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POLITICAL ECONOMY OF POPULATION GROWTH

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Tracing the origin of political economy as a class-science, this paper focusses on the political economy of population growth. Exposing the limitations of Malthusian ideas and their invalidity even for the capitalist economies, it discusses the subsequent revival of Malthusian model during the period of de-colonisation and the misinterpretation of the relationship between population growth and development in the developing and developed countries. Taking India, China and Japan as some case studies the paper examines the relationship between birth rate levels and some correlates. It elaborates on the Indian experience in this regard emphasising the association of population growth with poverty and unemployment and lays bare some of the hidden causes of these phenomena. In the same perspective attention is drawn to some inter-state variations in India identifying constraints and prospects of the existing population policy. The paper proposes outlines of a democratic population policy as an integral part of India's development strategy which should recognise human beings not simply as consumers but also as producers of material values. It pleads for restructuring of property relations, bringing down the mortality rates and raising of the literacy levels especially among females and improving nutritional levels as pre-requisites for bringing down birth rates.

The Political Economy Perspective

Political economy is the science which studies the social relations that evolve between people in the process of production, distribution, exchange and consumption of the material benefit. It appeared as a science during the emergence of capitalist mode of production. Political economy is a class science. Its representatives have always expressed the interests and ideology of a definite class and have tried to justify its economic policy corresponding to its interests and their protection.

The classical bourgeois political economy represented the class interests of the ascending capitalist class and was the bearer of more progressive social relations than those existing under feudalism. When the internal contradictions of the capitalist system started evolving and revealing themselves vulgar bourgeois political economy came to the forefront to articulate the interests of the bourgeoisie which was then being confronted by the working class.

Political Economy of Population Growth

One of the chief exponents of bourgeois political economy was Thomas Malthus (1768-1834) an English economist and clergyman who, alongwith others of this school, ignored the internal laws of capitalist mode of production and attempted

to gloss over its contradictions. The objective was to create a semblance of 'harmony' of class interests.

Malthusian model is based on a powerful but unscientific demographic theory which relates poverty of the popular masses in a bourgeois society to rapid population growth. Ignoring the dynamic nature of human organization, the Malthusian theory regards it as a static element. It stresses population growth to the utter neglect of social systems and emphasises that poverty is engendered by population growth and by relatively slow increase in the means of subsistence.

Basing himself on narrow empirical data and in full contradiction with the reality Malthus propounded that the laws of nature condition the inevitability of a growing disparity between rate of population growth and increase in the means of subsistence. To make his "Great Law of Population" convincing Malthus, the poor empiricist, even provided it with a mathematical basis. The formulation traced the poverty of masses and the suffering it entails to population growth in geometrical progression (1, 2, 4, 8,...) while the means of subsistence grow only in arithmatic progression (1, 2, 3 4,...). Malthusians emphasise that there is only one way of overcoming this disparity—to keep the population growth at zero. They oppose social aid to the needy and believe in the inevitability of wars and epidemics. They regard legal prohibition of marriage and compulsory sterilization of the poor as necessary virtues.

Malthusian Theory and the Capitalist Countries

Capitalist countries such as Britain, France and U.S.A. were able to ensure considerable development of their productive forces by colonial or neo-colonial exploitation of vast populations living in Asia, Africa and Latin America. In this way these countries were able to push the crisis, inherent in capitalism, under the carpet. In fact, Malthusian theory of a contradiction between population growth and availability of foodgrains and other goods necessary for human subsistence soon became redundant in the context of advanced capitalist countries because of their constant technological and educational progress leading to rise of productive forces. Not only that, these imperialist countries encouraged immigration of people from other countries (skilled, unskilled or highly qualified and creative as per their requirements at different times). This process has continued since then.

Malthusianism and its Revival with Decolonisation

The Malthusian ideas were revived after the collapse of the colonial system of imperialism. The revival coincided with the end of the Second World War and the onset of the process of decolonisation. The thrust of neo-Malthusians in the post-Second World War period is that the world's growing population cannot be provided with the necessary food and hence poverty is a natural occurrence specially in the economically less developed countries. Such ideas find a rather ready acceptance with many social scientists of the developing countries. This is not only because these intellectuals in the third world reflect the ideas of their native ruling capitalist and feudal classes but also because of their "colonized" minds. They reflect the class

interests of neo-colonialism too. Their co-theorists from the developed capitalist countries go sometimes to the extent of forecasting the advent of "general doom" as the result of depletion of life resources and environmental pollution. They conveniently ignore the fact that capitalism, especially its developed form (imperialism) rapaciously exploits natural wealth and that the ecological problems can be overcome by establishing more rational, i e., socialist relations. They also underplay the role of a more scientific understanding of the environment in developing rational solutions of the ecological problems. The attempt of all these theorists is to trace the genesis of poverty and misery in the developing countries to their rapid population growth. The clear objective is to detract the attention from the real causes of poverty and under-development of the Third World. These lie in the capitalist production relations and the vestiges of feudal oppression and their inability and unwillingness to get out of neo-colonial exploitation in spite of their repeated failures to persuade their former colonial masters to usher in a new international economic order.

A look at the Gross National Product (GNP) per capita in European countries and the countries which correspond to the present-day developing countries for the year 1770, 1870 and 1970 is revealing indeed. In 1770 the per capita GNP in the European countries was $ 210 as against $ 170 for the developing countries. By 1870 the respective figures shifted to $ 550 and $ 160. Lo and behold, by 1970, these figures came to $ 2,500 and $ 340 (Popov, 1984, p. 13). No wonder, then that it is at this point in time that nearly 100 developing countries raised the question of New International Economic Order and with their majority in the United Nations General Assembly could get their position endorsed on May 1, 1974. But even after more than a decade of this declaration by the international community the imperialist countries continue to throttle the aspirations of the developing countries in international negotiations.

The advice of the imperialist circles including I.M.F. and World Bank to the developing countries to reduce their population growth rates is not altruistic. They are, in fact, aware how a mobilised huge population can give a lot of power to the third world in international negotiations. John W. Mellor, formerly chief economist with the U.S. Agency for International Development (who lived for several years in urban and rural areas of India) had the following to say in 1977 about India, "India now has the industrial base needed to mobilize its huge population as a *world force*. And as that base grows and political development proceeds, the *massive population* and large, diverse geography of the nation *will count for India, as they do for other nations, in international negotiations*. ... ., India, by the year 2000 will have a demographic pattern that will eventually stabilise its population at about 1.4 billion. .....India's population density relative to the area of cropland would still be less than that of present-day Germany and about one-third that of Japan. India's climate, soil and water resources are conducive to much higher levels of cropping intensity than Germany's.

Population growth retards economic development and growth in *national power*

as long as a country has low rates of capital accumulation and *low levels of education*. Once *broadly participatory growth* is well underway, however, *high population densities and an underutilized labor force are conducive to high rates of economic growth and international power*" (Mellor, 1981, emphasis added).

Population Growth and Development : The Experience of Developed Countries

The development experience of the developed capitalist countries, which Malthus represented, has made nonsense of all his ideas. In these countries agricultural and industrial production has run well ahead of population growth. In fact, these countries have been going in for selective immigration from time to time. These countries have been exporters of food grains and industrial goods. Their relative unemployment (call it relative overpopulation if you may) ranging from 2 to 10 per cent is an indivisible part of capitalism which always needs some surplus labour power to enable the bourgeoisie to negotiate with its working class from a position of strength.

Population Growth and Technological Development : World Potentials

The global garb donned by the neo-Malthusians also bears no scrutiny when one closely examines not only the development experience of specific countries but the development potential of the world as a whole. According to Popov, ".....It has been established that if all the soil fit for cultivation were worked with the already available advanced techniques enough food could be grown to feed *50 to 60 billion* people. . . . About *65 billion* people could live on one-half of the world's land surface with a population density equal to that of a large modern city. The other half of the land surface would be available for agriculture, recreation and other purposes. Nor we should forget that man is ever more confidently striking out the expanses of the world ocean and outer space U.N. studies show that by the year 2000 the world's population could go up to *6.3 billion*, but from then on there would be decline in the growth rate, primarily in the economically developed countries. As a result, by the 22nd century, one could expect the world's total population to be stabilised at *12-13 billion*". (Popov, 1984 p. 102).

He further asks, "Are those who predict a dark future for mankind aware of these figures ? Yes.....these predictions have not evoked any fundamental objections. What then is the catch ? . . . . but men have to find clear-cut forms of cooperation in using and protecting the natural environment and in distributing the resources they obtain. The bourgeois social scientists given to easy interpretations of population growth without going into its political economy, naturally paint a very dark future for mankind. They hesitate to recognise "capitalism's predatory economic methods in its drive for profit". (Popov 1984 p. 103).

Contemporary Reality : A Case for Appropriate Approach to Population Growth

So far there are not even vague, what to speak of clear-cut, forms of cooperation in the use and protection of natural environment at the international level. Therefore, the question of distributing the resources in a just manner on a world scale does not arise in such a situation. Obviously, the political

economy of population growth will have to be understood at national levels with each country evolving its development strategy in the context of historical experience and the specific parameters which have a bearing on population growth. It can be accepted without much discussion that the developing countries with large population base and at a low level of technological development in order to optimise gains of development shall have to guard against rapid population growth and this can be done only by making concerted efforts to bring down birth rate. But how ?

It would be helpful to point out relevant aspects of a few selected countries and the conditions under which low growth rates of population arising out of lowering of birth rates have been achieved. In this context at least three main motivational factors can be easily identified. First, if the mortality rate at the infant and child level is low, people generally do not go in for large number of children. Secondly, the extent of literacy and its actual level, in any society is a crucial factor. A literate society is more conducive for a lower birth rate. Thirdly, high nutritional levels in terms of per capita availability of food also warrant lowering of birth rate.

Birth Rate Levels and Trends in India, China and Japan

After having identified three main conditions which are conducive for lowering of birth rates we turn to a consideration of the same focussing on India, China and Japan. Both India and China, despite different social systems, are engaged in bringing down birth rates through their massive family planning programmes which were initiated at different times. Both are vast countries with large population base as well. Both are ancient civilizations and have been victims of colonial/semi-colonial status too. Thus, both are confronted with fairly similar development problems. We are trying to compare India and Japan because both these countries have adopted a capitalist path of development. Both initiated their family planning efforts under conditions of parliamentary democracy though their respective levels of development differed due, among other factors, to different historical experience.

All the three countries have witnessed decline in birth rate from 1960 to 1982 (Table 1). In all the three cases it was a clearly stated objective in their population policy. There is no doubt that India's achievement in comparison to that of China and Japan, appears much less impressive. In India, family planning, as a part of development policy, was started right in 1951 with the launching of the First Five Year Plan which marked the beginning of planning process in independent India. The policy has been acquiring a more rational and sophisticated content in successive plans and it has shown some results. By comparison, results in China and Japan have been much more spectacular, though China started with a formal programme much later. India's performance (though significant in itself) when compared to China and Japan suggests that political system or the so-called use of force is not so significant a factor. In fact the factors which motivate a family to limit its size alongwith a family planning policy were operative in China and Japan while in India these factors were absent when the family planning programme was launched.

Hence, India's relative poor performance. The success on this point is as much influenced by the levels of infant and child mortality rates, levels of health care, education and nutrition. These are indeed crucial determinants in understanding the comparative performance of India, China and Japan. As the figures (Table 1) show there is absolutely no comparison between India and Japan in so far as their respective infant and child mortality rates and levels of medi-care (reflected in the number of persons per physician) are concerned. Both in India and China the infant mortality rate was 165 in 1960. In India it came down to 94 and in China it dropped to 67 in 1982. Similarly child mortality rate both in India and China was 26 0/00 in 1960. By 1982, it dropped to 11 in India whereas in China it plummeted to as low a level as 7. Likewise, in terms of medical care the Chinese progress as compared to India is really astounding. Whereas a doctor in 1960 in China had to care for almost double the population served per physician in India, in 1986 a physician in India had to look after more than double the population in comparison to China. It implies that the level of medical care in China has recorded a fourfold improvement as compared to India. All these health related indicators clearly explain the success of China on the population control front. Similar correlation between birth rate and levels of education and nutrition can be established for India, China and Japan.

Table 1

India, China and Japan : Birth Rates and Some Selected Demographic and Social Indicators

			India	China	Japan
A.	Birth rate 0/00	1960	48	39	17
		1982	34	19	13
B.	Infant mortality	1960	165	165	30
	rate 0/00	1982	94	67	7
C.	Child mortality	1960	26	26	2
	rate 0/00	1982	11	7	2
D.	Population per	1960	4,850	8,390	930
	physician	1981	3,690	1,810	780
E.	Number enrolled in primary	1960	61	109	103
	schools as per cent of age-group	1981	79	118	100
F.	Number enrolled in secondary	1960	20	21	74
	schools as per cent of age-group	1981	30	44	92
G.	Daily calorie	1965	2,100	2,034	2,669
	supply per capita	1985	2,189	2,602	2,856

Source : A to F from *Population Change and Economic Development*, 1985.
G from *World Development Report*, 1987.

Focus on the Indian Experience

After having seen the utter untenability of the ideas advanced by apologists of the ruling classes on a global scale and after examining the factors of population growth for India, China and Japan, we shall now examine the Indian experience with a sharper focus.

India's economy in terms of Gross National Product (GNP) was growing at around 1 per cent in the first half of the twentieth century. In the sixtees the economy started growing at around 3 per cent whereas population growth rates in the 50s and 60s have been around 2 per cent. How did the economy pick up ? Certainly not because of lower population growth rates. Did the population growth stand in the way ? The reasons lay somewhere else. The plain fact is that once the colonial fetters on the growth of productive forces were removed, the structural change from a colonial to an independent economy created conditions for a comparatively rapid economic growth rapid population growth notwithstanding. But the ruling capitalist class of India and its ideologues-planners and apologists alike would not admit this fact. On the contrary their vision has been so warped that without creating the necessary conditions which are a pre-requisite for any meaningful family planning programme they made huge allocations for this programme in all the plans. The realities on the ground were such that these allocations could not be utilized (Table 2).

It is only during the Fourth Plan (1966-71) that the allocation was fully utilized—rather the expenditure exceeded the allocation. A simple but logical explanation of this phenomenon is that by the mid-60s certain pre-requisites, such as education, nutrition and health care had been achieved for *certain sections of Indian population* within the capitalist framework of development which free India had embarked upon. This was an obvious result of a strategy of population control. It does not call for a laborious study to know that in the organised working class in the secondary and tertiary

Table 2

India : Expenditure on Family Planning Programme

Plan period	Planned expenditure (Rupees in million)	Actual expenditure (Rupees in million)
First Plan (1951-56)	6.5	1.45
Second Plan (1956-61)	50.0	22.00
Third Plan (1961-66)	500.0	279.00
Fourth Plan (1969-74)	950.0	2,290.00

sectors there was ready acceptance of a three-child norm in the earlier years which changed to two-child and which is now fast becoming a one-child norm. *The impact of population policy remained confined to 8-9 per cent of total Indian population.* This section of population, after having accepted a small family unit is now left with considerable savings, accounting for more than 20 per cent of Gross National Product. This has helped in capital accumulation by the state and its beneficiaries, i.e. the ruling capitalist class.

Another result of this strategy is that a small proportion of the total population has become the biggest consumer of all kinds of consumer goods. Simultaneously, it has seriously distorted the development pattern of the country especially during the 1980s. Arising out of distortions in the development pattern is a state of technological collaborations and investments by multinational corporations. Forces of imperialism and neocolonialism and forces of Indian capitalism have converged to exploit the Indian people. *They are raising the bogey of overpopulation as the reason of India's continuing underdevelopment and poverty.*

Poverty and Population Growth : Regional Dimension

Rapid population growth, in the absence of rapid growth of productive forces, does lead to perpetuation of poverty. But to say, as most text-books do, that the main cause of India's poverty is its growing population is simplistic if not utterly illogical. In fact, incidence of poverty in some states of India bears hardly any relation with the rates of population growth (Table 3).

Table 3

India : Percentage of Population Below Poverty Line (1980) and Rates of Population Growth in Some States (1971-81)

States	Percentage population below poverty line	Population growth per cent
Punjab	15	23.1
Haryana	25	28.04
Kerala	47	19.0
Tamil Nadu	52	17.23
West Bengal	53	22.96
Bihar	57	23.90
Madhya Pradesh	58	25.15
Orissa	66	19.72
Maharashtra	48	24.36
INDIA	48	24.75

A perusal of Table 3 would not permit the apologists of India's capitalist path of development to maintain that poverty is rooted in rapid population growth. In Punjab and Haryana feudal relations in production were done away with long ago which made it possible for the productive forces to grow in agriculture and thus break the poverty barrier to a large extent. Whatever poverty remains in Punjab and Haryana is accounted for mainly by urban poverty. The incidence of rural-urban poverty in Punjab is 12:25, in Haryana 23:32, while in India as a whole it is 51:38. In both cases the production relations in the countryside are more progressive (or less retrogressive) in agriculture than in the urban economy. This is, however, not to deny the skewed nature of land holdings in the country side. Once this fetter of differential holdings by size is removed it may be possible to reduce the extent of poverty much further in the rural areas of Punjab and Haryana.

The situation in Orissa, Madhya Pradesh, Bihar, West Bengal and Tamil Nadu is radically different from Punjab and Haryana as far as land relations are concerned. Feudal land relations with absentee landlords and the tiny unconsolidated holdings of small peasants make it impossible for new technology to be applied in these states on a sizeable scale. Hence, their continued poverty.

Unemployment and Population Growth

Just as poverty of masses is attributed to population growth without understanding the political-economy context, in the same way the deteriorating employment situation in India is explained away as a consequence of rapid population growth though everybody knows that in four decades of freedom, population has doubled whereas unemployment has increased 100 times. A close scrutiny of relevant data should be profitable (Table 4).

Table 4

India : Unemployment and Population Growth Since 1951

Year	No. of unemployed* (in thousands)	Decadal per cent increase	Decade per cent population growth
1951	329	—	—
1961	1,833	457	21.51
1971	5,100	123	24.80
1981	17,838	249	24.75

* Persons on Live Register of Employment Exchanges 1951-81 Computed from Ministry of Labour and Employment, New Delhi.

It is amply clear that growth of unemployment has far exceeded the growth of population as a whole in all the three decades since independence. The trend has to be viewed in context of capitalist development. A more rational explanation may be offered here. The very excessively high increase in the number of unemployed on the Live Registers during 1951-61 decade was caused by, among other things, opening of a large number of employment exchanges in the country, a larger awareness of the availability of services of these exchanges, and the fall-out of mechanisation of production without providing alternative employment to those rendered unemployed in the process.

During 1961-71 decade the growth of unemployment, though much less than the previous decade, was still about five times the growth of population for the same period. We cannot be oblivious of the situation prevailing at the base year. The base of the unemployed in 1961 was not as small as it in 1951 (when the employment exchanges were too few) hence the higher per cent increase in 1951-61 period in comparison to the following decade.

The latest decade (1971-81) again witnessed more than tripling of unemployment figures. Mechanisation of production was further intensified with more and more of labour-saving devices and higher technology. With greater capital accumulation in fewer hands, it became possible for the monopoly houses to instal sophisticated capital-intensive machinery for larger profits—*but with low employment potential.* The trend of capital and hi-tech intensive industrial development with very low employment potential has, in fact, been so intensified in the 1980s that the figure of unemployed on the Live Registers of Employment Exchanges has crossed the 30 million mark in 1987.

Taking the unemployment situation in the 40 years of freedom, one notices that in the first twenty years unemployment grew around 7 times which was, of course, higher than the population growth during this period (the figure of the unemployed in 1967 was 2,740 thousands). Taking the whole period of four decades of freedom it is more than 100 times increase whereas the population increase is nearly 2 times.

Indian economy was never disentangled from the world capitalist economy but in the first two decades after independence a relative independence was growing which not only allowed a higher rate of growth but also increased unemployment at a slower rate. Technological collaborations with imperialist companies increased at such a rate from mid 1960s that unemployment has been growing by leaps and bounds in spite of some successes on the family planning (birth-rate reduction) front during this period. If India were to increase its own base of literacy and education and production of technology instead of importing the same, it could have given huge employment to its own people as teachers and researchers. Such a strategy, while expanding employment in the knowledge-generating sector, could have led to modernisation of production and a far greater stature and bargaining strength to the country in the international arena.

Will not such conditions, alongwith rapid population growth, lead to greater unemployment ? The technological policy

Table 5

India : Interstate Variations in Birth Rate, Infant Mortality, Literacy and Incidence of Poverty

State	a	b	c		d
	Birth rate per 1000 1985	Infant mortality rate Per 1000	Literacy% 1981		Population below poverty line (%)
			Total	Female	
1. Andhra Pradesh	29.3	83	29.9	20.5	42
2. Assam	34.3	111	N.A.	N.A.	56
3. Bihar	37.6	105	26.0	13.6	57
4. Gujarat	32.7	98	43.8	32.0	39
5. Haryana	35.5	85	35.8	22.2	25
6. Himachal Pradesh	30.2	84	41.9	31.4	27
7. Jammu & Kashmir	32.9	86	N.A.	N.A.	34
8. Karnataka	29.0	71	36.4	27.8	48
9. Kerala	22.9	32	69.2	64.5	47
10. Madhya Pradesh	38.8	122	27.8	15.5	47
11. Maharashtra	28.9	68	47.4	35.1	48
12. Orissa	30.3	130	34.1	21.1	66
13. Punjab	28.7	71	40.7	34.1	15
14. Rajasthan	39.2	108	24.0	11.3	34
15. Tamil Nadu	24.8	80	45.8	34.1	52
16. Uttar Pradesh	37.6	140	27.4	14.4	50
17. West Bengal	28.6	77	40.9	30.3	53
INDIA	32.7	95	36.2	24.9	48

Source : a & b from *Sample Registration Bulletin*, Vol. XX(2), 1986.
c—from *Census of India*, 1981.
d—from *India : Spotlight on Population* (*Petrov, 1985*)

of the ruling class in India is not dictated by the national interests. It is dictated by the lust for profits and larger profits. What then, is the relation between unemployment and population growth *per se* ? And yet our social scientists concerned with the study of population as also text-book writers, planners and publicists continue to emphasize that growing population is the root cause of unemployment in India.

Birth Rates and Some Correlates

A perusal of Table 5 shows that lower birth rate is a response to lower infant mortality rate, comparatively high literacy rate especially higher female literacy rate and lower incidence of poverty. Let us take three extreme cases : Bihar, Rajasthan and Madhya Pradesh. Their respective birth rates in 1985 were 37.6, 39.2 and 38.8 against the national average of 32.7. The infant mortality rates in these states were 105, 108 and 122 respectively against a national average of 95. Similarly, their total literacy rates (with female literacy rate for each in parenthesis) were : Bihar 26.0 (13.6) ; Rajasthan 24.0 (11.3) ; and Madhya Pradesh 27.8 (15.5) against the all-India average of 36.2 (24.9). The incidence of poverty as reflected by the percentage of population below poverty line, in these three states was 57, 34 and 58 against the national average of 48. It may be mentioned that for Rajasthan which seems to be less poverty stricken, the distressingly low literacy rate especially among the females and also a higher infant mortality rate will have to be considered as crucial variables of high birth rate.

Let us consider Punjab and Kerala to further examine our proposition. Their respective birth rates were 28.7 and 22.9 ; infant mortality rates were 71 and 32 ; literacy rates were 40 (34.1) and 69.2 (64.5) and incidence of poverty was 15 and 47. Punjab compares favourably with all-India average in all the indicators. But its most striking indicator is its relative prosperity. Kerala, though as poor as average India, has impressively high literacy rate especially for its female population. In addition, Kerala has achieved the lowest infant mortality rate which itself seems to be a product of Kerala's higher cultural standards.

A focus on Bihar, Rajasthan, Madhya Pradesh, Punjab and Kerala only by way of illustrations, establishes the clear association of low birth rate with low infant mortality, better literacy levels especially among females and better nutrition (indirectly reflected in the incidence of poverty). The impact of infant mortality rate, general literacy and female literacy on birth rate has also been observed at a micro-scale. The statistical correlations between these variables have been found to be significant (Sawant and Khan, 1982).

Indian planners and other elites have, of late, started appreciating the demographic-developmental nexus better. Mr. Abid Hussain, Member Planning Commission, in 'Some Initial Thoughts on the 8th Five Year Plan' states, "All round improvement in health, education and nutrition leading to lower infant mortality rate are the most important ingredients of a successful population reduction programme. .... The basic law of demographics is : As education, health and family income go up, fertility tends to decline".

Notwithstanding such realisation by some Indian planners, it remains to be seen whether the slow-moving 'Gabian' $\left(\frac{\text{Gandhian} + \text{Fabian}}{2}\right)$ capitalist path of development that free India has pursued so far will allow reduction of the rate of population growth from over 2 per cent to 1.5 per cent in the VIII Plan. In our view, realisation of such a target is possible only by adopting a democratic population policy the outlines of which have been detailed in the concluding part of this paper.

Impact of Family Planning Policy : Constraints and Prospects

We have already mentioned as to why the ruling capitalist class holds population growth responsible for the prevailing poverty and grim employment situation. So far hardly 8-9 per cent of India's population (largely in the modern working class in the secondary and tertiary sectors) has been motivated to limit their family size and this has helped the ruling class to maximise their profits. Now that educational and medical facilities have expanded somewhat in the rural areas of some Green Revolution pockets and poverty levels of mainly the landowning sections have been reduced to an extent, it may be presumed that in the coming decade or two the impact of family planning programme on these sections will be considerable. However, this approach also has severe limitations as a trend towards proletarianisation of the peasantry has already set in.

A sharper focus on Punjab will be useful to elaborate this point. Punjab has witnessed most dynamic economic development compared with other states of India. This state has ranked first in per capita income for over two decades. Punjab's relative prosperity associated with the success of the Green Revolution has become a model for our planners. Not only Haryana and Western parts of Uttar Pradesh but some other Green Revolution pockets in the country are trying to catch up with Punjab.* Accordingly what has been happening in Punjab in the 70s and early 80s can repeat itself in greater or lesser measure in the rest of country. In Punjab the marginal farm holdings (upto 2 hectares) have fallen from 7,77,651 in 1970-71 to 3,96,691 in 1980-81 (*Statistical Abstract of Punjab, 1983*, p. 151). This suggests that nearly 4 lakh marginal farmers have been rendered landless workers whether in the countryside or in the urban areas. The process of proletarianization of peasants has been fastest in case of farm sizes upto 0.5 hectares. Their number has dropped from 3,10,049 to 81,569. The process has extended even to farm holdings between 3 to 4 hectares. As the process of proletarianization is continuing, with some time lag it will manifest itself in other parts of the country as well.

The landless workers have no motivation to limit their family size as this section (i) has still not crossed the literacy barrier; (ii) has high infant mortality rate; and (iii) has added to size of population below the poverty line. There are at least two implications of such a trend : (i) The

* 169 districts in thirteen more states have been identified to implement the Green Revolution strategy in the remaining two years of the VII Plan.

consumer base of Indian industry can expand from 8-9 per cent to 14-15 per cent by the end of the century, but rapid population growth will continue unchecked, (ii) The rate of population growth may rise once again in the better off sections of our population—in association with rise in income levels. This has happened in some of the developed countries.

Outlines of a Democratic Population Policy

i) Due recognition should be given to human beings as producers of material values and not simply as consumers. Human hands and brains as producers are as important as human mouths, eyes and ears as consumers.

ii) Property relations will have to be restructured as a pre-requisite for the success of any development effort. The old story of failure of land reforms is too well known to be repeated. Not only have old laws to be implemented in all regions of the country, there is also an urgent need for placing a ceiling on operational land holdings. This has so far not been done in any part of India. A clear trend towards bigger holdings has been noted in case of Punjab (Table 6).

iii) Restructuring of property relations in land in conditions of democracy and a huge rural population is not easy unless similar restructuring is done in industry simultaneously. India's achievement as regards restructuring of its industrial economy is far too dismal than on the agricultural front. The industrial and commercial interests ruling the Indian state have been becoming richer at an extremely fast pace*. As such, restructuring process is indeed a challenge for the Indian state. The development trend of the 80s, with its stress on liberalisation and private sector will have to be reversed to the trend of 50s and 60s with selective nationalisations, development of indigenous technology and creation of more employment through reliance on the public sector in industry.

Table 6

Punjab : Increase in the Number of Big Sized Operational Holdings, 1970-71 to 1980-81

Year	10-20	20-30	30-40	40-50	50+hectares
1970-71	58,498	7,631	1,801	652	301
1980-81	61,680	9,098	1,826	749	588

Source : *Statistical Abstract of Punjab*, 1983, p. 151.

* The Birlas have increased their assets from Rs. 1,431 crores to Rs. 4,111.55 crores and Tatas from 1,538.97 crores to Rs. 3,698.84 crores in just five years, i.e. 1980 to 1985.

iv) A frontal attack on malnutrition, mass diseases, infant and child mortality encompassing *all sections of the population* in *all regions* especially the vulnerable ones will be necessary in case desired low birth rate targets are to be realized. That too would be possible only after a decade of first creating the pre-requisite conditions.

v) A literacy rate of 36 per cent for the country as a whole with its wide variations in spatial terms (dropping to as low as 5 per cent for females in rural segment in Rajasthan) is hardly conducive to acceptance of family planning programmes. Additionally, low literacy especially among the females is a serious obstacle for reducing infant and child mortality rates. This has already been elaborated for Punjab and Kerala (Table 5).

vi) Any plan to improve the literacy rates will inevitably have to lean on using the mother tongue, i.e. the spoken language for the first mobilisation of the vast millions in our country. The extremely low literacy levels not only in the tribal areas but also in the vast so-called Hindi hinterland can be attributed, among other factors, to the non-use of the tribal and other spoken regional languages such as Rajasthani, Bhojpuri, Awadi, Maithili, Santhali and many more.

vii) A democratic population development strategy calls for huge investments in education and health care today so that we may reap the benefits tomorrow. As the bulk of Indian population is extremely poor and is already heavily taxed by indirect taxation methods increase of direct tax rates for the affluent sections especially on the unearned incomes is just not avoidable. Is the Indian State prepared for this ?

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MIGRATION AS A PHENOMENON AND PROCESS OF POPULATION CHANGE

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In this paper, an attempt has been made to relate migration with population growth and economic development. Further, the structural determinants of migration have been highlighted. It is also emphasized that for generating agricultural surplus through the introduction of technology at the family farm, migration from rural to urban areas need to be examined specific to agricultural sector. Migration for subsistence purpose and for improvement of prospects has been analysed in the context of structural determinants. Studies showing relationship between migration and fertility behaviour have been examined to specify the "social mobility" and "Assimilation" models for explaining the extent of integration and adaption of the redistributed population as censequence of migration. Lastly, some of the non-economic factors affecting migration and fertility, consequently impinging upon thepopulation change have been emphasized.

It is a well known fact now (on the basis of various studies reported in the different regions of the developing nations) that the basic motivation for migration is economic. This is reflected in characteristics of the migrants; mostly young adults seeking entry into labour market and educated persons who view better life chances; however poor they may be in the city than in the villages. The relative poverty, unemployment and shanty living conditions which most of the migrants face in the city are however difficult to be explained in terms of economic motivation. This necessitates examining the structural and cultural determinants of migration on the one hand and that of adaptations of migrants to new urban settings on the other hand, especially in regard to residential patterns, social services such as health, population control and education and occupational adjustments. An attempt has been made to look at some of these dimensions of migrations in this paper.

1. Migration and Economic Development

Migration apart from fertility, mortality is another important demographic factor contributing to disequilibrium in a given population. Migration as a phenomenon is in response to the economic development, as also it is a contributing factor to the development. Demographically speaking, migration affects the population structure in terms of age and sex ratio for labour force participation towards production. Even the consumption pattern is affected as a consequence of people moving in and out of the given population. Thus migration as a phenomenon contributes both to the dimensions of production and consumption. This makes it imperative to conceive it also at the

household-family level and analyse it within the utility maximization model. Migration decisions in that context may be viewed apart from that of individual nature to those also influenced by the family structure and function.

Whether migration is in response to employment opportunities, better wages or higher incomes, it is a phenomenon which has been studied both in terms of internal migration within a nation as well as international migration across the countries. However, internal migration has been of great interest to the planners and administrators of the Third World nations. By mid sixties, there were not many studies reporting the causes of migration. As stated by Breece "very little is known about factors which impel migration to large cities" or about rural-urban "migration" patterns, (Breece, 1966). But presently, we know a good deal about the social and economic factors that contribute to rural-urban migration and about "migration" patterns. However, the findings of most of the studies reported on internal migrations in developing nations are not uniform on different dimensions. The focus of these studies has been on the volume, origin, destination and age, sex, education characteristics of rural-urban migrants. Migration has been studied more so as an isolated phenomenon rather than one among many factors interacting in the process of economic development. There is a need to study the migration pattern within rural sectors, consequences of migration from sending and receiving communities and groups, impact of development efforts on population distribution and the interplay between population growth, population distribution and economic development. (Simmons, 1977)

2. Determinants of Migration

One may consider domestic employment as a structural factor for migration but the foreign capital investment abroad has also attracted a large number of migrants as potential contributors to the economic development. Weiner has, stated that the governing elites of the gulf States are basically interested in using their abundant wealth to develop their countries without the least disruption of the existing political structures. In order to accomplish this goal they have imported workers to construct airports, roads, communication network and to diversify their economy by industrial investment etc., from South Asia rather than from neighbouring Arab countries for fear of losing their political autonomies. They do not allow these migrant workers to become citizens. (Weiner, 1982)

However, in regard to internal migration, land as a natural resource in our context has been considered as an important determinent of migration. Population pressure on land has been identified as an important "push" factor in studies following push-pull perspective. Many migrants, especially those of low status, are those who are inframarginal or marginal farmers or landless labourers. It is also reported that wide gulf between the rich and the poor in land ownership, has been responsible for lower per capita and consequently it has effected migrations (Connell, 1976). As such, regions with higher economic growth rates are likely to have a large number of immigrants from regions of low economic growth. Widjojo, however, opines that the decreased availability of land can perhaps

be offset by investing in technology and thereby reducing population pressure on land (Widjojo, 1964). This may result in halting migration. As Pravin Visaria has observed that the technical change if it results in providing more employment opportunities than in displacing labour, would surely promote migration (Visaria, 1972). It is also reported that with an increased rural participation rate, the rural-urban income ratio improves. This may result in curbing migration and consequently halting of the urbanization process (Simmons,1977).

3. Migration specific to Agricultural Sector

In the above backdrop, one has to examine the migration specific to the agricultural sector. It is argued that given the family size on the farm, the change in the family's age structure results in greater food requirements and secondly, family size itself changes over time as additional children enter into this world. These compositional changes in the family structure affect the marginal utility of the family from the quantity of food available and necessitate the introduction of technological change. Both technology and labour are necessary for production but to introduce technology, one must have an agricultural surplus. With the small holdings in the majority of the agricultural families and the large family size to support for consumption, the surplus is likely to be very low or in many cases non-existent. Even those families who are in a position to generate agricultural surplus would like to invest it in providing physical assets and technological changes or invest in bank deposits, the rate of return being more in the former than in the latter case. Alternatively, they may also invest in human capital such as education or migration which may provide them better return than the bank deposits. Migration thus provides an intermediate investment, the returns of which are likely to be reinvested in physical capital in the process of technological change related to agriculture (ILO,1975).

It is argued that efficiency in "on the farm" food production, chances of securing urban employment and urban wage rate after securing employment, would influence the decision as to who in the family would migrate in order to generate surplus for technological change. In the majority of the cases, the maturing son becomes the prime candidate for migration selectivity. On the other hand, the head of the family would be a better choice to stay on the farm for the better management of agricultural production and introduction of technological changes. The maturing son is also likely to possess better skills to perform wide range of urban jobs in view of his better general education or so than the other members of the family. Even the employees in the urban setting would prefer migrants with education and skills so as to have efficiency. Education as such, is a critical determinent of migration both in the supply and demand side. The underlying assumption in this model is that the incidence of unemployment among rural to urban migrants would be low. Further the duration of urban unemployment of rural migrants would be short. In the absence of these, migration may deplete the family's small surplus and postpones the technological shift in agriculture. However, there are limitations of applying this framework in explaining the migration phenome-

nou in the case of non-agricultural groups and landless labourers.

Notwithstanding the weaknesses and limitations of a large number of studies on migration patterns, there are a few studies which support that the urban unemployment rate of rural to urban migrants is lower than the average unemployment rate and also the waiting period for them seeking urban employment is relatively short. But contrary to these findings, there is evidence of research to show that chronic urban unemployment emerged as a result of a "high rate of rural-urban migration (ILO, 1975). However it is observed that the difference between reluctant urban and rural wage rates for migrants is slight and the most important factor contributing to migration in urban areas is the employment differential (Stark, 1977). Further, it is reported that the migrants do not join the queue of the unemployed in the urban sector and wait for their turn to find a job in a semi-random process of job allocation. Instead, they are among the first to obtain the new jobs created or displace less qualified workers from the existing jobs (Simmons, 1977). Migration as such constitutes a disequilibrium process initially but through the agriculture-specific framework induces, supports technological improvement on the farm work and in the long run turns into an equilibrating mechanism (Connell, 1976).

4. Migration for subsistence and improvement of prospects

Connell and others (1976) on the basis of their evidence from village studies have concluded that another structural determinant of migration is inequality. According to them, "Migration is indeed the child of inequality". It is from the village where land is most unequally distributed that migration rates are highest, though it is both the rather poor and the rather rich who migrate, rather than, in general the very poorest, the middle or the very richest.

Migration however, is also the father of inequality. It confers commulative gains upon the richer's migrant's family, including access to further probable migration; for the poorer migrant, migration is increasingly a wandering search for work, and even if the search succeeds it is unlikely to do more for his family than prevent a decline into even deeper poverty. (Connell, 1976) Traditional economic models of W.A. Lewis and Fei-Renis supported that employment opportunities and or a constant wage differential caused a transfer of labour from rural to urban sector of economy (Fei & Renis, 1961; Lewis, 1954). However Harris and Todaro (1970) suggested that it was the expected wage level at the place of destination in relation to their present standards, that prompted people to move urbanward. But Turner (1970) is apprehensive and states that rapidly rising wages often replace capital for labour leading to added unemployment and the wage distortion could cause misallocation of labour resources. We also do not know whether agriculture labour has a marginal productivity close to a zero level. Sjaastad's states that one can predict the approximate levels of population flows by cost-benefit analysis., the costs of migration being both psychological and monetary and the benefits discounted overtime (Sjaastad, 1962). But migrants in most cases are observed to have hardly any information about their

place of destination.

It is also reported that a certain threshould income size is needed before people migrate. The ECAFE study reports that the very poor are not the ones who are likely to move and there was more migration from families in the higher income brackets than from those in landless worker group (U.N. 1968). Gaur and Nepal in a study has indicated, rural poverty and increase in family size as the main factors of moving out from eastern U.P. villages to their urban destinations (Gaur and Nepali, 1962). Padki's study at the village level of elder migrants having returned to the village from Bombay and the younger ones aspiring to move out to the metropolis indicates that inadequate family occupation in the former case and assured jobs in Bombay in the latter case were the main reasons followed by their preference to work in the metropolis (Padki, 1964). By and large, out migration studies have emphasized the role of "push" and in-migration studies, the "pull" factors. But it depends upon the place where the study is done as perceptions of people, are strongly influenced by the place of residence (Simmons, 1977).

The cultural determinants of migration are difficult to study and quantify. Social conflicts, religious outbursts and movements, violence, wars, pestilence, epidemics, caste conflicts, political and ideological differences, and climatic unsuitability are some of the main non-economic determinants of migration.

5. Migration and Fertility :

Berelson review suggests that "much knowledge of both push-pull motives for mobility and of acculturation/assimilation in urban centres now exists; but as with fertility, and perhaps even more so, the ways of influencing the trends are less apparent, and-where perceived are especially costly and politically difficult (Berelson, 1976). Even, Jain reports scanty of evidence on research related to migration and fertility (Jain, 1975). This aspect might have been studied as a behaviour but an exclusive study on differential fertility of migrants is hardly available. Bhatia and Sabagh 1980 by Visaria, Zacharia, Rele and Kanitkar and El. Badry,state that only four studies dealing with certain aspects of migration and fertility are reported and that too only from Bombay region. Some studies have reported high fertility for the migrants than for the non-migrants at the place of destination, while others have shown the fertility of natives to exceed that of migrants. Bhatia and Sabagh on the basis of 1961 Census data, have shown an inverse relationship between rural-urban migration rates and the urban fertility levels. This is primarily considered so because of 'Pull' factors of migration; the characteristics of the migrants influenced largely by acculturating and assimilating processes of urban life and break-down of traditional family fertility norms as a result of weakening of joint family structure. Even the general fertility pattern of rural areas in different States, having higher rural-urban migration rates, was found lower because of high degree of return migration, consequently acculturating the back home family structure and building

up small family norms for others (Bhatia and Sabagh, 1980).

Hendershot reports a study on differential fertility of migrants and non migrants in Philippines within the "Assimilation" and "Social Mobility" models. The study concludes that rural-urban migration is selective of persons with unusually high aspirations and potentiality for upward social mobility such as higher levels of education, higher income, and aspiration for more education or better jobs. The urban environments were found to be congenial and migrants approved of and used contraceptives more often than the non-migrants, though the differences observed were not statistically significant (Hendershot, 1977). However, the commulative fertility-rates were lower among migrants than among the natives. These conform to the "Social mobility" model which implies that migration is selective of persons with increasingly higher aspirations and upward social mobility. It is argued that these migrants actively participated in urban life and their exposure to urban culture resulted in a greater practice of fertility control and consequently their fertility rate was lower than that of urban natives. However, this is contrary to what is proposed by generally accepted "Assimilation" model which stresses that the fertility level of rural to urban migrants would be lower than that of rural non-migrants but higher than that of urban natives.

Sidney Goldstein also reports a study on fertility differential of migrants and non-migrants in Thailand on the pattern of "Assimilation" model. It is found that the fertility levels of life time migrants were not very different from those of non-migrants in their place of destination, but in the case of five year migrants, these were considerably lower. Further, in all urban settings but especially in Bangkok, the fertility levels of migrants were well below those of non-migrants in the most rural areas from which migrants had come (Goldstein).

A study done by D' souza, Mehta and Goel in the Indian setting (Ludhiana District) showed that except for the duration of effective married life, other variables such as present age of ever married women below 49 years age, consummation of marriage of women, birth interval, interval between the two children, ideal number of children, neonatal, infant and child death etc. were not in a position to explain a higher fertility level among migrant women than among the non-migrant women in urban area. One possible explanation for higher fertility level among migrants than non-migrants, especially the migrants about 10 years in the city, could be in terms of the cultural ethos and way of life of these persons who have deep roots in their family—kinship complex located in the back home settings from where they have migrated. Our hypothesis, that long term migrants would be exposed to acculturating urban influences and in due course of time get assimilated into urban way of life does not hold good in the case of Indian social structure since the migrants while coming to their place of destination tend to carry alongwith them their cultural ethos, themes, values and lifestyles and these gets reinforced by return visits to native places from time to time. In view of their social linkage over there, one may not expect that their traditional way of life gets affected in a

period of two to three decades. Perhaps, it would need a much longer interval of exposure to urbanizing influences before one could expect substantial changes in their life-styles (D'souza, 1988).

6. Migration and Population Change

A review of Migration both as a phenomenon and a process has brought to the forefront some of the significant factors that have a close bearing on studying Migration and Population Change.

In respect of both migration and fertility, it is increasingly recognized now that these phenomena also need to be analysed at the family level rather than at the societal or micro level. Education is a critical factor both in the case of migration and population control whereas economic motivation is the key variable affecting migration of people from one region or area to the other. However maximization of utility of children may not always be operative at the family level as this may not be purely in economic terms and may also be affected by the individual's core value system in the family. As such, it is imperative to examine the non-economic factors affecting both the migration and fertility variables responsible for population change.

Diffusion and adoption of innovations through information processing by various communication channels appropriate to one's belief structure and value system; maximizing the utility expectations alongwith probable consequence of the action constituting the decision-making process, group pressure to reduce dissonance through a change in the initial belief held by an individual; and the motivational patterns generated by information processing or acquiring knowledge through various formal or non-formal communication channels and reinforcement of the same by institutions of family and school system, affects the behaviour of individuals towards the limitation or otherwise of family size. Some of these non-economic factors also affect the decisions to migrate as well and consequently the population size.

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OUTMIGRATION PATTERNS IN DEVELOPMENT TRANSITION OF RURAL AREAS

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Using a broadened concept of migration, this paper maintains that the patterns of outmigration vary a great deal when the level of development of a rural area is treated as an independent variable. The study shows that in the development transition of rural areas from low to high level, the overall outmigration increases; while commuting increases positively, migration involving permanent change in residence first increases and then slackens at higher level of development.

Over the last two decades or so, social scientists have shown increasing interest in migration studies. During this period not only the concepts 'that were developed years ago for particular setting and at a particular time' (Goldstein, 1976), have undergone change but attention has also been given to apply interdisciplinary approach to critically examine the existing theories of migration and formulate new ones. With documentation of diverse patterns of territorial movement of human population under different socio-cultural and economic context, a renewed interest in analysing migration patterns has arisen (Goldstein, 1978; Hugo, 1982; Chapman and Prothero, 1977). However, within this renewed interest, little attention has been given to document migration patterns in Indian context.

Using a broadened concept of migration, this paper sets before itself the following objectives :

(i) to delineate the patterns of outmigration from rural areas at different levels of development;

(ii) to examine the flows of outmigration from rural areas at each level of development; and

(iii) to examine some of the characteristics associated with outmigrants from these areas.

Concept of Migration

The conventional view of migration as movement between specific places, which occur during a certain period and result in a change of permanent residence has undergone drastic change. Human beings move in a variety of ways and this view of migration is just one type of such movements. Lately, it has been argued that all manners of travel must be considered under the category of territorial mobility and be treated as subject matter of migration studies (Lattes, 1984, p.79). This broadened view of migration includes all those spatial movements which hitherto were neglected in a large body of migration literature.

During 1970s the concept of circulatory migration—'as movement of short duration, repeated or cyclical and without any intention of establishing permanent change in residence'—gained currency (Goldstein, 1978;

Chapman, 1974). Hugo (1978) included commuting—'a regular travel outside the village'—in spatial mobility scheme and treated it as a form of migration. The distinction between commuting and circulatory migration is more in terms of frequency of travel between places of origin and places of destination and to the extent of degree of feeling of presence and absence from the place of origin. For a commuter the feeling of presence at the place of origin is dominant while for a circulatory migrant that of absence. In the broadened concept of migration, circulatory migration and commuting are also recognized alongwith conventional view of migration.

Migration in Development Transition

Various theoretical formulations have been advanced by social scientists to relate migration with development. One set of theories considers structural conditions and inequalities between places of origin and destinations which tend to facilitate or restrict human migration (Ravenstein, 1885, 1889; Stouffer, 1940; Lee, 1966; Lewis, 1959; Fei and Ranis, 1964; Harris and Todaro, 1970). Summarily stated this line of argument postulates that migration follow a path of least resistance from the less developed regions with scarcity of opportunities to more developed regions with plenty of opportunities. In the same line of thinking Davis (1974) implicitly states that as development proceeds human migration always occurs from the less developed regions with low level of technology to more developed regions with high level of technology.

The other set of theories argues that these inequalities are in themselves of very little relevance to understand migration (Zolberg, 1978). It is held that when these inequalities generate conflict of interest among different groups in different locations, leading to competition to make use of differential opportunities that migration takes place Zolberg, 1981; Griffin 1981). Conflict of interest generated by structural inequalities is attributed to capitalist development (Zolberg, 1981), 'urban bias' (Lipton, 1972), and 'class bias' (Griffin, 1981) policies pursued by the state. This line of thinking also views that migration would tend to generate from less developed areas with low opportunities to more developed areas with growing opportunities.

Although these two sets of theories have provided valuable contribution to understanding the processes of migration yet they are pregnant with serious limitations. They confine their attention to analyse rural-urban migration involving permanent change in residence and fail to reflect on other types of migration. These theories also do not adequately reveal the direction and flow of migration from particular level of development of rural areas, as often all types of rural areas are considered as homogeneous units (see for example, Oberoi and Singh, 1983). Unless the development context in which migration takes place is taken into account, most theories of migration would be inadequate to analyse the patterns of migration from rural areas. It is no wonder therefore that in Indian context Connell et.al. (1976) could not find significant differences between the high and low migrating villages as they did not treat level of rural development as independent variable in their analysis.

One of the important contributions to analyse the relationship between migration and development was made by Zelinski (1971) in his Mobility Transition Hypothesis. He suggests that 'there are definite patterned regularities in the growth of territorial mobility parallel to vital transition occurring simultaneously with processes of modernization'. According to him, as societies pass through lower to higher stage of development, the traditional type of migration first increases at early transitional stage but slackens at late transitional stage. In the advanced stage of development the rural-urban migration levels off and inter and intra-urban mobility increases. However, with each stage of development, vigorous acceleration in circulation takes place. Zelinski's Mobility Hypothesis though quoted extensively in migration literature has not adequately been tested empirically in a systematic way. To examine the validation of this hypothesis the level of development has to be treated as independent variable. For the purpose of this paper, this hypothesis is very useful and can be restated more explicitly. It is hypothesised that as development transition in rural areas takes place from low to high level, the permanent outmigration first increases and then slackens at higher level of development area, but there is higher acceleration in circulatory and commuting migration. Further as outmigration vary along development transition of rural areas there would also be corresponding differences in the flow of migration and the characteristics of migrants.

DATA AND METHOD

To analyse the outmigration patterns in the rural development transition, three cluster of villages corresponding to low (LDL), medium (MDL) and high (HDL) level of development areas were selected in the same geo-physical region in one of the districts in the Punjab State Two criteria were applied to select these three cluster of villages. At the subjective level people's perception of development was taken into account through a series of interviews and discussions at different levels of rural structure. To meet the objective criterion, a 25 item development scale was used to select these three areas along a development continuum. The final selection of three cluster of villages came through a fit between the subjective and objective criteria.

A stratified conditional sample of 192 households was selected from the three areas; 53 households from LDL, 56 from MDL and 83 from the HDL areas. Stratification of sample was based on caste and landholding status. The sample contains all the major castes and households with different land-holdings size in each of the three cluster of villages. Personal observation, intensive interview schedule, genealogical methods were combined to collect data both at the household level as well as at the level of individual members in the households.

In this study, outmigration includes all manners of travel across defined territory of the village with specific intention to contributing to the livelihood, improving the social, economic and power status of the self or of other family members. All other movements from the village associated with marriage or accompanying dependents are excluded from the study. To delineate

the patterns of migration all the sampled households are divided into three main mobility categories : Non-Migrating, Commuting only and Migrating households. Migrating households are further divided into two categories : migrating within the boundaries of the district and migrating outside the district of enumeration. The sub-categories of the migrating households are not shown in the tables but are discussed in the text of this paper.

A Non-Migrating household is one where no member of the household either commutes or has migrated in the present generation with specific intentions described above.

A Commuting only household is one where one or more members of the household commute(s) from the village either daily or at least once a week, and does not include any migrant.

A Migrating household is one where one or more members of the household has shifted his/her residence from the village.

The three categories of outmigration status are mutually exclusive, however, migrating households having commuters as well, are included as migrating households and not as commuting only households.

Findings and Discussion

Examination of data in Table 1 reveals that at the aggregate level, there is higher incidence of outmigration among households in the rural areas. Only 37.5 per cent households in the total sample have neither any member commuting nor migrated outside the village. These households derive their livelihood within the village. The proportion of commuting only households is considerably higher, 41.7 percent compared with 20.0 percent for migrating households, which suggests that in the rural areas a little less than two thirds of the total households partially or fully depend upon other areas for their living.

Table 1

Distribution of Households by Outmigration Patterns and by Level of Development of Rural Areas

Migration Status of Households	Level of Development							
	LDL		MDL		HDL		Total	
	No.	%age	No.	%age	No.	%age	No.	%age
Non-Migrating	31	58.4	20	35.7	21	25.3	72	37.5
Commuting only	14	26.4	20	35.7	46	55.4	80	41.7
Migrating	8	15.2	16	28.6	16	19.3	40	20.8
Total	53	100.0	56	100.0	83	100.0	192	100.0
Migrating within District	0	0.0	9	56.3	1	6.3	10	25.0
Migrating outside District	8	100.0	7	43.7	15	93.7	30	75.0
Total	8	100.0	16	100.0	16	100.0	40	100.0

X^2 : 28.64, df : 4, $P \leq 0.001$

If the conventional definition of migration is used, there is no doubt that at the aggregate level fewer households send members outside the village. Out of these households, one-fourth send members to places within the district and the remaining three-fourths to areas outside the district. If attention is shifted from the household level to individuals in the household, data in Table 2 show that of all the males above 15 years, only 10 per cent seek permanent change in residence from rural areas. This narrow view of migration has led many to remark that Indian society has low level of territorial mobility (Davis : 1951; Weiner : 1978). On the other hand, when commuting as a form of circular migration is included in the conventional view of migration, Indian society appears to be quite mobile. Not only 4 out of 10 households have members commuting to other places but out of all the males above 15 years 30 per cent of them earn their living and support their households by commuting alone. Taken together, two-fifths of the adult male population undertake travel from their rural homes to seek better life chances.

Data from the present study show statistically significant differences in the outmigration patterns by level of development. Analysis of data at the household level shows that the proportion of non-migrating households decreases from 58.4 per cent at the LDL to 35.7 per cent at the MDL and to 25.3 per cent at the HDL area. Of the outmigrating households, the proportion of commuting only households increases from 26.4 per cent at the LDL to 35.7 per cent at the MDL and 55.4 per cent at the HDL area. Thus

Table 2

Distribution of Individuals in the Households Aged 15 Years or Above by Migration Status and by Level of Devclopment

Level of Development	N	Migration Status							
		Non-Migrant		Commuters		Migrant		Total	Migrants
		No.	%age	No.	%age*	No.	%age*	No.	%age**
LDL	136	101	74.27	25	18.38	10	7.35	35	25.73
MDL	154	93	60.43	42	27.23	19	12.34	61	39.57
HDL	220	111	50.45	87	39.55	22	10.00	109	49.55
Total	510	305	59.80	154	30.19	51	10.00	205	40.20

X^2 : 22.86, df: 4, $1 \leqslant 0.001$

* Row-wise percentages add up to 100

** Percentages computed with N in the denominator.

commuting is positively associated with the levels of development of rural areas. However, the pattern of migrating households shows (Figs. 1 & 2) that migration involving permanent change in residence is curvilineally related with levels of development of rural areas. At the LDL area, migration occurs from 15.2 per cent households, at the MDL area this percentage increases to 28.6 per cent and then again drops to 19.3 per cent at the HDL area. The outmigration patterns of individuals in the households at the three study areas, as indicated in Table 2, show the same consistency as observed by data at the household level.

The outmigration patterns observed at the three levels of development of rural areas do not adequately support the theories which hold that the rate of conventional migration increases as development proceeds from lower to higher level. On the other hand, this study endorses and supports the mobility transition hypothesis put forward by Zelinski, that, as development accelerates, the overall volume of outmigration increases. While commuting positively increases with the development transition of rural areas from low to high level, the incidence of migration first increases and then slackens at higher level of development.

Flows of outmigration from each level of development area are shown in Table 3. The data indicate that in the LDL area two-thirds of the households have members commuting between rural areas and one-third from rural to urban areas. At the MDL area there is little change in

Table 3

Distribution of Households by Flows of Migration and by Level of Development Areas

Migration flow	from To-	Commuters		Migrants		Total	
		Rural	Urban	Rural	Urban	Rural	Urban
LDL		9	5	—	8	9	13
		(64.3)	(35.7)		(100.0)	(40.9)	(59.1)
MDL		12	8	9	7	21	15
		(60.0)	(40.0)	(56.3)	(43.7)	(58.3)	(41.7)
HDL		14	32	1	15	15	47
		(30.4)	(69.6)	(6.3)	(93.7)	(24.2)	(75.8)
Total		35	45	10	30	45	75
		(43.7)	(56.3)	(25.0)	(75.0)	(37.5)	(62.5)

Percentages are given in parentheses
Row-wise percentages computed under each category

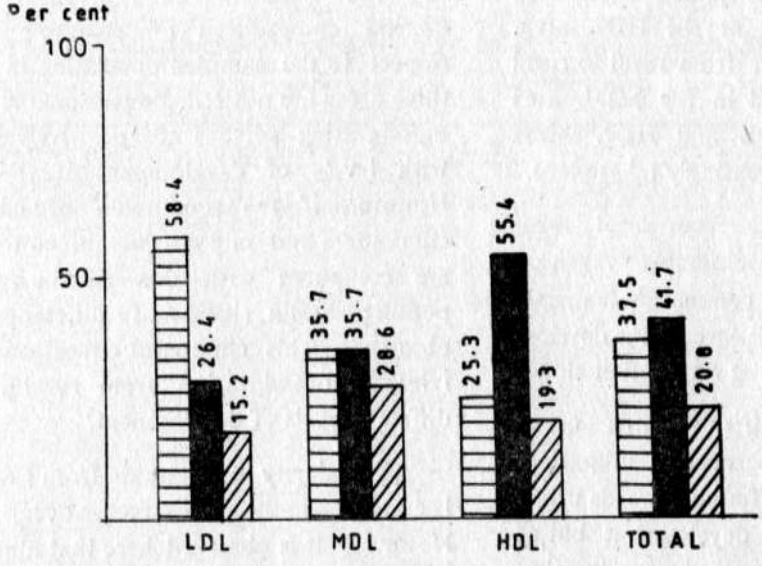
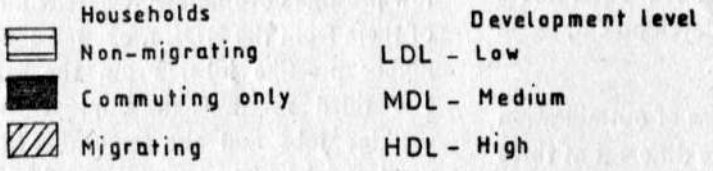


Fig. 1 Spatial mobility patterns by levels of development



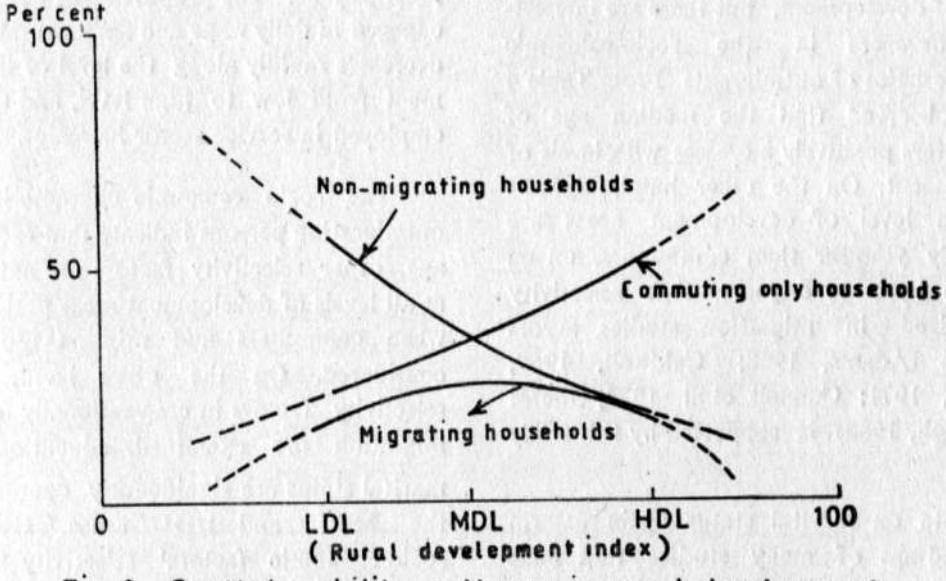


Fig. 2 Spatial mobility patterns in rural development transition : An indicative trend

commuting patterns. Cityward commuting increases tremendously at the HDL area. The flow of migration from rural to rural areas is mostly confined in the MDL area while both at the LDL and HDL areas cityward migration increasingly takes place.

Outmigration flows from rural areas indicate that in the development transition of rural areas, initially commuting is mainly confined between rural places. As development proceeds commuting flows, first slowly and then abruptly shifts towards urban areas. The flow of permanent migration, on the other hand, is found towards urban areas at low level of development but as development accelerates, the migration begins to take place between rural areas and with further pace of development, again shifts towards urban areas.

Not only the patterns of outmigration flows from rural areas are different at three levels of development, but there are interesting differences in the socio-economic characteristics of outmigrants. From Table 4 it is observed that the median age of commuters positively increases with levels of development. On the other hand, migrants at each level of development areas are relatively younger than commuters, on an average by 5 to 6 years. Age selectivity emphasized in migration studies across cultures (Adams, 1968; Caldwell, 1969; Schultz, 1971; Connell et.al, 1976; Oberoi and Singh, 1983) is supported by this study as well.

Data on marital status again reaffirm the findings of many studies that male migrants are predominantly single (UN, 1973). However, it should be pointed out here that no significant differences in the marital composition of commuters with respect to the sampled population in all the three areas are noticed. Educational levels of outmigrating persons are positively related with levels of development of the areas. However, if the proportion of educated commuters and migrants combined together are compared with that of the sampled population, no significant differences are observed. This eliminates education selectivity in outmigration from rural areas at different levels of development.

A majority of migrants from each area is employed in the service sector occupations. However, it is observed here that almost all migrants from LDL area are employed in low prestige occupations, whereas a majority of them from the HDL area have relatively higher prestige jobs. From the MDL area one third migrants are employed in higher prestige jobs and the remaining in the low prestige jobs. The proportion of commuters engaged in daily wage and agricultural labour decreases rapidly along the level of development from low to high level, and those of employed in service sector increases.

The socio economic characteristics of outmigrating persons indicate that except for age, other selectivity factors are not found at all levels of development areas particularly when commuters and migrants are jointly considered. On the other hand, when selectivity factors in conventionally defined migration are examined, education and marital status are significantly operative in the MDL and HDL areas. However, socio-economic factors' selectivity among commuters at all levels of development areas is absent.

Table 4

Percentage Distribution of Outmigrants by Their Socio-Economic Characteristics and by Level of Development

Socio-Economic Characteristics	LDL		MDL		HDL		Total	
	Com.	Mig.	Com.	Mig.	Com.	Mig.	Com.	Mig.
N	25	10	42	19	87	22	154	51
Age								
15-29	60.0	100.0	54.8	68.4	44.8	86.4	50.0	82.4
30-44	32.0	—	30.9	31.1	32.2	13.6	38.1	13.7
45-59	8.0	—	11.9	10.5	12.6	—	11.7	3.9
60-74	—	—	2.4	—	8.1	—	5.2	—
75 plus	—	—	—	—	2.3	—	1.3	—
Median Age	27.0	22.0	28.2	25.5	31.9	23.2	29.5	23.6
Marital Status								
Single	48.0	80.0	52.4	73.7	31.1	77.3	39.6	76.5
Married	52.0	20.0	45.2	26.3	63.2	22.7	56.5	23.5
Widower	—	—	3.4	—	5.7	—	3.9	—
Education								
No Schooling	72.0	30.0	59.5	21.1	36.8	9.1	48.7	17.6
Primary	8.0	20.0	4.8	15.8	11.5	18.2	9.1	17.7
Middle	12.0	30.0	11.9	21.1	23.0	40.9	18.2	31.4
High School and above	8.0	20.0	23.8	42.0	28.7	31.8	24.0	33.4
Occupation								
Cultivators	—	—	—	—	8.1	4.5	4.6	2.0
Agri. & Daily Wage workers	64.2	20.0	45.2	5.3	9.2	13.7	27.9	11.8
Service	28.0	80.0	35.7	68.4	54.0	77.3	44.8	74.4
Business & Trade	8.0	—	14.3	5.3	17.2	4.5	14.9	4.0
Industrial Workers	—	—	4.8	21.0	11.5	—	7.8	7.8

Com. : Commuter only
Mig. : Migrant only
N : Number

Conclusions

This study reveals that when level of development of rural areas is treated as independent variable to analyse the migration patterns, a greater degree of variation is observed at each level of development of rural areas. More often, patterns observed at the middle level of development area correspond most closely with those observed at the aggregate level. But both at the lower and higher level of development areas, marked differences are found. The implication of this finding is that without taking into consideration the levels of development of rural areas most generalizations drawn by diverse studies remain relevant only to areas at the middle level of development and often contradictions are found when applied to rural areas at lower or higher level of development. It is no wonder therefore that studies interested in identifying the discriminating structures between low and high migrating areas draw a blank (cf. Connell et.al. 1976), because they assume homogeniety in the level of development between the two sets of rural areas.

This study also serves a caution to researchers not to rush for generalization in analysing migration patterns or other related phenomena for all types of rural areas but restrict their observations in particular developmental context in which studies are conducted—as rapid development transition is taking place among rural areas. Migration and other demographic studies from rural areas would be enriched when the development transition of rural areas is taken into consideration.

Another implication of this study is that effective rural development programmes have shown important impact in curtailing outmigration from rural areas but increased the spatial mobility through commuting and circulation. Therefore, there is a greater need to coordinate policies which facilitate this process and benefit both the rural as well as urban areas. Rural development policy can effectively be used for avoiding unnecessary rush to the urban areas and at the same time improving the socio-economic and mobility status of rural population.

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INDIANS IN ENGLAND : WHY DID THEY EMIGRATE ?

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A majority of researchers on migration have described '*how*' migration occurs but only a few discussed '*why*' migration takes place. Some of them identified the economic motives behind migration while others emphasized that it is the result of positive difference between the 'pull' and the 'push' factors operating at the destination and in the areas of origin. Besides, another group supported the concept of 'cultural ethos' of migrant communities and the 'status competition' among them in the areas of emigration. However, because the migrants disappear from the area where they lived before migration, it is difficult to ascertain the actual reasons of their move.

In the present attempt the Indian emigrants in England were located and a sample were interviewed. This helped to investigate as to why emigration from India to England took place and what constituted the pull factors which motivated Indians to undertake such a long distance migration which incidently involved a high travel cost.

The process of emigration from India to England is atleast a century old which has been associated with the colonial relations between the two countries. The process remained very slow during the first half of the present century. The magnitude became numerically significant only during the late 1950's and reached the highest during the 1960's. However, it started decreasing during the 1970's and it came down to the lowest ebb by 1981. Thus, a period of 20 years (1955-75) demonstrated a high emigration. About half of the Indian immigrants in England arrived during the 1961-67 period while another one fifth emigrated into England upto 1960. The sudden increase in the volume of emigration during the late 1950's and the early 1960's, and the decline afterward were directly related to the changes made or checks introduced by the British government in their immigration policy, during the 1960-1980 period (Ram, 1985,pp. 303-4).

Migration is a complex phenomenon and an enquiry about the motives behind it is the most difficult part of the analysis of the process of migration (Chandna, 1986). It was also pretended that 'the factors associated with the migration are not easy to trace', perhaps because the migration is a single-origin multi-destination process and migrants leave the area where they had lived before the migration. Since no system of registration of the moves made by the people is introduced in our country, the migrants disappear unrecorded from the native areas. The author, however located the Indian immigrants in England and asked them the reasons for their emigration from the native areas as well as for their immigration into England. Heads of the Indian households in the sample, who had also been the earlier immigrants in most of the cases were contacted personally to know the reasons of the migration. The sample (10 percent of the Indian households) was selected (using

the proportionate stratified sampling method) from one district in (Northern) England, that is Bradford (Metropolitan District) which has a long history of immigration from the Indian sub-continent. The district had about thirteen thousand Indians in 1981. Among them 46 per cent were Punjabis while 43.3 per cent comes from Gujarat. Only less than 1 per cent originated from other areas in India (Ram, 1983).

The Literature and the Observations

Lee (1969), Bogue (1969) and Taylor (1969) attempted to explain migration in terms of the 'pull' and 'push' factors. It is understandable that the pull factors at the destination were strong enough to attract the migrants from such a long distance (i.e. from India), but what were the push factors in the area of origin which had motivated the migrants for the emigration? Different factors were highlighted in the literature. Firstly, those which fall into the category of traditional 'push factors'. For instance increased pressure on agricultural land because of rapid population growth resulting in high population density, lack of employment opportunities and the ever increasing number of landless workers in the rural sector resulting from fragmentation of land and mechanization of agricultural work (Aurora, 1967; John, 1969; Rose, 1969). Beside the lack of employment opportunities in general, lack of employment for highly educated people in cities among Gujaratis were also noticed by Desai (1963) and Rose (1969). However, in the absence of a systematic analysis of the demographic and the socio-economic characteristics of the native areas, these reasons are of a speculative in nature only.

The tradition of external migration in India was noticed by Krishan and Shyam (1979) while similar activities in some areas in Punjab and Gujarat were pointed out by Gosal (1979). For the Punjabi migrants Uttar Pradesh, Madhya Pradesh and Rajasthan were the destinations within India while Singapore and Burma were outside India. However, emigration to the U.K. was not much heard before the fifties. Nonetheless, investigation of the specific reasons has not been evidented in the available studies.

The partition of the Punjab(India) in 1947 is generally mentioned (Rose, 1969; Anwar, 1979) as a contributory factor to the emigration of Punjabis (from India and Pakistan) to Britain. Those migrants tried to emigrate who lost their properties in the native areas or those who could not settle properly in Punjab after the partition. Besides, some of the people affected by the partition who were looking for new opportunities to rehabilitate themselves made their way to Britain, which desperately needed labour and was following a liberal immigration policy at that time.

Another set of factors is related to the 'cultural ethos' of migrant communities (Singh and Ram, 1986). For example, the tradition of emigration, competition between individuals (and families) for status (izzat) (Ballard, 1983) through land ownership, the possession of brick built house and other material goods showing higher economic position and huge expenditure on social functions such as marriages, son's birth (Pettigrew, 1972; Brooks and Singh 1979; Ballard, 1983) by the returned migrants generated the desire for emigration among many living in the respective social environments.

It was also pointed out by some

researchers (Aurora, 1967; Brooks and Singh, 1979) that the behaviour of the individuals (and in some cases of the families), that is attributes of individual emigrants, such as, love and spirit of adventure, desire to make money or acquire more land are equally important factors in taking the decision of emigration. The impact of these forces is more often under emphasized, if not totally neglected in the related studies.

Thus, in the light of above observations it follows that the process of emigration is either :-

(i) related with the operation of push factors in the area of origin,

or

(ii) associated with an extension of the large scale migration occured due to the partition of India in 1947,

or

(iii) the result of a strong economic attraction of the destination,

or

(iv) an outcome of 'cultural ethos' and the 'status competition' among the migrant communities in the areas of emigration.

These propositions are examined in the context of emigration of Indians to England. First proposition is verified with the secondary information published in India while the others are tested with the information, the author gathered, in the summer of 1984 by a sample survey of the Indian community in Bradford M.D.

However, before examining the propositions some general points regarding the decisions of Indians to emigrate and the migration process are worth mentioning here. Firstly, not all reasons for migration are relevant to all migrants or at all stages of process of emigration. Secondly, that any study at the national level (England) is likely to provide misleading and inadequate explanations of a particular group's reasons for emigration, because migrants come from different areas (Punjab & Gujarat) and from a very wide spectrum of the whole community. Thirdly, the decision to emigrate is rarely, completely rational for some persons, the rational component is much less than the irrational (Lee, 1969). Fourthly, as Piore (1979) pointed out that the process of migration and immigration must be understood as processes relating to communities rather than individuals. This point is extremely important in the present case. Lastly, in the context of a decision to emigrate a potential migrant's perception of his own and his family's economic position, as it relates to the community in which he lives is important. Beyond the level of subsistence the standard of living and social status are relative concepts and are very much related to the family wealth and its current income.

Analysis of the Reasons

The above listed propositions are examined separately. To verify the first proposition push factors in terms of the economic and demographic characteristics of the native areas are assessed for the early 1960's (Table 1), the peak years of emigration from Punjab and Gujarat to England. Punjab having the highest annual per capita income and Gujarat the third highest (Table 1) were among the most prosperous regions of India. A large population growth and a high population density are the other factors which can pressurise the people for emigration from an area. However, Table 1 shows

that both the states did not experience very high population growth during the previous decade. The position of Punjab and Gujarat is very low also in terms of density of population (Table 1). Compared with other states of India, for example, Kerala(435), West Bengal (398), Bihar(267) and Madras (259) Punjab and Gujarat were having 221 and 110 persons per square Kilometer. This shows that pressure of population on land in Punjab and Gujarat appears to be far less than many other states in India. Looking at average size of operational land holding in 1960-61, Gujarat and Punjab ranked third highest and fourth highest among the Indian states (Table 1). These figures provide a very clear indication (if not a direct and convincing proof) that Punjab and Gujarat are not among the regions which suffer from grinding poverty nor the regions which have experienced very high density of population. Therefore, some other reasons might have stimulated out-migration from these areas.

No specific evidence is available in the literature about the number of people entering Britain to support the hypothesis that persons displaced from Pakistan (in 1947) emigrated into the U.K. Perhaps, the help provided by the Govt. of India was adequate to dress up their wounds. Besides, the time gap between the two migrations was enough for the rehabilitation of migrants from Pakistan. However, a special effort was made to probe the hypothesis with the respondents. None of them mentioned the influence of partition on their decision to emigrate to England.

Given that (i) the process of Indo-English migration has been in operation for quite long and that (ii) economically, England was much better off than the Punjab and the Gujarat 'regions' in India, the life style of the returned migrants inspired a large number of people for emigration. The way the returned migrants (from England) spend money on social functions, the valu-

Table 1

Some Economic and Demographic Variables

Variables / States	Annual per capita income (1960-61) (Rupees)	Operational Land holding (1960-61) (Acres)	Population growth (1951-61) (%)	Density of population (1961) (persons/Kmt^2)
Punjab's Position in India	575 1st highest	10.4 4th highest	25.8 7th highest	221 10th highest
Gujarat's Position in India	523 3rd highest	1. 3rd highest	26.0 6th highest	110 15th highest

able things they import or possess, the agricultural land they purchase, the (beautiful and huge) pucka houses they built and the stories they narrate regarding the job opportunities in England motivated a large number of people, to emigrate to England in the native areas for the emigration. High conversion rate of the currency of England was another attraction. These factors converted many people into potential migrants, who started trying to emigrate to England. Finance for the fare, however was another main problem for them which was arranged through means suited to individuals or families i.e. from relatives or friends or by selling their land/properties. The above discussed push factors of the two (native) areas (i.e. better socio- economic conditions and the prosperous character of the regions) here, helped the emigrants positively, that is in arranging money for the fare or to be paid to the travel agents as well (who also played a significant role in the process of emigration). The persons who could not arrange the money could not migrate to England.

The analysis of the survey information reveals (Table 2) that four in ten emigrated to England for, purely economic considerations. Almost one in four entered into England just to seize of the opportunity because Britain was the only "free entry" country open for them. However, 27 percent of the respondents were invited by their relatives who had already settled in England. Thus, it indicates that the emigration has direct relationship with the economic attraction of the destination.

Implecated by the changes in the life style of returned migrants and/or their family members the process of emigration became related to the family and community rather than to the individual. To individuals and their families, emigration provided an opportunity to acquire new wealth, through which the family's standard of living and social status was raised within the community, at home. The self advancement and enhancement of the social position of a migrant's family within the community

Table 2

Reasons for Immigration to England as Stated by the Respondents.

Reasons	Per cent
Economic attraction of the destination	39
To join relatives	27
To seize the opportunity of free entry	25
Expulsion from other countries	7
For higher education	2
Total	100 (N=182)

Source : Author's survey sample.

shaked the stability of 'traditional hierarchy of the community'. It posed a problem for both those people above his status and those previously at par with him. They therefore, considered emigration, either to maintain or to advance their social standing. The urge for emigration, thus was primarily a product of local status competition. This factor also played a very significant role in the process of emigration to England. In the survey about three fifths of the Punjabis and more than half of the Gujaratis mentioned this status competition factor having a significant influence on their decision to emigrate. This supports the hypothesis that 'cultural ethos' and 'status competition' among the migrant communities further speeded up the process of migration to the maximum.

To further ellaborate the argument the respondents were asked to state their economic position (in terms of very poor, poor, average, comfortable and rich) before the emigration. 82% described themselves as average and comfortable and the remaining 18 per cent constituted the 'poor' group. This lends further support to the view that Indians did not emigrate because of the grinding poverty but a significant majority emigrated for self-abvancement and under pressure to maintain their 'differential social status' within their home community. Among those who categorised themselve as average or comfortable 56.3% arrived after 1965 (when unskilled workers were barred to enter into the U.K., but exampting some trained and technically qualified from the immigration restrictions). They include middle class migrants such as teachers, science graduates and so on. Their emigration was to a large extent initiated and speeded up by the strong feeling of being put down by returning migrants who were less educated and came from peasants and agricultural labouring families.

Besides, after some time the emigration developed a dynamic of its own, a kind of chain linking people from the same family, village or community. In this process the traditional push factors in the native areas and individual motivation for emigration became less and less important and the emigration became a self generating (family) process.

Conclusion

The immigration from India to England has been in progress for a very long time. However, the magnitude became numerically significant only during the late 1950s. It reached its peak during the 1960s and indicated a decelrating trend afterward till it was trikled down to lowest by early 1980s. This trend was largely responsible to the immigration policy of the British Government.

The analysis of factors responsible for emigration reveals that, neither the emigration has any connection with the Pak-Indo migration of 1947 nor its relation is established with the poverty in India. Rather emigration to England was notable from the developed states of India like Punjab and Gujarat. The fairly good economic condition of the emigrants before migration proved helpfull in the emigration, in terms of meeting the financial requirements.

Although economic attraction of the destination had been a strong pull factor for the immigration of Indians into England but it was not a simple calculus of 'push-

pull' factors. Nor the push factors in the emigrating areas were so strong. It was, therefore more a cultural phenomenon generated and speeded up by the socio-economic considerations of people in the emigrating areas. The process started with the consideration of self advancement, the consideration later on changed into social status of the individuals or families. Thus, it can be concluded that the emigration was the result of the sum total of the economic attraction of the destination as well as of the consideration of the self advancement and the status competition among the individuals and in the families or the communities. And 'cultural ethos' and 'status competition' factors played a dominant role in taking the decision of emigration in most of the cases.

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EDUCATION AS A DETERMINANT OF FERTILITY

(A Case Study of Kullu Town)

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Based upon primary data, covering 50 per cent of females in the reproductive age group of Kullu town in Himachal Pradesh, the paper examines the role of education in determining the average size of family. Number of hypotheses envisaging relationship between fertility on the one hand and education of the respondents and of the spouses on the other hand were formulated for field testing. A negative correlation between fertility and education of both males and females has been established. However, female's education has been found to be more crucial than the male's education in this regard. Matriculation emerges as the most critical level of females' education in terms of its role in fertility.

The present paper examines the role of education in determining the fertility intentions of the couples in Kullu town of Himachal Pradesh. It is based upon primary data of as large a sample as 50 per cent of the eligible females The study is part of a wider study undertaken to investigate the diverse determinants of fertility of urban population. In all, 885 females, accounting for 50 per cent of the couples in the reproductive age group in the town, were interviewed. The findings are of immense significance for policy makers concerned with the task of socio economic transformation.

Any analysis of the determinants of fertility shall remain incomplete without an adequate assessment of the role of education in the reproductive behaviour of the people. The significance of literacy or a specific educational level *vis-a-vis* fertility preferences may vary from country to country depending upon the stage of literacy transition the country may have attained. For instance, the significance of literacy in case of a country where mass illiteracy prevails cannot be the same as that for a country where practically everybody is literate (United Nations, 1980, 45). Moreover, the general educational level by itself is not enough but the country's stage of social and economic development is equally important for bringing a change in the attitudes of the people. However, literacy *per se* is not important but the type and quality of education and the level of education are more significant as for as the fertility behaviour is concerned. It is in this context that the term education has been used over here.

There are may possible interpretations of the relationship between education and reproduction. The fact that a few years of formal education bring a perceptible change in the reproductive behaviour, shows a close causal relationship between

the two. Education is capable of changing people's perception, ideas, aspirations etc. much more significantly than even the micro economic realities. The education determines the knowledge of and attitudes towards disease, hygiene and nutrition more than the purchasing power does. If such cognitive change, induced by education, can have a powerful effect on the survival rate, it should not be surprising if it were to have equally powerful effect on the incidence of child-bearing (Cleland & Wilson, 1987, 23).

Education often influences fertility in two different ways. One, through the education of the parents and second, through the education of the children. The first, the role of parents' education in reproductive behaviour, has been studied more intensively. The World Fertility Survey noted a persistent link between education and fertility both at national and at individual family level. Higher level of parents' education is normally associated with higher age at marriage; better communication between spouses; greater participation of females in labour force (Holsinger and Kasarda, 1976, 155-156); development of attitudes and values favouring small family size norms (Carleton, 1967, 141-145 and Freedman, 1961-62, 61); emergence of institutions of a larger modern culture envisaging a non-familial system (Freedman, 1968, 215-238); wider spacing between the children; greater use of birth control measures and greater female participation in decision-making process (Chaudhury, 1982, 84-85) etc.; and hence lower marital fertility. Such a relationship tends to be even stronger than that between fertility and other such independent variables as income, occupation of the husband, standard of living, etc. It holds true for rural as well as urban populations.

A distinction has often been made between the role of mother's education in determining family size and the role of education of her spouse. Various studies have revealed that the mother's education is more strongly correlated with the couple's fertility intentions than the education of her spouse (Chaudhury, 1971, 188-191). However, studies on Nigeria and Latin American countries revealed that the relationship between wife's education and fertility depends, to a large extent, on her husband's education, implying that highly educated women could have low fertility only when their husbands were also highly educated (Miro & Walter, 1968; Ohadike, 1968). Similarly, studies on Pacific countries of Asia also confirmed that the relationship between husband's education and fertility was similar in direction and strength to that between wife's education and fertility (United Nations, 1982). In the light of these observations, it may be said that although wife's formal education appears to have closer relationship with fertility behaviour, yet the influence of husband's education is also significant.

It may be pointed out that the level of educational attainment is also significant when the relationship between fertility and education is being analysed. Several studies reported that lower educational level has very little impact on fertility and sometimes the association may even be positive up to the primary level of education (Stycos; 1967, Goldstein, 1972; Chatterjee, 1979). Chatterjee (1979, 123) observes that the fertility of women with only primary

education is greater than that of illiterate women. It is only at the secondary level of education that the female's education begins to play an effective role (Agarwala, 1977, 150). It has also been observed that wife's higher educational accomplishment *vis-a-vis* her husband's has more significant effect on family size and that the wives, with a low level of education regardless of their husband's education, have more significantly larger families.

Similarly, the children's education too influences the parent's decision with regard to their family size. The education of the future children, which becomes imperative with changing socio-economic scenario and the availability and growth of schooling facilities, also increases the cost of upbringing the children. The education of children has two-way economic impact, one, of increasing cost of children and two, of making them non-available for participation in economically gainful activities (Caldwell, 1980, 225-255). The influence of education of the children on fertility can also be differentiated at macro level and micro-level (individual family level). At macro level, a strong association between school enrolment and overall family size appears to exist more so at the secondary level of the schooling rather than at the primary level of schooling, particularly in more developed economies (Tan and Haines, 1980). By comparison, at micro-level, aspirations for education of the children are often found to be negatively correlated with overall family size, particularly in the less developed economies.

In sum, a negative correlation between education in general, education of the mother, education of the father, education of the children, on the one hand, and family size on the other, has often been brought out by different scholars in different situations. (Hubback, 1957; Wunderlich, 1968; Davis, 1951; Kiser, 1960; Blake, 1969; Stycos, 1968; Driver, 1963; United Nations, 1961; Agarwala, 1970). However, the scope of present study is limited only to the analysis of the role of parents' education in determining fertility.

Hypotheses

Keeping in view these observations the following hypotheses have been framed for examining the role of education in giving specific fertility intentions to the study group :

i) Fertility was negatively correlated with education.

ii) Fertility was positively correlated wiih education.

iii) There is no association between education and family size.

iv) The size of family of a couple was negatively correlated with the education of the female.

v) The size of family of a couple was positively correlated with the education of the female.

vi) There is no association between education of female and family size.

vii) The size of family of a couple was negatively correlated with the education of the male.

viii) The size of family of a couple was positively correlated with the education of the male.

ix) There is no association between education of the male and family size of a couple.

x) The size of family of a couple declined with the improvement in the educational level of the couple in terms of number of years of schooling.

xi) The size of family of a couple increased with the improvement in the educational level of the couple in terms of number of years of schooling.

xii) The size of family of a couple was more intimately related to the educational level of the female and less intimately to the educational level of the male.

xiii) The size of family of a couple was more intimately related to the educational level of the male and less intimately to the educational level of the female.

xix) There is some critical level of education below which the education fails to influence fertility intentions and it is only after that minimum level of education that the education assumes the role of fertility determinant.

Findings

Out of the 885 respondents only 149 respondents were illiterate. There were 173 respondents who had received at least primary education (Table 1). There were 412 respondents who were educated either upto matriculation or above. By comparison, there were 51 families where the husband was illiterate (Table 2). In case of 77 families the husband had received only primary education. There were 657 families where the husband had received more than ten years' schooling. It means that the sample was largely of the educated families. It largely explains a comparatively low average size of the family in general (2.88) for the study group. The desire to have a child basically is a social necessity and it must be differentiated from the desire to have sex which is basically a biological necessity. Therefore, upto a particular number of children, the role of any factor remains negligible. Every family has some minimum number of target children. Figure 1 reveals that in the study area two-child family norm is most widespread. Therefore, education plays only little role in case of families which have less than two children. However, a negative correlation between education and fertility in case of families which have two or more children each is clearly discernible from the

Table 1

Kullu : Fertility and Educational Level of Respondents

Education level	Number of families	Average size of family
Illiterate	149	3.57
Primary	173	3.14
Middle	150	3.16
Matric	320	2.40
Graduate	79	1.82
Post-graduate	14	1.29

diagram. Tables 1 & 2 reveal that the average size of family was largest in case of illiterate respondents (3.57) as well as illiterate males (3.76) and declined consistently after the middle standard of education to the smallest of 1.29 in case of post-graduate respondents and 2.33 in case of post-graduate males. Thus, a negative correlation between fertility and education in general gets established and the hypothesis envisaging a negative correlation between education and fertility was fully proved (H_1) while the hypotheses proposing either a positive correlation between the two or no association between fertility and education are proved to be null hypotheses. (Ho).

Similarly, a negative, though not very strong, correlation has been observed between fertility and education of both wife and husband. Of the two, wife's education displayed relatively stronger negative correlation with fertility. The coefficient of correlation in case of education of the female was -0.307 and in the case of husband's education it was —0.273. Thus. though education of the females appears to be more crucial than the education of the males, yet the average size of family was inversely proportionate to the female's as well as male's education (Fig-2). Thus, the two hypotheses postulating negative correlation between fertility and education of the females as well as males stand proved. (H_1). Consequently, the hypotheses envisaging either positive correlation between fertility and education of the males as well as females or no association between fertility and the education of the males as well as females were proved to be null hypotheses (Ho). Interestingly, the average size of the family was comparatively low in all categories of educational level of the females in comparison to the corresponding figures of the various categories of the educational level of the males. For instance, there were 14 families where the mother had obtained a postgraduate degree. The size in case of such families was only 1.29 (Table 1). By comparison, there were 81 families where the husband's educational level was postgraduate but the average size of the family of these families came out to be 2.33 (Table 2), which was much above the average for those families where the females were so highly educated. Similarly, illiterate women too displayed relatively smaller size of the family than the illiterate men. The former, on an average, had 3.57 members in the family while the latter had 3.76 members each in the family. Thus, the hypothesis that as the educational level of the family improved, the average size of the family declined stands proved (H_1), and hence the hypothesis that the size of the family improved with the improvement in the educational level of the couple in terms

Table 2

Kullu : Fertility and Educational Level of Spouses

Education level	Number of families	Average size of family
Illiterate	51	3.76
Primary	77	3.63
Middle	100	3.18
Matric	421	2.72
Graduate	155	2.30
Post-graduate	81	2.33

Fig. 1 KULLU TOWN

FEMALE EDUCATION AND FAMILY SIZE

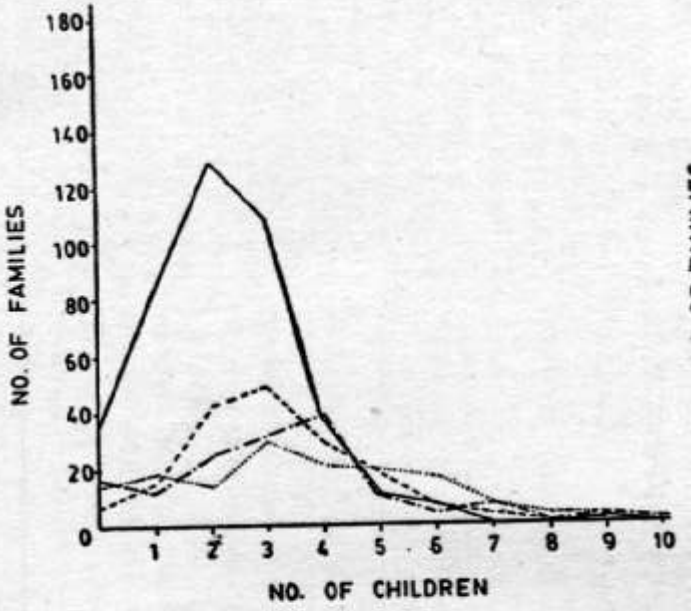
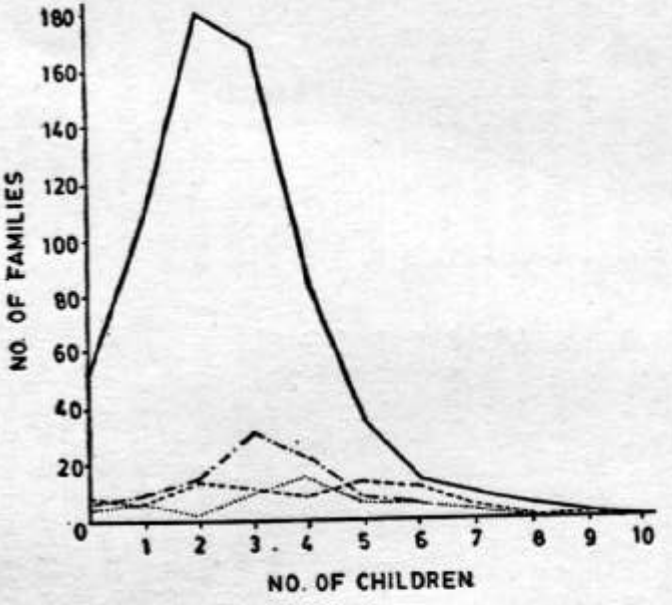


Fig. 2 KULLU TOWN

MALE EDUCATION AND FAMILY SIZE



Families with matric and above
Illiterate
Primary
Middle

Table 3

Kullu : Family size of females with an educational level of matriculation and above

Family size	Total No. of families	Families with Matric & above	Prercentage
0	71	34	47.8
1	128	83	67.8
2	210	129	61.5
3	220	109	49.6
4	128	38	29.7
5	61	11	18.0
6	35	7	20.0
7	19	—	—
8	6	—	—
9	6	1	16.7
10	1	—	—

Table 4

Kullu : Family size of males with an Educational level of matriculation and above

Family Size	Total No. of families	Families with Matric & above	Percentage
0	71	52	73.3
1	128	107	83.6
2	210	180	85.7
3	220	169	76.9
4	128	84	65.6
5	61	35	53.4
6	35	14	40.0
7	19	9	47.3
8	6	5	83.3
9	6	2	33.3
10	1	—	—

of number of years of schooling stands disproved (Ho). Another interesting fact which emerges is that while in case of females' education after matriculation also the average size of family goes on declining sharply with increasing level of education, in case of males' education, after matriculation, the average size of family declines only marginally with increasing level of education (Tables 1 and 2). For instance, the average size of the family for matriculation, graduate and post-graduate females is 2.40, 1.82 and 1.29, respectively. The corresponding figures for matriculate, graduate and post-graduate males were 2.72,2.30 and 2.33, implying very little variation (Tables 1 & 2). It shows that the decline in the family size with improving level of education was sharper in case of females' education. Therefore, the hypothesis that the size of family of a couple was more intimately related to the educational level of the female and less to the educational level of the male stands fully proved (H_1). Consequently, the hypothesis that the family size of a couple was more intimately related to the educational level of the male and less intimately to the educational level of the female stands disproved (Ho).

Matriculation emerges as the most critical turning point. Upto the middle

standard of education, both of males and of females, the average family size remains above 3.00 and very close to each other (Tables 1 & 2). Couples with the educational level of matriculation and above display a distinctly smaller size of the family. Similarly, the educational level of the respondents of one-child families, two-child families, three-child families.....and so on, if examined, reveals that the proportion of families with female having an educational level of matric and above is highest among one-child families (67.8 per cent) and declines gradually to 61.5 per cent among two-child families and 49.6 per cent among three-child families and sharply to 29.7 per cent among four-child families, 18 per cent among five-child families and 0 per cent among seven, eight and ten-child families (Tables 3 & 4). It implies that only the illiterate respondents had seven, eight or ten children. By comparison, the proportion of families where the male head of the family had an educational level of matric and above does not decline so sharply, for instance, 83.6 per cent of one-child families had such male head of the family with matric or above educational level. The corresponding figure among the two-child families, three-child families, four-child families .....nine-child families was 85.5 per cent, 76.9 per cent, 65.5 per cent and 33.3 per cent, respectively. These figures establish that a schooling of less than

Table 5

Kullu : Fertility and Couple's Education

Educational Level of the Respondents	Educational Level of the Spouses					
	Illiterate	Primary	Middle	Matric	Graduate	Post-Graduate
Illiterate	38 (3.26)	34 (3.53)	27 (3.33)	39 (3.72)	3 (1.67)	8 (3.00)
Primary	8 (3.89)	24 (3.46)	39 (3.13)	83 (3.36)	15 (2.26)	4 (1.70)
Middle	4 (6.25)	15 (3.20)	22 (3.32)	83 (3.07)	16 (2.93)	10 (1.90)
Matric	1 (3.00)	3 (4.33)	12 (3.08)	196 (2.37)	82 (2.41)	26 (2.38)
Graduate	—	—	—	16 (1.50)	36 (1.75)	27 (2.03)
Post-Graduate	—	—	—	5 (1.40)	3 (1.67)	6 (1.50)

ten years was of little relevance as for as its influence on fertility was concerned. Thus, matriculation emerges as the critical turning point, more so in case of females. The hypothesis that some minimum level of schooling was essential for education to make its impact on fertility discernible also stands proved (H_1), with matriculation emerging as such a critical turning point.

Conclusion

Education and fertility have been found to be negatively correlated. Although fertility was negatively correlated with both male and female education, yet the association between female education and fertility was stronger than that between male education and fertility. Further, with the improvement in the educational level of both males and females, the average family size declined but this decline was much sharper in case of females than that in case of males. That is why, the females with higher educational attainments displayed much lower family size than their male counterparts with similar levels of educational attainments. Matriculation emerges as the most critical level as the average family size of couples having educational accomplishments of matric and above was distinctly lower. Above all, upto the level of matriculation and upto-two-children the education was of little relevance.

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OVERCROWDING : A BEHAVIORAL PERSPECTIVE

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The rise of environmental psychology on the one hand and the growing influence of behavioristic approach in social sciences brings different disciplines on the same platform to collaborate to understand the field of "Population". One of the major approaches to analyse the problem of over-population, with specific reference to crowding, would require a psychological analysis of feelings, interpersonal interaction, perceptions and mental illness in addition to the demographic investigation. Crowding has been associated with the sense of alienation, hostility, crime, delinquency, alcoholism, physical and mental illness and mental retardation. Overcrowding is certainly a *psychological problem as well*. The present paper reflects on this theme by way of reviewing the relevant literature in both psychology and geography.

The development of Environmental Psychology is rather recent. Moving away from the deterministic model of early psychologists in terms of Heredity vs. Environment, the new approach emphasizes upon the "functional interaction" between the man and his physical setting. It focuses on what things and persons do or are used for but does not ignore formal aspects of behavior and physical objects. It attends to the total involvement of things and persons with each other. Thus, Environmental Psychology attempts to systematically study the inter-relationship between the physical environment and human behavior and experience.

Early Beginnings

The earlier interest of psychologists like Koffka, Murray and Tolman in geographical and ecological environment, and the impact of behaviorism on psychology and other sciences dealing with human behavior appear to get together to establish the belief that a complete study of organism and its behavior must include and account for influence of the non-human environment. According to Sahoo and others (1988) Barker's (1968) work on "behaviour settings"; Brunswik's (1952) concept of 'ecological validity'; Lewin's concept of "life-space"; Sommer's (1969) 'personal space', Hall's (1966) 'The Hidden Dimension', Lynch's 1964) near classic 'Image of the City'; the development of architectural psychiatry (1961), and work of Proshansky and others (1970) contributed to the beginning of Environmental Psychology within the larger framework of psychology. This has now led to new courses, conferences, journals, books, reviews and above all a set of dedicated scientists working in the area of Environmental Psychology.

Proshansky & others (1970) opine that this could not have been possible without the upsurge of a number of other disciplines including Human Geography (Johnson 1967); Urban Sociology (Thomlinson 1969); Human Ecology (Hawley 1950)

and Anthropology (Vayda, 1969). It was being understood that psychology can provide specialized information about properties of one of the systems involved, the behaving organism or organisms, including knowledge of individual differences and properties of individuals and groups. It can also bring sensitivity to the scientific methodology.

The creation of the division of 'Population and Environmental Psychology' and publication of the journal 'Population: Behavioral, Social and Environmental Issues'; the survey and review of work in this area by Russell and Ward (1982) and Holahan (1986) and a large number of chapters/articles (in addition to research papers) in various texts, references and edited books on issues related to environment psychology has brought "population"—study in the focus of psychologists in India as well.

The population studies by the geographers, sociologists, economists, planners, environmentalists and technologists have provided lead to the psychologists to confront the problems of population density, innercity decay, pollution, alienation, mental retardation, dehumanization, crime, disease disaster, stress deprivation and development. One may comment here that the inescapable implication has emerged that study of population requires a multi-discipline and collaborative approach.

Without overemphasizing, one would point out that development is not a mere situation of economic, technological and policy inputs, it has social, cultural, historical and above all psychological dimensions, because man alone is capable of carrying out changes deliberately, self consciously and purposefully. This would imply understanding of fertility, (including control) slums, alienation and crowding with the help of analysis of motivation, attitude, personality cognitions and habit formation of those involved, concerned and committed.

The review of research in this area depicts that generally the work can be subdivided into the following themes : (1) Environmental meaning, (2) Planning and image of place/space, (3) Environmental assessment, (4) Cognitive mapping, (5) The mental atlas, (6) Spatial behavior, (7) Environmental stress, (8) Behavior-in-place, (9) Physical stimulation, (10) Environmental problems like crowding, spatial density, social density, territory, personal space, privacy and mental health.

Major Studies of Density

This brings us to the review of some major psychological studies in the area of crowding. Though the overall world population is increasing, this trend is fairly accentuated in India and the population shift (migration) to various urban centres turns the problem of statistics into a major psychological problem of crowding. It may be stated that a certain demographic numbers may depict anything, in reality the population means human beings with very specific and characteristic behavior. They have their needs, ambitions, perceptions, personalities, attitudes, feelings and above all values. And they happen to be emotionally, financially, politically, and socially interacting with each other in a particular space and time.

Population explosion is one of the major problems of the nations with linkages with issues related to poverty, energy crisis, wars, pollution, social imbalances and psychological crises. This leads to over-crowding which is associated with issues under spotlight.

Terminologically density refers to an objective assessment of number of persons and amount of space; whereas *crowding* refers to a psychological response to a place such a feeling that it is crowded. For Stokols it is a motivational state involving the need for more space; for Schmidt and Keating it is the expected number of persons there, for Worchel & Yohai it is the availability alternative explanations for felt discomfort. It is closely linked with the concepts of privacy, territory, enclosed space, environmental overload and the problems of hygiene, safety, pollution, beauty, morality, social interaction and personal growth.

Effects of Crowding have been studied by many scientists and reported. Schour (1963), analysing the residential dwelling space, concluded that overcrowding was the most significant factor in ill effects as stress, poor health, cynicism about people and organization, sexual frustration and feelings of dissatisfaction. Wring (1956) reported that socially disorganized families tended to have less dwelling space.

Studies of Honolulu, Boston, and New York, reported slightly different findings in contrast to those of Hongkong and Tokyo. Probably the differences could be understood better considering the psychological features of the families in addition to the density index. This is a hint with regard to the other features of crowding analysis, appraisal and management.

Japanese Experience

In a series of studies Iwata (1986) found that altruistic behavior, a form of helping behavior, turned out to be mainly influenced by the bystander density rather than by the factors like sex, community size, experience of residential move, interpersonal affiliation and trust in humans among college students. On a study on 118 Japanese female college students, he found conservatism, authoritarianism, masculinity-femininity, approach to information of environmental problems, confidence in science and technology and appreciation of natural beauty as affecting environmental concern for pollution. In a study on perceived density and crowding, he clearly demonstrated that the degree of crowding was significantly determined by the perceived density rather than the physical factor of density. On 132 female undergraduates, it was found that the significant attributes of crowding included the type of persons with whom the space is shared. Familiarity, ethnicity, sex, age, social status, criminality, feeblemindedness, handicappedness, likeability and similarity were the chief personal attributes affecting the feelings of crowding. Concluding a large number of studies on crowding in Japan, Iwata emphasized the relationship of personality to environmental vulnerability and pro-environmental orientation. He reviewed studies on invasion of personal space, crowding, failure of privacy maintenance, vulnerability to physical stressors-like noise, air pollution, heat and cold, and residential environment—to be associated with personality traits of

adjustment, sociability, depression and inferiority. Attitudes toward natural environment and wildlife, proenvironmental attitudes, conservation attitudes, recreation patterns, cognitive map's and environmental perception tended to affect behavior. Personality factors like urbanism, environmental adaptation, stimulus seeking, environmental trust, sensitivity to environment control over environment, orientation toward privacy and mechanical orientation on the one side and environmental criteria like adjustment to migration, perception of environmental quality, home area, personal orbit, outdoor recreation activities, adjustmental to natural hazards, housing choices, perception of distances and urban structures and environmental misbehavior, on the other tended, to affect the behavior of individuals in crowded situations.

Indian Situation

Considering the United Nations World Population Chart with reference to the population of India reaching a thousand million in the year 2000, Jain's (1987) studies on crowding assume greater meaning for all those concerned with population, urbanization process, quality of life and environmental control. In a large way, population explosion leads to the problems of poverty, crime, delinquency, aggression, deindividuation, social insecurity, price rise, pollution, accidents, mental retardation, physical and psychological ill health, social disorganization, ethical and aesthetic deplation, reduction of efficiency and production and apathetic reaction to human misery.

Density could be considered a technical aspect of crowding which has distinct psychological features of stress, perception of reduced physical and psychological space, feelings of discomfort, perception of loss of control over social interactions and encroachment on privacy. In general, crowding produces a negative psychological state. The research in this area has put forward some theoretical models to explain the consequences of crowding.

Stimulus-overload model proposes high density as a stressor because of its potential to provide excessive stimulus to the individual (Bauet, al).

Behavioral constraints model views density as a stressor because it imposes restriction on behavioral freedom (Proshansky).

The Ecological model regards high density disruptive to the extent that it leads to the scarcity of social roles and physical resources (Wicker).

Attribution model proposes that high density is more likely to create a condition where there is violation of personal space (Worchel).

Stress & Arousal model tends to suggest an inverted U-shaped relationship between stressors and arousal (Berlyne, Broadbent, Hebb and others).

Since crowding is a complex situation none of the above mentioned models singularly and none of the findings of the annual studies on crowding provide complete, exhaustive and conclusive explanation. However, effects of crowding on social behavior, withdrawal aggression, helping behavior task performance and health have been reported by various studies on urban, rural and tribal cultural settings.

Jain (1987) experimentally verified the effects of crowding and concluded that distraction from the source of crowding stress would ameliorate the feelings of crowding. In terms of personal space it was demonstrated that high density was associated with greater demand for personal space with unfamiliar persons rather than familiar persons. He clearly demonstrated that population density in its social or spatial form is associated with the feelings of crowding, which could be explained in terms of ecological model implying scarcity of resources affecting the feelings of crowding.

In the context of India he suggests reconsideration of strategies of population management for a more rational development program suited to socio-cultural and psychological contexts.

Conclusion

On the basis of the theoretical considerations in terms of environmental psychology, population studies and the psychological features of crowding, it could be stated that crowding is not a mere demographic or statistical figure but a human situation. Its negative effects on the quality of life in general and personal stress, illness, crime, deindividuation, social interaction and performance in specific imply that it can not be ignored any further. Probably in places where it can not be reversed, it deserves to be mitigated by improving the surrounding physical and social conditions. On only hopes that the point of no return has not become inescapable. With the small and the only planet available to man, for the time being, there is only one method to study, analyse, control and manage population explosion and that is though a multi-pronged attack by various disciplines as a team.

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GROWTH OF RURAL POPULATION IN PUNJAB, 1971-81

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Based on the census data, the present paper analyses the patterns of rural population growth in Punjab during 1971-81. The decade stands out distinct in having recorded the lowest growth rate of rural population in the post-Independence period. The growth rate was characterized by wide differentials with respect to the scheduled and non-scheduled caste components of population, different religious communities, and various regions. These growth trends carry significant policy implications.

The study of population growth is of signal importance for a full understanding of the evolving nature of any area. Apart from being a good index of socio-economic changes and the state of demographic development of an area, population growth also reflects the change in the territorial organization of the productive forces.

The decade 1971-81 stands out distinctly in the recent socio-economic history of Punjab. During this period, the state experienced the full bloom of the Green Revolution which not only turned the state from a food - deficit area to the granary of India, but has also triggered off profound changes in its socio-economic and demographic fabric.

It would be relevant here to discuss briefly the growth of rural population in the state during 1901-81. The first decade of the century recorded a decline of 10.46 per cent owing to prevalence of high death rate consequent upon severe incidence of bubonic plague. From 1911 to 1941 the decennial growth rates experienced progressive acceleration following gradual decline in the mortality rate. The decline in rural population during 1941-51 was connected with the huge loss of human life as well as mass exchange of population between India and Pakistan in the wake of the partition of the sub-continent in 1947. But for these tragic happenings, the rural population growth rate would have maintained its upward trend which began during the second decade of this century.

The post-Independence period witnessed further sharp fall in death rate resulting in a rise in the natural growth rate. The decade 1951-61 recorded a growth rate of 19.47 per cent only which was chiefly attributable to large scale out-migration to other states of India, particularly of agriculturists to the Terai region of Uttar Pradesh, and the areas of recent introduction of canal irrigation in Haryana and Rajasthan. In addition, migration to urban centres, both within and out-side the state, also absorbed a significant number of ruralites especially those from the non-farming castes (D'Souza, 1983). However the next decade (1961-71) failed to maintain the same

Table 1

Punjab : Percentage Growth Rate of Population, 1901-81

Decade	Rural	Urban
1901-11	—10.46	—13.00
1911-21	+ 6.17	+ 6.92
1921-31	+ 8.92	+34.37
1931-41	+16.06	+41.85
1941-51	— 9.71	+20.02
1951-61	+19.47	+29.06
1961-71	+20.63	+25.27
1971-81	+17.48	+44.51

SOURCE : Census of India, 1981 *Punjab, Part II-A & II-B, General Population Tables and Primary Census Abstract*, p. 58

tempo of out-migration from rural areas as the agricultural frontiers in other states were virtually closed for the rural populace of the state (Gosal, 1976 p-181) Consequently, the growth rate of rural population during this period went up to 20.63 per cent, which was the highest recorded during the present century.

The decade 1971-81 stands out conspicuous in the economic history of the state as it witnessed the famous Green Revolution to its bloom and the resultant rapid rise in agricultural incomes. Besides, early years of the period were characterised by a revolutionary programme of construction of extensive network of roads which, effectively aided by the media, helped to break the centuries-old isolation of the rural settlements, and also contributed to the further weakening of the *Jajmani* system in the state. All these developments induced rapid acceleration in urbanisation in the area involving notable rural-urban migration within the state. In addition, a large number of ruralites also migrated to the oil-rich countries of the Middle East during this period. As a consequence the growth rate of rural population decelerated to 17.48 per cent which was significantly below the natural increase of population (Table 2).

Table 2

Punjab : Vital Rates, 1971-81

Year	Rural			Urban		
	Birth Rate	Death Rate	Natural Growth Rate	Birth Rate	Death Rate	Natural Growth Rate
1974	33.0	11.3	21.7	28.2	8.1	20.1
1975	32.5	11.3	21.2	29.2	9.2	20.0
1976	32.4	11.4	21.0	28.5	9.3	19.2
1977	31.8	11.4	20.4	28.2	8.6	19.6
1978	30.2	12.3	17.9	26.5	9.0	17.5
1979	29.6	10.3	19.3	28.1	8.3	19.8
1980	31.2	9.5	21.7	28.4	6.7	21.7
1981	30.2	9.7	20.5	27.3	6.8	20.5

SOURCE : *Statistical Abstract of Punjab, 1982* p. 471.

A part of this decline was due to the merger of many rural settlements with the urban areas following extension of their jurisdictional boundaries, and also to the graduation of 29 villages to the town status during this period.

If the 1941-51 period, associated with huge exchange of population between India and Pakistan as well as a heavy loss of human life, is disregarded as an unnatural one, the decade 1971-81 can be said to be the first since 1911 to record a deceleration in the growth rate of rural population of Punjab. As the state experienced only a nominal decline in the natural growth rate of its rural population during the decade (Table 2), deceleration of the growth rate was clearly associated with notable out-migration from rural Punjab partly to urban centres within the state and partly to other parts of the country and abroad.

Table 3 reveals a wide gap in the growth rates of scheduled and non-scheduled caste segments of population in rural Punjab during 1971-81. The scheduled caste people increased by 28.37 per cent from 2,856,046 in 1971 to 3,666,372 in 1981 resulting in rise of their proportion from 27.64 per cent to 30.20 per cent. Their growth rate (28.37 per cent) was significantly higher than the rate of natural increase (about 20.5 per cent) of the general rural population and was connected partly with their higher birth rate (Wyon and Gordon, 1977 p-140) and partly with in-migration of scheduled caste persons from other states, particularly from Bihar and Uttar Pradesh. The seasonal flow of agricultural labourers to Punjab which in the early seventies used to be restricted to the peak periods of *rabi* (winter) and *kharif*

Table 3

Punjab : Growth of Rural Population, 1971-81

State/ District	Total Population	Scheduled Caste Population	Non-Scheduled Caste Population
Punjab	17.48	28.37	13.32
Gurdaspur	20.92	32.35	17.50
Amritsar	12.83	29.17	6.81
Firozpur	24.14	40.17	20.29
Ludhiana	13.99	23.09	9.92
Jalandhar	10.29	23.25	2.58
Kapurthala	15.76	32.82	9.52
Hoshiarpur	15.06	21.53	12.20
Rupnagar	21.54	34.33	17.54
Patiala	22.89	32.38	19.74
Sangrur	19.14	29.55	15.55
Bathinda	19.37	25.89	16.89
Faridkot	18.27	30.87	12.67

NOTE : The table has been prepared by adjusting tehsil level data only. The population of villages transferred from one tehsil to another during 1971-81 has not been taken into account.

SOURCE: Computed from (i) Census of India 1981, *Punjab, Part II-A & II-B, General Population Tables and Primary Census Abstract.*

(ii) Census of India, 1971 *Punjab, Part II-A General Population Tables.*

(summer) harvests and also to the period of rice transplantation, came to acquire a semi-permanent character towards the end of the decade. Not only the flow of seasonal in-migrants had increased but their stay in Punjab had also become considerably prolonged extending over months. Any traveller going through the Punjab countryside quite often comes across groups of migrant farm labourers at any time of the year. Besides, there is also a high incidence of employment of migrant farm labourers on annual/half-yearly contract basis. These workers, with a notable share of scheduled castes, were naturally enumerated in Punjab at the time of 1981 census resulting in sharp increase in the decennial growth rate of the scheduled caste persons. Besides, the native scheduled caste population of the state had experienced far less out-migration from the rural areas as compared to its non-scheduled caste counterpart (Mehta and Gill, 1981, p 33).

Table 4 reveals that the percentage of adult persons (20-59 years) had gone up from 40.62 in 1971 to 44.20 in 1981 which confirms the above point that significant in-migration of adults to Punjab had taken place during this period.

During the decade 1971-81, the state government made large number of allotments of agricultural lands to the scheduled caste persons in different *bet* (flood plains) areas. Consequently, all the districts covering *bet* tracts had recorded relatively high growth rate of scheduled caste people compared to the non-scheduled castes. The districts falling in high growth category included Firozpur (40.17 per cent), Rupnagar (34.33 per cent), Kapurthala (32.82 per cent), Patiala (32.38 per cent), Gurdaspur (32.35 per cent)

Table 4

Punjab : Age Distribution of Rural Population 1971 and 1981

Age Group	Per Cent	
	1971	1981
0- 9	27.27	24.22
10-19	24.62	23.73
20-59	40.62	44.20
60+	7.49	7.85

SOURCE: Census of India, 1981, *Punjab, Report and Tables Based on 5 Per Cent Sample Data, Part II-Special*, p. 27

and Faridkot (30.87 per cent). Their lowest growth rate was recorded in the Cho (seasonal streams) infested district of Hoshiarpur (21.53 per cent) where demand for agricultural labour has been relatively low owing to its lesser agricultural development.

On the other hand, the growth rate of the non-scheduled caste population during the decade was merely 13.32 per cent which was not only considerably below the rate of natural increase but was also less than half the growth rate of the scheduled caste population (Table 3). This section of population had experienced substantial out-migration during this period to urban areas both within and out-side the state as well as to the foreign lands. Several factors had combined together to generate this outflow of non-scheduled caste persons from the rural Punjab. The chief among these were : (i) considerably improved transport and communication facilities which prompted the rural traders and artisans to move to the urban centres where they could make greater profits; (ii) mechanisation of main farming

operations as well as easy availability of migrant labourers from other states made for release of part of family labour from agricultural operations; (iii) rise of a relatively mobile younger generation with high rate of literacy; (iv) rapidly decreasing size of land holdings strengthened the push factor in the countryside; (v) considerable broadening of information field of the ruralities; and (vi) fast rise in the level of aspirations, especially among the younger generation which constituted the major share of migrants from rural areas.

The large scale out-migration of non-scheduled caste persons from the countryside had been mainly caste selective. With the exception of the rich farmers, the cultivators' section had lagged behind in out-migration in comparison to other occupational

Table 5

Punjab : Growth of Rural Population by Religious Communities, 1971-81

State/District	Sikhs	Hindus	Christians	Muslims
Punjab	20.74	9.02	11.93	49.29
Gurdaspur	21.82	18.76	25.01	64.54
Amritsar	15.47	—10.39	— 6.17	25.05
Firozpur	25.17	24.59	1.08	—73.11
Ludhiana	22.06	—26.57	28.93	49.11
Jalandhar	7.91	13.27	— 5.82	44.57
Kapurthala	16.93	11.87	—21.57	199.86
Hoshiarpur	15.86	14.28	3.06	95.76
Rupnagar	25.40	13.48	—21.62	172.45
Patiala	30.27	9.28	44.31	61.88
Sangrur	26.98	—11.01	26.94	33.38
Bathinda	22.02	0.88	14.29	73.97
Faridkot	21.28	— 6.69	— 9.57	107.92

NOTE : The table has been prepared by adjusting tehsil level data only. The population of villages transferred from one tehsil to another during 1971-81 has not been taken into account.

SOURCE : Computed from—(i) Census of India, 1971, *Punjab Distribution of Population by Religion and Scheduled Castes, Part II C (i) and Part V-A.*

(ii) Census of India, 1981, *Paper 1 of 1984, Household Population by Religion of Head of Household.*

groups. This was partly because of their lack of hereditary skills suited to the urban way of life and partly to their high aspiration levels which came in their way in accepting low paid jobs. Besides, paucity of economic resources and lack of requisite social linkages prevent their adequate entry into urban jobs, much less to trade and commerce, and industry. A significant number of persons from this group, particularly hailing from more densely populated parts of the state, especially the Bist Doab region and Rupnagar and Ludhiana Districts, had gone to the oil-rich countries of the Middle East. The lag of marginal, small and also medium farmers in occupational and spatial mobility in comparision to the rest of the ruralites carry serious implications for socio-political contours of the state.

Table 3 reveals that in all the districts of the state increase of rural non-scheduled caste population was below the natural growth rate during 1971-81 Half of the districts recorded growth rate lower than the state average of 13.32 per cent. In Jalandhar district, it was only 2.58 per cent while in Ludhiana and Kapurthala districts it was 6.81 per cent and 9.52 per cent respectively. The highest growth rate of non-scheduled caste population was recorded in Firozpur District.

Population Growth by Religion

The Sikhs constituted 71.30 per cent of rural population of Punjab in 1981, followed by the Hindus (26.51 per cent), the Christians (1.25 per cent), and the Muslims (0.89 per cent). Thus, the Sikhs and the Hindus together constituted 97.81 per cent of the rural population in the area.

The decade witnessed wide differentials in the growth rates of different religious communities living in the rural areas of the state (Table 5). The highest increase took place among the Muslims (49.29 per cent), implying notable migration to rural areas. Very high growth rates recorded in Kapurthala (199.86) per cent) and Rupnagar (172.45 per cent) districts were mainly connected with settling down of some of the Gujar herders, especially in the *bet* areas, who earlier used to come down from the hills to the extensive grazing grounds in these tracts during winter season only. These persons were primarily engaged in their traditional chore of cattle rearing and milk selling. The process of sedentarization of this community in Punjab countryside is a topic worthy of an independent investigation.

The growth rate of the rural Sikhs was 20.74 per cent during 1971-81 which was considerably higher than that recorded among the Hindus (9.02 per cent) indicating notable differentials in their demographic response to socio-economic development in the state. Interestingly, the growth rate of urban Sikhs (55.77 per cent) was also significantly higher than that of the urban Hindus (39.65 per cent). It is not correct to conclude from these differentials in growth rates that the Sikhs have higher fertility (Sharma, 1986). Table 6 reveals that age-specific fertility among the rural Sikhs was lower than the corresponding figures among the Hindus. The same was also true for general marital fertility rate. Table 7 also confirms the above conclusion. Thus, the reasons for higher growth rate of rural population of the Sikhs lie not in fertility differentials but some-where else.

Table 6

Punjab : Fertility Indices for Rural Population, 1981

Age-group	Age Specific Fertility Rate*	
	Hindus	Sikhs
15-19	0.024	0.018
20-24	0.185	0.163
25-29	0.242	0.217
30-34	0.175	0.154
35-39	0.103	0.084
40-44	0.044	0.042
45-49	0.022	0.218

*Age Specific Fertility Rate : The average number of children born alive during the last year per woman of a particular age group.

SOURCE : Census of India, 1981, *Punjab, Report and Tables Based on 5 pec cent Sample Data, Part II-Special*, p. 37.

Table 7

Punjab : Percentage of Ever Married Females with Three or More Children, 1981

Religion	Rural areas			
	Below 25 years		Above 25 years	
	Percentage of Ever Married Females	Percentage of Ever Married Females with 3 or more Children	Percentage of Ever Married Females	Percentage of Ever Married Females with 3 or more Children
All Religions	16.19	10.92	83.81	77.23
Christians	17.43	14.14	82.57	79.17
Hindus	18.12	11.15	81.88	78.99
Sikhs	14.44	10.75	84.56	76.58

SOURCE : Census of India, 1981, *Punjab, Report and Tables Based on 5 per cent Samples Data, Part II-Special*, p. 46.

Relatively high growth rate among the rural Sikhs was chiefly connected with the following two factors. First, the new mode adopted for recording date on religion at the time of 1981 census according to which the religion of the head of the household only was ascertained while at the 1971 census religion of the each and every member of the household was taken into consideration. In the case of institutional population, of course, the religion of each member was ascertainsd. Owing to the new method of taking count regarding religious affiliations, all the contract agricultural migrant labourers from other states, who invariably happened to be Hindus, working in the Sikh households were counted as Sikhs resulting in inflation of growth rate of this community. Conversely, this phenomenon has relatively depressed the growth rate of the Hindus in rural areas. Second, through the process of acculturation some Hindus, belonging mainly to backward castes, had also got gradually converted to Sikhism over the period.

The growth rate of the Sikhs was above 25 per cent in the districts of Patiala (30.27 per cent), Sangrur (26.98 per cent), Rupnagar (25.40 per cent) and Firozpur (25.17 per cent) All these districts had been characterised by notable in-migration of agriculturists to the hitherto uncultivated *bet* lands. In only 4 of the 12 districts in the state, the Sikhs' growth rate was below 20 per cent (Table 5). The lowest growth rate of the rural Sikhs was recorded in Jalandhar district (7.91 per cent), which has had a long tradition of out-migration to areas within India as well as abroad. The same was also true to a great extent for the Hoshiarpur district characterized by indifferent agricultural development. However, their low increase in the districts of Amritsar (15.47 per cent) and Kapurthala (16.93 per cent) stemmed mainly from absorption of many rural settlements by the urban areas as well as the emergence of many a new towns from the village status during this decade. As the Sikhs invariably far out-number the Hindus in the villages, inclusion of rural settlements in urban areas adversely affected the proportion of this community in the countryside. Thus, barring the densely populated districts of Jalandhar and Hoshiarpur, rural Sikhs had not experienced any notable rural-urban mobility despite the coming of the famous Green Revolution in the state in recent years. Although there are many studies on the distribution of the gains from the Punjab's Green Revolution between the landowners and the landless agricultural labourers, no such analysis on the distribution of these benefits between the rural and urban segments of population seems to have been conducted so far. But it can be postulated that share of these benefits got siphoned off significantly to the urban population wherein the Hindus were not only in heavy majority but also controlled much of trade and commerce and industry. The above point gets further support from the finding that even in rural areas "the Brahmins and Banias on the whole have benefited more from the economic changes" which had taken place in the Punjab's rural areas during this decade (D' Souza 1983, p. 150).

Compared to the Sikhs' growth rate of 20.74 per cent, the rural Hindus increased by merely 9.02 per cent during 1971-81 (Table 5). Apart from the effect of the new

mode of enumeration of religion adopted for the 1981 census, as mentioned before, the low growth rate of the Hindus was mainly the result of their considerable rural-urban migration. As this community was mostly engaged in non-farm activities in greater part of the countryside a significant section of it migrated to the urban centres to avail of better economic opportunities.

Table 5 reveals that in all but one of districts of the state, the growth rate of rural Hindu population was below the natural growth rate. In four districts, this population segment suffered actual decline ranging between 6.69 per cent in Faridkot district to 26.57 per cent in Ludhiana district. In Bathinda district, its growth rate was only 0.88 per cent. Significantly, all these districts were marked by rapid pace of urbanisation in this period. The only district where rate of increase of the Hindus was above natural growth rate was the Firozpur where their growth rate (24.59 per cent) was almost at par with that of the Sikhs (25.17 per cent).

Spatial Aspects of Rural Population Growth

On the whole relatively high growth rate of rural population was recorded in areas where new agricultural lands were reclaimed, especially in Firozpur and Patiala districts, and the Sultanpur subdivision of Kapurthala district. Parts of Bathinda, Sangrur, and Gurdaspur districts were also in this category of relatively high growth.

On the other hand, the densely populated parts of the state, comprising the Bist Doab region, and Amritsar district, and parts of Rupnagar and Ludhiana districts experienced relatively slow growth of rural population. It was mainly attributable to : (i) high nutritional density acting as push factor, particularly for the non-scheduled caste persons known to have higher aspiration levels than their scheduled caste counterparts; (ii) absorption of a large number of villages into the rapidly growing urban centres ; and (iii) designation of some villages as urban centres during this period.

The most conspicuous area characterised with very slow growth of rural population was a belt along the Sirhind-Amritsar stretch of the Grand Trunk Road. The growth rate was less than 10 per cent in this tract, and if villages fringing the Grand Trunk Road are taken into account, the increase of rural population would be still lower. This had resulted from considerable out-migration of agriculturists from the area, consequent upon large scale purchase of land all along this road by the speculators, industrialists, traders and big landlords. Even a casual traveller here would not fail to take notice of numerous walled and/or euclyptus planted huge plots of farm land on both sides of the road from near Sirhind town to Amritsar city, more particularly between Sirhind and Jalandhar city.

The cultivators who were tempted to sell their lands were either small or medium farmers. Most of these persons invariably migrated to purchase cheaper lands away from the Grand Trunk Road, especially in the *bet* areas. Only a small percentage of them stayed back in their native places or invested in non-farm activities. Thus, the poor strata of farmers have moved out from economically far superior geographical location along the main economic corridor of the state to inferior locations having a dubious attraction of slightly cheaper lands. The above phenomenon that is agricultural land going

in the hands of the non-agriculturists, can also be observed, though at a lesser scale along the other main roads of the state as well as around the urban centres.

Thus, the decade witnessed a notable phenomenon which can be termed as spatial marginalisation of a section small and medium peasants whereby these people have been moving out from along the Grand Trunk Road, the prime economic belt of the state, to geographically inferior areas. This trend needs to be arrested as it is going to be as tension-prone in the long run as economic marginalisation.

Conclusions and Policy Implications

As in the field of agriculture, the Punjab countryside also experienced significant changes in its demographic fabric during 1971-81. One such aspect was reflected in the wide differentials in the growth rate of the scheduled/non-scheduled castes, various religious groups, and different localities in the rural segment of the state.

The scheduled caste population registered distinct rise in its proportion in rural areas consequent upon its higher birth rate and notable inflow of labourers, particularly from Bihar and Uttar Pradesh. On the other hand the growth rate of the non-scheduled caste population was notably lower than its natural growth rate due to sizeable rural-urban migration in its case.

The two major religious communities in the state, the Sikhs and the Hindus, have come up with wide differentials in their demographic response to the recent economic development in the Punjab's countryside. The Sikhs' growth rate in rural areas was notably higher than that of the Hindus, notwithstanding the fact that the former experienced slightly lower fertility. This was attributable partly to the former's low participation in rural-urban migration and partly to the new method of recording religion adopted at the 1981 census. The greater involvement of the Hindus in rural-urban migration accounted for their low growth rate in rural areas.

The areas of high nutritional density, and those with long tradition of out-migration recorded low growth rate of rural population. The most conspicuous belt of slow increase of rural population emerged along the Grand Trunk Road wherein large scale land purchases have been made by speculators, industrialists and businessmen, invariably from small and medium farmers who, in turn, have out-migrated to inferior areas where cheaper land was available.

A perusal of the foregoing analysis brings home three main points having policy implications. Firstly, continuing sharp rural-urban division on religious lines in Punjab needs to be taken care of since it can create conflictual situations. Secondly, the notable lag of the Sikh population, particularly the small and medium peasants, in urbanisation as well as in upward occupational mobility, deserves proper attention. Thirdly, some policy measure is necessary to check purchase of agricultural land from the small and medium peasants by the industrialists, businessmen and big farmers, along the main roads and around the urban centres. This spatial marginalisation of the affected peasantry must be viewed with all seriousness.

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