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MAIN CHARACTERISTICS OF THE AGRICULTURAL POPULATION OF SERBIA

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Abstract

Based on census data, the paper attempts to analyse the characteristics of Serbia's agricultural population and changes therein during 1953-1991. It mainly focuses on the spatial aspects of the following attributes of this segment of population : (i) proportion to total population; (ii) changing share of agricultural workers; (iii) patterns of various densities of population; (iv) age structure, gender aspects and education; and (v) productivity level of active agricultural population.

Introduction

Of the 4,027 villages in Serbia[1] since the Second World War, only 20 villages had recorded a population growth above the natural increase, while in 3,097 villages the population decreased by more than 50% (Fig. 1). According to the 1991 census, Serbia for the first time in its history recorded more people in towns that in the countryside. If we look at this proportion regionally, the same is true for Vojvodina and Central Serbia, while in Kosovo and Metohija there are still more people (67.5%) in rural than in urban settlements. Over the last few decades of the 20th century, two of the Serbian macro-regions, Vojvodina and Kosovo and Metohija have exhibited totally different patterns of population growth. In these areas, the population is rapidly growing in (territorially smaller) Kosovo and Metohija, while in Vojvodina there is only moderate growth, and, recently, a decline of population there. Besides, there is a spatial polarization in the dynamics of the population migrations, including the agricultural population, in Serbia.

From 1953 to 1991, the agricultural population declined in Serbia both in absolute and relative terms, from 4.7 million (66.7%) to 1.7 million (17.6%).[2] The data about the changes in structure of agricultural population point to the tempo of economic development and to changes in the social and economic relationships. As a rule, the transfer of population from agriculture to urban centres was selective - young people who were capable of work, mainly men, left the villages. This had significant consequences for the overall population structure by age and gender.

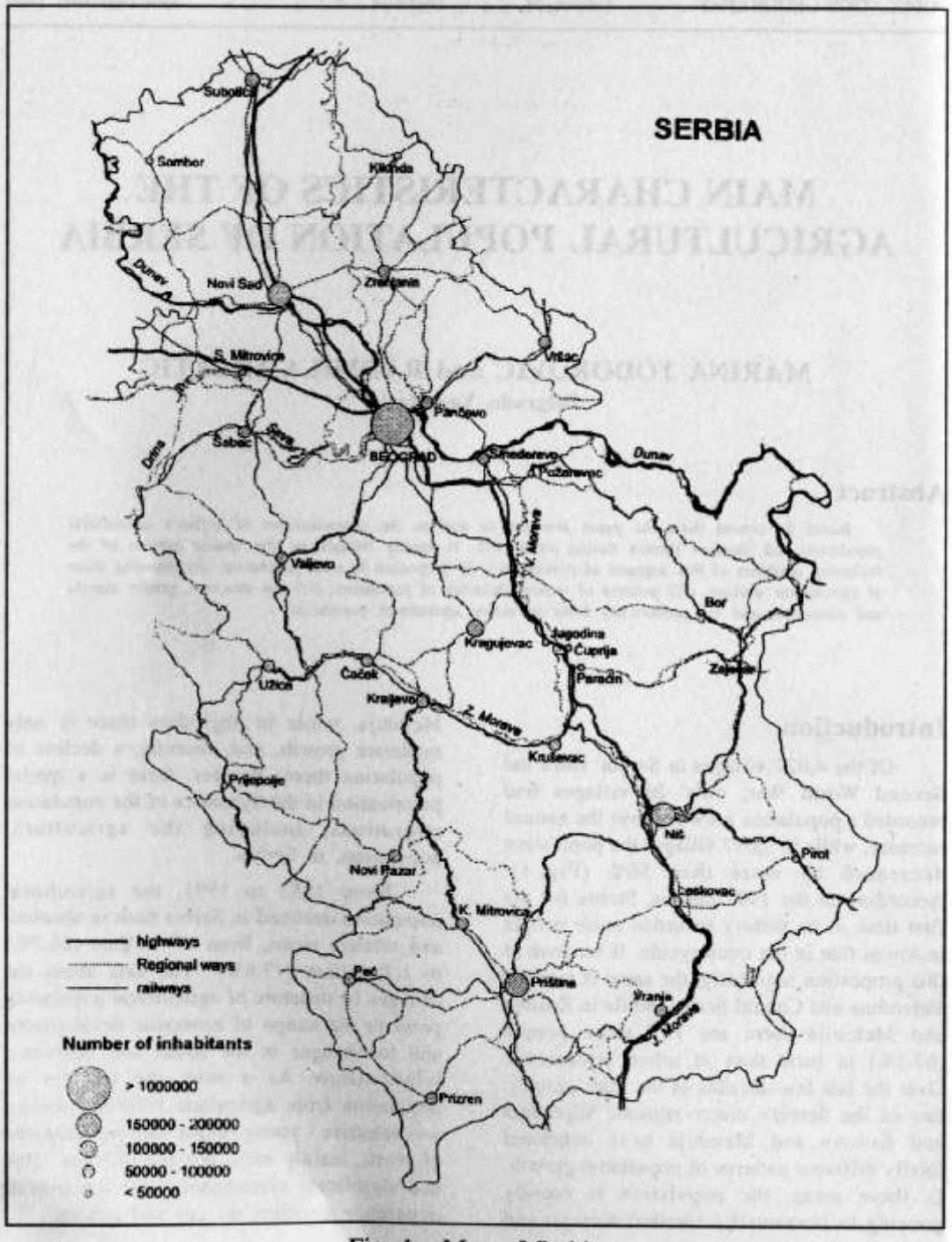

Fig. 1 - Map of Serbia

Table-1

Change in Overall and Active Agricultural Population

	Size of agricultural population	% of the total population	Active agricultural population		% of total active Population
			Number	%	
		1953			
Serbia	4656608	66.7	2485489	53.3	73.5
Central Serbia	2993822	68.2	1745415	58.3	74.8
Vojvodina	1077983	62.9	534493	49.6	68.7
Kosovo and Metohija	584803	72.4	205581	35.1	76.6
		1991			
Serbia	1666186	17.6	1028115	61.7	24.6
Central Serbia	1008129	18.0	741960	73.6	27.0
Vojvodina	269438	13.7	149583	55.5	17.1
Kosovo and Metohija	388619	20.5	136572	35.1	24.9

Source: A group of authors, "Population and households in the Republic of Serbia according to the 1991 census", p. 273, Beograd (Belgrade), 1995.

The changes were the fastest in Vojvodina where, in 1991, more than half of all the municipalities had less than 20% agricultural population. In some of them, with a higher degree of urbanization or in more favourable geographical position for traffic and transportation, it was under 10%. Only in some, mainly under-developed and strongly depopulated municipalities of Vojvodina, did the agricultural population make between 20 and 40% of the total population (Fig. 2). At the same time, in most municipalities of Vojvodina the proportional participation of active population in the agricultural population is low, which is a consequence of employment in non-agricultural parts of the economy, and reduced need for human work-force in agriculture due to improved agro-technological measures (Fig.3) Besides, notable demographic changes particularly the acceptance of birth control amongst the rural population has also contributed in this regard. All the above-mentioned demogeographic factors have seriously undercut the reproduction and renewal of labour force in Serbian agriculture, causing an increased participation of women and of old men on the farms.

While Vojvodina is characterized by relative homogeneity, municipalities in Central Serbia are very heterogeneous in their levels of economic development, and, consequently, of deagrarianization. The largest participation of agrarian population in the total population is found in traditionally agricultural regions of western Serbia and in Pomoravlje. In many underdeveloped municipalities (*border-zones and hilly and mountainous zones of Serbia*), active population still predominates in the primary sector. Lower share of agriculturally active population in the total population is found in areas with favourable conditions for a more intensive process of industrialization

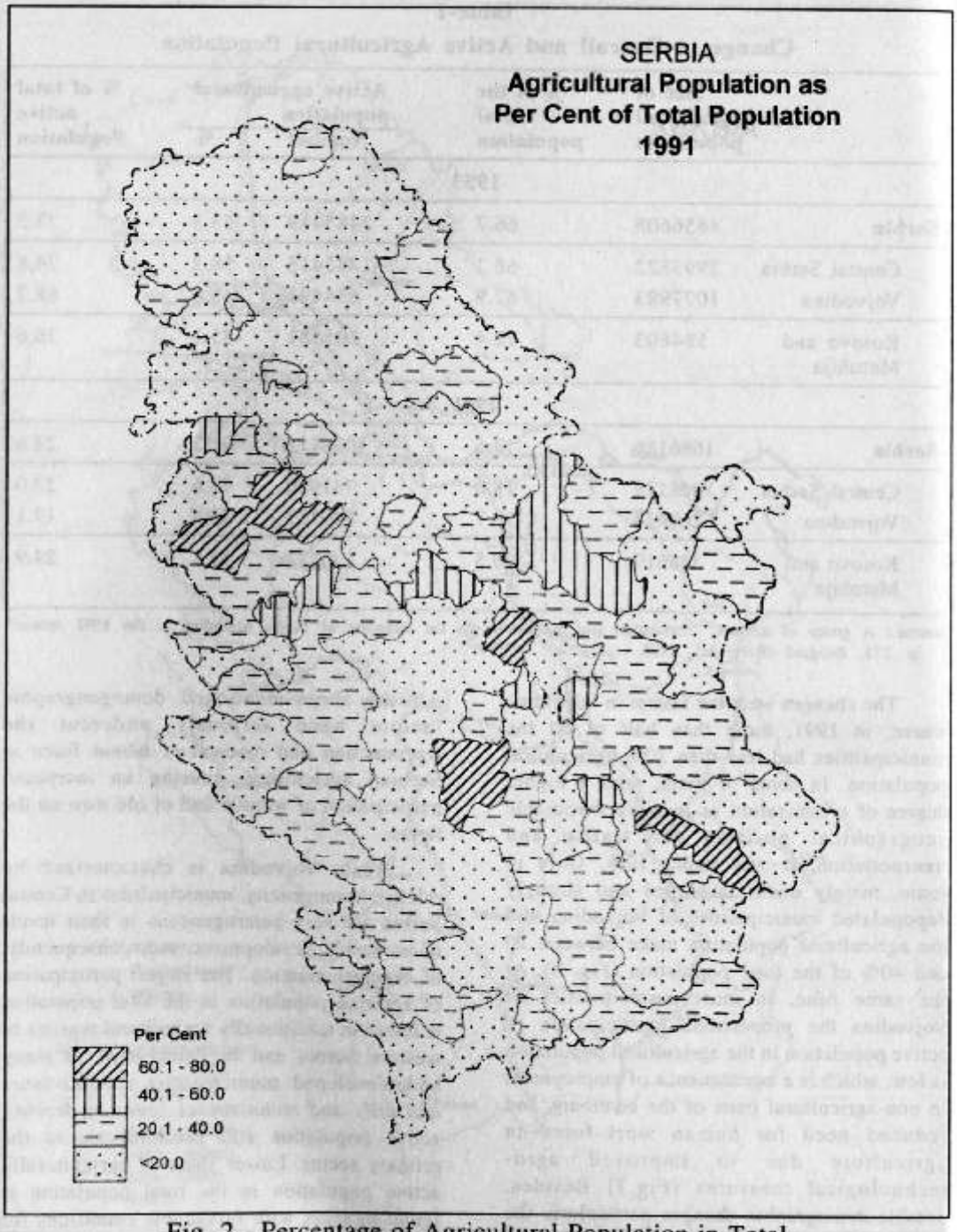

Fig. 2 - Percentage of Agricultural Population in Total Population of Serbia, 1991

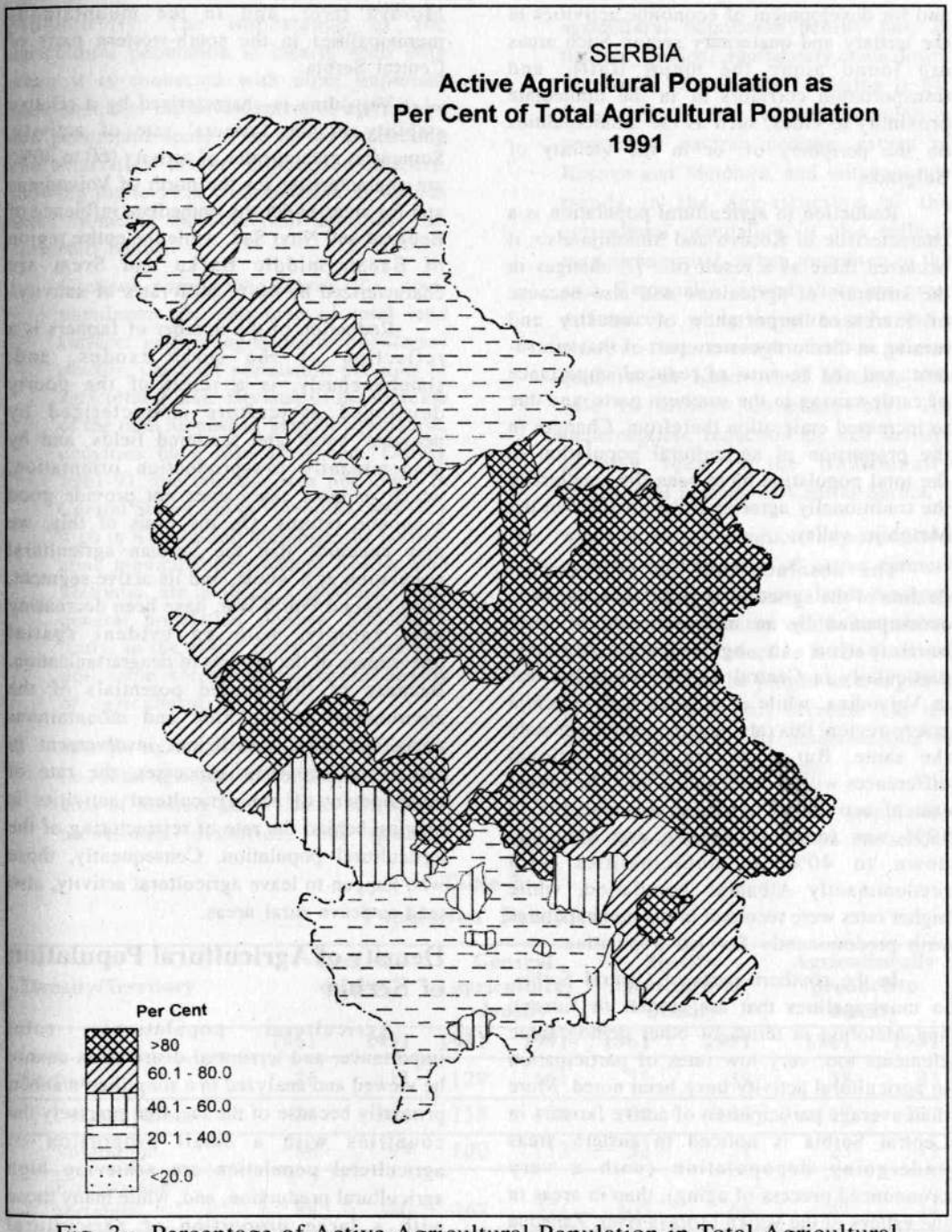

Fig. 3 - Percentage of Active Agricultural Population in Total Agricultural Population of Serbia, 1991

and for development of economic activities in the tertiary and quaternary sector. Such areas are found along the major traffic and transportation corridors or in the immediate proximity to cities, such as the municipalities on the periphery of, or in the vicinity of Belgrade.

Reduction in agricultural population is a characteristic of Kosovo and Metohija also; it occurred there as a result of : (i) changes in the structure of agriculture and also because of increased importance of industry and mining in the northwestern part of that macro-unit; and (ii) because of reduced importance of cattle-raising in the southern parts, and due to increased emigration therefrom. Changes in the proportion of agricultural population in the total population have been the smallest in the traditionally agrarian municipalities in the Metohija valley.

The absolute and the proportional decline of the agricultural population has been accompanied by an increased rate of work participation in agricultural activity, particularly in Central Serbia, somewhat less in Vojvodina, while in Kosovo and Metohija macro-region[3] this rate remained approximately the same. But there are strong regional differences within marco-units too. The lowest rate of activity of agricultural population in 1991 was found in Kosovo and Metohija, down to 40% in municipalities with predominantly Albanian population, while higher rates were recorded in the municipalities with predominantly Serbian population.

In the southern parts of Central Serbia, in municipalities that are similar to Kosovo and Metohija in terms of other demographic elements too, very low rates of participation in agricultural activity have been noted. More than average participation of active farmers in Central Serbia is noticed in eastern areas undergoing depopulation (with a very pronounced process of aging), than in areas in the valleys of the Velika Morava river, Zapadna Morava river, in the upper course of the Juzna Morava river, and in the mountainous municipalities in the south-western parts of Central Serbia.

Vojvodina is characterized by a relative stability of the farmers' rate of activity. Somewhat greater rates of activity (60 to 80%) are characteristic for the north of Vojvodinaa and for areas under the immediate influence of Beograd and Novi Sad, while the entire region of Banat, middle Backa and Srem are characterized by 40 to 60% rates of activity.

Reduction of the number of farmers is a reflection of the rural exodus, and, simultaneously, is a result of the poorly developed agriculture characterized by peasants' small and scattered fields, and by predominantly low-production orientation, which in most cases does not provide good economic returns. On the basis of this, we may conclude that the Serbian agricultural population as a whole, and its active segment, after Second World War, have been decreasing very rapidly, with an evident spatial unevenness of the process of deagrarianization. Because of the limited potentials of the environment in the hilly and mountainous areas and their insufficient involvement in social and economic processes, the rate of development of non-agricultural activities is lagging behind the rate of restructuring of the agricultural population. Consequently, those who happen to leave agricultural activity, also tend to leave rural areas.

Density of Agricultural Population of Serbia

Agricultural population's role, importance, and territorial distribution cannot be viewed and analyzed in a simplified manner, primarily because of the fact that precisely the countries with a small proportion of agricultural population are achieving high agricultural production, and, while many those with a large proportion of agricultural population have small or minimal agricultural

productivity. The importance of the agricultural population is clearly seen only when it is connected with other important components of the development of agriculture and geographic space. One of the connecting characteristics is the population density, showing the level of concentration in various areas. Some of the numerical densities are presented below.[4]

1. *General population density*, i.e. total population per unit area of total land surface; *general agricultural population density*, i.e. total population per unit of agricultural land. Because of the increase of the total number of general population, densities have also increased. During 1961-91, the increase was not much in Central Serbia and in Vojvodina, was very high in Kosovo and Metohija; the border-zone municipalities, except Kosovo and Metohija, are showing a decrease of the general population density. Simultaneously, in the entire study area there is a noticeable increase of the *general density of agricultural population.*

2. *Specific agricultural population density*, i.e., total agricultural population per unit area of farming land. Unlike the above-mentioned densities, the specific agricultural population density has, in the study period, significantly come down. The index of decrease of Serbia is 54. This reflects the reduced population growth by natural increase, except in Kosovo and Metohija, and unfavourable trends in the age-structure of the agricultural population; it also reflects very strong rural- urban migraiton in the area. Regionally viewed, there are great differences : while Vojvodina is having a sharper-than-average fall in these densities, in Kosovo and Metohija this fall is almost imperceptible. An imperceptible reduction of this density is also seen in the traditionally agricultural regions of Central Serbia.

3. *Agriculturally productive population density*, i.e., number of active farmers per unit area of farming land. Analysis of population densities of this sort shows their significant reduction in the observed period. This can be judged as a negative process, because this decrease has not been compensated by modernization in the agricultural production.

From the analysis of the population densities we can conclude that in the second

Table-2
Population Densities

Density/Territory	General density		General agricultural density		Specific agricultural density		Agriculturally productive density	
	1961	1991	1961	1991	1961	1991	1961	1991
Serbia	86	111	129	161	72	39	38	23
Central Serbia	86	104	138	168	100	113	167	271
Vojvodina	86	94	100	113	52	21	23	11
Kosovo and Metohija	88	180	167	271	107	65	41	14

Source : M. Todorovic, *Gustine naseljenosti poljoprivrednog stanovnistva u SR Srbiji* ("Agricultural Population Densities in Serbia", Zbornik radova Geografskog instituta "Jovan Cvijic" SANU, br. 40, str. 221, Beograd, Yugoslavia, 1988.

half of 20th century, in most municipalities in Vojvodina and Central Serbia there was a significant reduction of the population engaged in farming and cattle rearing, and that this process was much fast in Vojvodina, south-eastern Serbia, and in mountainous areas of the Republic. Also, it is evident that southern Serbian municipalities, bordering Kosovo and Metohija, are assuming some of the characteristics of Kosovian and Metohijan municipalities, which is the result of inmigration there from Kosovo and Metohija.

Agricultural Population Structure by Age and Gender, and the Position of Women in Agriculture

The *age structure* of the agricultural population in Serbia is a very special case, a result of multidimensional and multiple socio-economic processes and changes. It is a generally known fact that agriculture is being abandoned mainly by the young chiefly for three reasons: (1) going away to continue schooling in urban centres, (2) migrating to urban centres to get a non-agricultural job, and, (3) making marriage with a person who lives and works outside the area; this is done mainly by women, especially those who are in the fertile period of life. The age structure of the population is particularly important for geographic research in agriculture particularly regarding the size of work-force in agriculture, because it determines not only today's but also the future volume of work-force.Serbian agricultural work-force is experiencing aging, with very pronounced regional characteristics.

In the few decades of the twentieth century, there was a great decline of the young population (upto 19 years of age) from 41.6% to 30.5% with an increase of the participation of the old (over 60 years of age) from 8.8% to 16%. According to the projections, this trend will continue, so that it is expected that in Central Serbia by the year 2011 the agricultural population will fall to only 9.4%, of which at least 50% will be over 60 years of age, while only 11.5% (less than 62,000 persons) will be younger than 20 years of age.[5]

Spatial polarization of the *demographic* development in Serbia is becoming more and more pronounced, which is noticeable in the farmers' age structure in various macro-regions. Kosovo and Metohija, which are in the stage of demographic youth, obviously differ from Central Serbia and Vojvodina, which have gone up in respect of population aging.

It has been empirically proved that the general aging of agricultural population brings consequences such as more conservative attitudes, more diffficult adjustment to change introduced by technical and technological advances including innovations in agriculture, insufficient initiative, inadequate education, increased expenses for medical insurance, etc.

Gender structure is also an important factor in the economic activity of the population in an area. The post-World War Second process of intensive industrialization and deagriculturisation has caused an increase in the number of mixed households, which inevitably increased the engagement of women in agriculture, because men generally move out and find jobs outside of agriculture while women stay on the land.

From the year 1961 to 1991 participation of active women in Serbian agriculture has risen by four percentage points (from 42.0 to 46.4%). Since 1980, female workforce has constituted, in central Serbia's agriculture, more than half (51.2%) of the active farmers. In that period, reduction of female participation has been noticed only in Vojvodina, and can be explained by stronger orientation towards field farming, in which there is less room for female labour. Activity of women is, on the average, smaller in Kosovo and Metohija, which confirms a well known observation that in the predominantly Islamic (Muslim) population[6], females' share in economic activity is very low.

Table-3
Active Agricultural Population by Educational Level (%)

Territory / Year	No education	4-7 years of elementary school and complete elementary school	With secondary, higher or high education
Serbia			
1953	45.64	54.30	0.06
1991	23.12	70.26	6.09
Central Serbia			
1953	47.07	52.86	0.06
1991	25.26	69.00	5.20
Vojvodina			
1953	29.92	69.69	0.10
1991	11.77	77.31	10.46
Kosovo and Metohija			
1953	72.45	27.49	0.05
1991	23.12	70.26	6.09

Note : Difference to 100% is filled by persons with unknown level of education.

Source : M. Todorovic, S. Mihajlovic, "Educational Characteristics of Active Agricultural Population of *Serbia*", *Geografski godisnjak (Geographic Annual)*, SGD-podruznica Kragujevac, pp. 31-40, Kragujevac, Yugoslavia, 1995.

Strong regional differences of the gender structure of the agricultural population of Serbia, are clearly illustrated by the data about the participation of women in the agricultural work-force. This is the lowest in Vojvodina and in Kosovo and Metohija. Within Vojvodina, this rate is lower than average in the municipalities of south-western Vojvodina, and higher in the north-west. In Kosovo and Metohija, the rate is higher in the municipalities with predominantly Serbian population. In Central Serbia, population of women in agriculture is higher than average in most municipalities in eastern Serbia (Fig. 2).

These data are also supported by empirically known facts which, however, show that hard labour in agriculture is mostly done by men, particularly during weekends, vacations etc. The reasons for increased activity of women is to be found in economic necessity, not in their free will. These trends of women's increased engagement (enforced by circumstances, not voluntary) in agriculture are the reason for women's increased trends to leave the villages. Whatever work the men do not find time to complete, women must complete, particularly the work relating to the cattle and sometimes all other kinds of work. Besides, for them, there is also the household work, along with that of childcare.

Intensification of female labour in agriculture often leads to structural changes in the production. In most cases woman is both the agricultural producer and the housewife. For this reason, she abandons all forms of agricultural production which would separate her for long periods of time, during the year, from the household, and she orients herself more to the kind of production that can be

organized in the house-yard and in its vicinity, such as cattle-raising and gardening.

Among the agricultural population the proportion of illiterate, uneducated or poorly educated is greater among women than among men. Therefore, the increased engagement of women in agriculture is slowing down the technical and technological progress of agriculture and its further development.

Educational Structure of Agricultural Population

In modern agricultural production, characterized by quick development of science and technology, there is an imperative need for the educational level of the farmers to be higher. This is precisely why the education of the agricultural population makes a great contribution to the general development of the country : farmers' education influences adoption of agricultural innovations, agricultural productivity, and their ability to adapt to new circumstances.

Immediately after the World War Second, low level of education was a general characteristics of Serbian population, but it was particularly low among the agricultural population. In the last few decades of the 20th century, the educational structure of this section of population has improved notably. But it is still far below the European average.[7] In 1991, the educational level of active agricultural population of this Republic had gone up to nearly completed elementary school (which is an 8-year schooling). In the macro-region Vojvodina, the situation is somewhat more favourable, and in Kosovo and Metohija more unfavourable. Regional differences in the educational level of active agricultural population are rather large, and they mainly coincide with the level of economic development, i.e., the educational level is somewhat higher among the agricultural population in the more developed municipalities, cities and near-city settlements, and vice-versa.

The number of active farmers without any education in Serbia has come down from 45.6% to 23% during 1953-1991. The category of active agricultural population with only elementary schooling has declined in absolute numbers, but increased in terms of proportion from 54.5% in 1953 to 70.2% in 1991 (*Todorovic, Mihajlovic,* 1995 : 34). It shows that a new socio-economic process has begun : the total number of farmers is declining but their educational structure is improving. It is important that this rising trend is noticeable also in the segments who have finished secondary, higher, or high education. Although the improvement of educational level is strong among the active farmers, there is still a large number of inhabitants (as much as 25.26%, i.e., one in four) without any education. It deserve emphasis that most of the illiterate belong to the category of old (aged) population.

It is beyond doubt that in the future Serbian agriculture, instead of an illiterate or semi-literate peasant, a *farmer-expert* will be needed, with the ability to accept and implement the results of modern technical and technological development.

Types of Agricultural Population's Concentration

Contemporary territorial distribution of population, including agricultural population, is one of the important elements in planning the regional and rural development. In this paper, the analysis of spatial grouping of relevant categories of agricultural population has been presented through the indexes of concentration of productivity levels of the active farmers, showing the proportion between the size of area or total agricultural production, and inhabitants (active farmers) in some region.

In the territory of the Republic of Serbia, five types of concentration of agricultural population (Fig. 4) have been discerned.[8]

(1) *Very low concentration type* (0.00 to 0.50) : according to the 1991 census, 49

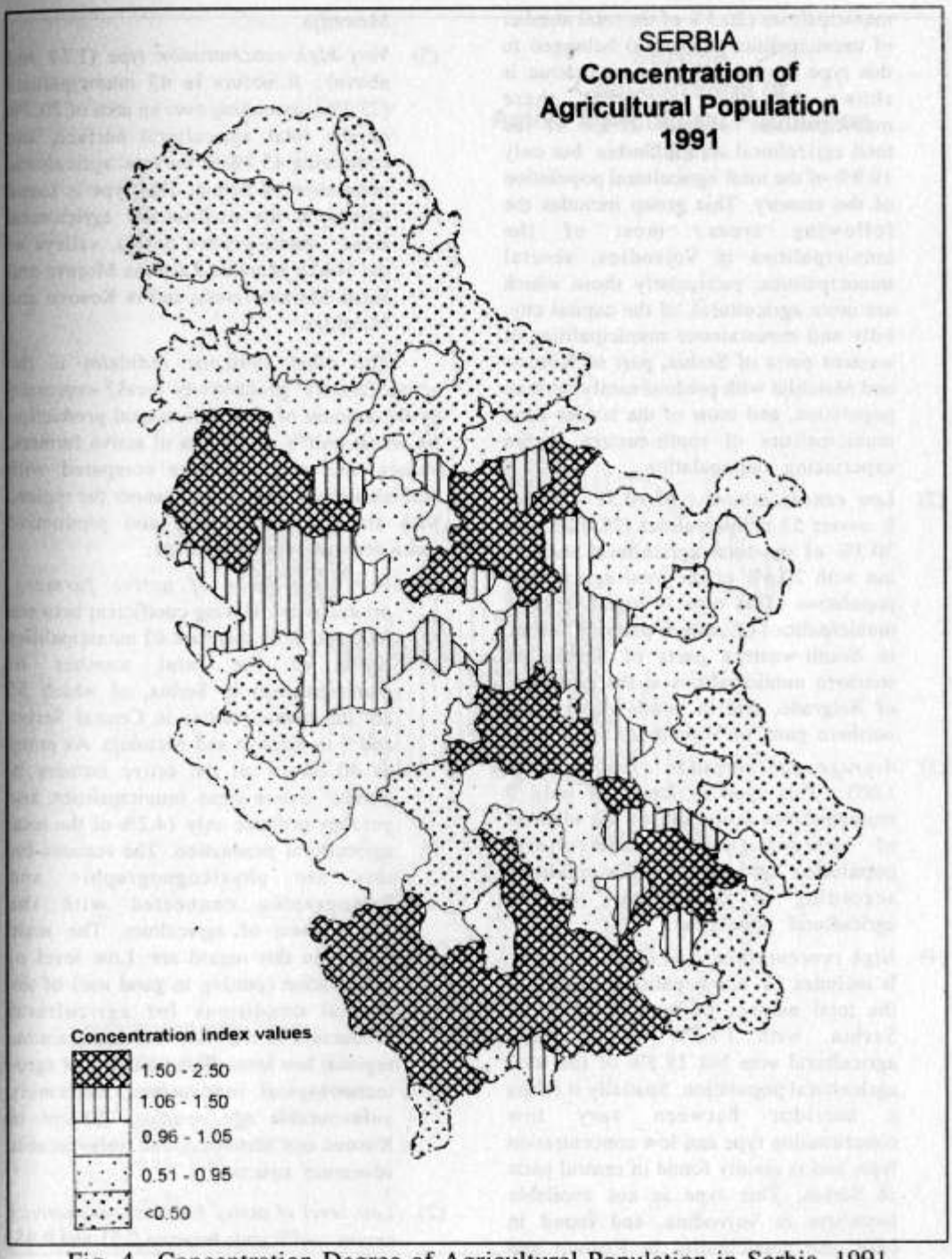

Fig. 4 - Concentration Degree of Agricultural Population in Serbia, 1991

municipalities (26.5% of the total number of municipalities in Serbia) belonged to this type. Low level of concentration is shown by the fact that these municipalities contain 29.9% of the total agricultural area in Serbia but only 10.9% of the total agricultural population of the country. This group includes the following areas: most of the municipalities in Vojvodina, several municipalities, particularly those which are more agricultural, of the capital city, hilly and mountainous municipalities of western parts of Serbia, part of Kosovo and Metohija with predominantly Serbian population, and most of the border-zone municipalities of south-eastern Serbia experincing depopulation.

(2) *Low concentrations type* (0.51 - 0.95): It covers 53 municipalities (28.6%) with 30.3% of the total agricultural surface, but with 20.6% of the total agricultural population. This type is found in most municipalities of eastern parts of Serbia, in South-western parts of Serbia, in southern municipalities at the periphery of Belgrade, and in south-western and northern parts of Vojvodina.

(3) *Average concentration type* (0.96 to 1.05): This type is found in only 9 municipalities according to the element of concentration of agricultural population and in 14 municipalities according to the activity of the agricultural population.

(4) *High concentration type* (1.06 to 1.50): It includes 31 municipalities (16.8% of the total number of municipalities) in Serbia, with 14.3% of the total agricultural area but 18.3% of the total agricultural population. Spatially it forms a corridor between very low concentration type and low concentration type, and is mainly found in central parts of Serbia; This type is not available anywhere in Vojvodina, and found in only one municipality in Kosovo and Metohija.

(5) *Very high concentration type* (1.51 and above): It occurs in 43 municipalities (23.2%), extending over an area of 20.7% of the total agricultural surface, but containing 45.1% of the total agricultural population of Serbia. This type is found mostly in the traditionally agricultural areas : north-western Serbia, valleys of the Velika Morava, Zapadna Morava and Juzna Morava rivers, and in Kosovo and Metohija.

The other synthetic indicator is the active farmers' productivity level,[9] expressed by the amount of total agricultural production (in wheat unit[10]) per capita of active farmers. Values thus obtained were compared with Serbian average, and in this manner the regions with similar demographic and productive characteristics were discerned :

(1) *Very low level of active farmers' productivity :* Having coefficient between 0.00 and 0.50, there are 63 municipalities (34% of the total number of municipalities) in Serbia, of which 55 are the municipalities in Central Serbia and 9 in Kosovo and Metohija. As many as 40.7% of all the active farmers in Serbia[11] live in these municipalities, and yet they produce only 14.2% of the total agricultural production. The reasons for this are physicogeographic and demographic connected with the development of agriculture. The main factors in this regard are: Low level of valorization (putting to good use) of the natural conditions for agricultural production in the hilly and mountainous regions; low level of exploitation of agro-technological innovations; extremely unfavourable age structure (except in Kosovo and Metohija); and unfavourable education structure.

(2) *Low level of active farmers' productivity* means coefficients between 0.51 and 0.95.

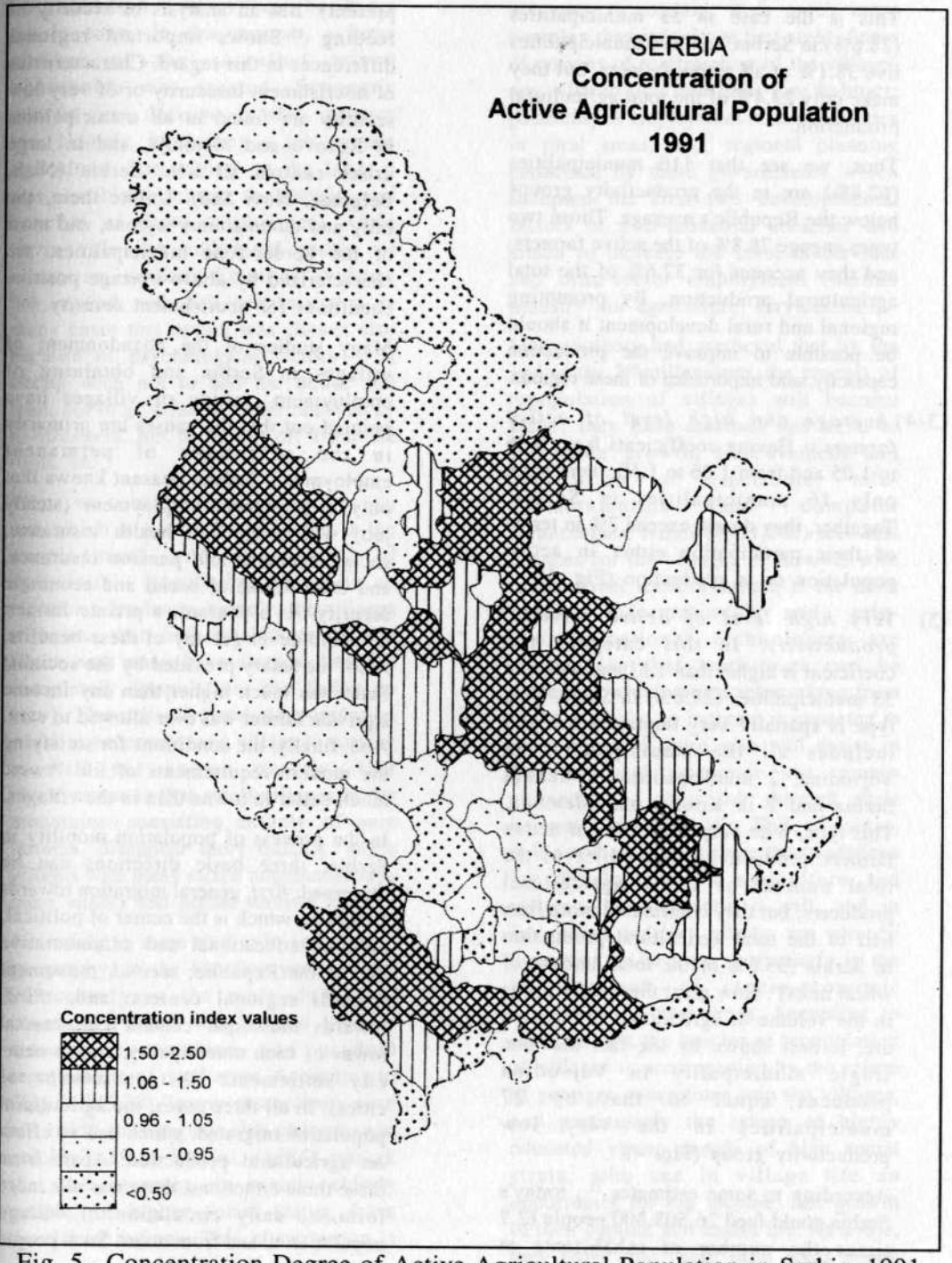

Fig. 5 - Concentration Degree of Active Agricultural Population in Serbia, 1991

This is the case in 53 municipalities (28.6%) in Serbia. In these municipalities live 38.1% of all active farmers, but they make only 23.4% of the total agricultural production.

Thus, we see that 116 municipalities (62.8%) are in the productivity groups below the Republic's average. Those two types engage 78.8% of the active farmers, and they account for 37.6% of the total agricultural production. By promoting regional and rural development it should be possible to improve the production capaacity, and importance of these regions.

(3-4) *Average and high level of active farmers's:* Having coefficients from 0.96 to 1.05 and from 1.06 to 1.50, there were only 16 municipalities in Serbia. Together, they do not exceed 7% in terms of their participation either in active population or in production (Fig. 5).

(5) *Very high level of active farmers' productivity:* In this category the coeffcient is higher than 1.51 and it covers 53 municipalities (28.6%) in Sebia. This type is spatially very homogeneous and includes all the municipalities in Vojvodina, 2 municipalities in Central Serbia and 2 in Kosovo and Metohija. This type, with very high level of active farmers' productivity, had 14.7% of the total number of active agricultural producers, but they contributed more than half of the total agricultural production in Serbia (55.6% of the total amount of wheat units) . How great these differences in the volume of agricultural production are, is best shown by the fact that one single municipality in Vojvodina produces equal to that by 27 municipalities in the very low productivity group (Fig. 4).

According to some estimates [12] , today's Serbia could feed 26,508,300 people (2.7 times the number of inhabitants at present). But an analysis of security of feeding [13] Shows important regional differences in this regard. Characteristics of nourishment insecurity or of very low security are found in all municipalities in Kosovo and Metohija, and in large urban centres all over Serbia (Nish, Belgrade, Novi Sad). Unlike them, the hilly and mountainous regions, and most of the border-zone municipalities, are characterized by above-average positive conditions for nourishment security.

Many studies of the abandonment of villages in Serbia and obtaining of employment outside of villages have pointed out that the causes are primarily in the advantages of permanent employment. Serbian peasant knows that only a permanent employment (steady job) will bring him health insurance, social insurance and pension insurance, and other forms of social and economic security. As a peasant, a private farmer, he could never get any of these benefits. Also, the salary provided by the socialist State was much higher than any income a private farmer was ever allowed to earn. And, finally, the conditions for satisfying the modern requirements of life [14] were much better in towns than in the villages.

In the process of population mobility in Serbia, three basic directions can be discerned: *first,* general migration towards Belgrade, which is the center of political, cultural, educational and administrative life of the Republic; *second,* movement towards regional centers; and, *third,* towards municipal centers i.e., capital towns of each municipality, and to near-city settlements (distant suburbs of cities). In all three cases, the agricultural population migrated, which had an effect on agricultural production. Apart from these three directions, there was one more form,ie., daily circulation of village population to and from cities. Such people

continued to live in a village, but had a job in town. In this manner, a large number of the so-called mixed households was created. Economic interest was decisive in this instance too. Namely, by getting a job outside agriculture, but staying on the land, it was possible to achieve the security and benefits of State employment while having also an additional source of income i.e., the farm. Empirical evidence has proved with full certainty that in many cases this option was chosen also because of psychological factors — a strong wish not to sell the house and land, not to give family inheritance away to strangers, not to be cut off from the roots, etc.

When we consider how the villages die out, which is one of the processes in the development and movement of agricultural population, we ought to mention a tendency, namely, the villages with less than 500 inhabitants die out faster, and many have already died out completely (population has fallen to zero). The *critical* threshold population which is necessary for a village to survive is still not known exactly. Our observations is that small villages in the mountains, consisting entirely of pure farmers, disappear more quickly, while villages with many mixed households have more vitality and higher survival rate.

According to some studies in agricultural geography, in the last few years of the 20th century in the more developed counties, a trend was noticed towards slower depopulation and gradual repopulation of rural areas. According to Gilg (1985:70) "many researchers were not ready to recognize this phenomenon quickly". Dean [15] et al. (1985) remark that the returnees are mainly elderly people, of higher social status, from developed regions. This phenomenon is not easy to explain, it is much more complex than it looks at first sight. Some of reasons of reaffimation of the villages are: wish to live in village-type habitats; possibility of employment in new industries in rural areas; and, regional planning performed by those governments which accepted the first two developmental factors of post-industrial societies and aimed to increase the level of services and third-sector employment (neither industry nor agriculture; services etc.).

Many authors had predicted that by the end of the 2nd millennium, the process of repopulation of villages will become faster; they have ascribed this trend to inevitable growth, improvement and application of electronic, telecommunication and computer technologies. Nilles (1991,202) sees real chances for the villages to survive, with fundamental transformation, if the most recent informational and telecommunicational technologies are applied, so that work-force can be dispersed, which means teleworking from home. Namely, an increase is expected in the number of those who will desire to live in rural ambience but remain connected to their job through their computer, electronically. This, of course, will not directly influence the conditions for development of agriculture and villages; but indirectly it will, and in fact some indirect effects are already beginning to be seen, particularly in the improvement of socio-economic conditions in rural areas. According to most authors, the process of repopulation of villages is accompanied by the return of younger generations into the villages, and particularly the return of highly educated young people of high social strata, who see in village life an opportunity for big income, fast growth of their capital, and health life. As a rule, they move into those rural areas which

are near the cities, so as to retain for themselves the privileges of life both in the village and in the city *(Todorovic and Miletic, 1997, 101-102)*. In Serbian scientific practice this phenomenon has not yet been observed. We may assume that the next census, in the spring of 2002, will show some mild processes of reversion and return. In Yugoslav conditions this would not be the result of the villages' attractiveness, but rather the result of the worsening of the general economic situation in the cities i.e., unemployment, economic insecurity, costly housing, and general decline of the quality of life, etc, there.

Conclusions

Serbia has experienced decline in its agricultural population during 1953-1991 owing to growth of non-farm activities. The following types of areas have recorded notable low share of agriculturally active population: (i) belts along major traffic arteries; and (ii) tracts around the major cities.

The agricultural population of Serbia has witnessed signficant decline in the proportion of young workers leading to quick aging in the last few decades. Central Serbia and Vojvodina have gone up in aging of agricultural population, while Kosovo and Metohija are far behind. Significantly, the proportion of women agricultural workers has registered perectible rise during the study period.

Serbia's rural population is experiencing notable depletion through out-migration to urban centres. Purely agricultural villages, especially the smaller ones, are the most affected by the exodus to the extent of complete abandonment of many of such settlements.

In Serbian agricultural population, every third person of the villages is over sixty years old, every fourth is without schooling and one of every two young males finds no prospects in farming. These are the limiting factors of the development of Serbian farming. Modern agriculture requires professional farmers who are educated, communicative, young, enterprising, market-oriented, and those who not only like to live in the village but also know their way to urban centres just as well. In that sense, the target group to whom the selective State assistance regarding infrastructure, finance, communication etc., for revitalization of agriculture ought to go, must be precisely that type of farmers. The village, which serves as the environment for the agricultural productive work, must therefore be modernized, upgraded, because only in that manner will it become attractive to the younger people without whom the village is dying out in Serbia. Traditional village has no future, as it gets increasingly sucked up into the vicious circle of poverty and isolation, untill it becomes extinguished totally.

Notes and References

1. Serbia is one of the two federal units (Republics) composing the Federal Republic of Yugoslavia. Total area of Serbia is 88,361 km² and there are 9,778,991 inhabitants in 6,153 inhabited settlements, according to the 1991 census. The other federal unit (the other Republic) is Crna Gora, also known as Montenegro, with 584,30 inhabitants, 1,240 inhabited settlements and area of 13,812 km². From the administrative and political aspect, the Republic of Serbia is divided into 3 administrative parts or macro-units: Vojvodina in the north, Middle (or Central) Serbia, and , far to the southwest and south, Kosovo and Metohija.
2. These changes fit the world-wide trend of a decline in agricultural population. The participation of agricultural in total population of the world has been reduced from 51.4 in 1975 to 45.1% in 1990, and in Europe from 15.4 to 8.5 (FAO, 1991:31).
3. The unchanged level of the rate of activity of the farmers in Kosovo and Metohija can be brought into question because of the large irregularities in the conduct of 1991 census in this macro-region, also because of methodological vaguenss in interpreting the instructions about the activities of women.
4. The results were published in: Marina Todorovic, *Gustine naseljenosti poljoprivrednog stanovnisiva u SR Srbiji*("Agricultural Population Densities in Serbia"), Zbomilk radova Geografskog instituta " Jovan Cvijic" SANU, br. 40., str. 221 Beograd Yugoslavia, 1988.
5. According to some estimates, the participation of old population in most of the European countries is continually increasing, and is expected to reach 20% at the beginning of 21st century (Kirk M., 1981).
6. The lowest rate of female activity is in Kuwait 0.4%, but it is also very low in Jordan 2.6% and in Libya 4.2% *(Wertheimer-Baletic A.,* 1982:267).
7. The European average of education of active farmers is at the level of completed secondary school, and more than 20% of them have completed high school (equivalent of American college).
8. Index of concentration $\frac{V_0}{P_0} - I_k = \frac{V_r}{P_r}$

   where V_o and V_r are the population of a municipality and of the Republic (Serbia) while P_o and P_r are the agricultural surfaces of a municipality of a Republic.
9. Productivity of the work of the active farmer $P_a = U/R$ where U is the total agricultural production expressed in wheat units, and R the number of active farmers..
10. Wheat unit is the conditional unit of agricultural production (a conversive coefficient), accepted by FAO, where the value of any agricultural product is reduced to the value of wheat (on the basis of protein and starch content). Total agricultural production in Serbia in 1991 was 214,570,962 wheat units. More details about the manner of conversion: Todorovic M., *Geografske osnove tipologije poljoprivrede Srbije (Geographic Bases of the Typology of Agriculture in Serbia),* doctoral dissertation, pp. 56, Beograd, Yogoslavia, 1998.
11. The percentage of active farmers in this very low productivity group is probably even higher. Because of varying understandings of the definition, and because of mistakes in defining "activity" among the female Albanian population (in Kosovo and Metohija), a peculiar contradiction appears. Knowledge from the ground reality indicated that Albanian women are more active in agriculture than they say they are; in our estimate, all the remaining municipalities of Kosovo and Metohija found in the next group, the low level productivity group, are in fact in the very low level productivity group.
12. According to V. Mihalic, with application of agro-technical measures, it is possible for one km² of arable land to feed 300 people (Mihalic, V. 1985:12).
13. Estimates suggest that nourishment security is provided for the population of a country if the available arable surface is more than 20 acres (2000 m²) per capita. More details about this in: Todorovic M., *Geografske osnove tipologije poljoprivrede Srbije (Geographic Bases of the Typology of Agriculture in Serbia),* doctoral dissertation,pp.116, Beograd Yugoslavia,1998.
14. For instance, of all the doctors (of medicine) in Serbia in 1991, approximately one-third were employed in Beograd (there were 24,509 medical doctors, and of this number, 6.781 worked in Beograd). If there were information about small-town and village areas, the picture would be far worse. Source: "Opstine u Srbiji 1993" ("Municipalities in Serbia 1993"), RZs, Beograd, Yugoslavia, 1994.
15. Dean at al,"Counterurbanisarion and the Caracteristics of the Persons Migrating to West Cornwall", *Geoforum* in Andrew Gilg.. *An Introduction to Rural Geography,* Edward Arnold, p.70, London, 1985.

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POPULATION AND ENVIRONMENT IN DISTRICT LEH (LADAKH, JAMMU & KASHMIR)

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Abstract

The study attempts to analyze the changing equation between humans and the environment in the trans-Himalayan tract of Ladakh, Jammu & Kashmir, in recent decades. It mainly focuses on : (i) changes in growth of population; (ii) changing awareness of and attitudes toward the environment; (iii) role of military and para-military forces regarding the environment in the area; and (iv) impact of population growth on the environment.

Introduction

Situated in the trans-Himalayan arid zone, Leh District is one of the largest districts of India. It covers a total area of 82,665 square kilometres. Even if 37,555 square kilometres of area under illegal occupation of China is left aside, the remaining area of the District is bigger than that of Haryana, and is about 90 per cent of the Punjab (Fig. 1 & 2). Ladakh is one of the most thinly populated parts of India. As per the 2001 Census, the district's population was 117,637 which gave a density of about 2.61 persons per square kilomtre only. The extremely low density of population is attributable to various environmental constraints which the area suffers from. First, a major part of the total area of the district is 5,000 metres or more above sea level, and is unfit not only for human life but even for vegetation also (Singh, et.al. 1995, p.1). Only a small part of the total area, lying mainly between 2,500 and 4,500 metres, is suitable for human settlement and agriculture (Singh et. al., 1995, p.1). Second, extreme paucity of precipitation, about 10 centimetres per year, further restricts areas fit for agriculture and vegetation even on the lower altitudes. Third, very low temperatures for more than 6 months of the year in much of the area make for only one crop per annum (Table 1). The growing season is even further curtailed by large diurnal range of temperature as the night temperature quite often drops below freezing point even during summer (Raza and Singh, 1983, p. 242). Thus, owing to these severe environmental condition, a very limited part, i.e., only 0.2 per cent of the total geographical area of the district is under agriculture. The cultivated area accounted for only 20 per cent

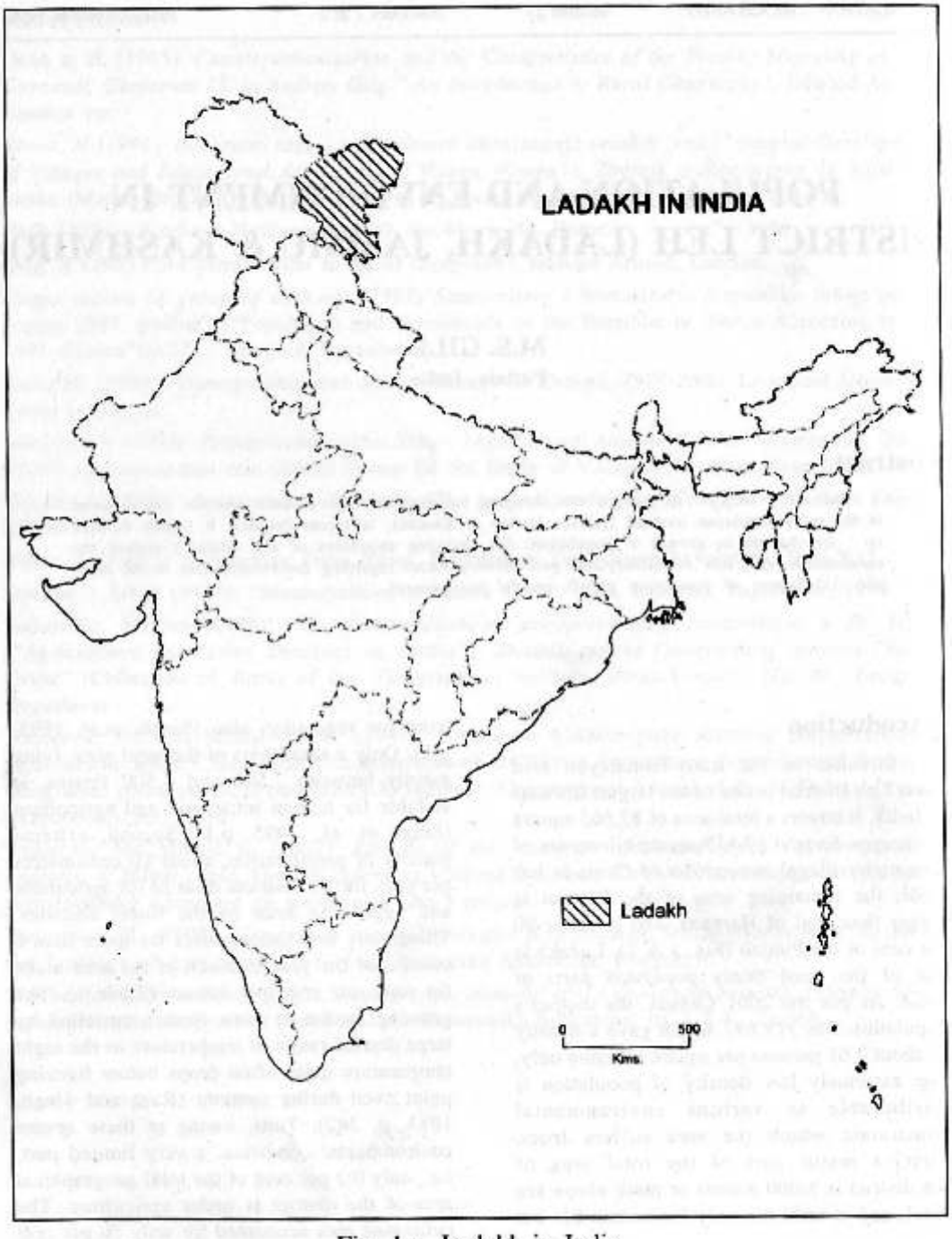

Fig. 1 : Ladakh in India

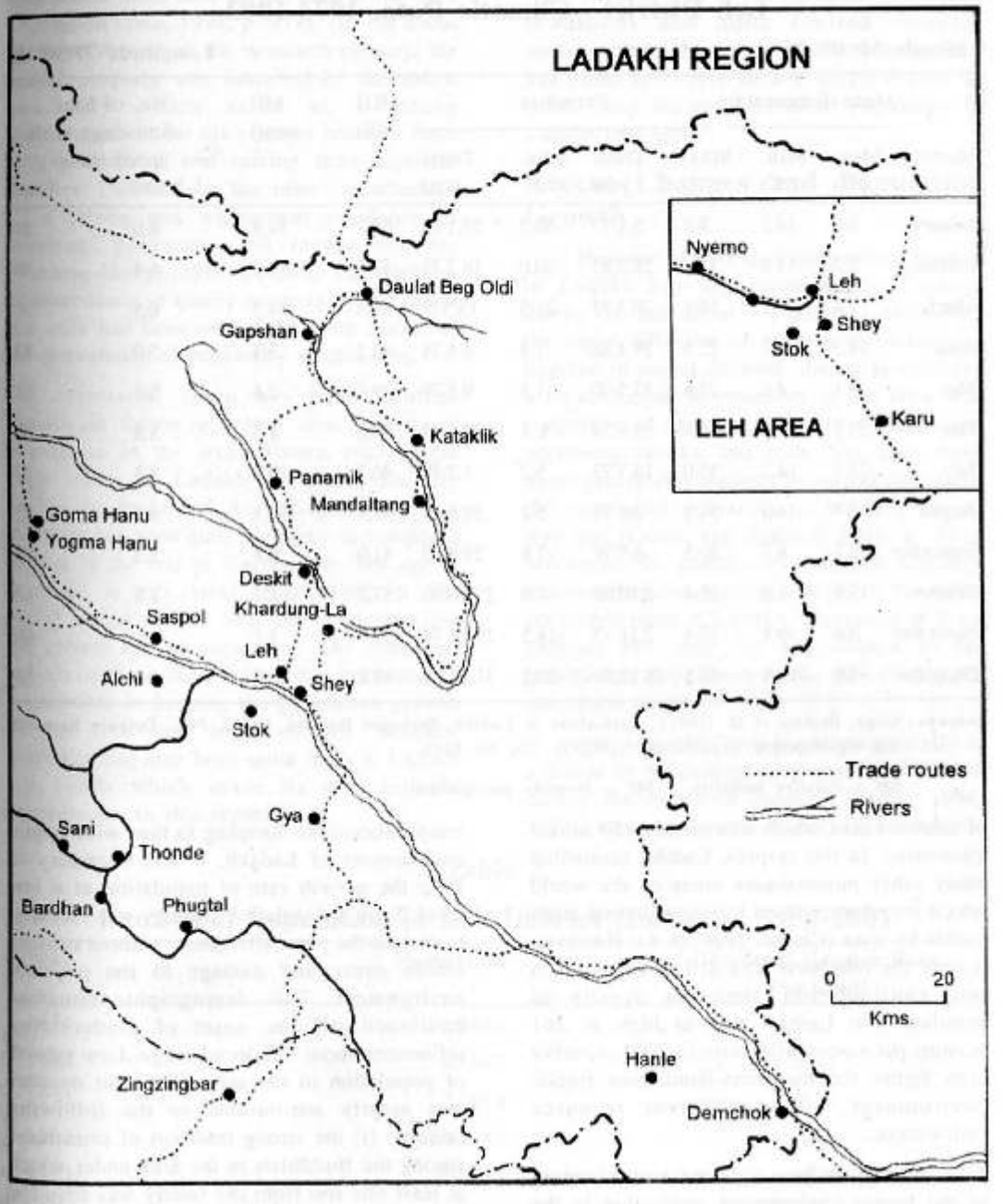

Fig. 2 : Ladakh Region

Table 1

Leh District : Climatic Data, 1973-1993

Latitude 34° 09' N **Longitude 77°34' E**

Month	Mean Temperature		Extremes				RH (%)	MP (mm)	No. of Max. wind days with speed (knots)	
	Max. (°C)	Min. (°C)	Max. (°C)	Date/ year	Min.	Date/ year			Knots	Days
January	3.0	-14.5	8.4	5.1.77	-30.2	25.1.76	66.1	14.4	6.6	54
February	2.2	-11.4	12.4	28.2.85	-30.0	18.2.75	57.6	10.8	6.4	50
March	7.4	-9.1	18.4	30.3.77	-21.5	15.375	39.4	14.3	6.5	70
April	14.2	1.3	22.5	29.4.88	-7.8	6.4.78	45.2	3.3	5.0	83
May	18.1	4.6	27.6	17.5.90	-1.5	9.5.79	39.9	2.6	6.8	88
June	23.1	9.3	34.8	29.6.78	0.8	29.6.73	33.2	1.5	5.3	89
July	27.5	14.2	35.0	14.7.73	5.2	3.7.75	40.3	10.8	8.3	82
August	27.7	14.0	34.2	9.8.78	5.2	29.8.89	41.4	11.3	9.1	75
September	22.7	8.3	30.5	6.9.78	-7.8	29.9.90	41.0	6.8	5.3	75
October	15.8	-1.0	25.4	2.10.85	-7.0	23.10.90	57.2	1.7	1.5	63
November	9.6	-6.4	17.4	2.11.77	-17.5	29.11.78	50.7	3.1	1.1	60
December	3.9	-11.8	19.1	18.12.89	-20.5	31.12.74	48.8	8.2	4.4	62

Sources : Singh, Brahma et al. (1995) : *Agriculture in Ladakh*, Technical Bulletin, No. 2, FRL, Defence Research and Development Organisation (DRDO), C/o 56 APO.

RH = Relative humidity, MP = Monthly precipitation

of assessed area which was merely 450 square kilometres. In this respect, Ladakh resembled many other mountainous areas of the world which are characterized by quite limited areas usable by man (Clarke, 1990, p. 6). However, if only the inhabited area of Ladakh is taken into consideration, then the density of population in Ladakh was as high as 261 persons per square kilometre in 2001, a rather high figure for the trans-Himalayan fragile environment with indifferent resource endowment.

In order to have a proper understanding of the human-environment interaction in the area, it is imperative to situate it in its socio-temporal context. Keeping in tune with fragile environment of Ladakh, it was necessary to keep the growth rate of population at a low level. Such a population strategy was essential to sustain the population there without causing undue stress and damage to the physical environment. This demographic situation continued till the onset of modernizing influences about 4-5 decades ago. Low growth of population in the area till recent decades was mainly attributable to the following factors : (i) the strong tradition of priesthood among the Buddhists in the area under which at least one son from the family was required to join some monastery and, hence, to stay celibate; according to one estimate this section

constituted more than 10 per cent of the total population (Jina, 1994, p. 179); (ii) till about the third decade of the twentieth century, the family property was inherited by the eldest son only which acted as a strong discouragement for his younger brothers from getting married and raising their separate families; (iii) Ladakh has been characterized by a strong and widespread incidence of fraternal polyandry till recent decades (Norberg-Hodge, 1981, p. 280). The tradition of inheritance of family property by the eldest son only had been one of the main causes of the prevalence of polyandry in this area.

Similarly, there has been another significant factor regarding slow growth of population in the area. Women enjoy quite high status in Ladakh society, especially among the Buddhists. Accordingly, the age at marriage has been quite high here as compared to that in the rest of the country. The age at marriage is still rising (Kaul, 1992, p. 88) which would play its own role in keeping low the growth rate of population. The combined impact of these three factors has been mainly responsible in keeping the population growth of the area well under control. Besides, mortality has also been quite high in Ladakh till 1960s which made its own notable contribution in this regard.

Thus, in view of the harsh environmental conditions and quite limited resource endowment of the area, the society in Ladakh had come to evolve such a social system as would keep the growth rate of population at a quite low level.

Recent Changes and Population Growth

However, the socio-demographic situation in Ladakh has undergone marked change during the last about 3-4 decades. Following the rapid diffusion of modern medicine and hygiene in recent decades, there has occurred a rapid decline in mortality in the area. The proportion of persons joining monasteries and becoming monks and nuns has also come down perceptibly during this period. Similarly, the system of polyandry is virtually on its way out (Crook and Shakya, 1994, p. 733). Moreover, the practice of universal marriage has now become a norm in most of the easily accessible parts of Ladakh. The result of these changes has been the acceleration in the growth rate population in the area during the last about 40 years (Table 2).

The year 1961 stands out prominently as a divide in the demographic career of Ladakh during the twentieth century. During 1961-1971, the population of the area recorded

Table 2

Growth of Population in Leh District (Ladakh), 1951-2001

Year	Population	Decennial Growth Rate (Per Cent)
1951	40484	.....
1961	43567	7.62
1971	51819	18.94
1981	683380	31.96
1991	89474*	30.85
2001	117637	31.48

Sources : (i) Census of India.

*(ii) Digest of Statistics 1999-2000, Government of Jammu & Kashmir

18.94 per cent growth rate which was the highest since 1901. It was mainly attributable to rapid decline of mortality following notable steps taken by the Government of India for the socio-economic development of the area, particularly in the wake of the Sino-Indian War in 1962. Besides, there was also a trickle of in-migrants who came into the area in connection with construction of roads, and for providing other services to the increasing number of defence personnel in the area. This trend accelerated further during the 1970s owing to : (i) further decline in mortality; (ii) increasing pace of in-migrants; and (iii) growing trend toward universal marriage. The opening up of Ladakh for foreign tourists in 1974 created more employment avenues in the area. Besides, gradual expansion of various types of administrative, educational, and developmental infrastructure also worked to have more in-migration to the area. Accordingly, population growth rate shot up to 31.96 per cent during 1971-1981 (Table 2). Significantly, the growth rate of Ladakh's population maintained its high pace during 1981-1991 and 1991-2001 also with respective figures of 30.85 and 31.48 per cent. Apart from high birth rate, it was partly contributed by in-migration to the area. The 1990s has also witnessed perceptible inflow of labour from Bihar and Nepal. For instance, at a brick kiln, which made mud bricks at the village Shey, all the labourers were from Bihar in 1998. The local people do not like to work as casual/manual labourers. Besides, the local labourers demand high wages as compared to the migrants. In this way, the population of the district has virtually become three-fold, to be precise 2.91 times, during 1951-2001. Even during the 30 years period from 1971-2001, the population in the area has more than doubled, i.e., it has increased by 127.02 per cent, a very high growth indeed. The corresponding figures for the state of Jammu & Kashmir and India, as a whole, were 118.12 per cent and 87.43 per cent respectively.

In order to have a close look at the changing human-environment equation in the area, it is necessary to take stock of the socio-economic changes which have taken place in recent decades. The area was opened up for tourists in 1974 resulting in an accelerating tempo of tourist inflow both from other parts of India as well as from foreign countries. Prevalence of politically disturbed conditions in the Kashmir Valley since 1989, has also contributed toward strengthening of tourist stream to Ladakh. Now the number of tourists arriving in Ladakh is about 20,000 each year. No doubt tourists bring a lot of money into the area, they are also causing considerable adverse impact on the social fabric as well as on the physical environment. Widespread interaction with outside tourists has given a strong impetus to the trend toward nuclear families. Besides, the tourists' stay in large numbers in Hotels and Guest Houses in Leh and elsewhere contributes significantly to pollution of river water through sewerage from these places. Similarly, various trekking routes as well as trekking destinations could be seen covered with litter. The use of ponies and horses on these routes further adds to soil erosion as well as removal of various types of flora there.

Consequent upon the stepped up pace of modernization in the area during the last about 3 decades, local community and family ties have become gradually weakened resulting in the making of an increasingly individuated and insecure human being (Norberg-Hodge, 1991,p.125). Before the advent of modernization, a common Ladakhi person was marked by a profound sense of security (Norberg-Hodge,1991, p. 187). The gradual breakdown of local communities, and the increasing level of personal and family insecurity portend to effect significant changes in the social fabric of the area. One important effect would be the growth of anomie which, along with the fast trend towards consumerism, is bound to lead to an increasing degradation of the environment of Ladakh.

Environmental Aspects

Owing to very low temperatures for most of the years, and paucity of precipitation, the study area is not suited to widespread and quick growth of vegetation. Tree growth is possible only in areas with assured water supply. Accordingly, such areas are found along various rivers and other water channels. In the rest of the territory only bushes and small plants and grasses could be found sparsely scattered.

The environment of Ladakh is highly fragile. The arid climatic regime, quite high incidence of moderate to high speed winds, relative absence of grass/plant cover over most of the area provide conducive conditions for unhindered soil erosion (Chadha, 1989, p. 222). Accordingly, soil erosion has been an important problem in large parts of the area. The presence of a large number of stones and pebbles in the surface layer also adds to soil erosion. It is further facilitated by the grazing of animals as their hooves trample and break the compactness of the soil (Jina, 1995, p.31). similarly, any removal or even degeneration of vegetal cover on the surface plays its own crucial role in the depletion of the soil layer. For example, in Chang-Thang tract, which covers south-east part of the study area, some grass species have been completely wiped out due to overgrazing and trampling by livestock.

Owing to long and severe winters, the per capita consumption of fuel is much greater in Ladakh than in the warmer areas of the country. Apart from widespread use of cow dung, people have been using twigs of trees, bushes, and even grass roots as domestic fuel. Thus, any growth of population adds fruther stress on vegetal fuels also. In such cold desertic conditions as in Ladakh, domestic fuel plays a crucial role in degradation and removal of flora. As regeneration of vegetation is very slow in the area, the plant population has been on the decrease due to their over-use in many parts of Ladakh, especially during the recent decades (Jina, 1996, p.24).

In recent years, the government agencies have made significant efforts towards tree plantation in the area. According to figures supplied by the Forest Officer, Leh, about 8.85 million trees were planted in the area during 1956-1957 and 1997-1998. This gives an average of 215,853 trees planted per year. A very heavy proportion in these tree plantations is of willow, poplar and hypophia. For several years in the 1980s and 1990s, under the Desert Development Scheme, people were not only given free tree seedings, but were also paid Rs 1-4 for each tree planted. Maximum impact of tree plantation programme has been registered in the Leh Valley and Nubra area which was attributable to : (i) higher awareness among people through extension services in this regard; and (ii) greater demand for timber and fuel in these tracts consequent upon faster pace of population growth and construction activity, particularly in the tract around Leh town. On the other hand, remote areas, like Chang-Thang Tract, have been little affected by tree plantation programmes so far. It was partly due to lesser awareness in this regard, and partly due to slower growth of trees in that more harsh environment. Besides, the nomadic way of life of most of people in this tract also goes against tree plantation. Other areas lie somewhere in-between these two extremes represented by Leh and Nubra tracts on the one hand and the Chang-Thang region on the other.

During 1996-1997, there was notably more rain than the average in Leh area. Consequently, the mud houses, which constitute a major share of the rural houses, suffered perceptible damage. Following this, the Ladakhis at large attributed this damage from rains to the mud houses to the increased number of trees in the area. Significantly, there were some public protests in Leh area, and many local people demanded that the trees should be cut down in order to prevent rise in rainfall and consequent further damage to rural housing in the area. For an outsider as

well as for an environmentalist, the public protests against tree plantation may appear baseless and amusing, but these were prompted by economic concerns. No doubt, there would certainly be many economic and ecological gains due to the increase in rainfall in the area. However, it would have its necessary costs too. If there is any notable rise of rainfall in Ladakh, the rural housing as at present would be its major casualty and, hence, would be a serious economic loss to the local people.

The area has also registered rise in environmental awareness as well new techniques in agriculture. The main credit in this regard goes to various governmental organizations like the Forest Division, Leh, Desert Development Agency and Field Research Laboratory (FRL) of the Defence Research and Development Organisation (DRDO). Similarly, a few NGOs, particularly the Ladakh Ecological Development Group (LEDG), also deserve mention for their work in sensitizing the people about environmental issues.

Established in 1960, the Field Research Laboratory (FRL), has developed a number of quick growing trees and also vegetables suited to the area. Besides, it is playing an important role in devising techniques of polyhouse and trench agriculture to promote cultivation of vegetables even at below freezing temperatures. It organises a *Kisan-Jawan Mela* each year to disseminate new seeds and cultivation techniques. The FRL has also adopted a Ladakhi village — Nang — to develop it as a model village for the surrounding areas. The project includes water harvesting, protected cultivation, afforestation, and animal husbandry, etc.

Owing to combined efforts of various governmental organisations and the NGOs, environmental activitism has been on the rise during the last about two decades. Consequently, the district administration also stands notably sensitized to ecological issues. For instance, the Deputy Commissioner, Leh, as per his order dated May 1, 1998 has banned the use of polythene bags in Leh town with effect from May 15, 1998. Under this order both the seller and the buyer would be fined if the sale-purchase involved the use of polythene bags. As a result, the Leh town would now be free from one the most widely used non-degradable pollutants in and around Leh and other important tourist places of the district.

Livestock

Next to cultivation, raising of livestock is the second most important activity in Ladakh. The population of domestic animals is more than double of the total Ladakhi people in the area. In recent years, however, the cattle population has shown a little downward trend in villages marked by rapid socio-economic progress. This category of villages includes the following type of settlements: (i) Which experienced notable increase in non-farm activities, consequent upon growth of tourism during the last about 25 years; and (ii) main rural service centres, particularly those situated along the main road in the Leh Valley and the Nubra tract. The decline in such villages is mainly attributable to : (i) trend toward nuclear families which makes it difficult to spare someone to tend the animals; (ii) more availability of non-farm employment; and (iii) greater awareness about the value of schooling of children. However, in the remote areas, especially where livestock raising is the mainstay of life (Razvi, 1983, p. 49), the number of domestic animals has gone up during the recent decades (Jina, 1995, p. 26). For instance, in Chang-Thang area both human and animal population have gone up considerably during the past 20-25 years. The consequent increase in the stress on pastures has not only adversely affected the regeneration

of plants and grasses through overgrazing and trampling, it has also wiped out some grass species altogether (Jina 1995, p.26).

Generation and Disposal of Waste

Like other traditional societies, Ladakh was literally a society without any waste till recent decades (Norberg-Hodge, 1991, p. 4). Everything and every part of the waste produced in the area was biotic in nature and, hence, could be recycled back into the environment without any negative consequences. Even the human excreta was turned into compost in the dry latrines found in each house in the Ladakh. However, the past about 20-30 years have witnessed two types of adverse changes in this regard. The disposal of the night soil in Leh town and other important tourist places in the area is being channelled into the Indus and other important streams (Jina, 1994, p.146). Consequently, not only the very look and the odour of the streams have become quite disagreeable, but the use of the polluted water for drinking purpose is also contributing to various ailments in the area (Sagwal, 1991,p.62; Nourbo et al., 1989, p.I). Similarly, some incidence of water and soil pollution is also taking place now due to increasing use of chemical fertilizers (Singh, 1997, p.246).

Impact of Military and Para-Millitary Forces

Ever since the border conflict with China in 1962, a sizeable number of military and para-military personnel have always been stationed in Ladakh. The deployment of military and para-military forces has contirbuted to both degradation as well as regeneration of the environment. It has added substantially to the vehicular traffic and, hence, to air pollution in the area. Similarly, construction and widening of roads through blasting, in a way, has also contributed to envirnomental degradation (Karan and Iijima, 1985, p.76). In quite many cases blasting of rocks disturbs the alignment of rock strata leading to cracks and wider joints which, in turn, instigate weathering and landsliding. As mentioned earlier, these military and para-military personnel have made an important contribution toward planting and tending thousands of trees on the areas earmarked as their camps. Besides, the stationing of troops in Ladakh has contributed to lessening of population pressure on agricultural land and the environement in an indirect manner also, i.e through generation of a large number of employment opportunities for the local people there. The employment avenues are mainly connected with provision of supplies of different types of materials to the defence forces as well as to construction of various defence infrastructure like buildings and roads, etc. All this has played a significant role in reducing population pressure, at least for sometime, on the limited agricultural land in the area. Similarly, the presence of troops in Ladakh has also worked to lighten population pressure on the vegetal resources. In the remote areas with the presence of defence forces, the local people could get kerosene oil quite easily. Thus, the demand for vegetal fuel has come to be distinctly lower than what it would have been otherwise.

Human-Envirnonment Equation

Till about 1960, population growth in Leh district had been quite slow which was mainly attributable to: (i) high death rate as is the case during the first stage of demographic transition; (ii) the widespread prevalence of polyandry; and (iii) significant incidence of young people joining monasteries and staying celibate. Slow growth of population in the area was also accompanied by admirably frugal

life style of the people. Consequently, the increase in population pressure on the environment over time was not of serious magnitude. In a way, there had emerged a sort of symbiotic balance between population and the environment in the area. But even this type of demographic situation had gradually depleted and degraded Ladhakh's environment over the years. Some very aged respondents from big villages of Shey and Stok, near Leh town, had reported during the interview survey conducted in June 1998, that they had heard from their elders that now bare hills around the settlements used to have some sprinkling of greenery in the past. In other words, despite very slow growth of population and very eco-friendly nature of the inhabitants, the vegetation on those hills was wiped out under the impact of overgrazing and through and gradual felling and chopping for fuel and fodder.

In this context, the recent explosive growth of population carries very adverse implications for the fragile environment of Ladakh. The population of Ladakh district has more than doubled during the past 30 years. Besides, the number of livestock in the area continues to be at high level. In fact, it has gone up notably in areas where livestock raising in the mainstay of life. Thus, the pressure of both human and livestock population on the land has gone up considerably during this period. The situation stands further compounded by a sharp rise in aspiration levels under the impact of media, tourism and the like (Crook, 1986,p.98). Generally speaking, the greater and stronger the external linkages of a family/settlement, the higher are the levels of aspirations of its members. The spurt in aspirations of people at large has added substantially to their demands, springing up farm both needs and greeds, on the environment. Accordingly, new consumption patterns are emerging fast in the area which, in contrast to the earlier ones, are certainly more wasteful and polluting. Consequently, virtually the same agricultural land and pasture lands of the area are now required to support more than twofold population having a far greater demands on the environment. From this perspective, the population pressure on agricultural area and the environment has gone up more than three times during the past three decades. The obtaining situation carries unwelcome ecological consequences for the area both in the short and the long run.

However, Ladakh has also experienced a few important inputs which have contributed to lighten the population pressure on its agricultural land and the environment to a substantial extent. Easy availability of cooking gas and Kerosene oil at cheap rates has proved a big help in restricting the otherwise bourgeoning demand for domestic fuel wood. Similarly, the availability of subsidized food-grains shop in almost each village (Rizvi, 1986, p.34) worked to restrict the common tendency to extend cultivation to marginal land to meet the growing pressure of population. Besides, the area has witnessed plantation of hundreds of thousands of trees during the past 3-4 decades. Moreover, there has been a very rapid expansion of activities of government which has absorbed a large number of people in various jobs. But for these crucial changes, Ladakh would have experienced notable depletion and degradation in its plant cover. Similarly, the area could also have recorded perceptible acceleration in land degradation through overgrazing, and felling/chopping of trees and bushes in this context.

During the past about 3 decades the decades the following types of areas have experienced significant rise in population stress on the environment: (i) which are

characterised by notable concentration of nomads as in the Chang-Thang tract lying in the south-east part of the district; and (ii) where rearing of animals is the mainstay of life. Significantly, the increase in population stress on the environment has been rather low in the areas which are more exposed to the outside world, owing chiefly to some cushion space provided by various resources brought out from outside the area.

Summing up

Since 1960s, the study area has entered second stage of demographic transition resulting in more than two-fold increase in population during 1971-2001. Significantly, the period has also been characterized by rising aspiration levels of the people at large. Other things remaining the same, the rapid growth of population and simultaneous rise in aspiration levels would have added substantially to population pressure on the environment. However, easy availability of cooking gas and Kerosene oil, and the obtaining food-grain subsidies in the area in recent decades has worked to cancel out to a significant degree the enhancement of population stress in this regard. Similarly, continual plantation of a large number of various species of trees in the area has also contributed in the same direction.

However, this sort of situation cannot be maintained for a long time. If the growth rate of population continues at the present level for 10-20 years more, the fragile environment of Ladakh is bound to suffer from degradation of various hues.

Aknowledgements

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LITERACY IN HIMACHAL PRADESH

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Abstract

The rapid expansion in educational facilities, free education in schools, and emergence of middle class section of society following rapid growth in service sector are the major factors responsible for speedy rise in literacy level in Himachal Pradesh during 1971-2001. The state has now achieved the distinction of being among the first five highly literate states of India. In the field of female literacy, Himachal Pradesh is fourth ranking state of India. It has surpassed its economically well-off two neighbours, i.e., Punjab and Haryana.

Introduction

When Himachal Pradesh was granted statehood in 1971, barely one-third of its population could read and write. Within a span of 3 decades its literacy rate has grown from 31.96 per cent in 1971 to 66.30 per cent in 2001. From 8th ranking state in 1971, it is now 5th ranking in literacy level as per provisional population totals of the 2001 census. It is rather encouraging and interesting to see that despite slow economic progress the state has been able to perform so well on its literacy front. Despite this remarkable achievement there remains, however, a great deal of disparity in literacy rates by sex, residence and different areas of the state.

The purpose of this paper is to examine the situation of literacy in 2001 and to trace the trends in its progress during 1971-2001 with regard to differentials in literacy by sex (male and female), residence (rural and urban) and area. The analysis is based entirely on census data. In view of non-availability of data on 0-6 years age group for the censuses of 1971 and 1981, the discussion is based on literacy rate for total population instead of literacy rate of 7+ age-groups of population. Disparity in literacy level by sex and residence has been examined by using Sopher's index of disparity (1980, p.132).

Literacy as a whole

As per provisional population totals of 2001 census, 66.30 per cent of the total population in Himachal Pradesh was literate. The literacy rates for males and females were 73.45 per cent and 58.92 per cent respectively. If 0-6 years age group is excluded, then literacy rates for the total, male and female populations work out to 77.13 per cent, 86.02 per cent and 68.08 per cent respectively.

Table 1

Literacy Rates : Himachal Pradesh in India 1971-2001

Census Year		Literate as per cent of Total Population				
		India	H.P	Rank in All-India	Punjab	Haryana
1971	P	29.46	31.96	8	33.67	26.89
	M	39.45	43.19	6	40.38	37.29
	F	18.70	20.23	10	25.90	14.89
1981	P	36.23	42.48	6	40.86	36.14
	M	46.89	53.19	6	47.16	48.20
	F	24.82	31.46	8	33.69	22.27
1991	P	42.84	53.48	5	48.97	45.24
	M	52.74	62.96	5	54.91	56.1
	F	32.17	43.76	4	42.22	32.72
2001	P	55.18	66.30	5	61.15	57.99
	M	63.99	73.45	5	65.69	66.73
	F	45.74	58.92	4	55.96	47.84

Source: (i) Census of India, 1981, India, Part II-B, *Primary Census Abstract*, Statement-7.

(ii) Census of India, 1991, India, Part II-B, *Primary Census Abstract*.

(iii) Census of India, 2001 *Provisional Population Totals*, Part-I of 2001 (Supplement).

Litracy rate of urban population (0-6 years population included) was notably higher (80.37 per cent) than that of the rural population (64.77 per cent).

These literacy figures represent a great leap forward when compared with those of 1971, the year Himachal Pradesh got statehood. In addition to the efforts made by the state government, international agencies like UNICEF and World Bank have also played their own role in the rapid growth of literacy in the state (Sagar, 1991, p. 77). As mentioned above, less than one-third of the total population in Himachal Pardesh was literate in 1971. Its literacy rate (31.96 per cent) at that time was higher just by 2.5 percentage points than national average (29.46 per cent). The corresponding gap in 2001, however, has gone up to 11.12 percentage points (Table 1). A remarkable accomplishment, however, has been in case of female literacy where the state has moved up from a position of tenth rank among the states and union territories of the country in 1971 to fourth rank since 1991. In 1971, two in every ten females in the state were literate; while this ratio had increased to six in 2001. The female literacy rate of Himachal Pradesh was merely 1.51 percentage points ahead of national average in 1971; the corresponding difference between the state and national average was 13.18 percentage points

* The Disparity Index used here is based upon Sopher's (1980, 132) index of disparity, calculated by using the following formula : $DIS = \text{Log } 10 \frac{P(1-q)}{q(1-p)}$

Where p and q are male and female literates in percentage.

while measuring male-female disparity, the positive value of the index indicated higher male literacy rate that of females or vice-versa. Higher the value of the index, greater is disparity or vice-versa. Zero represents parity between male and female literacy rates. If either total male population is literate or there is no literate among females index value will reach infinity.

Similarly, while measuring urban-rural disparity, the negative index value indicated lower rural literacy rate than that of urban or vice-versa. The remaining two situations also apply here in the same way as in case of male-female disparity.

Table 2
Himachal Pradesh
Progess in Literacy: 1971-2001

District	Literates as % of Total Population			
	1971	1981	1991	2001
Chamba	18.9	26.5	36.3	54.22
Kangra	36.5	49.1	59.8	70.99
Hamirpur	39.9	52.7	63.3	73.10
Una	38.4	50.1	60.0	70.39
Bilaspur	32.9	44.7	56.4	69.04
Mandi	30.7	40.2	52.4	65.87
Kullu	24.4	33.8	44.9	63.45
Lahaul & Spiti	27.2	31.3	49.0	65.19
Shimla	33.5	42.7	54.7	70.53
Solan	29.3	41.1	53.1	67.08
Sirmaur	24.4	31.8	42.1	60.48
Kinnaur	27.7	36.8	49.0	DNA
H.P	**31.96**	**42.48**	**53.48**	**66.30**

Source : (i) Census of India, 1971, Himachal Pradesh, Part I-B, *General Report.*
(ii) Census of India, 1981 and 1991, Himachal Pradesh, Part II-B, *Primary Census Abstracts.*
(iii) Census of India, 2001 Himachal Pradesh, *Provisional Population Totals,* Paper-2 of 2001.

at the 2001 census (Table 1).

As a whole, the literacy rate during 1971-2001 has increased by 34.34 percentage points (Table 2); the rate of decennial increase, however, has varied between 10.52 per cent during 1971-81 and 12.82 per cent during 1991-2001. Similarly, not all areas have experienced the same rate of increase in literacy, rather it has varied between 32.0 per cent in Una district and 39.1 per cent in Kullu district. Broadly, districts with low literacy rate at the base year have experienced relatively high rate of increase in literacy and vice-versa. A noteworthy feature, however, is that the distrcit-wise patteren of literacy has remained almost unchanged through the three successive decades. Same distrcits which were ahead in the literacy level in 1971 have emerged in the forefront in 2001 also.

Despite an overall good performance in the progress of literacy by the state, the disparity in the literacy level by sex, residence and area, however, still continues to persist.

Disparity in Male-Female Literacy

As in many parts of the country, literacy in Himachal Pradesh is also marked by a notable disparity in male-female literacy rates. The reasons for this disparity are rooted largely in the socio-economic factors. Until recently, there was a strong prejudice against female employment, and out-of-home female mobility. Female education was considered a matter of little functional and social value.

Accordingly, not much attention was paid in this direction. Apart from the socio-economic factors, one more important factor that has worked against female literacy in certain parts of Himachal Pradesh is its difficult terrain condtions for mobility. Quite often educational facilities are located at such a long distance that they are beyond the easy and secure reach of the female students. For example, when a school is located at a few kilometers walking distance through a secluded path, then no parents would like to send their daughters for schooling at such a place. Cases like this are very common in many parts of the state.

In recent decades, however, the prejudices against female literacy are gradually disappearing; consequently, the female literacy has been growing at a faster rate than that of males. While male literacy rate has increased by 30.26 percentage points during 1971-2001, the corresponding figure for females was 38.69 percentage points (Table1). As a result, the male-female literacy gap has considerably narrowed down. The disparity index* (hereafter also referred to as DIS) which used to be 0.477 in 1971 has come down to 0.285 in 2001 (Table 3).

As expected male-female disparity has come down in all the districts of the state. The highest disparity in this regard in 1971 was found in Lahaul & Spiti (.839) followed by Kinnaur (.817) and Kullu (.669), while the lowest was recorded in Hamirpur (.407) followed by Kangra (.419) and Bilaspur (.421). On the other hand, after a lapse of 30 years in 2001, the highest male-female disparity in literacy was registered in Chamba district

Table 3

Himachal Pradesh
Change in Disparity in Male-Female Literacy

District	Index of Disparity after David Sopher			
	1971	1981	1991	2001
Chamba	.588	.600	.500	.418
Kangra	.419	.326	.272	.232
Hamirpur	.407	.285	.271	.229
Una	.427	.337	.293	.228
Bilaspur	.421	.355	.306	.276
Mandi	.574	.473	.399	.344
Kullu	.669	.587	.468	.390
Lahaul & Spiti	.839	.626	.543	.405
Shimla	.494	.455	.376	.325
Solan	.507	.432	.363	.317
Sirmaur	.542	.472	.381	.302
Kinnaur	.817	.602	.467	–
H.P	**.477**	**.394**	**.339**	**.285**

Source : (i) Census of India, 1971, Himachal Pradesh, Part I-B, *General Report.*
(ii) Census of India, 1981 and 1991, Himachal Pradesh, Part II-B *Primary Census Abstracts.*
(iii) Census of India, 2001 Himachal Pradesh, *Provisional Population Totals,* Paper-2 of 2001

(.418), and the lowest was in Una district (.228). Incidently, the lowest female literacy was also recorded in Chamba district which has not only brought down the general literacy rate there but have also contributed to higher male-female disparity in literacy (Krishan and Shyam, 1974, p. 795). In this way, decline in sex disparity in literacy was the smallest in Chamba district. On the other hand, the highest decline in this regard was registered in Lahaul & Spiti district.

Table 3 throws up another significant point that regional inequalities in sex disparity in literacy are much lower in 2001 as compared to those at the base year in 1971. Broadly, the smaller male-female literacy gap is characteristic of areas with an overall high literacy rate, whereas, higher male-female literacy differential is the rule in areas with relatively low literacy level (Gosal, 1979, p.b 66; Sopher, 1980, p. 182). Incidently, areas with a high male-female literacy gap are the same where difficult terrain conditions and, hence, wide spacing of schools have kept many females from making use of the educational facilities.

Rural-Urban Disparity in Literacy

As in case of many characteristics of population, rural and urban area stand in marked contrast to each other in literacy and education. The in-migration of educated people to urban areas, easy access to educational facilities and functional necessity of literacy and education for urban employment combine to palce urban areas ahead of the rural in the field of literacy and education.

Table 4

Himachal Pradesh

Change in Disparity in Rural-Urban Literacy

District	Index of Disparity after David Sopher			
	1971	1981	1991	2001
Chamba	-0.887	-0.765	-0.677	-0.578
Kangra	-0.226	-0.262	-0.178	-0.181
Hamirpur	-0.493	-0.292	-0.247	-0.200
Una	-0.102	-0.209	-0.124	-0.049
Bilaspur	-0.487	-0.454	-0.349	-0.287
Mandi	-0.659	-0.584	-0.494	-0.401
Kullu	-0.749	-0.714	-0.590	-0.377
Lahaul & Spiti	N	N	N	N
Shimla	-0.761	-0.654	-0.521	-0.411
Solan	-0.621	-0.483	-0.422	-0.324
Sirmaur	-0.696	-0.638	-0.530	-0.407
Kinnaur	N	N	N	N
H.P	**-0.558**	**-0.485**	**-0.400**	**-0.348**

N - No Urban Population

Source: (i) Census of India, 1971, Himachal Pradesh, Part I-B, *General Report.*

(ii) Census of India, 1981 and 1991, Himachal Pradesh, Part II-B *Primary Census Abstracts.*

(iii) Census of India, 2001 Himachal Pradesh, *Provisional Population Totals,* Paper-2 of 2001

While 80.37 per cent of the Urban Population was reported as literate at the 2001census, only 64.77 per cent of the rural people were found in this category. Similarly, there was a great rural-urban disparity in the literacy rates of the two sexes. In the urban areas, 83.28 per cent of the male population was found as literate at the 2001 census, the corresponding figure in rural areas was 73.45 per cent which means a gap of nearly 10 percentage points. Similary, against 76.71 per cent literate urban females there were 58.92 per cent literate females in the countryside which shows that urban-rural disparity in female literacy was higher than that of males.

Urban-rural disparity in literacy varied considerably across the districts (Table-4). The district of Chamba has the highest disparity in this regard. Incidently, Chamba district also has the highest male-female disparity in literacy in the state. The poor literacy level in Chamba district is the product of both social and physical factors. The semi-nomadic *Gaddi* people, who make a sizeable share of the district's population, have shown little interest in literacy so far. Similary, rampant poverty in the area has also worked in the same direction. Besides, difficult accessibility to educational facilities in the rural area, particularly in case of females, has also made its own contribution in this regard. By comparison, Una district has the lowest rural-urban disparity as is revealed by DIS value. Early start of educational facilities, and longer exposure to modernizing influences are mainly responsible for Una district's high position in this connection. Besides, close spacing of schools and lesser constraints of terrain conditions have further contributed in this regard.

In 1971 also, Chamba district topped the list in having the highest rural-urban disparity (-.887) in literacy followed by Kullu (-.0.749) and Sirmaur (-0.696). On the other end Una district had the lowest value (-0.102) and Kangra district (-0.266) was also not far behind.

As in case of disparity in male-female literacy, the districts with low rural-urban disparity are those where overall literacy rate is also high, whereas higher rural-urban disparity is characteristic of areas with low overall literacy rates.

There has been a considerable decline in rural-urban disparity in literacy during 1971-2001. In 1971, the disparity index stood at -0.558 which indicates that rural literacy was considerably lower than the urban literacy. By 2001 census, the disparity index had dropped to -0.348. This came about due to the faster progress in rural literacy in state during 1971-2001. The rural-urban differential in literacy rate which were of the magnitude of 30.73 percentage points in 1971 has come down to 15.60 percentage points in 2001.

During 1971-2001, rural-urban disparity in literacy has declined notably in all the districts of the state. It is significant to note that spatial inequalities in rural-urban disparities continue to be as large in 2001 as those prevailing thirty years earlier in 1971.

Spatial Pattern of Literacy

The discussion that follows on the spatial pattern of literacy is based upon three choropleth maps showing the situation of literacy at tahsil level in 2001. These maps depict the distribution of literacy rates for the total, male and female populations respectively. Literacy in Himachal Pradesh is marked with notable regional variations ranging from 41.72 per cent in Chaurah tahsil of Chamba district to 84.22 per cent in Shimla urban tahsil. In between these extremes, there are eight tahsils where literacy rate is below 50 per cent and in 34 tahsils it exceeds 70 per

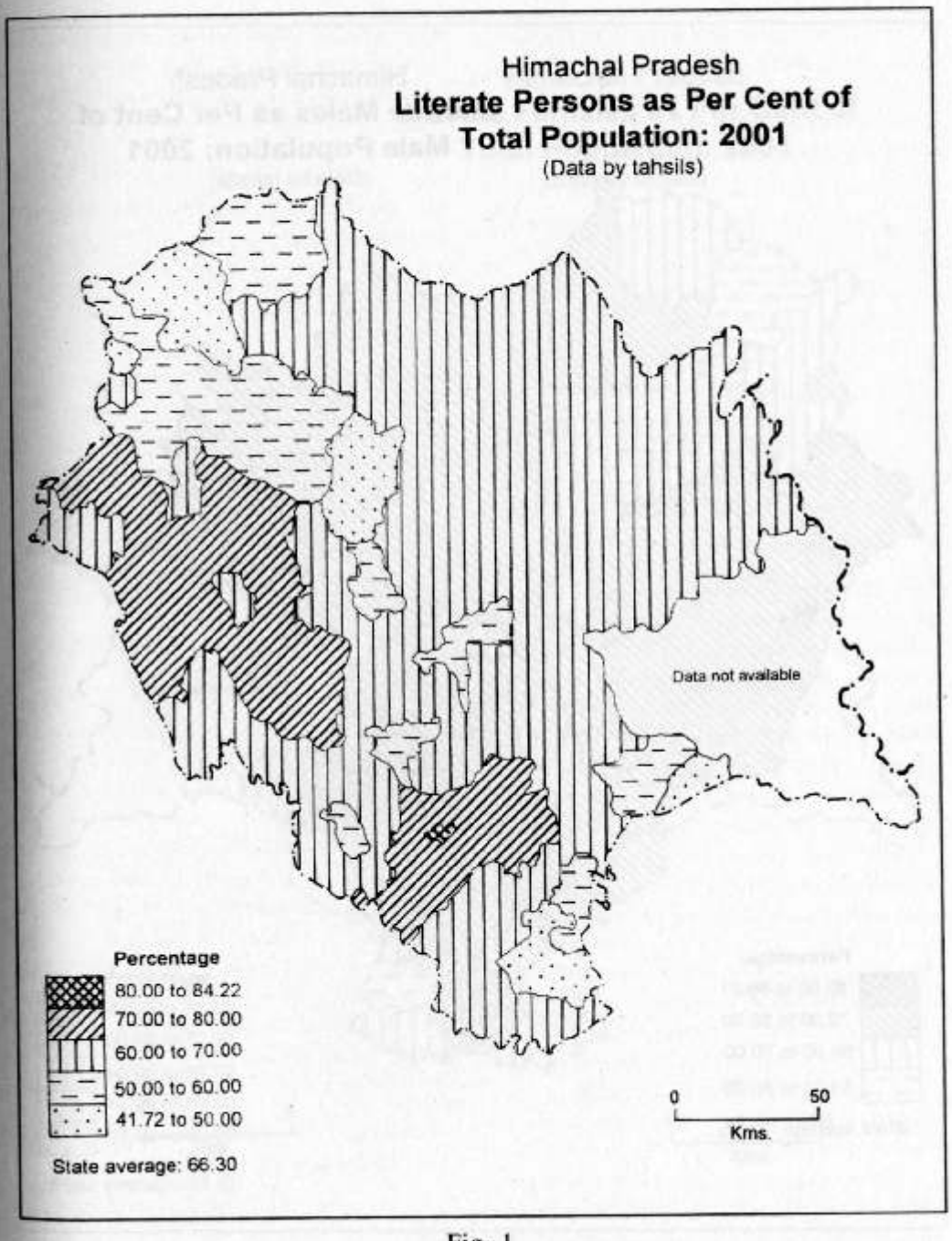
Himachal Pradesh
Literate Persons as Per Cent of Total Population: 2001
(Data by tahsils)
Data not available
Percentage
80.00 to 84.22
70.00 to 80.00
60.00 to 70.00
50.00 to 60.00
41.72 to 50.00
State average: 66.30
0
50
Kms.

Fig. 1

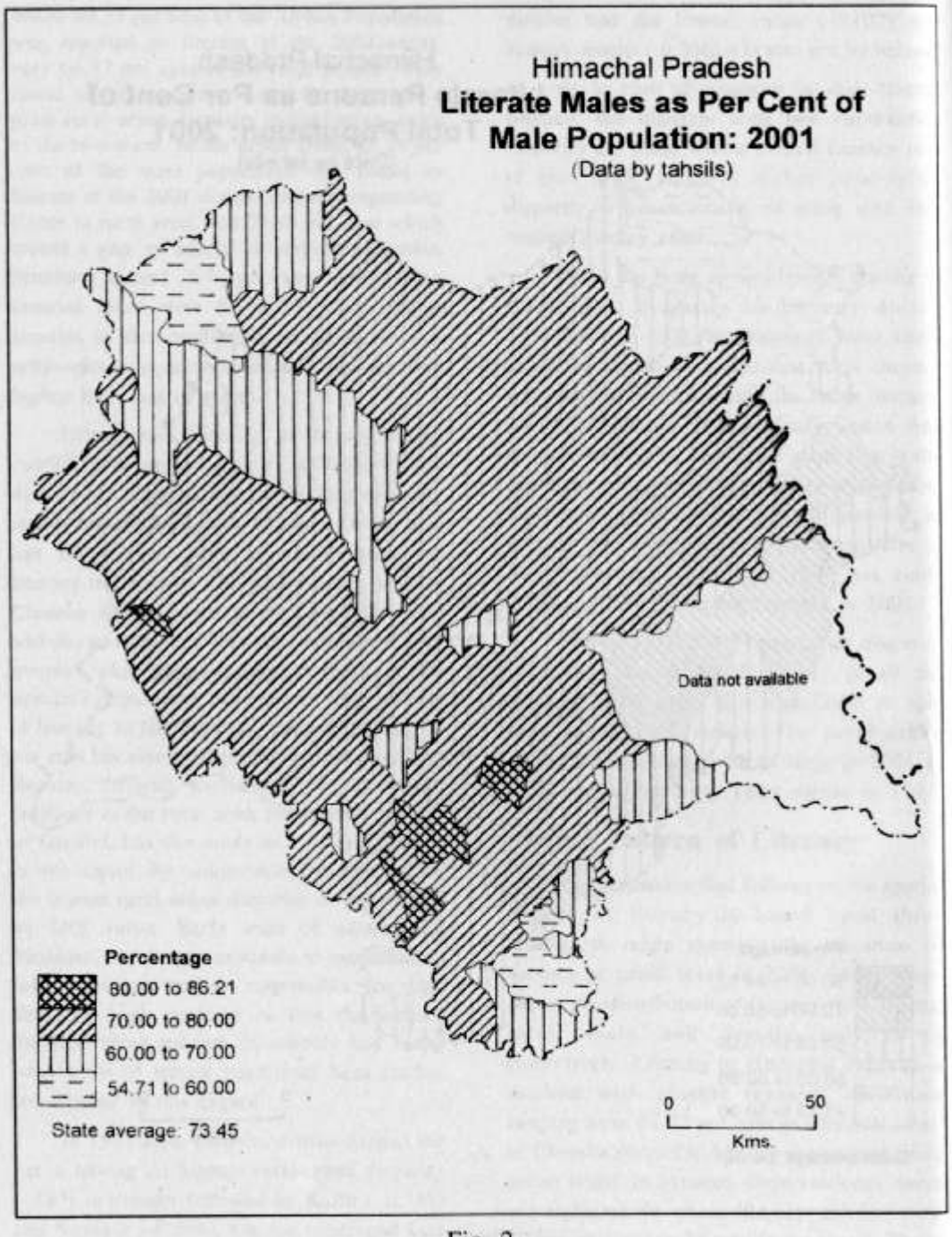
Himachal Pradesh
Literate Males as Per Cent of Male Population: 2001
(Data by tahsils)
Data not available
Percentage
80.00 to 86.21
70.00 to 80.00
60.00 to 70.00
54.71 to 60.00
State average: 73.45
0
50
Kms.

Fig. 2

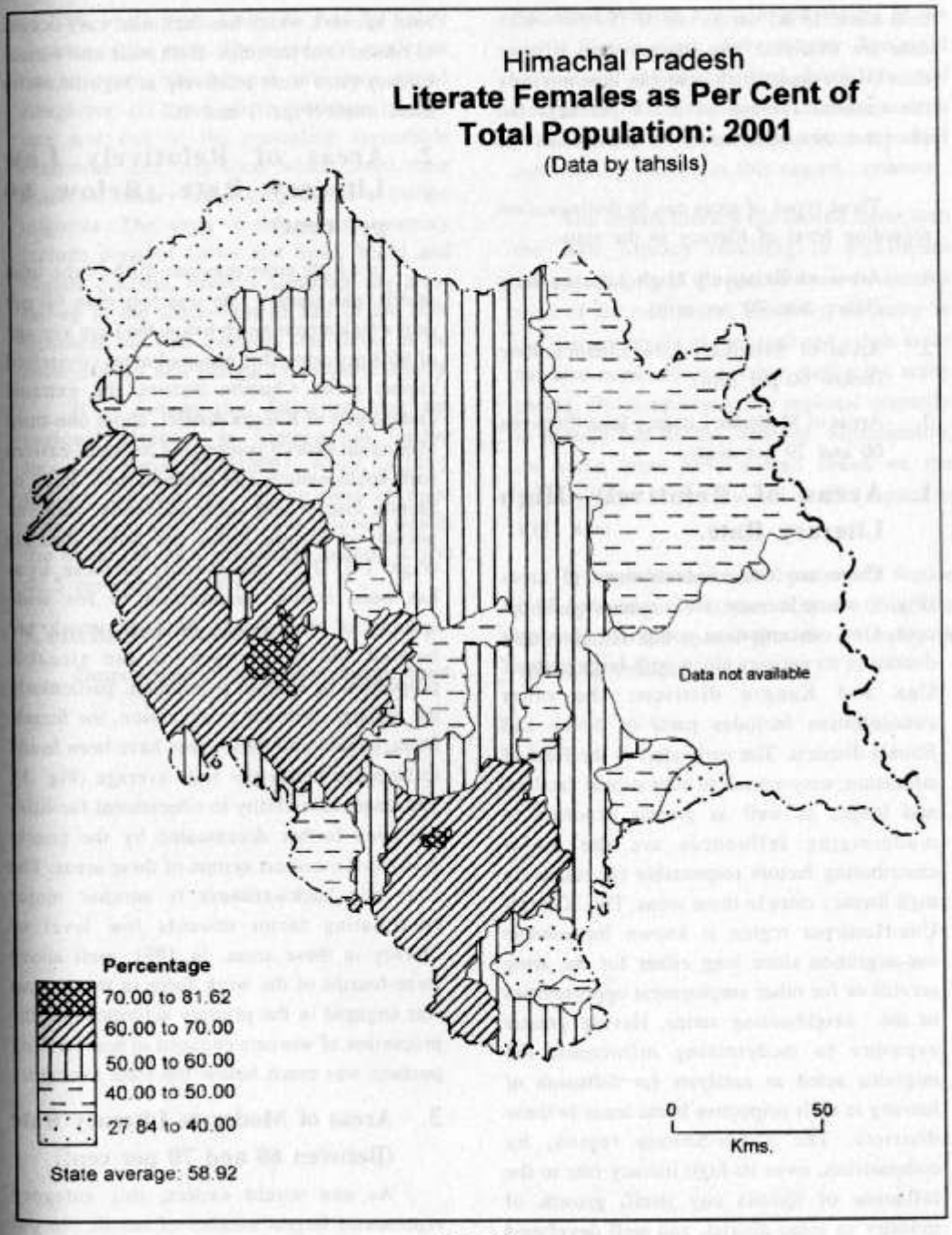
Himachal Pradesh
Literate Females as Per Cent of Total Population: 2001
(Data by tahsils)
Data not available
Percentage
70.00 to 81.62
60.00 to 70.00
50.00 to 60.00
40.00 to 50.00
27.84 to 40.00
State average: 58.92
0
50
Kms.

Fig. 3

cent mark. In 80 tahsils out of 104 for which data are available, the literacy rate is more than 60 per cent which is higher than not only the national average of 55.18 per cent but also than that of as many as 19 states of the country.

Three types of areas can be distinguished regarding level of literacy in the state:

1. Areas of Relatively High Literacy Rate (More than 70 per cent)
2. Areas of Relatively Low Literacy Rate (below 60 per cent)
3. Areas of Moderate Literacy Rate (between 60 and 70 per cent)

1. Areas of Relatively High Literacy Rate.

There are two concentrations of areas (Fig. 1) where literacy rate is more than 70 per cent. One concentration comprises Hamirpur district in its entirety along with large parts of Una and Kangra districts; the other concentration includes parts of Solan and Shimla districts. The early start in the field of education, easy access to educational facilites and longer as well as greater exposure to modernizing influences are the major contributing factors responsible for relatively high literacy rates in these areas. This Kangra-Una-Hamirpur region is known for notable out-migration since long either for the army service or for other employment opportunities in the neighbouring states. Having greater exposure to modernizing influences, the migrants acted as catalysts for diffusion of literacy in their respective home areas in these districts. The Solan-Shimla region, by comparision, owes its high literacy rate to the influence of Shimla city itself, growth of industry in solan district, and well developed road network which has faciliated easy access to educational facilities. Both male and female literacy rates were relatively at high levels in these tracts (Figs. 2 and 3).

2. Areas of Relatively Low Literacy Rate (Below 60 per cent)

In a little more than one-fifth of the total tahsils, the literacy rate was less than 60 per cent which means much below the state average of 66.3 per cent. This group of areas comprised almost entire Chamba district, the extreme eastern part of Kangra district, about one-third of Sirmaur district comprising its north-eastern part, south-eastern and north-eastern areas of Shimla district and some randomly scattered pockets in Mandi, Kullu and Solan districts (Figs. 1-3). Poor accessibility of these areas has been mainly responsible to for wide spacing of educational facilities which are beyond the easy reach of the sizeable proportion of student population, particularly the females. Without an exception, the female literacy rate in all these areas have been found to be much below the state average (Fig. 3). The poor accessibility to educational facilities has been further accentuated by the poorly developed transport system of these areas. The economic backwardness is another major contributing factor towards low level of literacy in these areas. In 1991, well above three-fourths of the work force in these areas was engaged in the primary activities and the proportion of workers engaged in non-farming pursuits was much below the state average.

3. Areas of Moderate Literacy Rate (Between 60 and 70 per cent)

As one would expect, this category represented largest number of tahsils (46 out

of 109) which were scattered over the entire expanse of the state. The areas with moderate literacy rate can be put into two broad categories: (i) those where moderate literacy rate was due to the prevailing favourable conditions and, (ii) areas which owed their moderate literacy rate to the presence of literate migrants. The areas in the second category include parts of Lahul and Spiti, Kullu and Shimla districts. Broadly speaking, the areas falling in the south-western half of the state represent the first category and those in the north-eastern half belong to second category.

It is noteworthy, however, that the regional disparity in literacy has further increased during 1971-2001. While in 1971, the gap between the literacy rates of areas with highest and lowest literacy levels was of the extent of 34.8 percentage points, it was 42.5 percentage points in 2001.

Concluding Remarks

Despite slow progress on economic front, Himachal Pradesh has emerged as one of the highly literate states of the country. The rapid expansion in educational facilities and emergence of a sizeable middle class section of the society in the state have been the chief contributing factors in this regard.

The female literacy has moved faster than the male literacy resulting in significant narrowing down of the gap between the literacy rates of the two sexes. Similarly, disparity in the literacy levels of the rural and urban areas has also come down notably during the study period. By comparison, the regional disparity in literacy has further widened. Significantly, the same areas have surged ahead on the literacy front as were ahead in this regard in 1971 also.

It is notable that spatial patterns of female literacy emerge as a more sensitive indicator of temporal and spatial growth of literacy in Himachal Pradesh.

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A COMPARATIVE STUDY OF SOCIO-ECONOMIC STATUS OF RURAL MIGRANTS AND NON-MIGRANTS (A CASE STUDY OF KOSI PLAIN OF BIHAR)

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Abstract

The present paper aims to study the socio-economic status of rural migrants and non-migrants in the Kosi plain of Bihar, India. In this paper two-way relationships are computed and tested — one between economic status and the migrants and non-migrants, and the other between social status and the migrants and non-migrants. The study is based on data collected through a field survey of 360 households in eighteen villages. The survey was conducted during February-April, 1998. Economic and social status of the households are defined and measured separately. Economic status incorporates income, house type, size of the land holding, possession of prestigious goods, consumption level of milk and vegetables. Social status includes economic status, educational status, caste, size of the household and number of migrants in the household.

The study reveals that rural to urban migrations occur among households of lower economic status. The relationship between economic status and non-migrant households shows that middle economic group percentage of non-migrants than both higher or lower economic groups. Low rural income, shortage of land, poor quality of houses and lack of other facilities in the areas of origin emerge as the main reasons for out-migration. On the contrary, there is positive correlation between social status and migrant households.

Introduction

Population migration involves a complex of socio-economic implications. Several studies of the determinants of migration decision process have been conducted in both the developed and developing countires. These works corroborate that the determinants of migration vary from country to country, or even within a country, depending on the economic, social, demographic and cultural situations at the origin. The determinants like meagre income, lack of employment opportunities, high population growth, dissatisfaction with housing, the number of

previous migrants, rural-urban wage differentials and the sex ratio have been identified singly or combinedly as the main determinants or rural out-migration in most of the countries (Caldwell, 1968; Oberai, & Singh, 1983; Premi, 1980; Sovani, 1966; Zachariah, 1968; Yadava, 1989).

Several studies emphasise the role of economic factors in migration. However, the important considerations are what a person feels about himself/herself and what are his/her economic and social aspirations because a person may be economically better off but dissatisfied or on the other hand, he/she may hail from a low socio-economic structure and yet be more satisfied and, therefore, may not think in terms of leaving the place of birth. Rose (1958) seems to be very realistic when he points out that certain conditions facilitate migration and their absence retards migration, even when the search for economic betterment remains the chief motive for migration. Relatively better living conditions and prospects in the city, thus, motivate the villagers to migrate. The study also reveals that economic necessity is almost always the main cause of human migration. Of late, the perpetual growth of population has reduced the per capita share of land and it has become difficult for the ruralites to maintain their families with inadequate agricultural land. Consequently, the outflow of people to urban centres begins with the assumption that they will get lucrative jobs and transform their own status by earning higher incomes. If this assumption is found to be true, rural-urban migration dominates over other migration streams. These migrants change their socio-economic structure as evidenced by Agarwala (1968), Long (1973), Rose (1958) and Harvey (1975). However, social factors comprised of social customs, traditions, social prejudices also induce people to migrate. In rural areas, social conditions remain more tradition oriented while urban areas expose mixed social conditions because urban centres generally have people of different cultural backgrounds caused by migration.

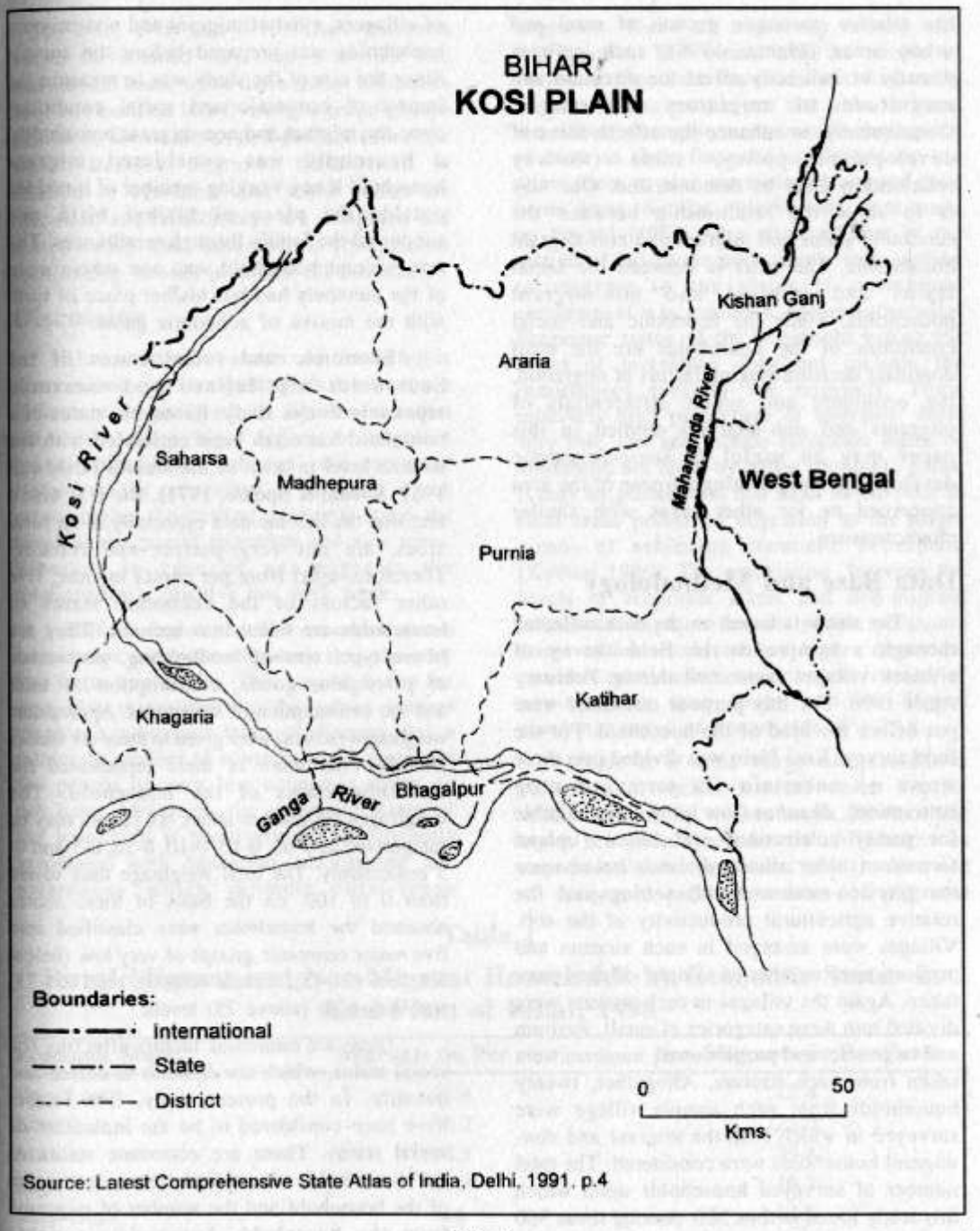
Study area

Kosi Plain is one of the important divisions of North Bihar Plain. It lies east of the Kosi river and north of the Ganga. It covers six districts of Saharsa, Madhepura, Araria, Kishan Ganj, Purnia and Katihar, and parts of two districts of Khagaria and Bhagalpur (Fig.1). It lies between 25° 20' and 26° 40' north latitudes and 86° 20' and 87° 50' east longitudes. It is bounded by Nepal in the north, Munger district in south, Purnia in the east, and Darbhanga and Madhubani districts in west. Kosi Plain deciphers homogeneity in the physical, socio-economic and cultural attributes. It shares 4.3 per cent population (36.93 lakhs) to the total population (863.4 lakhs) of Bihar (Nanda, 1991). The population density of the plain is 635 persons per square kilometre which is about 25 per cent higher than that of the state average (497) and more than double the national average (267). It records 889 females per 1000 males which is much below the sex ratio of the country (929 females per 1000 males) and also below that of the state of Bihar (912). The plain has only 5.78 per cent urban population which is even less than half of the state average (13.17 per cent) This situation seems to be the indicator of inadequate infrastructural facilities and the resources in the region.

The socio-economic life of the plain is largely influenced by the river Kosi . After the construction of the Kosi Dam, a large tract in the western part of the plain was submerged under water. People were compelled to rehabilitate themselves outside the newly raised reservoir, thereafter increasing inbalance in population and resources in the area. The recurrent floods push the people to migrate to other regions.

Aims and objectives

The economic and social conditions of a household play an important role in the decision making process of migration. Since all socio-economic policies have an effect on



Source: Latest Comprehensive State Atlas of India, Delhi, 1991, p.4

Fig. 1

the relative economic growth of rural and urban areas (Mehta, 1996), such policies directly or indirectly affect the direction and magnitude of migratory movements. Consequently, to enhance the effectiveness of development policy, some two-way relationship must be demonstrated. One way is to show the relationship between the economic status and migrant and non-migrant households. The other is between the social status and migrant and non-migrant households. Since the economic and social conditions of the households are the most dominant decision making factors of migration, the economic and social differentials of migrants and non-migrants studied in this paper may be useful in socio-economic development and planning purpose of the area concerned or for other areas with similar characteristics.

Data Base and Methodology

The study is based on the data collected through a comprehensive field survey of eithteen villages conducted during February April 1998. For this purpose questions were put before the head of the household. For the field survey, Kosi Plain was divided into three strata of uncertain (in terms of crop cultivation), *dhanhar* (low lying areas suitable for paddy cultivation) and *bhitta* (upland formed of older alluvium) lands based upon the physico-environmental setting and the relative agricultural productivity of the soil. Villages were arranged in each stratum and proportionate number of sample villages were taken. Again the villages in each stratum were divided into three categories of small, medium and large size, and proportionate numbers were taken from each stratum. Altogether, twenty households from each sample village were surveyed in which both the migrant and non-migrant households were considered. The total number of surveyed households upon which this study based is thus 360. Among these 360 surveyed households there were 279 migrant and 81 non-migrant households. With the help of villagers, a list of migrant and non-migrant households was prepared before the survey. Since the aim of the study was to measure the impact of economic and social conditions upon the migrant and non-migrant households, a household was considered migrant household if any working member of it resided outside the place of his/her birth and supported the family through remittances. The non-migrant household was one where none of the members had left his/her place of birth with the motive of economic gains.

Economic and social status of the households are defined and measured separately in this study. Economic status of a household has often been correlated with the income level in most of the studies (Caldwell 1969, Sovani & Speare, 1971). But it is also a fact that the income data especially from rural areas, are not very perfect and reliable. Therefore, apart from per capita income, five other factors of the economic status of households are taken into account. They are house type, size of landholding, possession of prestigious goods, consumption of milk and the consumption of vegetables. Appropriate weightages (scores) were given to these six factors and the total score of these represented the economic status of the household. The weightages assigned to above six factors may be categorized as 0-60, 0-10, 0-10, 0-10, 0-5 and 0-5 respectively. The total weightage thus varied from 0 to 100. on the basis of these scores obtained the households were classified into five major economic groups of very low (below 30), low (31-45), middle (46-60), high (61-75) and very high (above 75) levels.

There are numerous factors affecting the social status, which are difficult to define and quantify. In the present study, five factors have been considered to be the indicators of social status. These are economic status of the household, educational status, caste, size of the household and the number of migrants from the household. Appropriate weights assigned to each of the above factors may be grouped respectively into five slabs of score:

0-50, 0-15, 0-10 and 0-10. Thus, the total scores so obtained vary from 0 to 100. The households based upon these social indicators may be classified into five major social groups similar to above mentioned slabs of economic status. Besides, migration differentials in relation to economic and social status are discussed and relationships are computed and tested with the assumption that linear relationship existed in almost all the cases.

Discussion

The economic status of households determined by weighting the six main indicators is analysed. It is observed that there is a very high degree of negative relationship (-0.90) between the economic status and the percentage of migrants which means higher the level of economic status the lower is the rate of migration and vice versa. Whereas in case of non-migrants the relationship is positive but very weak.

Table 1 depicts that low economic status households are more migratory than the very low status households. This may be due to the fact that migrations to the urban centres require a minimum level of finance and a minimum number of contacts which generally the people of very low economic status do not have. Moreover, the economic status of the household is positively and significantly associated with education, information and awareness which promote rural-urban migration. These are negatively related with poor people. This means that the people of very low economic status do not frequently migrate. These people are not able to stand the risk of unemployment outside their place of birth as their financial conditions do not allow them to stay unemployed outside their home areas. Similar observations were made by Sovani (1966) who observed that in the district of Orissa the poor people were willing to migrate to the cities if permanent employment was available, but not otherwise. Economic status of the household before the event of migration does not include the remittances sent by the migrants. Thus, relatively high percentage of migrants from very low, low and middle economic status of household are lured by better economic gains. It may be pointed out that most of the poor in rural areas perceived migration as the major means of achieving economic betterment (Kothari 1980). The association between the levels of economic status and non-migrant households explains that the middle economic status of households shows higher degree of positive relationship with the percentage of non-migrants than lower and the higher economic status of households (Fig.2A).

There is a wide range of quantitative variations in social elements which interact with migration in various ways. Distinct life styles are determined by the differences in economic status, educational status, caste, size of household and the number of migrated

Table 1

Rural Migrant and Non-Migrant Households by Economic Status in Kosi Plain of Bihar, 1998

Economic Status	Migrants (in Per cent)	Non-Migrants (in Per Cent)
Very Low	26.9	12.4
Low	36.2	23.5
Middle	18.3	29.6
High	11.8	19.7
Very High	6.8	14.8
Total	100.0 (279)	100.0 (81)

Source: Field work.

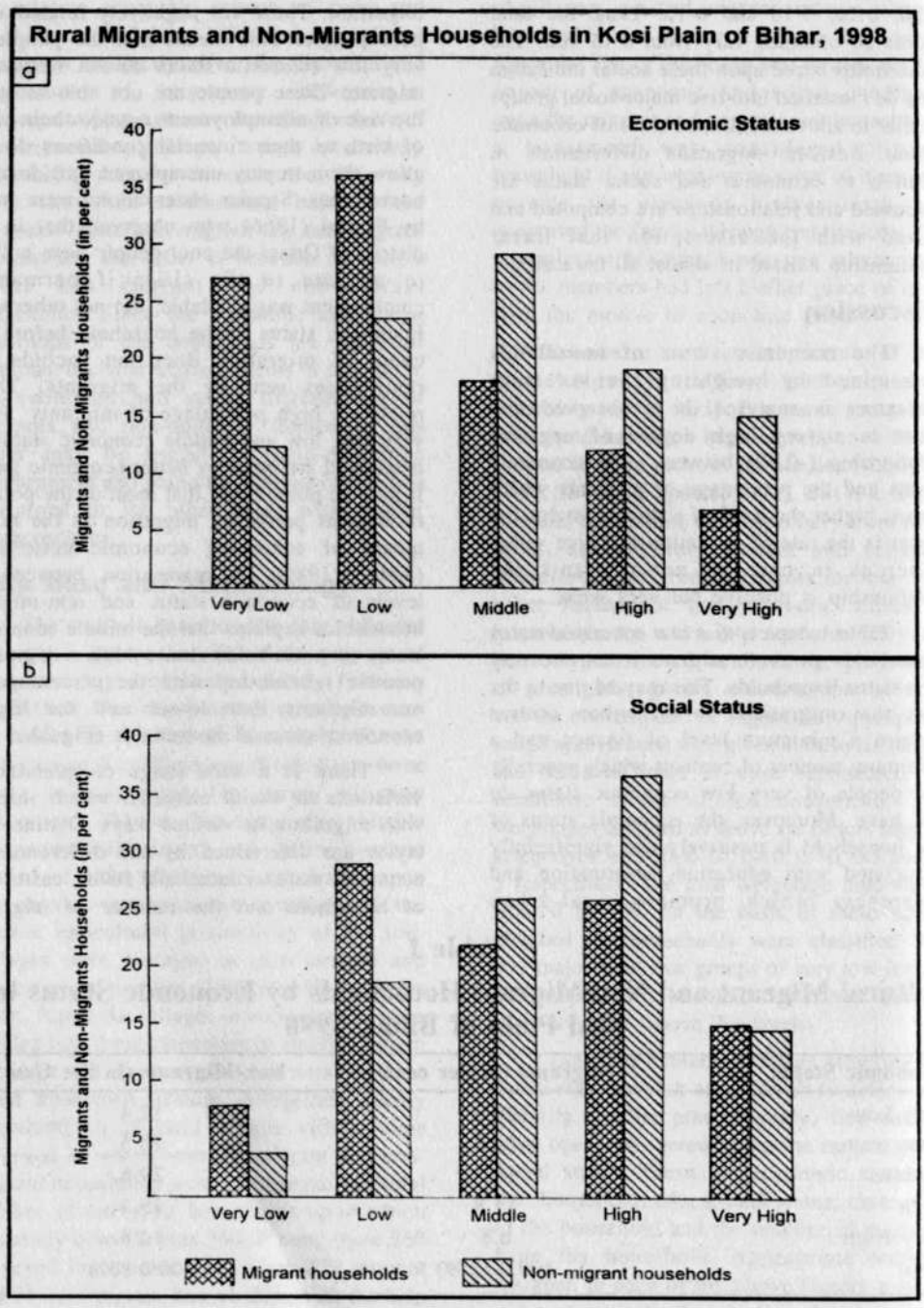

Rural Migrants and Non-Migrants Households in Kosi Plain of Bihar, 1998
a
Economic Status
Migrants and Non-Migrants Households (in per cent)
40
35
30
25
20
15
10
5
Very Low
Low
Middle
High
Very High
b
Social Status
Migrants and Non-Migrants Households (in per cent)
40
35
30
25
20
15
10
5
Very Low
Low
Middle
High
Very High
Migrant households
Non-migrant households

Fig. 2

persons in the household. The clothing and consumption patterns of the households, therefore, depend upon the levels of social status. The expenditure on these components is not only determined by the income, but closely related to their aspirations preserving their status or achieving upward social mobility. Social status, in the present analysis composed of five indicators, is computed for the households giving appropriate weights to each of them. The percentage distribution of migrant and non-migrant households studied according to their social status is given in Table 2. It reveals that there is a positive but weak correlation between social status and percentage of migrant households. The observations so obtained highlight that the households of very high and high social status have greater proportion of migrants (15% and 25.8%) than the households of very low social status (8.2%). It also explains that the upper strata or rural societies are more likely to migrate than other strata (Yadava, 1977). However, it may be observed that the persons of low social status of households have relatively the highest percentage of migrants as shown in Fig.2B. This may be due to lack of social bonds, family unity and cohesiveness. Sometimes tension in the family develops which finally puts considerable pressure on younger members to move out and earn. People of relatively high social strata are observed to be away from such pressure in comparison to lower social strata. However, they tend to migrate for their betterment. The study of non-migrant households with reference to social status registers that the non-migrant people are directly proportional to social status, but it is only a moderate degree of relationship (r=0.40). It may be inferred that the persons of high and middle social status have numerous social bindings and in comparison to other social strata, which prevent them from migrating in greater proportion. Briefly, it may be concluded that the migration decision process is affected, to a great extent, by social status (Banerjee, 1986; Singh & Sharma, 1984; Rose, 1958). It is reported that migrants in the developed countries are of middle or higher social status groups. On the contrary in the developing countries they belong to the groups of relatively lower social status (Pryor, 1974). The highest percentage of non-migrant households (37.1 per cent) noted in high social status group further validates the hypothesis.

Conclusion

On the basis of information collected at the place of origin for rural-urban migrants and non-migrants, the differences between the economic and social status of migrant and non-migrant households have been studied. The study reveals that rural to urban migrants generally belong to lower economic status households. The variables defining economic status of the households play an important role in the decision making process of rural to urban migration.

Such variables are low rural income, shortage of land, poor quality housing, and lack of other amenities in rural areas. Rural-urban migration, however, shows a positive correlation with the upper social status of

Table 2

Rural Migrant and Non-Migrant Households by Social Status in Kosi Plain of Bihar, 1998

Social Status	Migrants (in Per cent)	Non-Migrants (in Per Cent)
Very Low	8.2	3.7
Low	28.8	18.5
Middle	22.2	25.9
High	25.8	37.1
Very High	15.0	14.8
Total	100.0 (279)	100.0 (81)

Source: Field work.

households as such households natrually aspire to preserve their status or wish to achieve upward social position. Secondly, migration involves minimum level of finance, awareness and contracts persons which higher social status households possess. In such cases, people migrate generally not for purely economic reasons but to achieve better quality of life, i.e. to achieve up ward social mobility. Urban areas also provide them better social amenities and facilities in terms of educational centres, clubs, theatres, parks, playgrounds etc. These facilities in urban areas attract people from rural areas where such facilities are not available. A positive correlation between the social status and non-migrant households tells us the relative self-sufficiency and contentment of the higher social status people in the given social context. However the males from the lower social status households are persuaded to out migrate for economic reasons. They work at their destination and send the remittances necessary for the basic needs and comforts of their dependents in rural areas.

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PILGRIMAGE AND URBAN DEVELOPMENT IN HILL DISTRICTS OF UTTARANCHAL

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Abstract

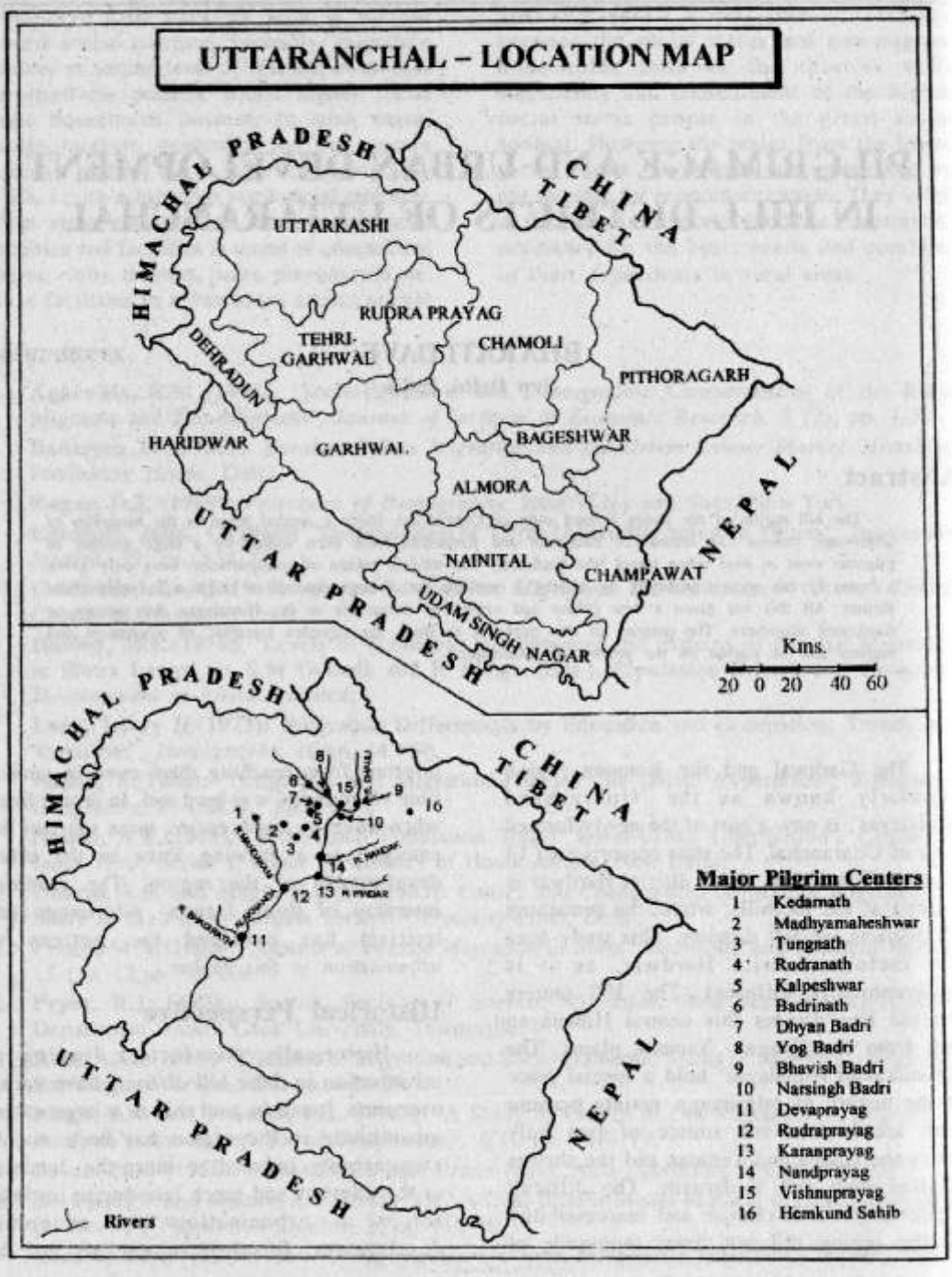
The hill region of the newly formed state of Uttaranchal, holds a special place in the hierarchy of pilgrimage centres The shrines of Badrinath and Kedarnath have been visited by a large number of pilgrims even in days when travel was hard toil. The modern means of transportation have only given a boost to this ancient tradition, by making it possible for a large number of pilgrims to reach these shrines. All this has given a new colour and vigour to urban life in the Himalayas that cannot be duplicated elsewhere. The purpose of this paper is to study the complex interplay of pilgrimage and tourism and its impact on the process of urbanisation.

The Garhwal and the Kumaon region popularly known as the 'Uttarakhand Himalayas', is now a part of the newly formed state of Uttaranchal. The state comprises of 13 districts (Fig 1). Of which district Hardwar is located at the foothills, while, the remaining 12 districts are hill districts. This study does not include district Hardwar, as it is geographically different. The 300 meters contour line divides this central Himalayan belt from the Ganga - Yamuna plains. The 'Uttarakhand Himalayas' hold a special place in the history of pilgrimage, mainly because here are located the source of two holy rivers-the Ganga and Yamuna and the shrines of Badrinath and Kedarnath. The difficult topography, harsh climate and inaccessibility of the region did not deter thousands of pilgrims from reaching them even in ancient time when travel was hard toil. In recent times when travel is much easier, mass tourism has emerged as a growing force in the urban development of the region. The complex interplay of these factors- pilgrimage and tourism has moulded the pattern of urbanisation in this region.

Historical Perspective

Historically, the factors leading to urbanisation in these hill districts have varied over time. It can be said that to a large extent urbanisation in the region has been mainly exogeneously induced to meet the demands of the pilgrims and much less due to intrinsic forces of urbanisation and economic development. Broad developments can be

UTTARANCHAL — LOCATION MAP



phased under three periods - the Pre-British period, the British period and the Post-Independence period.

The Pre-British Period

During this period several new towns came up on the map of Uttarakhand under the patronage of kings of the Katyuri, Chand and Pala dynasty, as they extended their kingdoms and built new capitals e.g. Champawat, Rudrapur, Srinagar, Baijnath, Bageshwar, Almora etc. At the same time the in filtration of pilgrims over a long period of time had a marked impact on the settlement pattern of this region. The important pilgrim centres of this region comprise of the 'Panchbadris', 'Panchkedars', Nanda Devi, Hemkunt Sahib, Gangotri, Jamnotri, Panchprayags, etc. (Fig.1A) The ' Panch badris' are located at Badrinath (Bishalbadri), Joshimath (Narsinghbadri), Pandukeshwar (Yogbadri), Silang (Dhyanbadri) and near Tapovan (bhavishyabadri). These comprise of the 'Vaishnava-Kshetra'. While the 'Panchkedars' located at Kedarnath, Tungnath, Rudranath, Madhyamaheshwar and Kalpeshwar form the 'Shiva Kshetra'. Geographically, all the 'Kedars' are situated at hilltops amidst the high altitude pastures, while the 'Badris' are sited along the riverbanks.

River confluences (Prayags), particularly on the Ganges are held sacred. The 'Uttarakhand' region has five sacred Prayags- Vishnu Prayag, Nand Prayag, Karan Prayag, Rudra Prayag and Deva Prayag. These are visited en route to the 'Dhams'-Badrinath, Kedarnath, Gangotri and Yamnotri. Punctuating the main pilgrim routes were a number of settlements, locally known as 'Chattis'. These were halting points for the pilgrims.

These settlements later became the nucleus of urban settlements. They grew under a strong impact of pilgrimage. These hill regions had all along existed on a subsistence economy and for a long time pilgrimage was the only link of these remote places with the plains. Pilgrimage also supplement the income of the local people as they found gain full employment as porters, priests, guides, horse-keepers, shopkeepers, innkeepers etc. These settlements thus grew as service centres.

The British Period

The British period which began in 1815, saw the setting of a number of cantonments and hill stations like Mussoorie, Nainital, Ranikhet (1917), Landour (1827), Chakrata (1866), Almora, Landsdowne (1887) and Dehradun. These came up primarily to fulfil the strategic and recreational needs of the British. The development of this region under the British was slow due to difficult topography and poor access. Settlements nearer to the plains were developed earlier. As the road links improved, these hill-stations became quite popular and attracted a large number of people. Along with the tourists came the hotels, golf centres, clubs, swimming pools, churches and other characteristic features of British life. Many of these facilities were only used seasonally and some stations even completely closed down for winter months.

Besides favourable climate, the British realised the resource potential of this region. Maximum exploitation of forests took place at this time, as these hill districts became source of wood to meet the needs of the plains. To facilitate the movement of goods, roads were constructed in this region and railway lines were extended till the foothills. Certain towns located at the foothills flourished as 'market' towns, as they formed the starting point for the accent to the hills. These towns were Haldwani, Kathgodam, Rishikesh, Ramnagar and Tanakpur. The increasing demand on the Himalayas further strengthened the role of these towns.

The construction of rail network across the Indian subcontinent began in 1853 and by the beginning of the 20th century; the railway lines had reached the foothills of the UP Himalayan region. A meter gauge line from Bareilly connected Kathgodam in 1884. The

railway line to Kotdwara was extended in 1897. By 1900 Dehradun was connected by rail, via Rishikesh. In 1907, the Moradabad - Ramnagar branch of Rohilkhand and Kumaon railway was opened, further extending it to Lalkua, a cross-line connection to the Bareilly-Kathgodam line. By 1910, the railways reached Tanakpur from Pilibhit. The extension of railway lines although only in the lower reaches of the region, had a positive impact in making these regions more accessible. The railhead towns became major outlets of the region.

The geographical location of the British settlements differed from that of the ancient Indian settlements. While the British sited their settlements on ridges and spurs, the Indian settlements were preferably sited along rivers and river confluences. Also, the influence of the British settlements was only felt in the lower Himalayan region, since going further would have meant more investment. The movement in the higher Himalayas was still stimulated by the pilgrim centres and the Bhotiya trade.

Post-Independence Period

After the Independence of India, the region was reorganised administratively. Tehri Riyasat was merged with the state of Uttar Pradesh and formed a separate state of Tehri Garhwal. The hill region of Uttar Pradesh at this time comprised of five districts - Pauri-Garhwal, Nainital, Almora, Dehradun and Tehri - Garhwal. In 1960, in another administrative reorganisation, three new districts of Chamoli, Uttarkashi and Pithoragarh were carved out of the districts of Pauri-Garhwal, Tehri-Garhwal, and Almora respectively. The Uttar Pradesh hills now comprised of 8 districts and 30 tehsils. The division created a number of towns with the status of tehsil and district headquarters.

However, it was the Indo-China war in 1962, which marked the turning point in the history of urbanisation of this region. The Indian government, realising the strategic importance of this region, set forth to develop an extensive network of transport linkages to make it self-sufficient and economically viable. A number of towns became important military centre like, Dharchula, Pithoragarh and Joshimath. Improved accessibility attracted more pilgrims, which in turn accelerated the development of roads and other infrastructure. Thus strengthening the foundation for modern tourism, that further promoted urbanisation in the region.

This region has experienced another administrative reorganisation recently. These hill districts are now a part of the newly formed state of Uttaranchal. This state, as per the 2001 census, comprises of 13 districts, 49 tehsils, 95 development blocks and 16,414 villages. Four new districts were created from the existing 8 hill districts (Fig. 2). These are Rudraprayag, Bageshwar, Champawat and Udham Singh Nagar. The new district of Bageshwar has been carved out of district Almora. The district RudraPrayag from the districts of, Chamoli, Garhwal and Tehri Garhwal. The district Udhamsingh nagar has been carved out of district Nainital, and district Champawat from the districts of Pithoragarh and Nainital. The district Hardwar located at the foothills forms the thirteenth district of Uttaranchal State.

Expenditure on various schemes for tourism development and promotion of tourism in Uttaranchal has progressively increased over the years. As per the ninth five year plan, Rs 8,600 lakhs approximately have been spent .This is ten times more than the amount spent during 1980-85.However much more needs to be done to develop the vast potential of tourism in the state. During the year 2000, the number of tourists who visited Uttaranchal was over 111 lakhs, whereas the total population of the state was merely 82 lakhs. Table1, shows an increase in the number. of tourist visiting the Char Dhams. Pilgrimage has traditionally been a major segment of

Table 1

Uttaranchal : Tourist Arrivals at the Char Dhams, 1998-2000

(in lakhs)

DHAM	1998	1999	2000
BADRINATH	3.51	3.40	6.95
KEDARNATH	0.82	0.81	3.00
GANGOTRI	2.38	1.22	2.08
YAMUNOTRI	0.86	1.06	0.89

Source: Tourism Dept., Uttaranchal

tourism in Uttaranchal, and plays an important role even in the present times.

All these factors have had an impact on process of urbanisation in the region. The number of towns in this area has multiplied from 29 in 1961 to 76 in 2001, in turn, raising the level of urbanisation from 12 percent to24.5 percent in the same period.

Trends of Urbanisation

This region has seen a spectacular increase in its urban population, more so in the post-independence period. At the beginning of the last century the level of urbanisation in these hill districts was only 5.9 percent, as compared to 10.84 percent and 11.09 percent in India and Uttar Pradesh respectively. It represented a typically pre-industrial situation. The region however has progressed much, with level of urbanisation increasing to 21.7 percent in 1991, and to 24.5 percent as per the 2001 census. It is however lower than the state average of 26.6 percent. The acceleration of urban population in the region has been particularly remarkable in the 1970's. The reason being that the roads built initially for strategic reasons opened this region for development.

Regional pattern of urban growth

The region displays an uneven pattern of growth of urban population over time. The districts of Almora, Nainital, and Dehradun were urbanised to some extent even in 1872, when the first census was conducted. Garhwal followed in 1891. All these districts had the advantage of easy accessibility from the plains. The southern part of these hill districts, became areas of interaction between people from the hills and the plains for trade and other reasons. Even now a similar pattern exists as the districts located in the lower Himalayas and the Terai region show higher levels of urbanisation. In 1991, these four districts had 44 of the total 65 towns in this region. The districts in the higher Himalayas, more particularly the border districts had no urban population till 1951.

The level of urbanisation as per the 2001 census was found to be the highest in the district of Dehradun (52.9%) followed by Nainital (35.3%). There is a wide gap in the level of urbanisation between the districts of Dehradun and Nainital and the other districts of this region (Map 3). The urban population in disrtict Rudraprayag is only 1.2 percent, and in Bageshwar 3.1 percent. In the other five districts it ranges from 7.8 percent in Uttarkashi to 12.9 percent in Garhwal. This disparity can be attributed to factors like - favourable climate and topography, easy accessibility, better economic and physical infrastructure and proximity to the plains.

The tehsil level analysis (1991) shows that, the religious and administrative function and proximity to the plains, are factors which largely determine the pattern of urbanisation

in the region. Illustrating this pattern, the tehsils of Dehradun, Kotdwara, Haldwani, Kiccha and Kashipur that touch the upper Ganga plains are highly urbanised. Those in the higher Himalayan region, like the tehsils of Joshimath and Bhatwari also show relatively higher levels of urbanisation. This is mainly due to concentration of population around the pilgrim towns like Badrinath, Joshimath and Uttarkashi. Tehsils with district headquarters for example the tehsils of Almora, Pithoragarh, Chamoli and Nainital are also more urbanised due to the prominence of the administrative function here. The recent administrative reorganisation in the state will further influence the pattern of urbanisation in the region.

Growth and distribution of towns

During the period 1872 to 2001, the number of towns in this region increased from 4 to 76 in number. However a wide disparity is seen in the growth and distribution of towns within the region. At the beginning of the last century, there were 18 towns in this region, six each in the districts of Nainital and Dehradun. Most of these came to meet the recreational, strategic and resource needs of the British government. From 1901 - 41, the growth was slow. A number of towns were declassified during this period. A phenomenal increase in the growth of towns was seen after 1962, when the number of towns increased from 29 in 1961 to 37 in 1971. Between 1971 and 1981 the number of towns almost doubled from 37 to 62. In 1981, Naihital district (18) had the maximum number of towns followed by Dehradun (11),Garhwal (8), Chamoli (7), Almora (5), Tehri Garhwal (5), Pithoragarh (5), with the lowest in Uttarkashi (3). The decade 1981 to 1991 saw a very slow growth. However the process accelerated, as the number of towns increased from 65 to 76 between 1991 and 2001.

As per 2001 census, of the 76 towns located in this region, the maximum numbers of towns were located in the district of Udam Singh Nagar (18). Followed by Dehradun (14), Nainital (8), Tehri Garhwal (7), Garhwal (6), Chamoli (6), Champawat (4), Almora (4), Pithoragarh (4), Rudraprayag (2), Uttarkashi (2), and Bageshwar (1).Spatially the picture of urbanisation remains the same, with more towns located in districts of the lower Himalayas and the Terai region.

Table 2

Study Region : Distribution of Towns by population Size Category, 1872-2001

YEAR	CLASS-TOWNS						TOTAL
	I	II	III	IV	V	VI	
1872	-	-	-	1	3	-	4
1881	-	-	1	1	4	5	11
1891	-	-	1	1	5	6	13
1901	-	-	1	1	4	10	18
1911	-	-	1	3	5	6	10
1921	-	1	-	2	6	9	21
1931	-	-	1	3	5	11	21
1941	-	1	1	4	5	9	21
1951	1	-	2	3	6	17	30
1961	1	-	4	5	9	10	29
1971	1	1	4	9	11	10	37
1981	1	2	7	13	9	30	62
1991	2	3	11	12	13	24	65
001	2	3	15	12	24	19	76

Census of India, Uttaranchal and Ashok Mitra

Table 3

Distribution of Population in Towns by Pupulation Class Category in the Study Area and Uttaranchal State, 2001

CLASS CATEGORY OF TOWNS	STUDY AREA		UTTRANCHAL STATE	
	TOWNS	POPULATION (IN %)	TOWNS	POPULATION (IN %)
I	2	34.3	3	35.4
II	3	14.4	4	15.9
III	15	26.8	17	25.3
IV	12	11.2	15	11.2
V	24	10.3	27	9.8
VI	19	3	19	2.4

Source: Census of India, 2001.

Table.2 shows that there are a large number of small towns in the region. No new class I and class II towns have been added in 1991-2001. However, the class V towns have doubled from 13 to 24 in number. While the number of class I, II and IV towns have remained the same during this period, the class VI towns are showing a decline. The class VI towns in the region have declined from 30 in 1981 to 19 in 2001. This reflects the strengthening of the urbanisation process.

A look at the distribution of urban population by class-towns (Table 3) shows that 48 percent of the urban population lives in 5 towns, while the remaining 52 percent in 71 towns. One-fourth of the urban population lives in 15 class III towns. In spite of some dispersion, the urban picture clearly reveals concentration in a few pockets.

Spatially, all the Class I and II towns of this region are located in the districts of Nainital, Udham Singh Nagar and Dehradun. These three districts have, in combine, of 78 percent of the total urban population. The remaining 9 hill districts have only 22 percent of the urban population living in small towns. This highlights a lopsided picture of urbanisation with the major concentration in the Lower Himalayas and the terai region. The in filtration of urbanisation in the higher Himalayas has been prominent only since the seventies. The urbanisation process has been enhanced here by the religious tourism and administrative functions, as these centres provided a foundation as service centres for the transit pilgrims' population. The road building activity has not much diverged from the traditional pilgrim routes. Sprouting of towns along the pilgrim routes has given a rather false image of urbanisation, as the areas away from the roads are still backward and inaccessible.

Conclusion

Pilgrimage has been a great catalyst to development in the hill districts of Kumaon and Garhwal. Traditionally the annual pilgrimages in the higher Himalayas have been an important source of income for the local people. They had generated a lot of economic activity in these regions, which were otherwise geographically remote, agriculturally poor and backward. At a regional level it also set a multiplier effect, which brought prosperity beyond the urban centres, accelerating to some

extent the rural income, which further accelerated the process of urbanisation. Thus, this region experienced urbanisation, which was dualistic in nature, although supported less by the rural population and more by the tourists visiting these towns. Improved accessibility after the 1962 Indo- Chinese war resulted in more pilgrims visiting this area. This in turn accelerated the process of urban development.

Mass religious tourism, not only induced the process of urban development in the region, but has also created a new hierarchy of settlements based on locational advantages. The study also highlights a lopsided picture of urbanisation in the region with major concentrations along the pilgrim routes and in close proximity to the plains.

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SLUMMING OF AN INDUSTRIAL CITY : SOME EVIDENCE FROM FARIDABAD

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Abstract

This paper deals with some of the issues relating to attributes of slums, slum households and slum population and examines slum strategies in order to seek policy directions that need to be taken to deal with them. Faridabad, the only million city of Haryana is taken as a case study. The analysis is based on the field survey of slum households undertaken in 1998, and on the information gathered from the offices of Municipal Corporation Faridabad.

Introduction

A marked feature of 2001 census is the provision of displaying separate data for "slum areas" in all the municipal towns which had a population of 50,000 or more. Along with the irreversibility of the urbanisation process the inevitability and intractability of slums also gets recognised.

Faridabad Municipal Corporation, the only million-plus city of Haryana, located 25 kms south of Delhi, recorded 46.55 percent of its population as slum population in 2001 (Government of Haryana, p. 63).

Table 1

Faridabad City : Location of Slums by the Ownership of Land, 1998

Zone	Total number of slums	Faridabad Complex Administration	Haryana Urban Development Authority	Ministry of	
				Rehabilitation	Works and Housing
NIT	31	19	—	10	2
Old Faridabad	23	8	9	3	3
Ballabgarh	13	6	6	—	1

Source : Report of Chief Administrator on Environment Improvement Scheme, Faridabad.

Table 2

Faridabad City: Sampled Slums, 1998

Sample Slum	Administration Status	Zone	Location on/along	Temporal phase of origin
Pakistan Colony	Notified	N.I.T.	Park site	1947-66
Bhagat Singh Colony	Notified	N.I.T.	Road	1980-97
Kalyan Puri	Unnotified	N.I.T	Spoadic	1980-97
Priyanka Nagar	Unnotified	Old Faridabad	Industirial area	1966-80
Santosh Nagar	Unnotified	Old Faridabad	Nallah	1966-80
Shiv Sharda Colony	Unnotified	Ballabgarh	Road	1966-80

***Source :** Field Work.*

Faridabad city is divided into three administrative zones, namely (i) New Industrial Township (NIT) (ii) Old Faridabad and (iii) Ballabgarh. The information used in this study is gathered from the records of Municipal Corporation which had the entire information stored zone-wise and from field visits covering 67 slums in the city in 1998. These included 31 slum clusters in NIT, 23 in Old Faridabad and 13 in Ballabgarh. (Table 1)

The objective was to gather data relating to the attributes of slums, slum households and slum population on a stratified random sampling basis. The household level data analysed here is based on a survey of 1023 households in 6 slums of Faridabad (Table 2). The distribution of the sample was roughly in proportion to the share of different zones in the city's total population.

Origin and Spread of Slums

The formation of slums in Faridabad is associated with some landmarks in the history of the city and the region. It was a small inconspicuous town with a predominance of agricultural activities till Independence when the Indian Government (the then Ministry of Rehabilitation) decided to rehabilitate displaced persons from Pakistan by acquiring an area of 18.13 sq.Kms. and created an industrial estate called 'New Industrial Township'(henceforth NIT). This was the beginning of influx of migrants and emergence of slums. The first known slum--the Pakistani slum that emerged in the NIT in 1950 was inhabited by refugee population.

Initially the industrial development was more haphazard all along the two parallel transport lines, namely Delhi-Mathura railway line and Delhi-Mathura National Highway No.2.

Establishment of initial industry along the National Highway, creation of an industrial estate, proximity to the national capital, good road and railway connectivity with distant parts of the country, and special attention paid to industrialisation by the government in the second plan (1956-61) laid a base for rapid industrialisation. Formation of the state of Haryana in 1966 lent a boost to this process. Haryana cashed on the policy to relocate industries outside Delhi. Industrial estates along with infrastructure were formed in the three administrative zones. Faridabad thus attracted tremendous capital to become the most industrialised city in the region with 1000 large and medium scale industries and 10,000 small scale industrial units. It contributes half of the total export from Haryana and has three times more electricity connections than Panipat and Gurgaon, the other two prominent industrial towns in the

state near Delhi, the national capital.

Besides rapid industrial development the city of Faridabad also experienced tremendous administrative changes in jurisdiction and status. The three urban entities-NIT, Old Faridabad and Ballabgarh and adjoining villages were coalesced to form an urban agglomeration in 1981. The territorial jurisdiction, therefore, got extended seven times' its size of 25.75 sq.kms in 1971 to become 178.24 sq.Kms in 1981. Consequently, slum areas which were earlier located on the periphery of these towns were roped in within the municipal corporation limits.

Concomitant to these processes Faridabad experienced an annual average exponential population growth rate of 7.17 against 4.13 of the state in the last three decades. Presently it contains 17.25 percent of the total urban population of the state and alone accounts for more than 1/5th of the total increase in urban population during 1991-2001. From a mere of about 37000 in 1951 its population increased to more than one million in 2001, a whooping increase indeed. A majority of its male work-force is engaged in manufacturing sector, and about one-fifth in'other services' which also includes the informal sector followed by trade and commerce. The sex ratio is 817 in comparison to 847 for urban Haryana and that of slum areas is still lower, that is 796 indicating male-selective inmigration.

With industrial proliferation, demographic dynamism, the existing land policies which prohibit the access of the poor to the urban land market, and the city's incapacity to meet the rising demand for housing the city's landscape got characterised by oblique scenes, the slums. The disadvantaged were left with no choice but to make or take shelter illegally on any available piece of land-public or private, preferably near the places of work.

Salient Features of Slums

Slums in Faridabad vary in size from very small clusters of 100 to 150 dwellings to large clusters with more than 10,000 dwellings. A majority of them came into existence during 1966-81 period when the fruits of development initiatives crystallised. The most frequent size of slums is 1000-2500.

Slums in Faridabad are on public land normally earmarked for public utilities. They have evolved from time to time on private lands too but they were removed by the land owners before they really established themselves (Table 1).

The attractive sites are the land along railway line, national highway, other unattended government land, land along drainage lines-Agra canal, Gurgaon canal and local drainage nallah-Budhia Nallah, earmarked park sites in the city's master plan and a few sporadic slums (Table 3).

Table 3

Faridabad City : Location of Slums, 1998

Location	Faridabad City	NIT	Old Faridabad	Ballabgarh
Along transport lines	24	12	7	5
Along drainage lines	5	—	4	1
Near industrial establishments	27	10	11	6
On sites earmarked for parks	4	4	—	—
Sporadic	7	5	1	1

Source : Field Work.

The largest number of slums are along transport lines and industrial establishments. The latter themselves are located along the former. These fall more or less in the middle of the presently defined administrative boundaries but did form the periphery earlier. Also the pattern of growth of new slums indicates that they are beginning to appear on the periphery. Thus it may be concluded that the present periphery elects itself as a potential area for further slums sites.

Slums are crowded like in many other Indian cities. About three-fifths of households live in single room-structures. NIT slum have the highest proportion of households living in more than two-room structures.

Since lack of basic services is one of the major criteria in indentification of slums an effort was made to know the service gaps. Amongst the physical services the worst are the sanitary services of health, drainage, garbage treatment etc., indicating a low level of hygiene. The services which have received some attention from government or the community are water supply, public distribution system and availability of primary education facility. The slums in the NIT zone are best placed while those of ballabgarh show a depressing picture of utter despair.

Migrant Characteristics

A majority proportion of migrants are from outside Haryana. The nearness of

Table 4

Faridabad City: Migrant Households in Sampled Slums by the State of their Origin, 1998

Migration From	N.I.T.	Old Faridabad	Ballabgarh	All Sampled Slums
Uttar Paradesh	130 (24.9)	127 (38.2)	95 (56.9)	352 (34.4)
Bihar	233 (44.6)	61 (18.3)	24 (14.4)	318 (31.1)
Rajasthan	51 (9.8)	120 (36.0)	42 (14.4)	213 (31.1)
Madhya Pradesh	25 (4.8)	16 (4.8)	2 (1.2)	43 (4.2)
Orissa	33 (6.3)	2 (0.6)	—	35 (3.4)
West Bengal	15 (2.8)	—	—	15 (1.5)
Faridabad District	20 (3.8)	2 (0.6)	—	22 (2.2)
Other districts of Haryana	16 (3.0)	5 (1.5)	4 (2.4)	25 (2.4)
Total	523 (100)	333 (100)	167 (100)	1023 (100)

Note : Figures in whole numbers indicate number of households and in parentheses depict percentage of households.

Source : Field Work.

Table 5

Faridabad: Occupational Background of the Head of the Household in Sampled Slums, 1998

Occupational group/ Occupation	Number in Slums of N.I.T.	Old Faridabad	Ballabgarh	Total
PRIMARY SECTOR	**65**	**49**	**50**	**164**
Agricultural labour	65	49	50	164
SECONDARY SECTOR	**162**	**132**	**52**	**346**
Blacksmith	27	24	18	69
Carpentry	59	27	7	93
Repair/shoe making	17	16	3	36
Tailoring/laundry	19	16	4	39
Weaving	14	18	10	42
Any other skill	26	31	10	67
TERTIARY SECTOR	**296**	**152**	**65**	**513**
Construction labour	108	76	5	189
General/domestic labour	55	25	7	87
Barber	58	9	20	87
Hawking	26	20	13	59
Retailing	4	2	1	7
Motor vehicle driving	10	7	4	21
Sweeping	28	10	15	53
Office related work	7	3	—	10
Total	**523**	**333**	**167**	**1023**

Source : Field Work.

Faridabad to the national capital is the reason.

Migrant respondents in the slums originated largely from Uttar Pradesh, Bihar, Rajasthan, and some from Madhya Pradesh and Orissa (Table 4). They are drawn from rural areas with a family occupational background of secondary and tertiary activities, which is contrary to the general impression that most of the migrants are landless engaged in agricultural labour in rural areas (Table 5).

A majority of the slum work force is engaged, either directly or indirectly, in the industrial sector lying close to their work place; the journey for a majority involves a maximum distance of upto two kms. The incidence of child labour is high. The proportion of self-employed households is small. The income for the majority is low.

Some residential segregation based on regional background is visible in Faridabad slums. It is observed that language, religion, Kinship relations and contact (of early-entrants) with the native place are the forces which lead to further growth of a slum cluster although the migration is for employment purposes. The late-entrants prefer to settle in the neighbourhood of their relatives and friends or co-villagers.

With wide ranging diversities in the cultural background of the migrants in the face of their difficulties in adapting themselves to an urban cosmopolitan culture of upper income groups, their urge to keep alive and enjoy their cultural identity in the city induces them to reside in close proximity to each other. Besides, the activities of the contact persons and the late-entrants being mostly similar, sharing of family or individual endowment in their pursuit of economic goals becomes almost inevitable. The household size is much larger than that for the city. Two kinds of tendencies can be attributed to this existence of joint families and several single migrant households maintaining a common kitchen.

This phenomenon, however deduces its roots not only from economic and sociological factors too. Efforts to delay demolition programmes planned by the city administrators, and attainment of quasipermanent residential rights in the city are realised only through collective efforts which help secure political patronage in exchange for their promise ot operate as vote-banks.

Strategies for Slum Development

Policies and programmes adopted for slums in Faridabad were replica of those framed and implemented at the national level. This is true of any other Indian city. No effort was made to evolve local strategies.

Initially the slum localities were seen with contempt. Therefore, the main emphasis was that of slum clearance and relocation. This did not prove productive as slum dwellers returned to their original base after some time. The data compiled for Faridabad city shows an increase in the number of jhuggi-clusters from 29 in 1971 to 51 in 1979 and 62 by 1981.

Thereafter the focus shifted to adoption of more realistic approaches with the intention to improve the slums in situ and to provide low cost dwelling units. The survey conducted in 1980 to execute Environmental Improvement of Urban Slums (EIUS) Programme revealed the existence of 62 jhuggi-clusters with a total population of 70,430 in the form of 18394 families forming 21.29 percent of the total population. 48.7 percent of these families belonged to scheduled castes. The localities to be stipulated under EIUS programme were the ones where: (i) urban amenities of water, sewer, street lighting and public latrine/bath were absent; (ii) houses had been constructed in a haphazard manner and majority of these were kutcha or substandard; and (iii) streets and lanes were kutcha.

The task of identifying such localities was not smooth and could not remain objective. In the first instance priority was to be given to larger slums including those which were planned not to be removed. Local leaders and politicians saw this as an opportunity for establishing their vote banks. There were instances where residents of some localities, with houses constructed without sanctioned plans, got these identified as slum through political pressure. In the process some localities of NIT which already had almost all the basic services were declared as slums while some deserving attention got overlooked.

Besides this programme another slum development scheme, Urban Basic Services Programme, was undertaken over during 1987-90. Under this programme 28 clusters were selected. Most of them were from the NIT zone. Paradoxically, these very slums, including a few more were included in the selection list of urban community development programmes (1984-86) and Environmental Improvement Scheme (1981-84).

It is seen that over time the slums have come to acquire a political connotation. Politicians get strongly involved in their identification, selection of pilot slums for any government programme and resistance to relocation and demolition of slums and provision of basic services. The slum

inhabitants on their part are seen to be most mobilised and participative during elections. Many of the Faridabad's slums have been named after politicians. NIT slums are the most provided for; the basic reason is the political drive at municipal level. For instance, in 1985-86 under the slum upgradation scheme 11 slum clusters were regularised due to political pressure.

The survey revealed that community effort at ameliorating deteriorating civic conditions is limited nor is the community involved in implementation of any programme. People consider implementation as the government's responsibility. The role of voluntary organisations or social activists is not substantial.

Concluding Remarks

- The growth of slums in Faridabad is related largely to industrial proliferation, territorial expansion and consequent massive migration and partly to the growth of non-slum population. The latter requires services that are generally performed by unskilled, illiterate and low-income population. There is, thus, a functional linkage between slum and non-slum population. Therefore a viable policy of decelerating population growth for both the sections of population is required.

- Secondly, the proliferation of slums is due to increasing shortage of housing. Even if the city population growth is reduced considerably the slum population will continue to grow because of backlong of construction activities for housing and the natural growth of population. The central issue is income on a scale that will convert slums into low cost housing. Low cost housing solutions are required to solve the housing problems of the poor in general and slum-dwellers in particular. Unless the government comes forward to build low cost houses by improving the very same material which the slum-dwellers use at present, the housing problem of the slum-dwellers cannot be solved and even if it is solved it will be at a cost that cannot be acquired by the slum dwellers.

- Thirdly, the nature of occupations and commuting costs lead to the location of slums close to the places of work. The average commuting distance for work of workers in Faridabad slums was 2 kms for males and 0.6 kms for females. Consequently slums are interspersed with commercial and residential areas. Government land earmarked for public utilities, peripheral areas, areas less suitable for human habitation are potential sites for future slums. The post-economic reforms period is also witnessing the phenomenon of rural slums and a lack of concern for the housing of workers with the result that slums are appearing on the city's fringes.

- Fourthly, large scale political interference in regard to land acquisition, regularisation of unauthorised colonies, etc., gross inadequacy of funds with government and municipality to ease the situation have led to emergence of slums on a large scale. All this is of great concern to civic authorities as the new entrants stake their claim on the basic amenities causing pressure over the already strained physical infrastructure of the city.

- Fifthly, the slum improvement programmes have also not been successful. The meagre resources that are available for slum improvement do not even make a dent on the slum problems. The misguided investments in creating woefully inadequate baths, toilets, street lights, etc. have no tangible impact on the sanitary conditions of the slum neighbourhood. It is suggested that any kind of slum development programme should be undertaken through community organisation and people's participation.

Experiences in Hyderabad and other slum clusters in Delhi show that these yield very good results. The 74th Constitutional Amendment Act with its decentralised participatory structure through Ward Committees and Municipal Planning Committees should form the basis in support of local initiatives by the community groups.

The slum board generally has a tendency to perform as a disbursement agent of available funds for slum improvement projects and there seems to be a lack of any long term perspective or plan of action. Efforts at evolving local strategies for slums are missing.

- Last but not the least, it is seen that so long as there is a demand for the low status occupations consequent upon city growth, slums will flourish and their distribution within the city will be similar to that of the general population. Under such circumstances, the city level problem should be solved at local levels and socio-economic problem at regional/national levels.

***Note** : The author is grateful to Ms. Namita V. Kumar for permitting use of primary data collected by her through field survey of slums in Faridabad city.*

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MAP SERIES : 6

REGIONAL VARIATIONS IN POVERTY ALLEVIATION PERFORMANCE IN INDIA

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Figs. 1 to 3 display the spatial pattern of the poverty alleviation performance of various States and Union Territories in India over the 1973-74 to 1999-2000 period. The two points in time, under reference, respectively represent the first and final years for which the requisite comparable data have been made available by the Planning Commission, New Delhi. Notwithstanding a controversy over their reliability, the data have been accepted for being official in nature.

A simple formula was devised to assess the said performance of every individual State and Union Territory :

Poverty alleviation performance index =

Percentage of population below poverty line in

$$\left(\frac{\text{1973-74} - \text{1999-2000}}{\text{1973-74}}\right)$$

As an illustration, the percentage of population below the poverty line in India was 54.9 in 1973-74; which got reduced to 26.1 in 1999-2000. Hence,

India's poverty alleviation performance index =

$$\left(\frac{54.9 - 26.1}{54.9}\right) = 0.52$$

A comparison of Figs. 1 and 2 reveals that while in 1973-74, there was hardly any State/Union Territory where the percentage of population below the poverty line was less than 40; by contrast, in 1999-2000, only Orissa and Bihar had comparable percentages exceeding this figure. While in 1973-74 about two-thirds of the States and one-half of the Union Territories reported a majority of their population as poor, in 1999-2000 none of them had that dubious distinction. Poverty

persisted in a big way in the eastern and central India, of course, at a relatively lower level. On account of the rapid rate of population growth, however, the numerical size of the poor had a modest slimming from 322 million to 260 million during the period. In all India context, the poor are mostly agricultural labourers and marginal farmers, farmers less than one hectare of land per household in rural areas, and informal sector slum dwellers in urban places.

Fig. 3 lays bare the differential performance of the Indian States/Union Territories on the front of poverty alleviation. A greater measure of success was more typical of the States which scored high on agricultural development, such as Punjab, and Haryana; on human resource development, such as Kerala and Goa; on effective implementation of the poverty reduction programmes, such as West Bengal and Himachal Pradesh, and on adoption of food security measures, such as Andhra Pradesh. No less critical was the role of the State specific factors in diverse situations. There was a direct or indirect role of foreign remittances in Kerala, Gujarat and Punjab; presence of defence forces in Jammu & Kashmir ; and restoration of political stability in Mizoram. On the other hand, illegal migration of the poor from Bangladesh had a depressive effect on the process of poverty alleviation in its neighbouring Indian States of Assam, Meghalaya and Tripura. Notably the poverty reduction record of the coastal States, barring Orissa, and of the big hill States, such as Jammu & Kashmir and Himachal Pradesh, has been impressive. Union Territories, without any exception, displayed a commendable performance on this count. These were beneficiary of liberal funding from the Central Government, both for overall development and poverty reduction.

On the whole poverty alleviation has been a greater function of overall economic, especially agricultural development, than of the government programmes targetting poverty reduction. This is not to minimise the importance of these programmes, per se, but to indicate the constraints inherent in resource scarcity and lack of administrative capacity in implementing them. A stark reality is that the role of government has become all the more critical in the context of emerging scenario of globalisation of Indian economy. The poor are likely to suffer. A basic issue facing India today is: how to work for a pro-poor globalisation?

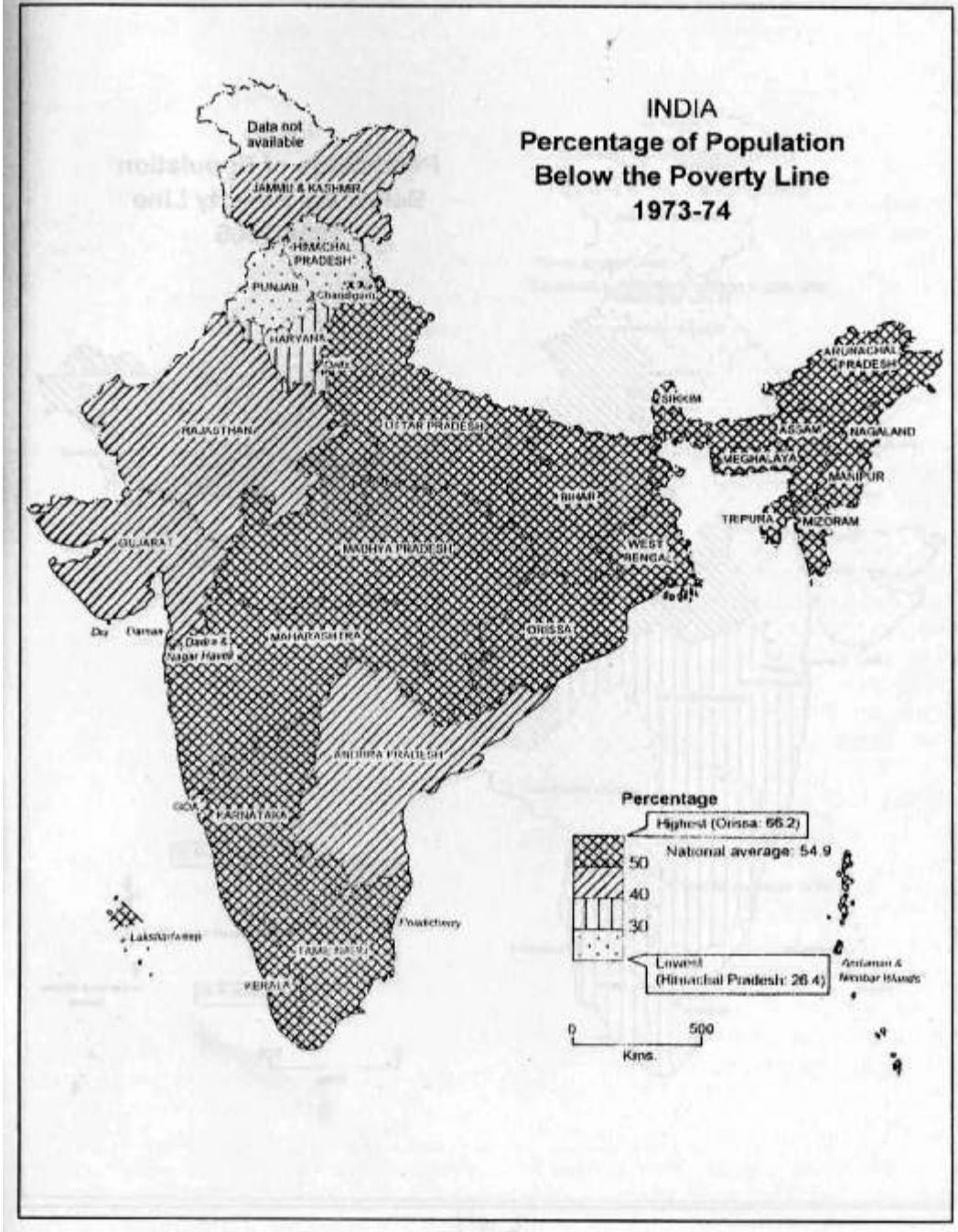
INDIA
Percentage of Population
Below the Poverty Line
1973-74
Data not available
JAMMU & KASHMIR
HIMACHAL PRADESH
PUNJAB
Chandigarh
HARYANA
Delhi
RAJASTHAN
UTTAR PRADESH
SIKKIM
ARUNACHAL PRADESH
ASSAM
NAGALAND
MEGHALAYA
MANIPUR
TRIPURA
MIZORAM
BIHAR
WEST BENGAL
GUJARAT
MADHYA PRADESH
Diu
Daman
Dadra & Nagar Haveli
MAHARASHTRA
ORISSA
ANDHRA PRADESH
GOA
KARNATAKA
Pondicherry
Lakshadweep
TAMIL NADU
KERALA
Andaman & Nicobar Islands
Percentage
Highest (Orissa: 66.2)
National average: 54.9
50
40
30
Lowest
(Himachal Pradesh: 26.4)
0
500
Kms.

Fig. 1

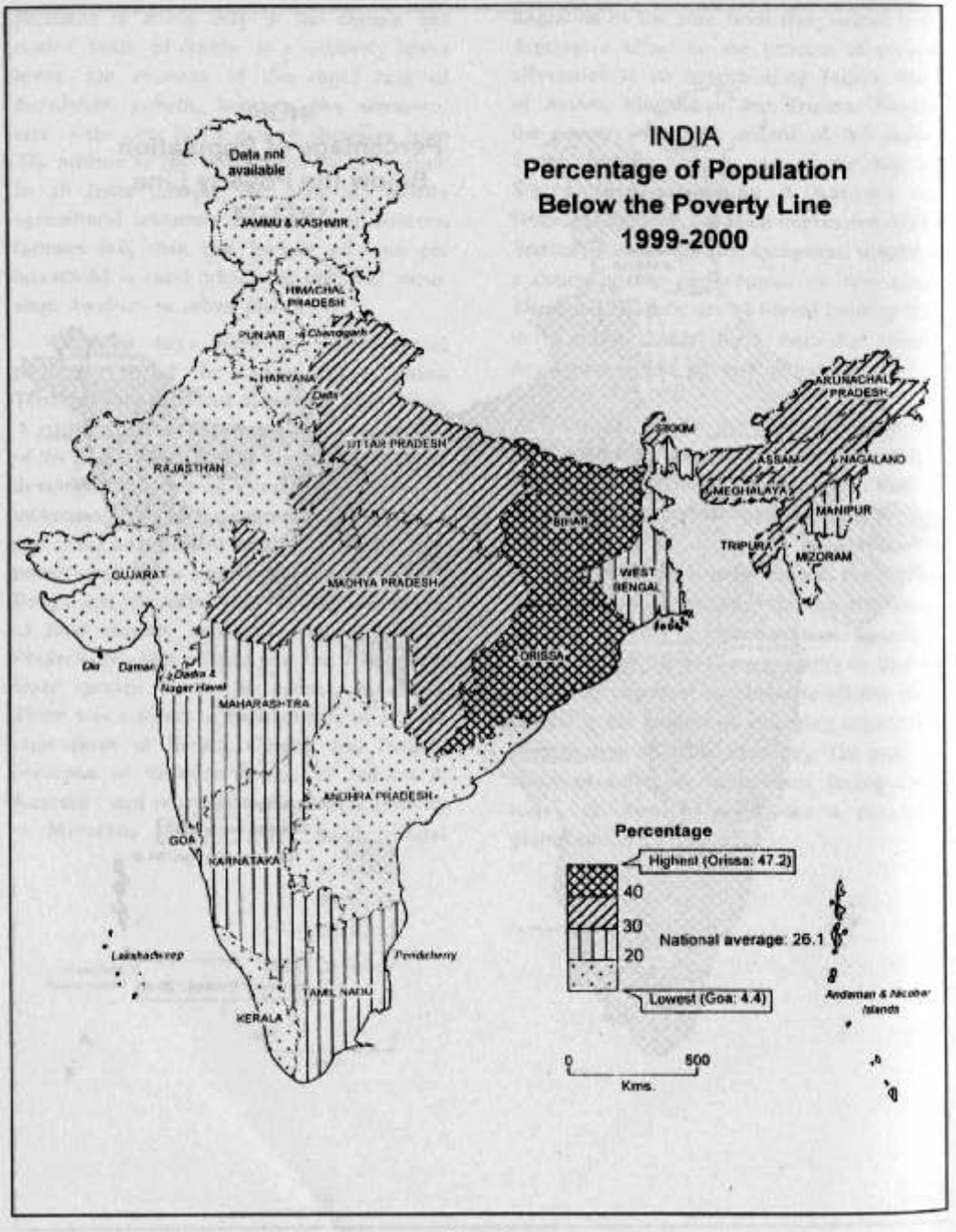
INDIA
Percentage of Population
Below the Poverty Line
1999-2000
Data not available
JAMMU & KASHMIR
HIMACHAL PRADESH
PUNJAB
Chandigarh
HARYANA
Delhi
UTTAR PRADESH
RAJASTHAN
BIHAR
SIKKIM
ARUNACHAL PRADESH
ASSAM
NAGALAND
MEGHALAYA
MANIPUR
TRIPURA
MIZORAM
WEST BENGAL
GUJARAT
MADHYA PRADESH
ORISSA
Dadra & Nagar Haveli
MAHARASHTRA
ANDHRA PRADESH
GOA
KARNATAKA
Lakshadweep
Pondicherry
TAMIL NADU
KERALA
Andaman & Nicobar Islands
Percentage
Highest (Orissa: 47.2)
40
30
20
National average: 26.1
Lowest (Goa: 4.4)
0
500
Kms.

Fig. 2

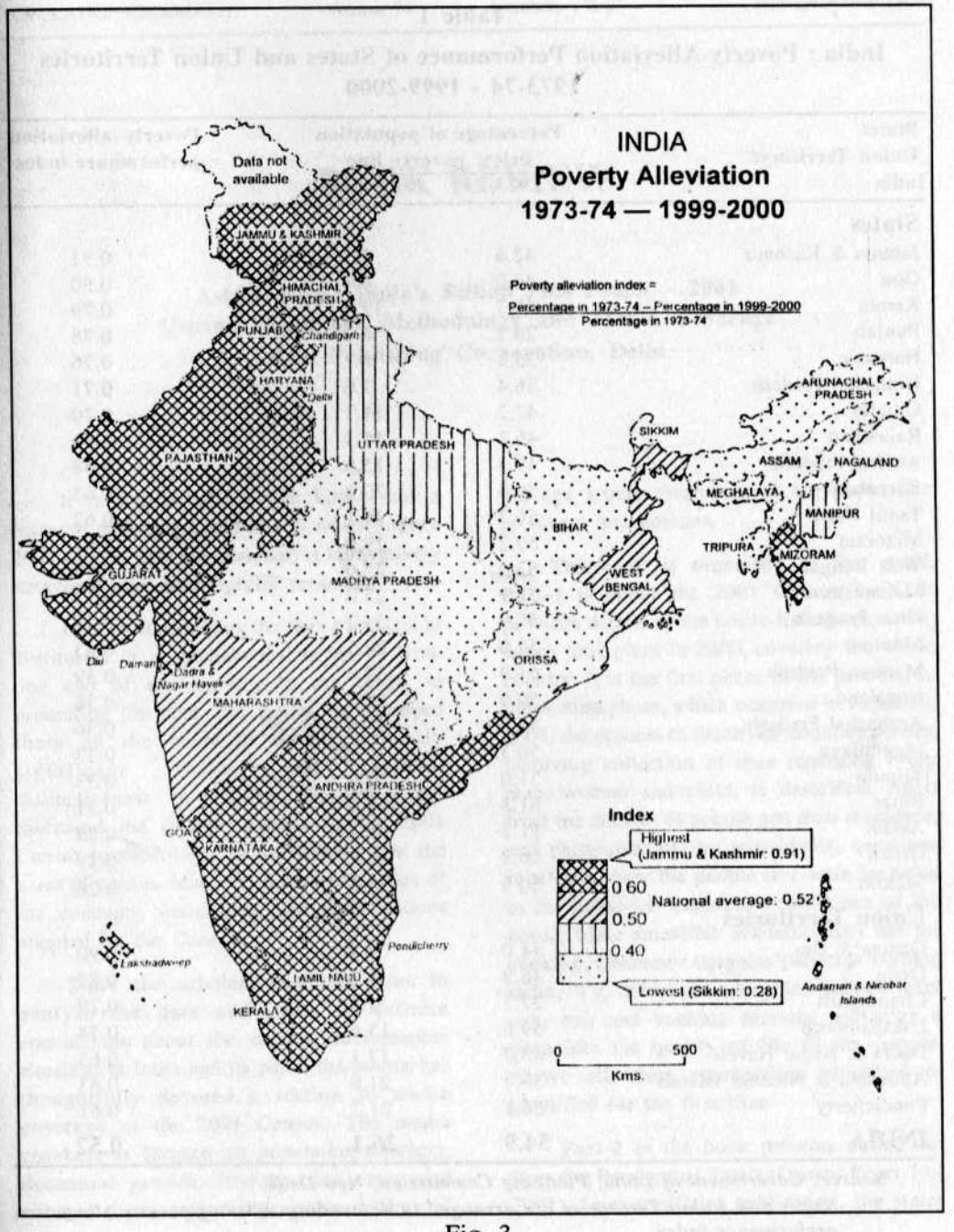
INDIA
Poverty Alleviation
1973-74 — 1999-2000
Poverty alleviation index =
Percentage in 1973-74 – Percentage in 1999-2000
Percentage in 1973-74
Data not available
JAMMU & KASHMIR
HIMACHAL PRADESH
PUNJAB
Chandigarh
HARYANA
Delhi
RAJASTHAN
UTTAR PRADESH
BIHAR
SIKKIM
ARUNACHAL PRADESH
ASSAM
NAGALAND
MEGHALAYA
MANIPUR
TRIPURA
MIZORAM
WEST BENGAL
ORISSA
MADHYA PRADESH
GUJARAT
Diu
Daman
Dadra & Nagar Haveli
MAHARASHTRA
ANDHRA PRADESH
GOA
KARNATAKA
Lakshadweep
Pondicherry
TAMIL NADU
KERALA
Andaman & Nicobar Islands
Index
Highest (Jammu & Kashmir: 0.91)
0.60
National average: 0.52
0.50
0.40
Lowest (Sikkim: 0.28)
0
500
Kms.

Fig. 3

Table 1

India : Poverty Alleviation Performance of States and Union Territories 1973-74 - 1999-2000

State/ Union Territory/ India	Percentage of population below poverty line		Poverty alleviation performance index
	1973-74	1999-2000	
States			
Jammu & Kashmir	42.6	3.5	0.91
Goa	44.0	4.4	0.90
Kerala	59.7	12.7	0.79
Punjab	28.1	6.2	0.78
Haryana	35.2	8.7	0.76
Himachal Pradesh	26.4	7.6	0.71
Gujarat	47.2	14.1	0.70
Rajasthan	46.3	15.3	0.68
Andhra Pradesh	49.3	15.8	0.68
Karnataka	54.3	20.0	0.63
Tamil Nadu	56.3	21.1	0.62
Mizoram	50.2	19.5	0.61
West Bengal	63.4	27.0	0.57
Maharashtra	52.9	25.0	0.53
Uttar Pradesh	57.0	31.2	0.45
Manipur	50.0	28.5	0.43
Madhya Pradesh	61.9	37.4	0.39
Nagaland	50.9	32.7	0.36
Arunachal Pradesh	52.0	33.5	0.36
Meghalaya	50.3	33.9	0.33
Tripura	51.0	34.4	0.33
Bihar	61.8	42.6	0.31
Assam	51.2	36.1	0.29
Orissa	66.2	47.2	0.29
Sikkim	50.9	36.6	0.28
Union Territories			
Daman & Diu	44.0	4.4	0.90
Delhi	46.9	8.2	0.82
Chandigarh	27.7	5.8	0.79
Lakshadweep	59.6	15.6	0.74
Dadra & Nagar Haveli	46.7	17.1	0.63
Andaman & Nicobar Islands	56.7	21.0	0.63
Pondicherry	56.1	21.7	0.61
INDIA	**54.9**	**26.1**	**0.52**

Source: Government of India, Planning Commission, New Delhi

* *States and Union Territories are arranged in descending order of poverty alleviation performance index.*

BOOK REVIEW

Ashish Bose : India's Billion Plus People - 2001 Census Highlights, Methodology and Media Coverage
B.R. Publishing Corporation, Delhi

It is a book of its own kind - not a research monograph, but one in which India's 2001 Census data (provisional) is innovatively structured and meaningfully presented.

Instead of arranging the States and Union Territories in an alphabetical order, or from one end of the country to the other, in presenting the data, the author has grouped them on the basis of demographically significant themes, and regional distinctiveness. In addition, the author has discussed the salient features of the 2001 Census methodology, as he believes that the users of census data must have a clear idea of the concepts, definitions and classifications adopted by the Census.

Since the scholars will take time to analyse the data and come to definite conclusions about the current demographic situation in India and its parts, the author has thoughtfully devoted a section to media coverage of the 2001 Census. The media coverage is focused on population numbers, decennial growth, literacy, sex ratio and changes therein especially among children of 0-6 age group, awareness of our population problems and policies.

The book is organised in five parts. **Part-1** is about the 2001 Census itself. It provides details of the house-listing operation, which took place in 2000, covering the whole country. It is the first phase of the process. In the second phase, which occurred in February, 2001, the process of the actual count of people, involving collection of data regarding every man, woman and child, is described. Apart from the number of people and their residence, and particulars of the individuals, questions relating to how the people live were included in the house-list schedule : conditions of the house, basic amenities available, fuel use for cooking, consumer durables (whether owning radio, TV, television, bicycle, scooter/jeep/ van, etc) and banking services providing a peep into the quality of life of the people. Above all, slum enumeration blocks were identified for the first time.

Part-2 of the book presents culled out from the Provisional Totals (Census Paper 1 of 2001). In this official publication, the states

and union territories are arranged alphabetically in the tables, making it dull and dry reading, without highlighting any problems. In his presentation of the demographic profile of India/states/union territories, the author has however, regrouped them insightfully. Each group is marked by its regional/problem orientation, making the statistical tables thought-provoking, raising questions about the trends/patterns revealed therein.

(i) In presenting the demographic profile of India as a whole, the size of population, decennial growth, changes in density of population, sex ratio and literacy have been given for the post-independence decades (1951-2001), both in tabular form and graphically. For an understanding of the regional variations in these population characteristics, the states and union territories are arranged in three sub-groups : (a) Mega states (each with over 50 million population and having more than 5 percent of India's total population); (b) Bigger states/union territories (each with over 10 million population and having more than one percent of the country's total population; and (c) Smaller states (each with less than 10 million population and less than one percent of India's total population) all arranged in descending order of population. (ii) This is followed by groups of states having their own demographic distinctiveness. These groups are led by one, which the author calls BIMARU (sick) states — Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh. Representing a large chunk of India's total population, these states have the highest birth & death rates, and among the highest rates of infant mortality. They have the highest rates of natural growth-all in the early stage of demographic transition. Their social backwardness is well reflected in their lowest literacy rates, especially depressingly low rates of female literacy, even after 50 years of independence. Bihar is worst off and thus the most sick state according to these demographic indicators. (iii) Uttaranchal, Jharkhand and Chattisgarh are off-shoots of the BIMARU states. (iv) In sharp contrast to the BIMARU states is the demographically advanced southern India - Kerala, Tamil Nadu, Goa, Pondicherry, Karnataka and Andhra Pradesh - Andhra witnessing the country's sharpest decline in population growth from 24.2% during 1981-91 to 13.9% during 1991-2001. Goa, Pondicherry, Kerala and Tamil Nadu have among the lowest birth, death and infant mortality rates in the country, and are in an advanced stage of demographic transition. Karnataka and Andhra, though still have a long way to go, are fast moving to that goal. Kerala has the highest rates of literacy among men and women, both in rural and urban areas, with hardly any differential. Sex ratio is balanced/close to a balance in the whole region. (v) Jammu and Kashmir state is a category by itself in its demographic scenario. (vi) North-western India (Punjab, Haryana, Himachal Pradesh, Chandigarh and Delhi) has its own distinctiveness. Although in terms of birth rate Haryana is close to BIMARU states, and Punjab and Himachal Pradesh are moving in the direction of southern India, all of them are alike in experiencing an unusually sharp decline in sex ratio of child population (0-6 years) during 1991-2001. It seems to be attributable to female foeticide and neglect of female children, among other factors-an alarming problem warranting scholarly investigation. The author has rightly termed Punjab, Haryana, Himachal Pradesh and Gujarat as DEMARU (daughter-killer states). Haryana and Punjab have among the lowest general sex ratios in India. (vii) Western India, comprising the industrially developed states of Maharashtra and Gujarat, Dadra, Nagar

Haveli and Daman & Diu union territories, has its own entity. There was decline in over-all sex ratio throughout western India, but sharp decline in sex ratio of child population (0-6 years), more particularly in Gujarat. In vital rates Maharashtra is comparable to Punjab. Gujarat is catching up fast. (viii) In regional distinctiveness, North-eastern India is a special unit. Among the states comprising this region ethnic problems are a common feature. They are small in population numbers, excepting Assam. Mizoram with a population of only 89,1058 (as in 2001) is the most advanced demographically. It has one of the highest literacy rates in the country, next only to Kerala, with a very small male-female differential. Its birth, death & infant mortality rates are very low, comparable to those in Kerala. Its rate of natural growth of population matches that of Kerala, but actual growth rate is two and a half times larger, attributable to in-migration. In fact, substantial in-migration is a common feature of all the north-eastern states, excepting Assam and Tripura. Although Assam is the largest state, but demographically it is much behind all the other smaller states of the region. (ix) West Bengal is signled out from all the surrounding states in its demographic profile. Among the main Indian states, it is the most densely populated. With a total population of 80.2 million, it is the fourth largest state in India. In vital rates it is comparable to Punjab-its counter-part in north-western India. Recently, its population growth rate has declined sharply. (x) Orissa is also treated separately. It is the most backward state. It has the highest rate of infant mortality in India. The over-all death rate is also among the highest. A large proportion of its population is below the povery line. (xi) The last areal division for giving a demographic profile comprises the islands : (1) Andaman & Nicobar Islands, and (2) Lakshadweep Islands, both very small units in terms of population but distinct in background. In Andaman & Nicobar Islands, birth, death and infant mortality rates have declined to low levels leading to low rate of natural growth of population. But actual growth rate is still relatively high, because of in-migration. Literacy rate is quite high (86.1% for males and 75.3% for females). With 846 females per 1000 males, it has one of the lowest sex ratios in India, but consistently improving during the post-independence decades. Lakshweep Islands have only 60,595 inhabitants. They are demographically progressive, having one of the lowest death rates in the country. Literacy ratio is very high: 93.2% of the males and 81.6% of the females can read & write.

The grouping of states and union territories devised by the author for providing demographic profile, as briefly given above, makes much sense, highlighting the areas of demographic contrasts, as also of special interest. It gives a glimpse of India's demographic diversity.

Part-3 presents in brief implications of the demographic profiles provided in Part-2. In particular, the author has highlighted the roles of the BIMARU (sick) and DEMARU (daughter-killer) states in India's demography. The BIMARU states which represent a large proportion of India's total population (and where the birth, death and infant mortality rates are the highest, and female literacy rates among the lowest) are at the lowest rungs of the ladder. On the other hand, state/union territories which have achieved demographic advancement and moved up to high rungs are small in population. Unless the BIMARU states register quick demographic advancement, the country as a whole will not be able to move up fast. They are, thus, a big drag in India's progress in demographic as well as socio-economic terms. In the DEMARU states where

not only the sex ratio of child population (0-6 years) is low, but it has experienced the sharpest fall (by more than 50 points) during 1991-2001. Excepting a few small areas, the child (0-6 years) sex ratio has declined everywhere in India, though in varying degrees, in recent years. Something serious is happening to the female children everywhere, but alarmingly so in the DEMARU states, demanding immediate investigation.

Part-4 provides an account of the methodology of the 2001 Census : definitions and classification, with special reference to economic questions (characteristics of workers and non-workers), migration characteristics and houseless population. This account is usefull in understanding the significance of the Census figures.

Part-5 discusses the relevance of the Census to the media, which has taken immediate notice of what the 2001 Census has revealed with regard to the population of India and its parts. Two themes which have significantly stood out in media's assessment relate to the increased massiveness of India's population and its recent trends of growth at different levels, and the almost ubiquitous fall in sex ratio of child population (0-6 years), though in differing degrees, in the country during 1991-2001. Media coverage of their problems has brought additional awareness among the public about the pressing issues. In conclusion, this book presents the 2001 Census data in a very meaningful and innovative manner, making it of direct interest to the public, scholars & policy-makers. The author deserves our warmest compliments on this important contribution.

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