beaujeu-Garnier (1965), George (1974), and Angulo (1982), etc. However, they do not offer any clear approach for answering the central question because they are only describing the global alterations, alterations of the demographic densities through the transfer of the rural population to the urban areas. In addition, we notice a special emphasis placed on methods of measurement of spatial distributions. In any case these contributions do not suggest a proposal for an integrated analysis.

The study of the spatialization of population requires an adequate comprehen sion of two demographic components whose differential behaviours generate alterations in the process in several ways : the differential in natural growth and the role of migratory movements in net growth of population. The first with its variations from one area to the other, is responsible for the changes in the spatialization but, they also initiate migratory processes which represent the most important process of spatial redistribution of population at inter and intra-urban levels.

The comprehension of spatialization of population must involve, thus, a detailed study of the bearing that each one of these components, in terms of their absolute or relative importance, has on the spatial distribution of population. It is evident that it also involves a study of the factors that cause changes of the two components and the factors are rooted in the political, economic, social and environmental millieu. Both the natural growth and migrations have socio-spatial manifestations that direct the process of spatial distribution of population. In the extreme situations these may lead to emptiness of some areas. In the case of large urban centres the net result is the accumulation of massive population. These alternative situations suggest various ways of approaching the question of spatialization and both of them deserve equal importance.

Whatever the perspective, it is true that the studies of problems that involve the economic development taken in its widest sense are related principally to comparative evaluation of development and spatial distribution of popula tion : the differential character of the development, and its effects on spatial tendencies of population. These reveal, critical levels of spatialization which are characterized by large concentrations without the attendant adequate levels of economic development. The frequent discussion involving the complex questions of the hyper-urbanization or, the intense suburbanization, are examples of this mismatch.

It is evident that the studies on the spatialization of population must have, as a basic reference, the perspective of improving the quality of life in which the population has to be seen simultaneously as an agent and beneficiary of the process. Regional or local uneven developments due to the spatial structure of the population are reflected in social services such as education and health, and in the cultural characteristics, and the responses that determine variations in fertility mortality and migration rates.

In spite of the intrinsic character of the relations between economic development and spatial distribution of the population, studies involving both aspects are lacking especially when such evaluative studies are conducted at the behest of government agencies. Projects analysing economic changes, for example, care little about the questions of spatialization of the existing population. Many a time the spatial distribution of the population is seen as a simple dependent variable, or at best as an indicator of the emerging problems.

Clearly, the studies of the spatial distribution of the population must not focus only on the physical expressions in terms of location of residences, places of work and leisure, etc., or not simply on the flux of people, goods and services in the space. It is also necessary to consider that they are important because of their wide character that involves simultaneously the significance they have for public administration at any level; for the agents of the economic activities in general and for the population itself that is involved directly in the process.

The evaluation of the different ways of spatial distribution of the population reveals that the socio-spatial implications assume shocking dimensions in those situations in which large volumes of people get concentrated in small spaces as happens in the urban areas. This situation assumes great importance in quantitative as well as qualitative aspects through its association with economic growth, social change, and the question of modernization, etc. This is an indication that the magnitude and degree of the problems changes with the levels of concentration of people. In the same way, the alterations in the magnitude and the levels of the problems produce alterations in the concentrations of the population.

The continuous urban growth is a function of three factors : redistribution that encourages the movements from rural areas to urban areas ; intake that serves to retain new urban inhabitants and the native population in the city ; and, the multiple effect that create new limits of attraction, that is, the more the city grows the more it attracts migrants at the same time (Bisharat, 1895).

Regarding these factors, the first and the third are most easily verified in the analysis

of the behaviour of the spatial redistribution of the population of Sao Paulo state through a study of the process. The second is less evident since in the state, there are many many regions where the phenomenon of the urbanisation is limited to the capital city of of the same region. In a way where there is no compensation for the loss of the rural population or of the small cities. This verification points to the differential significance between the demographic growth of the large cities and that of the small cities.

How did the process of spatialization and respatialization of the population in the state of Sao Paulo develop ? What is the importance of the respatialization through urbanization ? How did the differentiated urbanization in a quantitative and spatial way produce profound alterations in the spatial distribution of the Paulista population ? What are the practical consequences of these types of changes ? The study address itself to these questions.

Spatialization and Respatialization

The state of Sao Paulo, as a space submitted differentially to processes of human occupation has accumulated population for more than 400 years. Therefore, the evidence of the different processes of occupation of its territory and of its colonization reveal some major lines of alterations connected with social, economic and political process which were reflected at different moments in the use of the land and consequently, in the spatialization of its population. These altertions are not only responsible for the distortions in the process of spatial rearrangement of the population in the entire state but also in the whole country. Thus, the state reveals a dynamics that simultaneously has both national and state importance. Fig. 1 shows the differentiation between the urbanisation in the country and in the Sao Paulo state,

A comparison that is made between the values registered for the total and urban populations of the country and of the state in particular, reveals, in a very clear way, the role of the demographic dynamism of the state and of the urban population in particular in the process of spatial reordering of population of the country whether we consider the total values or the urban values, as shown in Table 1.

Table 1

Total and Urban Population of Brazil and the State of Sao Paulo in 1940, 1950, 1960, 1970, and 1980

Census year/decade	Brazil		Sao Paulo	
	Total Population	Urban Population	Total Population	Urban Population
1940	41,236,315	12,880,182	7,180,316	3,168,111
1950	51,944,397	18,782,891	9,134,423	4,804,211
1960	70,992,343	32,004,817	12,974,699	8,149,979
1970	94,508,554	52,904,744	17,949,693	14,432,244
1980	121,150,573	82,013,375	25,375,199	22,494,328

Source : Computed from Demographic Censuses - FIBGE-1940, 1950, 1960, 1970 and 1980

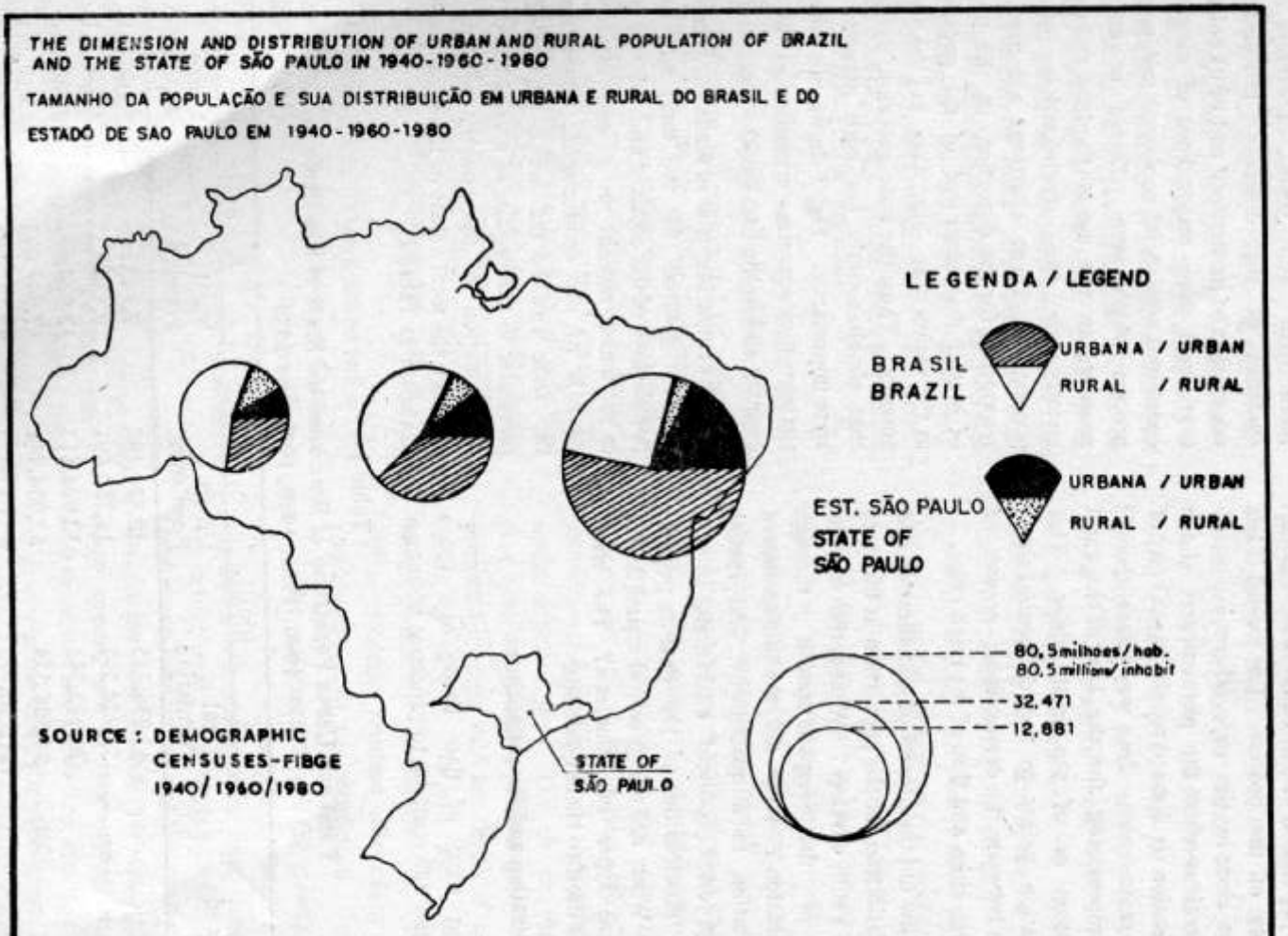

THE DIMENSION AND DISTRIBUTION OF URBAN AND RURAL POPULATION OF BRAZIL AND THE STATE OF SÃO PAULO IN 1940-1960-1980
TAMANHO DA POPULAÇÃO E SUA DISTRIBUIÇÃO EM URBANA E RURAL DO BRASIL E DO ESTADO DE SAO PAULO EM 1940-1960-1980
LEGENDA / LEGEND
BRASIL
BRAZIL
URBANA / URBAN
RURAL / RURAL
EST. SÃO PAULO
STATE OF SÃO PAULO
URBANA / URBAN
RURAL / RURAL
80,5 milhoes/hab.
80,5 millions/inhabit
32.471
12.881
SOURCE : DEMOGRAPHIC CENSUSES-FIBGE 1940/1960/1980
STATE OF SÃO PAULO

FIG. 1

In 1940, for each inhabitant of the state of Sao Paulo, we had 4.7 Brazilians in other states but, in 1980 this relation declined to 3.7. Considering only the urban population it is verified that it showed the same relations only at more accentuated level that is, a quotient of 3.0 Brazilians to each urban inhabitant of the state in 1940 and 2.6 in 1980. In this period the total population of the country registered an increase by 194 per cent and the urban population by 536 per cent while the corresponding values for state of Sao Paulo where 253.4 and 610 per cent. These values make it possible to identify adouble process existing in the Paulista population dynamics involving on the one hand their relations with the rest of country and on the other the levels of their own internal dynamism.

These values refer to the behaviour of the population of the state and indicate the significance of Sao Paulo's population as part of the total population of the country as also, the capacity of the state to attract migrants. It is also necessary to note that in the census of 1950 the majority of the population of the state showed urban housing conditions while, for the country this change could be registered only in the census of 1970. It is important however to notice that the image of 'urbanized area' revealed by the Paulista census in 1950 has only a macro sense since a detailed analysis reveals that, in that epoch, in 50 out of the 58-sub-regions of the state, the rural population was larger than the urban. The urban sub-regions were only eight corresponding to, the area of the capital of the state and others near it such as the Litoral, Vale do Praiba, etc. In the state, urbanization, considered in the sense of more homogenous spatial redistribution progressed only during the 1970-1980 period. Figure 2 shows, in detail, the different kind of behaviour of urban populations of different regions of the state.

The state of Sao Paulo in its historical evolution suffered the effects of multiple processes that produced various reorientations in the spatialization and respatialization of its population. The combined processes of the demographic growth and the different sequences of occupance of space, dominantly connected to the economic processes, are varied in time and therefore, permit the identification of periods well characterized by the differentiations in the spatial distribution of the population.

The analysis of the history of the occupance of the state reveals that processes that produced the spatial distribution and redistribution of population had a direction dominantly to the north and west in the initial periods and to the middle and the east in the recent ones. In both cases they were not simultaneous for all the municipalities of these different regions.

From the association between the growth of the population and its ways of spatialization, three broad periods can be identified. The first of them is connected with the process of initial penetration from Rio de Janeiro, Minas Gerais and from the areas next to the litoral of the state itself that extended over long duration and culminated in the 1910-1920 decade when the process of administrative organisation, via foundation of new municipalities, reached the areas most distant from the capital such as the regions located in the west and northwest of the state.Thus, the municipality of Sao Jose do Rio Preto was founded in 1894, Ribeirao Preto in 1891, Aracatuba and Presidente Prudente in 1921.

It was from these "mother-municipalities"* that tens of new municipalities were to be founded later giving thus a continuity to the process that practically ended in the first half of the 60's. This was the period of the Bandeirantes (in a large sense), of the gold rush in the middle western region but, it was only with the advancement of coffee that we had the first process generated, in a more stable way, a modality of spatialization of population in the state. Effectively the process of settlement connected to the coffee culture could only be compared years later to the one which was associated with industrialization and urbanization. That was also the period of large migrations not only of native people but from also many European countries. One of the most important aspects of this epoch was the foundation of a large number of new municipalities which played an important role as points of attraction for establishing new settlements.

This was the first important period of ruralization triggered by the intensification of the penetration process of capitalist production in the country. This process, specially when it involves the coffee culture, brought, not only a rapid occupation of the territory of state but also produced a model of spatial distribution of population dominantly dispersed, attenuating the differentiations already existing between the occupied and not occupied areas in the state.

The second period is a kind of intermidiary period situated between the agricultural phase and the beginning of Industrialization. It involved a shorter period of time. Limited in its beginning by the ending of the dominance of the process of foundation of the "mother-municipalities" it lasted approximately 25/30 years when the rural population declined in both absolute as well as relative terms. From the 40's onwards the rate of growth of the rural population of the state began to fall. In 1950 the rate of growth of rural population was lower, only in two administrative regions with urban dominance in 1940. By 1970 all the eleven regions shared this characteristic trend.

Yet in relation to the question of the administrative organization of the state through the foundation of new municipalities it is interesting to notice that the process did not follow a unique spatial orientation from the eastern to the western, northern and northwestern regions of the state. The existing records show that we had phases of this process with rather peculiar characteristics. It is because of this that, independent of the age of organization of each region, it is always possible to identify old municipalities and new ones in each region. For example: in the one of the municipalities of Sao Paulo, the capital city dates back to 1558 but in some other (Biritiba Mirim or Embu Guacu) the capitals were founded in 1964. In one of the litoral state, Sao Vicente was founded in 1532 but Praia Grande came up in 1964. Similarly in Ribeirao Preto we have Sao Carlos founded in 1805 and Aramina or Restinga in 1964. Although in Brazil the process of founding of muncipalities has always had strong political and fiscal connotation, even then these phases serve to identify changesin the characteristics of spatialization of population.

* "mother-municipalities" administrative units from which other municipalities were founded. Some showed great vitality in this aspect which demonstrates the significance of their demographic dynamism.

If the process of rural occupance marked the first period, this second phase is characterized by beginning of the process of differential deruralization of various regions. This trend was directly connected with the stage of economic development through which each region was passing. This process got accelerated in several regions of the state, should be evaluated in terms of the advantages it brought to the rural occupance. No single region reached a stage of over-population. For that it is enough to demonstrate that the rural demographic density was 16,2./km² in 1940 and this value increased to 19,5./km² in 1960. As a consequence, while in the regions of Aracatuba, S. Jose do Reio Preto and Presidente Prudente there was still some rural growth, betwern 1950 and 1960 in all the other regions the decline had already begun. This aspect becomes very clear when we evaluate the changes in the spatial patterns of population growth between 1940 and 1950.

The third period is one of intensification of the urbanization process. It helps in understanding and explaining not the actual distribution of population but, also the processes of development. Diffusion of this process began in the state in the 30's when it involved the capital region; in the 40's it was witnessed in the Vale do Paraiba region and in 50's and 60's in the other regions. This period and the process is characterized not only by its complexity in the form of natural growth of population but also by the massive role of the interstate and intrastate migrations that began to occur in this period.

The biggest complexity of this period involves sharper contrasts which began to occur among various regions as a result of the alterations through which the spatialization of the capital region passed consequent upon industrialization. Simultaneuosly, the process of spatialization of the job opportunities got intensified. The reports obtained from the censuses of 1970 and 1980 clearly reveal the significance of the 'non-natives' and 'non-natives of the state' in the population of some important cities as shown in Table 2.

Table 2

Non-natives and Non-natives of the State Present in Some Important Cities of the State of Sao Paulo in 1970 and 1980.

Cities	1970			1980		
	Total	Non-native	Non-native/state*	Total	Non-native	Non-native/state
S. Paulo	5872856	3841150	1136620	8493598	4285310	3743877
S. J. Campos	132482	74395	42784	287568	164177	50160
Campinas	335756	197677	144798	664356	401326	135105
Guarulhos	221569	170753	131305	523908	378321	153819
Rib. Preto	196242	93482	74508	318375	166393	56693
Sorocaba	169599	78474	67292	269880	139647	48721

Source : Computed from Demographic Censuses - 1970 and 1980 - FIBGE.

* Paulistas out of their home municipalities.

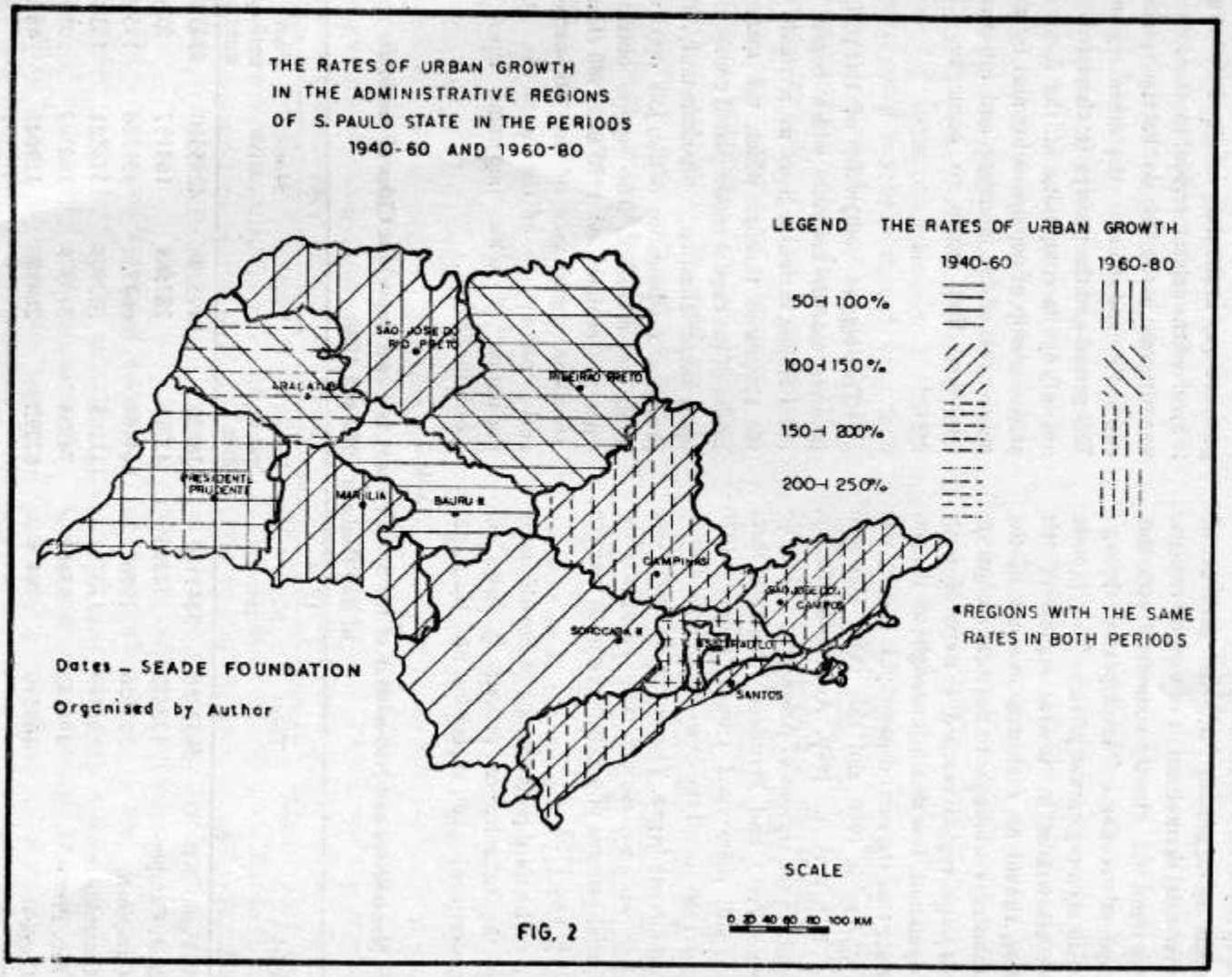

THE RATES OF URBAN GROWTH
IN THE ADMINISTRATIVE REGIONS
OF S. PAULO STATE IN THE PERIODS
1940-60 AND 1960-80
LEGEND THE RATES OF URBAN GROWTH
1940-60
1960-80
50-100%
100-150%
150-200%
200-250%
*REGIONS WITH THE SAME
RATES IN BOTH PERIODS
SÃO JOSÉ DO RIO PRETO
ARAÇATUBA
RIBEIRÃO PRETO
PRESIDENTE PRUDENTE
MARÍLIA
BAURU
CAMPINAS
SÃO JOSÉ DOS CAMPOS
SOROCABA
SÃO PAULO
SANTOS
Dates – SEADE FOUNDATION
Organised by Author
SCALE
0 20 40 60 80 100 KM

FIG. 2

The process of urbanization in the state, is principally responsible for the spatial changes of population from rural places to urban ones. It shows, however, many more significant characteristics associated with the differential character of urban growth in different regions and sub-regions. Thus, it is interesting to note that the period of predominance of the rural population did not show a balanced and homogeneous profile of the spatial distribution of population. And this did not begin in this period of urban predominance.

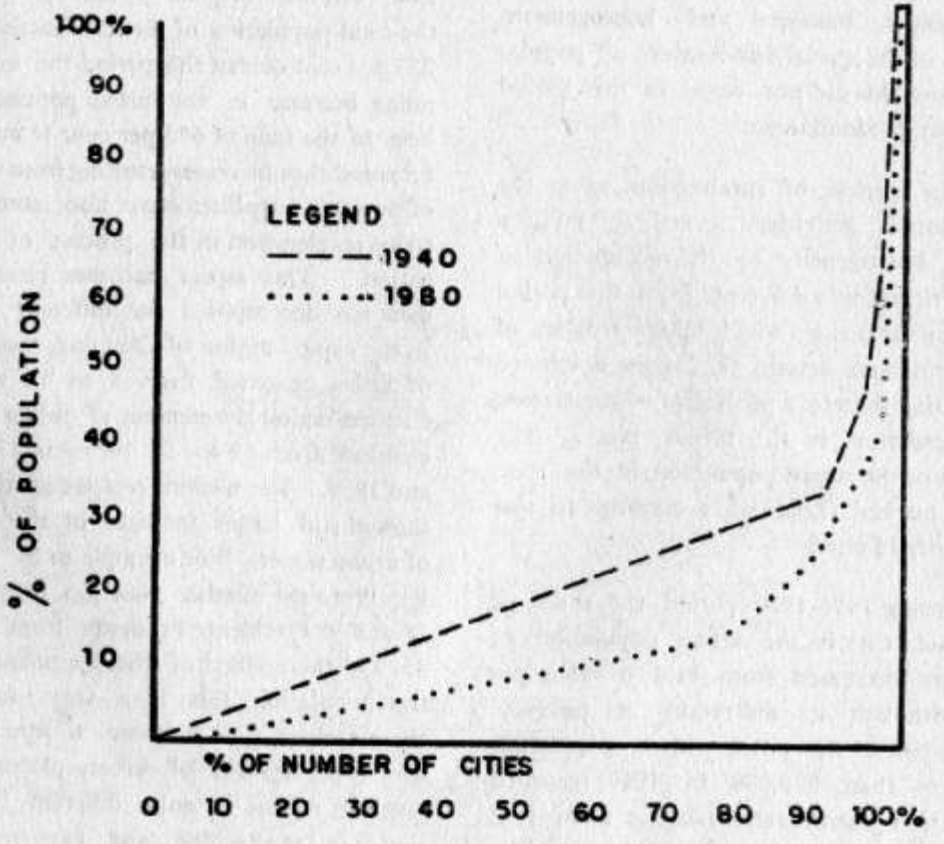
The period of ruralization, when the agricultural activities served to give a bigger homogeneity to the occupation of the territory, was different from the period of urbanization in which characteristics of competitiveness among the cities developed generating thereby a process of concentration of population in the urban places. The growth of the urban population in the state shows marked variations according to size categories of cities.

During 1970-1980 period the share of Sao Paulo City in the urban population of the state decreased from 41.0 to 38.3 per cent although it did retain its primacy. Meanwhile all the cities with a population of more than 200,000 in 1980 recorded population growth rates ranging from 19.2 to 21.0 per cent during 1970-80 decade. The growth rates estimated for the second half of the 1980's reveal more significant changes. The estimates indicate that these cities (14 in number) account for more than 50 per cent of the urban growth of the state. Spatially this trend would aggravate the urban scene since seven of these big cities have already assumed characteristics of urban conurbation and two others (Santos and S. Jose Campos) are in close proximity of metropolitan area. Only two cities (Ribeirao Preto and Piracicaba) are more than 100 km. away from the capital.

Several aspects of differentiated urbanization in Sao Paulo can be discerned through an analysis of data for four decades from 1940 onwards (Tables 3 and 4). Whereas the total population of the state increased by 253 per cent during this period the corresponding increase in the urban population has been to the tune of 605 per cent It may also be noted that increases resulting from creation of new municipalities have also contributed to an acceleration in the process of urbanization. This aspect becomes clear when data are decomposed for different regions. In the capital region of Campinas the number of cities increased from 8 to 12 while in Capinas region the number of urban centres increased from 42 to 59 between 1940 and and 1950. The western regions of the state showed still larger increase in the number of urban places. For example in S. Jose do Rio Preto the number shot up from 21 to 78 and in Presidente Prudente from 17 and 45. In the context of the spatialization of the population this is a very important characteristic for it shows a situation in which the growth of urban places in the southern region is quite different from the trends in the middle and eastern regions of the state where urban growth was confined to the pre-existing cities. Thus, in the west and the northwest the urban increase is associated with the emergence of new urban units.

A second general observation that can be made is with regard to the incomplete

RELATION BETWEEN THE DISTRIBUTION OF URBAN POPULATION AND THE NUMBER OF CITIES OF S PAULO STATE: 1940 AND 1980.



SOURCE: DEMOGRAPHIC CENSUSES - FIBGE 1940/1960/1980

ORGANIZED BY AUTHOR

FIG. 3

character of the urban net in 1940 lathough, the records continue to show the heterogeneity of the structure of this same net even in 1980. If in 1940 the size of the capital of the state did not influence the growth of the other cities of the area, in the west and the northwest the larger cities rarely fitted in the size group of 20 to 50 thousand inhabitants. The census of 1980, in spite of a great change in the structural distribution of the urban populations, continues to present the permanence of the incomplete character of the urban net of such regions as those of Marilia, Presidente Prudente, Aracatuba, etc.

The number of the cities according to various categories in each census and their respective population size and a small decentralization of the urban population in terms of relative growth rates and population size through each census is revealed in Fig. 3.

The population size of the administrative cities of the Sao Paulo, Vale do Paraiba and of the Littoral regions has shown increase However, the relative importance of each one in its own region decreased. Thus, while the level of preponderancy of two elements* for Sau Paulo comes to 13.3 and 8.1 respectively for 1940 and 1980, for all the regions of the West and Northwest of the state (except one of Marilia) the values increased. Also to be noted are the corresponding values for Ribeirao Preto 0.8 to 1.2; Bauru 0.9 to 1.7; and Presidente Prudente 1.6 to 2.3. This

Table 3

Number of cities of the state according to categories of sizes and their respective population size in 1940 and 1980

Categories	1940		1980	
	No. of Cities	Population	No. of Cities	Population
Upto 20 000	242	1 131 003	451	3 083 316
20 — 50 000	13	384 191	66	2 285 092
50 — 100 000	03	216 651	30	2 053 151
100 — 200 000	01	1577 781	14	2 079 549
200 — 500 000	—	—	10	3 207 447
+ than 500 000	01	1 258 482	03	9 481 875
Total	260	3 148 108	574	22 190 330

Source : Computed from Demographic Censuses - FIBGE, 1940 and 1980.

* Coefficient of preponderancy - established by the quotient between the volume of population of the principal city by the one of the two cities that follow it in importance. The elements between which relationship is calculated are the urban population distribution and the number of S. Paulo state citie s1940 and 1980,

Table 4

Rates of growth of cities with more than 200, 000 and less 200, 000 of inhabitants and relation between both rates - 1940, 1950, 1960, 1970 and 1980

(Figures in Percentage)

	1940/50	1950/60	1960/70	1970/80
Cities with more than 200,000 inhabitants (A)	63.0	70.3	87.9	69.8
Cities with less than 200,000 inhabitants (B)	44.1	69.2	46.1	39.7
Relation A/B (in quotient)	1.4	1.0	1.9	1.8

Source - Computed from Demographic Censuses - FIBGE, 1940, 1950, 1960, 1970 and 1980.

aspect represents a new form of disequilibrium in the spatial distribution of the urban population by various regions which often showed some growth only because their principal city was growing in population size. In no other period the transformations produced by a spatially differentiated growth of population had such a significance and led to clearly differentiated urbanization. One of the main consequences was changes in the rank of each region within the state.

Besides this mode of redistribution of urban population it is also necessary to consider a phenomenon that is occuring in the interior of the urban spaces of largest cities experiencing fast rate of urbanization. They are characterized by a fall in the demographic density associated dominantly with the extension of the urban territory. This process has resulted in substantial transformation of people through occupational and residential mobility producing an intense restructuring of the process of occupance of land.

Changes in the spatial distribution of population have impact on the social, economic. environmental and demographic aspects. The question of the spatial distribution of the population in small, middle-sized or large cities as well as the processes that produce these re-distribution is very complex. The fact is that all these have a bearing on the quality of life, access to schooling, sense and valorization of neighborhood, opportunities to have a house, etc.

The state of Sao Paulo has been showing a tendency towards excessive spatial concentration of population through differential growth of the urban areas in a way that differences between small and middle-sized cities and between these and the larger ones have widened. A serious dimension of this trend is that most of cities that are growing very rapidly have not been able to absorb, in a complete and adequate way, their demographic growth which in fact has added to their administrative, economic, social and environmental problems.

It is essential to predict future trends in urban growth. Now-a-days the process of urban growth that is occurring in each region is a part of the continuing concentration - deconcentration of the population of the state as a whole. The picture that we have shows a tendency towards a bigger disequilibrium in future.

In view of these trends in urbanization in Brazil it is not uncommon to come across proposals favouring intervention to stimulate growth of small cities and to decelerate the growth of large ones. Not only in a small territorial part of the state but in the country as a whole population shows a spatial design in which there is excessive concentration of people in a few urban pockets. The individual who begins to live and work in close proximity of thousands or millions of people finds himself in a difficult alienated situation. He naturally prefers a community oriented way of life in which he may know his neighbours or is able to share his work and his leisure with others in a more congenial atmosphere. The hard fact is that we are heading towards greater isolation surrounded by an impersonal environment in which we are becoming more conscious of our mutual differences. Hence, some fresh thinking on spatialization of the population and the factors generating it is necessary.

The state of Sao Paulo presents an accentuated concentration of the process of urbanization leading to a disequilibrium between the overall growth of its population and the urban segment. It is also to be noted that new urban functions do not always keep pace with demographic growth. At the same time the accelerated demographic growth in the Paulistas cities has, generally exceeded facilities and the urban infrastructure. The Paulista capital and the metropolitan region of Sao Paulo show this mismatch and this situation has been developing for a long time. Many other cities of the interior and of the littoral (Sao Jose dos Campos, Santos, Campinas, etc.) also face similar problems. Only the intensity of problems varies.

The analysis of the changes in the redistribution of the population that are occurring in the state of Sao Paulo gives us an opportunity to search for a theory of spatial distribution of population. Necessarily, these changes must be evaluated in terms of the different phases of social and economic developments through which the state has been passing. Thus theorisation of the spatial distribution of the population becomes possible if we search for coherent explanations regarding the historical process which initiated the distribution of population, a search for relations between social, economic and political variables and the demographic spatialization.

The actual stage of spatialization of the population in the state of Sao Paulo reveals two fundamental characteristics ; the accelerated urbanization of some cities and the suburbanization. Both processes have certain undesirable consequences. The pollution rates are growing, the quality of public services and of the urban administration is deteriorating. There is reduced access to dwellings and to public buildings. There is reduction in the incomes of the communities and increase in personal and collective insecurity, etc. Before this situation becomes explosive it is important to consider proposals for spatial reorientation of the population.

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