

POPULATION GEOGRAPHY

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MIGRATION STUDIES: CATALYST FOR INTERDISCIPLINARY RESEARCH? A REVIEW OF RESEARCH ON UNDOCUMENTED MIGRATION IN POST-APARTHEID SOUTH AFRICA

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Abstract

The aim of this paper is to contribute to the development of interdisciplinary research in social sciences, using migration as a theme, and is in response to the National Research Foundation's project "Shifting Boundaries of Knowledge – the Role of Social Sciences, Law and Humanities."¹ A key contention of this paper is that migration studies provide a powerful catalyst to stimulate interdisciplinary research in social sciences, law and humanities.

The paper is divided into the two broad sections. In the first section the focus is on recent intellectual trends in migration studies, the influence of globalisation, the role of interdisciplinary approaches, and issues relating to forced migration. The second part of the paper provides a review of recent trends in research on undocumented migrants in South Africa. The main argument in this section of the paper is that the massive escalation in the number of illegal migrants in South Africa since 1990 may be attributed to political changes which have taken place in the country, and the aim of this paper is to be understood within its regional and historical context. The migrants were not necessarily parasitic, but rather contributed productively to the economy. Exploitation of these workers was quite common. In addition to lower wages, they were also deprived of benefits like pension and medical aid. Xenophobia has been on the increase, sometimes accompanied by violence.

Globalisation, Trans-nationalism and Migration

The process of globalisation and the inevitable expansion of "markets, transportation, communication, capital and skills have challenged the geographic hegemony of national governments" and their borders (Centre for Development Enterprise, 1997b:17). Globalisation has been accompanied by rapid migration of people across borders and has raised questions about identity, citizenship and nationality. The

movement of millions across borders is often associated with the emergence of ethnic minority communities. Citizenship is not always automatic, and inevitably there is race, ethnic or religious discrimination (Castles and Davidson, 2000; Tapinos, 2000). This has been heightened in the post 9/11 era.

Increasingly, migrants are shuttling between countries and home, rather than settling in one state. Such migrants are referred to as trans-nationals who forge and sustain multiple connections across national borders

at their free will. Transnationalism has been defined as a "social process whereby migrants operate in social fields that transgress geographic, political and cultural boundaries" (Glick-Schiller, et al., 1992:9). Levitt (2001:14) has argued that the "impact of transnational migration differs from, but must be understood within the context of, the heightened globalisation in which it is embedded. Changes prompted by migration and globalisation mutually reinforce one another."

The movement of people across national borders, referred to as international migration, is viewed as a "global challenge for the 21st century" (Martin and Widgren, 2002:3). In many respects "borders breed uneven geographies of power and status" (Hyndman, 2000:1). Borders represent material locations that reflect historical, cultural and political specificities, and can be simultaneously inclusive and exclusive (Hyndman, 2000).

As emphasised by Croucher (1998:654) migration "is a complex social, political and economic issue that poses numerous policy challenges for even the most stable democratic states". In an era of globalisation there has been a great deal of debate about the rights of non-citizens: Should they have access to basic welfare and social services? Should the same basic human rights apply to citizens and non-citizens? (McDonald, Mashike and Golden, 1999; Fekete, 2005). There have been calls for a 'new international migration regime' (Gosh, 2000).

The end of the twentieth century has been characterised by two contradictory trends - controlling immigration on the one hand, yet encouraging the mobility of capital and goods on the other (Weiner, 1995). Rodriguez (1996:21) has referred to "a dramatic socio-geographical picture", which has been aptly summarised by Sassen (1996:9) "The interaction between the denationalising of key economic institutions and spaces, on the one hand, and the renationalising of politics on the other provides one of the main contexts for immigration policy and practice today. We see a growing consensus in the community of states to lift border controls for the flow of

capital, information, services, and more broadly, to further globalisation. Yet when it comes to immigrants and refugees, whether in North America, Western Europe or Japan, we see the national state claiming all its old splendour and asserting its sovereign right to control its borders, a right that is a matter of consensus in the community of states".

However, measures to restrict immigration have been largely unsuccessful and counterproductive. In an era of globalisation, Bhagwati (2003:99) has suggested that "the ability to control migration has shrunk as the desire to do so has increased. Borders are largely beyond control and little can be done to really cut down on immigration." Such borders have been compared to "feudal barriers to mobility" that "protect unjust privilege" (Carens, 1998:383). In order to understand the social, economic and political implications of migration it is necessary to transcend narrow disciplinary boundaries.

Interdisciplinary Approaches

Massey et al. (1998:1) have suggested that "humans are a migratory species" and that "migration is as old as humanity itself". The study of migration is too broad and vast, and cannot be approached from a single disciplinary perspective. In fact "migration is a subject that cries out for an interdisciplinary approach" (Bretell and Hollifield, 2000:vii). This is because a "mono-disciplinary approach operates within certain sets of parameters" and therefore "can give only a limited picture of the migration process" (Hammar and Tamas, 1997:14). Castles (1993:30) argued that migration should be studied "as a social science in its own right ...strongly multidisciplinary in its theory and methodology". In addition to geographers who focus on migration in a spatial perspective and bring out regional inter-relatedness - which has a special relevance in the present era of globalisation - migration is studied in most of the social sciences - anthropology, demography, sociology, psychology, politics and economics. "Each discipline brings something to the

Table 1: Migration Theories Across Disciplines

Discipline	Research Question(s)	Levels/Units of Analysis	Dominant Theories	Sample Hypothesis
Anthropology	How does migration effect cultural change and affect ethnic identity?	More micro/ individual, household groups	Relational or structuralist and transnational	Social networks help maintain cultural difference
Demography	How does migration affect population change?	More macro/ populations	Rationalist (borrows heavily from economics).	Immigration increases the birth rate.
Economics	What explains the propensity to migrate and its effects?	More micro/ individuals	Rationalist: cost-benefit and push-pull.	Incorporation depends on the human capital of immigrants.
History	How do we understand the immigrant experience ?	More micro/ individuals and groups	Eschews theory and hypothesis testing.	Not applicable
Law	How does the law influence migration ?	Macro and micro/ the political and legal system.	Institutionalist and rationalist (borrows from all the social sciences).	Rights create incentive structures for migrants.
Political Science	Why do states have difficulty controlling migration ?	More macro/ political and international systems.	Institutionalist and rationalist.	States are often captured by pro-immigrant interests.
Sociology	What explains immigrant incorporation?	More macro/ ethnic groups and social class.	Structuralist/ and or functionalist.	Immigrant incorporation is dependent on social capital.

Source: Brettel and Hollifield (2000:3).

table, theoretically and empirically. Anthropologists have taught us to look at networks and transnational communities, while sociologists and economists draw our attention to the importance of social and human capital and the difficulties of immigrant settlement and incorporation. Political scientists help us to understand the play of organised interests in the making of public policy; together with legal scholars, they show us the impact migration can have on the institutions of sovereignty and citizenship. Historians portray the migrant experience in all of its complexity, giving us a much greater emphatic understanding of the hopes and ambitions of migrants. Demographers have perhaps the best empirical grasp on the movement of people across boundaries, and they have the theoretical and methodological tools to show us how such movements affect population dynamics in the sending and receiving countries" (Brettell and Hollifield, 2000:vii).

The study of migration is also important in law. When migrants move from their country of citizenship to one where they are regarded as aliens, this "implies a major change in their legal status, their right to take up residence and work, their social, economic and political rights" (Hammar and Tamas, 1997:16). Notwithstanding these developments, Hammar and Tamas (1997:13) have argued that migration is a "field of study where multidisciplinary research is highly needed but lacking. Research is nevertheless frequently undertaken without consideration or consultation of related work in other disciplines". A similar point is made more forcefully by Massey et al. (1994:700-1) "Social scientists do not approach the study of immigration from a shared paradigm, but from a variety of competing theoretical viewpoints fragmented across disciplines, regions and ideologies. As a result, research on the subject tends to be narrow, often inefficient, and characterised by duplication, miscommunication, reinvention, and bickering about fundamentals. Only when researchers accept common theories, concepts, tools, and standards will knowledge begin to accumulate".

It is important to note that migration takes place in specific historical circumstances "that define a particular social and economic context" (Massey, et al. 1998:3). There has been a tendency to neglect the role and influence of the state in influencing migration processes (Ahmed, 1997). The focus of research and theoretical reflections in migration studies, as summarised in Table 1, have been on two sets of issues: "Why does migration occur and how is it sustained over time? What happens to the migrants in the receiving societies and what are the economic, social, and political consequences of their presence?" (Heisler, 2000:77).

There was also "a philosophical dichotomy in migration research" between macro and micro-approaches" (Cadwallader, 1989:4). The macro approach uses measurable socio-economic statistics and indicators, as well as features of the physical environment in order to explain migration processes. The micro-approach focuses on individual decision-making processes and experiences (Cadwallader, 1989). There has been some concern that this division in the study of migration has yet to be transcended (Brettell and Hollifield, 2000). This can be done, for example, by examining how macro-level factors influence decision-making processes at the micro-level. "Is it fair to speak of a dominance of economic motives such as wage differences or employment opportunities, and under which circumstances? Are there other differences between countries which are more important? On the other hand, it has to be investigated how the decision-making process works, how information is processed and information problems tackled" (Fischer, Martin and Straubhaar, 1997:50).

Generally, there is a differentiation between voluntary and forced migration. However, Ahmed (1997:167) has suggested that "migration needs to be conceptualised as a continuum, voluntary and forced migrations are ideal types, that in ordinary life are often mixed rather than pure cases of the one or the other."

Forced Migration and Undocumented Migrants

It is possible to differentiate between three categories of undocumented migrants. The first category refers to those who enter the country without valid documents. The second refers to migrants who enter the country legally but stay on after the expiry of their visas. The third category refers to refugees and asylum seekers who "generally have documents or their documents are being processed" and they have a legal right to be in a country (Lorgat, 1998).

In recent years the term 'refugee' has been used in a broader context than the legal definition of the 1951 Geneva Convention which was formulated in response to those displaced in Europe as a result of the Second World War. However, since the 1970s refugees from Africa, Asia and Latin America began to move in large numbers to western countries, adding a "north-south dimension" (Cohen, 1991:158). While commonly associated with those fleeing political persecution in terms of the 1951 United Nations Convention Relating to the Status of Refugees, in recent years there has been increasing realisation that those escaping from poverty and destitution could be called 'economic refugees'. Consequently, in recent years the distinction between undocumented migrants and refugees has become blurred (Harris, 1995; Sassen, 1996).

According to Harris (1995:119) "worker migrants are viewed as a people in flight from poverty, and those seeking asylum are all too often regarded as 'economic migrants' who are really also fleeing poverty". The burgeoning of refugees from developing countries was a result of "current global environmental chaos as triggered by elements such as ecostress, insecurity and poverty" (Odipo, 1999:559). Parnwell (1993:53) made the following conclusions with regard to irregular or undocumented migration in the developing world, "Where there are wide differentials in income levels and economic opportunities, considerable flows of population can be expected to result. Where such differentials

occur between neighbouring countries ... firm restrictions on the volume of movement between these countries are also likely to be in force. For many, however, the lure of economic opportunities (or their own economic plight) may be such that they may be willing to take the risk of arrest and even imprisonment to avail themselves of these opportunities by illegal means. They may enter a country illegally ... and may work without the required documents or permits. Because of their illegal status, they are particularly prone to exploitation by their employers. Their presence may also engender considerable resentment from other citizens, fearful of the effects of illegal workers on their own jobs and rates of pay".

The majority of people seeking asylum from developing countries are "defined as 'economic migrants' and are therefore governed by immigration, not refugee law" (Harris, 1995:128). Harris (1995:189) contends that the "persistence of the idea that poverty drives out unskilled migrants from developing to developed countries is extraordinary. They are, it seems, really refugees, expelled by economic processes". Sassen (1996) has similarly pointed out that economic refugees are driven by "larger geopolitical and transnational economic dynamics" (p.66) which "produce conditions under which poverty, or lack of opportunities for advancement can be activated as migration push factors" (p.76). Significantly, the Human Rights Watch, an NGO has recommended to the United Nations Economic and Social Council Commission on Human Rights that the 1951 Convention should be revised in order to "make it 'more relevant' to modern day migration challenges".²

Migration Themes in South Africa³

In South Africa migration has been an important focus of study in the social sciences. A major theme up to 1990 was the nature and impact of the migrant labour system. An implicit assumption was that migrant labour would cease in the new South Africa. In post-apartheid South Africa immigration has

become a key area of research (Posel, 2003).

Geographically, the end of apartheid and international sanctions also led to the demise of South Africa's fortified boundaries. In post-apartheid South Africa there is an increased flow of "people, goods and ideas" into the country, "albeit not always easily, cheaply or legally" (Klotz, 2000:831). As emphasised by Weiner and Munz (1997:25) "geographic and social mobility are crucial elements characterising open societies".

After decades of isolation, South Africa has become a sought after tourist and immigration destination, in a period "when social, political and economic uncertainty and insecurity has become pronounced" (South African Human Rights Commission, 1999:4). It has been suggested that in order to become part of the competitive global economy South Africa must give due consideration to the opening of its "borders to trade, industry, culture, communications and capital, and the movement of people which must inevitably follow" (Centre for Development Enterprise, 1997a:23).

However, as the new South Africa seeks integration and greater participation in the global economy and in world politics, there is a contradictory trend towards exclusivity in respect to its immigration policy. Like governments elsewhere, the new South African government is bent on maintaining two conflicting international regimes—one dealing with cross-border circulation of information and capital, the other with immigration. The co-existence of these two different regimes is at odds with globalization that has denationalized national economies and territories, as well as decentered sovereignty. There have been long delays in developing a new progressive immigration policy in South Africa, and this has been attributed to "national politics, bureaucratic bungling, and the very real dilemma of formulating democratic, rights-based migration in what is a highly xenophobic society" (Dodson, 2002:1). A number of themes for inter-disciplinary migration research in South Africa have been identified, and these will be briefly

discussed in the following sections.

Historical Context

The migration of workers from other parts of Africa to South Africa has a long history (Davies and Head, 1995). At the regional level undocumented migration is closely related to "South Africa's racially exclusive immigration legislation" (Peberdy, 1997:1). According to Peberdy (1997:2-3), "Ignoring the history of black immigration to South Africa obscures the legacy of South Africa's racist immigration legislation that prevented black people from becoming immigrants and which established the migratory patterns of today. It denies South Africa's long standing economic and political links with the region".

Historically, the mining and agriculture sectors in South Africa have been dependent on migrant labour from southern African countries. In fact much of South Africa's mineral (and natural) wealth has been produced on the backs of migrant mine workers (Jeeves, 1985; Murray, 1995). Furthermore, the "historical influx of migrants to South Africa has created a high proportion of rightless non-citizens, despite their length of residence which sometimes spans generation" (Reitzes, 1997). Census data from 1911 reveals that more than 6 percent of the population comprised non-South Africans from the region. In 1961 there were approximately 836,000 regional migrants in South Africa (Peberdy, 1997).

The apartheid government subtly encouraged or turned a blind eye to clandestine migration in order to ensure an abundant supply of cheap labour, but was opposed to black migrants applying for citizenship. The Aliens Control Act of 1991 was based on a 1913 act that excluded blacks and was amended in 1930 and 1937 to exclude Jews. Between 1913 and 1986 black people could only enter South Africa illegally or as contract workers as they were not allowed to apply for temporary or permanent resident permits (Peberdy and Crush, 1998b). The racist

orientation of South African immigration policy became very evident when the government welcomed whites from neighbouring states in Southern Africa who felt threatened by majority rule (Crush, 2000). Between 1960 and 1980, skilled and semi-skilled white migrants from Zambia, Kenya and Zimbabwe were given citizenship to boost the local population (Peberdy, 1997).

Crush (1996) has presented further compelling evidence that suggests that the Aliens Control Act was being implemented in a racially discriminatory manner in the post-apartheid era. In the first quarter of 1996 about 130,000 visitors to South Africa remained in the country after their visas had expired, and this included 12,000 from the UK, 11,000 from Germany, 3000 from the US, and about 1000 from Australia, Belgium, Switzerland and Taiwan, respectively. A very small proportion of these people were arrested and deported - 23 from the UK, 13 from Germany, 8 from the US, 4 from Australia, 2 from Belgium and 1 from Switzerland. In 1995 ninety eight percent of deportations were to southern African countries.

Estimates of the number of undocumented immigrants in South Africa vary widely. This was because the majority entered the country covertly. It was therefore not possible to for the government or researchers to give a reasonable estimate of the number of migrants in the country (Hough, 1995). However, "in the vacuum, cavalier and exaggerated numbers predominate" (Crush and Williams, 2001:3).

In 1990 the South African Yearbook indicated that there were about 1.2 million illegal immigrants in the country, in 1991 the estimate was 2 million, in 1992 it was 2.5 million, 3 million in 1993, and 5 million in 1994 (Minnaar et al., 1995:33). The accuracy of these figures, however, has been questioned. This is encapsulated in the following statement by Steven Friedman, Director of the Centre for Policy Studies at the University of Witwatersrand, "Officials, politicians and the police regularly trot out 'figures' on immigrants to justify action against them. But

the numbers owe more to imagination than to calculation. We are told that we have up to eight million illegal immigrants. But, since illegals spend much of their time evading those who do the counting, how do they know? Interviews with those who produce the estimates show that they are, at best, guessing. Much the same can be said of claims that illegals cost the country millions of Rands a year. The estimators rarely say how they arrive at these figures (Sunday Times, 22/10/95).

The more immediate nature of the problem is revealed by deportation figures. In 1988, 44,225 migrants were deported, and by 1993 the figure had increased to 96,515. The majority came from southern African countries, especially Mozambique and Zimbabwe. In 1994, 179 migrants were deported to non-African countries, of which 68 percent were from India and Pakistan (Natal Witness, 31/1/95).

In addition to those who entered the country illegally, there were many migrants who entered the country legitimately, with visas or work permits. Once their permits lapse, they "join the ranks of illegal aliens" (Hansard, 24/8/94, col. 274). They often lived in informal settlements which were seen as a safe haven because the police would find it difficult to identify and arrest them.

In the 1990s immigration to post-apartheid South Africa has become a potentially explosive issue. The reasons for this are steeped in a variety of social, political and economic situations not only in countries of origin but in destination areas as well. The patterns, nature and socio-cultural and economic implications are extremely complicated (Majodina, 2001). Immigration policy and controls have become very restrictive as emigration has increased. Legal immigration numbers are very low and there has also been a decline in temporary work permits. According to Mattes, Crush and Richmond (2002:1-3) "immigration is not viewed as a public policy tool that could benefit South Africa. Immigrants and migrants (even the most highly skilled) are more often

stereotyped as a threat to the economic and social interests of South Africans ... (there) is the misguided assumption that national development and skills in-migration are incompatible”.

Demographic Profile and Gender Dynamics

The South African Migration Survey (SAMP) has been conducting numerous surveys focusing on immigration issues in the 1990s. One such survey was conducted in Durban in 1999. The Durban survey revealed that the average age of migrants was 34 years. A national survey revealed that the average age of migrants was 32 years (McDonald, Mashike and Golden, 1999). In Durban most of the migrants (70 percent) were in their economic prime, between 25 and 44 years. Only 15 percent were younger than 24 years, and 4 percent were older than 55 years. The majority (74 percent) of the migrants were males (Maharaj and Moodley, 1999).

The migrants had a fairly good educational background. This is reflected by the fact that a significant number had secondary (45 percent) and tertiary (29 percent) education. Sixteen percent had some form of primary education, and only a few (10 percent) had no formal education. Over fifty percent of the migrants were single (never married). A significant proportion (32 percent) were married. Almost equal proportions of those who were married left their spouses in the country of origin or brought them to South Africa. Presently, 49 percent of the migrants were living with a partner, 27 percent were married and 24 percent were single. It was interesting to note that 78 percent of spouses/partners of migrants were South African (Maharaj and Moodley, 1999).

Gender imbalance of African immigrants to South Africa is clearly evident. African immigrants are composed of significantly more males than females (Dodson, 1998). This gender related migration pattern may be due to the dangers of travel, the cost and the fact that numerous obstacles have to be overcome

on the long journey overland. These reasons could also be attributed to most married immigrants leaving their children at places of origin. Women were subjected to greater levels of trauma and indignity in the migration process and this was emphasised by Deputy Minister of Home Affairs, Nosiviwe Mapisa-Nqakula, who had been in exile during the apartheid era, “Television and newspaper images of millions of women with sick and malnourished babies strapped to their backs is evidence of how women are affected by the migration cycle. Women not only suffer the emotional trauma of helplessly watching their children die during these long journeys, but they also become victims of abuse and undignified treatment along the way. I have learnt first hand that women immigrants suffer a great deal more than their male counterparts. The trauma of being separated from their families and the indignity of having someone else taking decisions that affect your life without your involvement are just some of the added frustrations for women refugees” (City Press, 29 September, 2002).

Given the number of years that they have been living in South Africa, many of them have established homes and families in this country. Some of the migrants have families back home, so returning would not be a problem, although they faced the spectre of unemployment and poverty. The majority of immigrants were not enthusiastic about returning home (country of origin), and if they had a choice, they would remain in South Africa. A few of them stated that they would not return to South Africa again because it did not meet their expectations. Others maintained that regardless of the number of times they will be deported, they would return to South Africa (Maharaj and Moodley, 1999).

Reasons for Leaving Home Country

Most immigrants have come to South Africa to escape the poverty and destitution in their own countries, as well as civil wars and political instability. The majority of the countries of origin have sufficient food, land

and houses. However, unemployment was a serious problem. Harris (1995:189) contends that the "persistence of the idea that poverty drives out unskilled migrants from developing to developed countries is extraordinary. They are, it seems, really refugees, expelled by economic processes". According to the World Bank the countries surrounding South Africa, with the exception of Namibia and Botswana, are among the poorest in the world (World Bank, 1999).

Many of these migrants trek to South Africa due to the changed political climate. It was assumed that since President Nelson Mandela's government had taken over, the country was overflowing with economic opportunities. Surveys conducted by SAMP have suggested that the majority of migrants have no intention of settling permanently in South Africa (Mattes et al., 1999). This has also been emphasised by Reitzes (1997:2), "Many migrants in South Africa regard themselves as migrants *per se*, rather than as immigrants. They do not desire permanent residence in South Africa. They are here for specific purposes and expect to return to the country of their birth; or they wish to maintain a home base in their country of origin, and continually commute across South Africa's borders. Many are transient....".

Immigrants often have to depend "on their own networks, ingenuity and survival skills" (Sunday Times, 20/9/98). Various surveys (e.g. Maharaj and Moodley, 1999) have revealed that the majority of the illegal immigrants coming to South Africa had some sort of 'contact' in this country, either a relative or friend. These contacts in South Africa provided housing, food and even organised some form of employment for the migrants. The majority of immigrants had some skills and training, and had been engaged in productive employment in South Africa

Many migrants maintain links back home, still own houses and have bank accounts and investments. Depending on resources and distance, most migrants return home on an 'irregular basis'. According to Mattes, Crush and Richmond (2002:2) "in a transnational

world many contemporary immigrants maintain strong and active backward linkages. This does not mean that they are uncommitted to their country of new residence".

Reception in Host Country

Often viewed as a source of cheap labour by some employers, the migrants have been accused of stealing the jobs of South Africans, in an economy which had a high unemployment rate (about 40 percent). This perception has been nurtured by certain politicians and government officials who view immigrants from other parts of Africa as "either ragged spongers or skilled criminals" (Sunday Times, 22 October, 1995).

The view that the migrants are parasites leads to the development of xenophobia, and they have increasingly become the targets of violence. Xenophobia is rife in the townships, where the migrants are referred to as *kwerekwere* (disparaging word for African immigrant). The following example highlights the rise of xenophobia, "In July [1994] more than 300 hawkers marched to police headquarters at John Vorster Square to protest against the influx of foreigners. The marchers claimed that foreign traders were killing their business because they were prepared to accept 'virtually anything from customers' (Sunday Times, 28 August, 1994).

It has been argued that xenophobia thrives when there is competition for employment and social problems increase: illegal immigrants "become tempting scapegoats for alienated citizens" (Wood, 1994:625). There is also the view that the migrants are seen as tempting 'scapegoats' for the 'country's ills', "With a black government in power and apartheid gone, many black South Africans have realised that they can no longer blame the system. Most are turning on the most visible scapegoat - immigrants. The new government would do well on its promise of a better life for all before discontented South Africans turn on foreigners and blame them for the country's ills (Sunday Times, 28 August, 1994).

Moving beyond economic and material explanations, Bouillon (1998:23-24) has suggested that "immigrants tend to interpret a culturally driven hostility among black South Africans ... driven by the sight of the foreign and the culturally unknown". This point was emphasised in a recent article celebrating the adoption of the African Charter on Human Rights and People's Rights in the weekly newspaper, *The Mail and Guardian* (22-28 October 1999), which suggested that "South Africa is regarded by its neighbours as rapacious, imperialist and xenophobic"(pp.12-13).

The rising tide of xenophobia leads to demands for the immediate deportation and repatriation of migrants. However, given the social and political instability, and economic deprivation in Africa, South Africa will continue to be a haven for people who are desperate to improve their lives. The *Daily News* (10/10/98) attempted to summarise the international and local implications of the problem, "Estimates that there are as many as 100,000 illegal immigrants in the Durban area bring to our doorstep the realities of Africa - a continent in social and political turmoil. The vast human tide threatens to burst the seams of already overflowing squatter camps on the city's fringe, straining resources which are already inadequate for the rapidly growing local population. Endemic social problems - disease, unemployment, crime, infant mortality, mass hunger - are certain to mount in the years to come".

However, the above report is an example of anti-foreigner sentiment that has been attributed to negative reporting in the print media (Dolan and Reitzes, 1996). The dominant view in the press "portrays immigration from an anti-foreigner perspective and calls for stringent and immediate controls, even an outright banning of immigrants. This media coverage also tends to be unanalytical, reproducing problematic research and anti-immigrant terminology uncritically ... the media certainly have a right, even a responsibility, to report on xenophobic attitudes and action in South Africa... But the

print media also have a responsibility to make sure they are not contributing unduly to the problem of xenophobia by internalising xenophobic language, uncritically reproducing anti-immigrant stories and research, or giving unrestricted freedoms to xenophobic reporters" (Danso and McDonald, 2000:8-9).

The press has to focus on the human rights of migrants, as well as the regional development implications of cross-border movements. Instead of drawing attention to the ostensible negative aspects of migrants, there is also a need for the media to focus on their contributions to the economy that would help dispel some myths (Dolan and Reitzes, 1996).

National surveys have revealed that most South Africans believed immigrants have a negative impact on the country. Also, there was very little differentiation between illegal immigrants and refugees. Almost 60 percent stated that immigrants weakened the economy and undermined South African resources. There was greater prejudice against migrants from Africa, and a preference for immigrants from Europe and North America. These perceptions were "widespread and cut across indicators of age, education, gender, economic status and race" (Crush, 2001:6). A national survey on South African attitudes towards migration revealed that 25 percent wanted a total ban on immigration, and 45 percent wanted this process to be rigidly controlled. Only 17 percent were in favour of a liberal, flexible approach which was related to the availability of jobs (Mattes et al., 1999:1). Yet only 4 percent of South African respondents actually had regular direct contact with migrants, "suggesting that these stereotypes may be the product of second-hand (mis)information" (Mattes, et al., 1999:2).

However, the contributions of migrants to the country are often ignored. The migrants have countered that "South Africans have no work ethic and are jealous of the foreigners' initiative, creativity and entrepreneurial acumen" (*Sunday Tribune*, 3/11/96). Chief Buthelezi, Minister of Home Affairs, stated that the "employment of illegal immigrants is

unpatriotic because it deprives South Africans of jobs and that the rising level of immigrants has awesome implications for the RDP as they will be absorbing unacceptable proportions of housing subsidies and adding to the difficulties we will be experiencing in health care" (Reitzes, 1994:8).

Exploitation of migrant workers was also quite common. In addition to lower wages, they were also deprived of benefits like pensions and medical aid. They did not belong to trade unions, hence they received no protection from exploitation and were often summarily dismissed. Reitzes (1994:9) describing the aliens as a 'marginalised underclass who are easily open to abuse' states that "Devoid of state protection, and denied any rights and entitlements, aliens look for jobs to survive. Because of their illegal status they are forced to accept employment whatever the payment, risk, physical demand or working hours involved. Exploitation of migrant labour carries the risk of social decay, with decreasing wages and deteriorating working conditions ... The creation of such a rightless class also pushes many of them into the criminal underworld, either as a more attractive option or a means of survival".

Migrants and Crime

Migrants have been criminalised as a result of not having official travel documents as well as by media stereotyping that they were associated with illegal activities. Police estimates suggested that 14 percent of general crimes involved migrants. According to Warrant Officer Piek, crimes committed by migrants in the first half of 1994 had increased by 306 percent compared to the same period in 1993. He maintained that the illegal activities of the migrants and their socio-economic problems had contributed to the high crime rate in the country. Some migrants were arrested for drug smuggling. He quoted the case of Nigerians who were arrested for dealing in cocaine. There were also allegations that some illegal immigrants were involved in the smuggling of illegal firearms and contributing to the endemic

violence in some parts of the country (Maharaj and Rajkumar, 1997).

However, the police and politicians often associated migrants with criminal activities without providing evidence to support this contention. In November 1997 Defence Minister Joe Modise argued that unauthorised migrants had contributed to the increase in crime in South Africa. "As for crime, the army is helping the police get rid of crime and violence in the country. However, what can we do? We have one million illegal immigrants in our country who commit crimes and who are mistaken by some people for South African citizens. That is the real problem. We have adopted strict policy and have banned illegal immigration in order to combat the criminals coming from neighbouring states so that we can round up the criminals residing in South Africa" (Human Rights Watch, 1998:1).

However, if the undocumented immigrant issue was viewed as a matter of law and order, then the problem is likely to be aggravated in the long term. "It will lead to the creation of a criminal underclass, growing xenophobia, regional instability and damaging relations with neighbouring states. It also ultimately flies in the face of the ANC's stated commitment to human rights, in terms of which the moral responsibility of the state is assumed to transcend territorial boundaries" (Reitzes, 1994:11).

Migrants entered the country very easily because of the porosity of borders. According to the South African National Defence Force, it apprehends "only one out of every four people who cross" (Minnaar, et al., 1995:35). As a result of political and humanitarian considerations the electrified fences on the Zimbabwean and Mozambican borders were not being used (Hough, 1995). The harbours and airports were easy entry points. There were also serious staff shortages at border posts and immigration offices throughout the country (Minnaar, et al 1995). There was also evidence that some Home Affairs and Immigration Officials were involved in corruption and bribery, especially

supplying counterfeit travel and identity documents (Maharaj and Rajkumar, 1997).

The majority of immigrants were arrested as a result of information gained from informants, that is, local people who believed that the newcomers were taking away their jobs, or from anonymous callers who believed that they presented a serious social problem. The police reward for a successful arrest ranged from R200 to R500. Other migrants were arrested at border posts or at airports when their expired passports or permits were detected by computers and officials on duty. Those arrested had a fair chance to present their case and to defend themselves as long as they had the money to do so. If they were found not guilty, then they could appeal to the Minister of Home Affairs to live and work in the country. However, if found guilty, then they were assigned to officers who ensured that they were deported as soon as possible (Maharaj and Rajkumar, 1997). They were held in detention centres until deported.

A 1999 report by the South African Human Rights Commission (SAHRC) on the arrest and detention of migrants revealed that in many instances those arrested were subjected to violations of their basic rights. "In the majority of cases there were no reasonable grounds for an apprehending officer to suspect that a person was a non-national. A significant number of persons interviewed had identification documents which were either destroyed or ignored or which they were prevented from fetching from home. Apprehended persons were often not told or did not understand the reason for their arrest. Extortion and bribery are practices extremely widespread among apprehending officers ... If a society's respect for the basic humanity of its people can best be measured by its treatment of the most vulnerable in its midst, then the treatment of suspected illegal immigrants ... offers a disturbing testament of the great distance South Africa must still travel to build a national culture of human rights" (SAHRC, 1999:3-4).

Given the high levels of prejudice, there was a failure to recognise that migrants have

also been victims of crime. National surveys have suggested that "migrants are disproportionately the victims of crime, made worse by inadequate redress in law and lack of protection by the police" (McDonald, Mashike and Golden, 1999:19).

Welfare, Health and Disease

There has been a great deal of debate about the rights of non-citizens in South Africa. A major concern is that decades of institutionalised socio-economic inequalities will not be eliminated overnight. This has been compounded by increasing levels of poverty since 1994, a consequence of neo-liberal macro-economic strategies. Against this background, there are serious moral questions about what rights should be extended to migrants. "Does one offer health care and education to non-citizens (even if they are prepared to pay) when there are millions of South Africans without these services? At the same time, can one deny migrants access to these resources when South African exiles were granted asylum and support in other cash-strapped African countries during the anti-apartheid struggle?" (McDonald, Mashike and Golden, 1999:24)

Politicians in South Africa have expressed concern about the increased pressure that migrants will exert on basic services, and social and welfare resources (McDonald, Mashike and Golden, 1999). The majority of South Africans believed that social services should not be extended to migrants (Mattes, et al., 1999). It has been argued that illegal immigrants increased the pressure and burden on health, welfare and other social services; safety and security; correctional services and justice. In 1994 it was estimated that illegal immigrants cost the state R221,000,000 (one tenth of the RDP budget), and that this will increase to R941,000,000 by the end of the century (Hansard, 24 August, 1994). In 1995 it cost the South African government R12 million to repatriate 150,000 illegals (Daily News, 21 August, 1996). However, surveys have revealed that migrants do not expect their basic services to be subsidised, and are

prepared to pay for any services that they obtain (McDonald, Mashike and Golden, 1999). The international and South African experience suggests that migrants contribute to the economy and make low levels of demand for state welfare resources compared to locals (Centre for Development Enterprise, 1997a).

Migrants also faced enormous difficulties in getting access to housing. This was not surprising, given that there was a national shortage of 3 million houses in South Africa. In 1997 the Minister of Housing, Sankie Mthembu-Mahanyele, attributed the escalating housing shortage to the increasing number of foreigners. "We can't keep immigrants out. Somehow our borders are porous" (Business Report, 31 January, 1997). According to McDonald (1998:1) "There are no clear policies on access to housing for non-citizens in South Africa. There are policy documents, constitutional clauses and international agreements which commit the South African government in various ways to 'ensuring access to adequate housing for all persons living in the country', but these commitments are often inconsistent with one another and even contradictory when it comes to defining who is entitled to housing".

Another area of concern was the link between migration and the spread of disease. There have been few well documented and structured studies which have investigated the links between migration and the spread of infectious diseases (Williams et al., 2002). Since the migrants entered the country illegally, not much was known about the diseases they might have carried. However, when arrested and imprisoned the state of their health was assessed and the diseases they carried were identified. Many diseases with epidemic potential, for example, yellow fever, cholera and other sub-tropical diseases, were being brought into the country by the illegal immigrants. Some migrants were diagnosed as being HIV positive.

In March 1995 two such prisoners died in Durban (Maharaj and Rajkumar, 1997). About 13,000 migrant mine workers from Malawi were repatriated from South Africa

between 1988 and 1992 because 200 had tested HIV/AIDS positive (Chirwa, 1998). The relationship between migration and HIV/AIDS is very important in a southern African context because of the movement of migrant labour. In fact a "key neglected factor in explaining the rapid spread and prevalence of HIV/AIDS in Southern Africa over the last decade is human mobility" (Williams, et al., 2002:1).

However, there is little understanding of the extent to which migration influences the spread of HIV/AIDS. This is because the outbreak of the HIV epidemic was associated with changes in migrant labour systems and population mobility in southern Africa. More specifically, the following trends have become apparent over the past twenty years:

- i) The collapse of apartheid brought new opportunities and reasons for migration across borders within the region.
- ii) There has been significant growth in levels of urbanisation in South African cities.
- iii) Women are becoming considerably more mobile, migrating for formal and informal work in ever-growing numbers (Williams, et al., 2002:18-19).

It has been argued that "unless the issues of migration and disease are understood and dealt with effectively, it is unlikely that the greater struggle to control and manage AIDS can be won" (Williams, et al., 2002:32).

Immigrant Contribution

There has been some controversy about the economic impact of migrants. "Some claim that immigrants take jobs and depress wages of resident ... workers. Others argue that skilled immigrants invest savings and add entrepreneurial talent to the economy, while unskilled immigrants accept jobs unwanted by resident workers" (Walker, Ellis, and Barf, 1992:235).

International experience also shows that immigrants contribute more to the economic development of their host countries than we are made to believe in South Africa (Harris,

1995; Bouillon, 1998). "Studies have shown that immigrants are, in fact, net contributors, not parasites. Immigrants are, on average, healthier, more energetic and better educated than people in the host population. Consequently, they draw comparatively less on social welfare and other social services. Many pay tax and, through their entrepreneurship, make a positive injection into local economic development" (Meintjies, 1998:20).

Home Affairs spokesman, Patrick Matlou said that once migrants are in the country, they find jobs easily because they accept whatever wages are offered to them. Hence, they were "easy prey to unscrupulous employers who were willing to hire them as cheap labour" (Sunday Times, 9 August, 1998). These comments were echoed by Inspector Gert de Beer of the Internal Tracing Unit, "Illegal aliens are cheap labour, and in their desire to make money, they deprive locals of job opportunities. Some are paid as little as R300 a month, while others do not even get paid. They merely work for food and shelter. Opportunistic businessmen know this and deliberately exploit the situation. The immigrants cannot complain because their employers know they are working here illegally" (Sunday Times, 9 August, 1998).

The advantage to small companies, often fly-by-night concerns, is that they can employ these people at slave wages, knowing that they are unable to join unions and therefore protect themselves. However, if an employer gets caught hiring illegals, he has to pay a stiff fine and often bear the cost of repatriation.

A survey in Durban revealed that more than three quarters (81 percent) of the respondents did not have a contract with their employers. This situation is common and expected wherever illegal immigrants are employed because of the fears of prosecution. This increases the exploitation and vulnerability of the immigrants. In spite of this situation, the overwhelming majority

stated that employers were satisfied with their work. On their part 68 per cent of migrants were content with their working conditions. This was largely because of the lack of alternative options. Some of the reasons for work satisfaction were: shorter working hours, ability to fulfil needs and familiarity with work. Those who were dissatisfied with their jobs complained about low wages, insensitive employers and poor management. The majority (90 percent) were not members of any union (Maharaj and Moodley, 1999).

One area in which immigrants are having an indirect impact on the economy is the area of formal and informal businesses such as hair saloons, supermarkets, African crafts, taxis and upholstery. These businesses were established with funds from home countries, loans from friends and earnings in South Africa. Direct revenue to the state did not accrue because of the non-registration of most businesses and payment of taxes. Those that did contribute to taxation paid an average of R805 per year. Indirectly, however they do contribute *via* their purchasing of goods, subsistence and other living expenses incurred (Maharaj and Moodley, 1999).

Immigrant owned businesses have become an important part of small, medium and micro enterprise sector in Johannesburg and have changed the socio-economic structure of the inner city. Despite hostility from locals, the immigrant entrepreneurs were positive and intended to expand their enterprises. Significantly, such foreign owned enterprises were creating jobs for South Africans (Rogerson, 1997).

If the stigma of illegality was removed, it was possible that such migrants could contribute significantly to the local economy through the creation of employment opportunities as well as the training of local people. Further, the majority would then be compelled to pay taxes and this would increase the resource base of the government for reconstruction and development. Migrants can also compensate for the immigration or 'brain drain'.

Table 2 - Immigrants and Emigrants (1989-1999)

Year	Immigrants	Emigrants	Net gain/loss
1989	11, 270	4, 911	6, 359
1990	14, 499	4, 722	9, 777
1991	12, 379	4, 256	8, 123
1992	8, 686	4, 289	4, 397
1993	9, 824	8, 078	1, 746
1994	6, 398	10, 235	-3, 387
1995	5, 064	8, 725	-3, 661
1996	5, 407	9, 708	-4, 301
1997	4, 103	8, 946	-4, 843
1998	4, 371	9, 031	-4, 660
Jan-May 1999	1, 692	4, 313	-2, 621

Source: Centre for Development Enterprise, 2000, p.11.

Immigration Drain

While there has been a tendency to overestimate the number of undocumented immigrants in South Africa, there has also been an inclination to underestimate the extent of emigration or the 'brain drain'. Between 1989 and 1997 about 233,000 South Africans emigrated to the UK, USA, Canada, Australia and New Zealand (Crush, et al., 2000:1). Official statistics revealed that 82,811 people had left during this period (Centre for Development Enterprise, 2000). This loss of skills was not offset by a proactive, aggressive recruiting immigration policy. The flight of skills has serious social, economic and political consequences. There is also a clear gender dimension, with men being more likely to leave permanently than women (Dodson, 2002). The main reasons for the exodus are "unacceptable levels of crime and violence, economic stagnation, and perceptions of declining standards in the quality of public sector services, most notably education and health" (Rogerson and Rogerson, 2000:64).

Throughout the 1990s there has been a steady decline in the number of immigrants. In 1993 there were 9,800 immigrants and this declined to 4,100 in 1997 (Crush, et al., 2000:1). The net migrant gain/loss over the 10 year period, 1989-1999, is reflected in Table 2. The Centre for Development Enterprise

compiled these figures based on data from Statistics South Africa and the South African Institute of Race Relations.

The implications of these trends are very clear. There will continue to be a shortage of skills as well as an oversupply of unskilled labour. The negative implications will reverberate throughout the South African economy and impact on the country's global competitiveness as "skilled workers generally create jobs for unskilled workers and the level of skills in the labour force is an attraction for foreign investment" (Wocke and Klein, 2002,441).

Policy Hiatus?

Various policy options have been advocated to resolve the illegal immigrant issue, ranging from tighter border controls and implementation of law and order, to those that attempt to understand the problem in its regional and historical context. However, official policy towards the illegal immigrants has also sometimes been confusing, incoherent and contradictory because the government had "been caught unawares by the enormity, complexity and seeming intractability of dealing with large scale black immigration" (Mercury, 26 October, 1995).

Even when officials acknowledged the role of South Africa in facilitating immigration from neighbouring countries, such recognition was attributed only to the destabilisation of those countries by the apartheid regime. How post-apartheid policy contributes to immigration is never addressed. The development of immigration policy has been described as "slow and torturous ... characterised deep uncertainty" (Crush, 2003,5). There was a lack of consensus relating to the necessity for a progressive migration policy in the new South Africa as it integrates itself into the world economy. There is an especially urgent need for academics, the media, and NGOs to contribute towards a migration policy which adopts a sensitive human rights approach, takes cognisance of the historical regional economic linkages, and considers the creative ways in which migrants contribute to the local economy.

Conclusion

Research on migration themes permeates social sciences, legal studies and the humanities. However, there has been a tendency to study migration in isolation, according to narrow disciplinary boundaries. The study of migration is extensive, and cannot be understood from a singular perspective.

This paper has demonstrated that a study of migration offers enormous scope for interdisciplinary research in the social sciences, law and humanities. A review of the published and unpublished literature on migration in South Africa suggests a number of themes for interdisciplinary research, and these include: historical studies of migration policies and migrants' experiences; engendering migration; rise of xenophobia; social, economic and political impacts of emigration and immigration; plight of refugees; human trafficking; changing policy perspectives; migrants and crime; remittances; repatriation; brain drain/gain; identity, ethnicity and citizenship; and, diasporas.

In South Africa policy relating to migrants has developed in an interdisciplinary vacuum, especially in terms of the numbers involved and their role in the economy. The policy focus was initially on the 'law and order' approach. There was need for a more sympathetic and sensitive approach, which took cognisance of the circumstances which contributed to the escalation in migration. This would require the adoption of an interdisciplinary approach towards an understanding of the problem, as well a consideration of various policy options.

Notes

1. A version of this paper was presented at the National Research Foundation Workshop, "Shifting Boundaries of Knowledge – The Role of Social Sciences, Law and Humanities," 23 July, 2004, University of Kwazulu-Natal, Durban, South Africa.
2. United Nations Economic and Social Council Commission on Human Rights, Fifty-seventh Session, Item 14 of the Provisional Agenda, 18 January, 2001, p. 4.
3. This section of the paper draws generously from the surveys conducted by the South African Migration Project (SAMP). SAMP is an independent research organisation and its "mandate is to provide information services and policy advice on the development, transformation and implementation of new migration policy frameworks and legislation in the Southern African region. Within this broader regional context, a primary aim of the project is to assist in the development of a new immigration policy for post-apartheid South Africa" (SAMP, 2000:18).

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DEMOGRAPHIC CHARACTERISTICS OF ROMA POPULATION OF HUNGARY

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Abstract

The paper discusses various demographic characteristics of the Roma people of Hungary. The distribution of these people bears a strong inverse correlation with the level of socio-economic development as well as the degree of physical accessibility of different areas. Accordingly, their concentration is essentially limited to the border areas of the country, particularly those along Ukraine and Croatia. The Roma stand apart from the rest of the Hungarian population not only in terms of their lower socio-economic development, but also in having a higher natural growth rate, squat age pyramid, lower literacy rate and education level, and a lower share in work-force and regular employment. Significantly, the onset of the transition period in Hungary's economy in 1990 has also worked to further enhance socio-economic marginality of the Roma people in the country.

Introduction

Constituting one of the largest and poorest ethnic groups of Europe, Roma people (also called Gypsies) are believed to have entered Europe through the Balkans in the medieval times. There is a divergence of opinion regarding their original hearth area; some opine that these people came from Egypt, while most of the scholars hold that northern India, particularly the Punjab tract, was the original home of the Roma people (Lal, 1962, p. 79; Rishi, 1996, p. 115). The proponents of this view mainly base their argument on the fact that a majority of words in Roma language are of north Indian origin, particularly from Punjabi and Hindi languages (Sher, 1966, p. 136). Subsequently, through a long period of their sojourns in many parts of Central Asia, Russia, and Central and Eastern Europe, they have further enriched their vocabulary by adopting words from quite many languages.

The total population of Roma in Europe is estimated to be between 7 to 8 million at present of which about three-fourths live in

Romania and Bulgaria. About two-thirds of the Roma in Europe are located in Central and Eastern Europe. The highest proportion of these people (10.9 per cent) was found in Macedonia in 1991-1994. Other important countries in this regard were Romania, Slovakia, Bulgaria and Hungary where the share of Roma population was 9.4, 9.4, 8.9 and 5.6 per cent respectively (Ringold, 2006, p. 4). Another notable point about these people is that they usually comprise several distinct groups in each country. For instance, there are 60 different groups of Roma in Bulgaria alone (Ringold, 2006, p. 4). Similarly, Hungary's Roma, according to their mother tongue, include three main groups, i.e., Hungarian Gypsy, Gypsy and Beá.

As is often the case with marginalised communities, the Roma have been victims of strong socio-economic discrimination throughout their history. It is another matter that the discrimination perpetrated against them finds only a passing reference in books of history and other social sciences of

respective countries. In other words, such people are not considered of any relevance to the reigning discourses of different countries or even group of countries. For instance, almost all major history books have remained more or less indifferent to the fact that about half a million Roma were eliminated by the Nazis between 1939 and 1945. In this context, it has been rightly pointed out that "the Romani genocide was marginalised and consigned to the footnotes of history," (Sridhar, 2006, p. 3569).

Though these people have been residing for about more than 500 years in one of the most developed continents of the world, yet approximately 40 per cent of their population lives below subsistence level. As per one estimate, (www.romadecade.com accessed on September 19, 2006), their chances of reaching a high level of education is 56 times less as

compared to other autochthonous populations. Considering the prevalence of rampant poverty among them, the 'Decade of Roma' was launched by the President of the World Bank at a Conference of Roma held in Bulgaria in 2005. Under this 'Decade of Roma' programme, special efforts are to be made to develop education, health-care, housing, and economic activities among these people.

For the last few decades, the Roma have been increasingly relinquishing their nomadic way of life. However, as nomadism has been a key element of their lives since centuries, it has also worked to attract many stereotypes of them, two of which deserve special mention as these have plagued them throughout their history. On the one hand, there is the romantic image of this group, i.e., Gypsy/Roma as being free, passionate, and beholden to no one, and accepting no

Table 1 - Hungary: Distribution and Growth of Roma Population (1971-2003)

Region	1971		2003		Growth rate (1971-2003) %
	Number (thousands)	(%)	Number (thousands)	(%)	
North	65	20.3	183	32.1	181.5
East	74	23.1	112	19.6	51.4
Great Plain	51	15.9	54	9.5	5.9
Budapest	61	19.1	101	17.7	65.6
South	64	20.0	100	17.5	56.3
West	5	1.6	20	3.5	300.0
Total	320	100.0	570	100.0	78.1

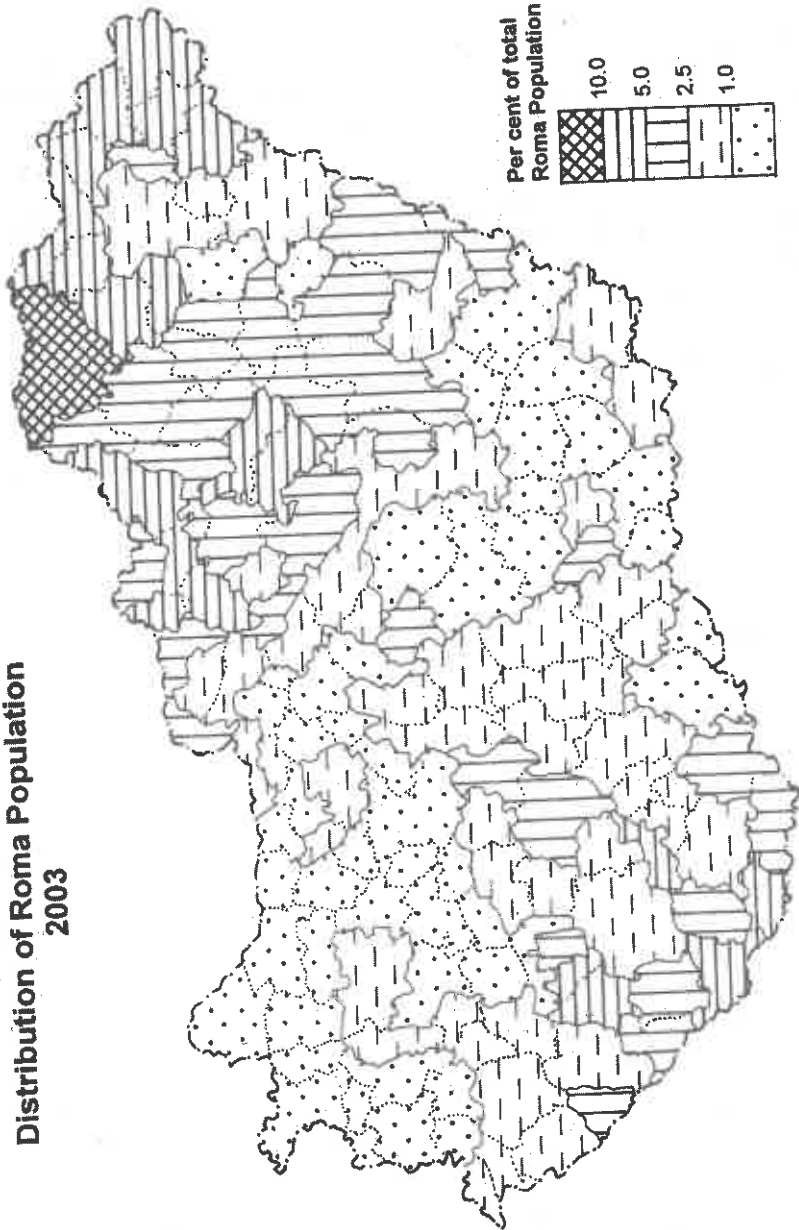
Source: Kemeny, 2000, p. 192.

Table 2 - Hungary: Roma Fertility (1990 & 2003)
(Births per 1000 females aged 15-49 year during the last 10 years)

Age	Declared themselves as Roma		Speak Roma language		Total Hungarian Population	
	1990	2003	1990	2003	1990	2003
15-24	174	219	175	150	91	45
25-34	207	293	306	314	176	75
35+	531	379	546	400	205	232
Total	358	321	354	334	188	132

*In 2003, about 33 per cent of births were from unmarried women.
Source: www.ksh.hu accessed on September 19, 2006.

HUNGARY
Distribution of Roma Population
2003



Map - 1

regulations. On the other hand, there is the image of these people as being criminal by nature. Both these stereotypes have been reflected in social discourses as well as literary writings.

Distribution and Growth

A little more than a century ago, in 1893, there were only 65,000 Roma in Hungary. Owing to their very rapid growth since then, due both to in-migration and higher birth rate, the Roma population has gone up by about 9 times reaching a figure of 570,000 in 2003, constituting 5.6 per cent of the total population of Hungary in 2003. During the last about three decades, 1971-2003, their population has increased by 78.1 per cent. On the other hand, there was no increase in the total population of the country during the same period, indicating that non-Roma population has actually undergone a decline in relative terms. This suggests that different socio-economic contexts often do lead to different demographic outcomes.

Significantly, the distribution pattern of Roma population has experienced a notable change during 1971-2003. Out of the six major divisions of the country, the Northern Zone registered a very high growth rate of the Roma (181.5 per cent) during this period (Table 1) as against the national average of 78.1 per cent. Consequently, the share of this zone in the country's Roma population has shot up from 20.3 per cent in 1971 to 32.1 per cent in 2003. Though a comparatively small number of Roma were involved, the Western Zone had recorded a 300 per cent rise in Roma population, resulting in an increase of its share in the country's population from 1.6 to 3.5 per cent during the 30 years period. All the other four main regions of the country - East, the Great Plain, Budapest, and West - reported a decline in the proportion of Roma population. The Great Plain was the major loser in this regard as its share in the Roma population decreased substantially from 15.9 per cent in 1971 to 9.5 per cent in 2003.

The highest share of Hungary's Roma population was found in Borsod county

followed by Budapest, Heves and Bekas where their proportion was 17.5, 10.4, 9.2 and 7.6 per cent respectively. On the other hand, Tolna county had 1.3 per cent and Komárom county had only 0.6 per cent of the country's Roma population.

It becomes clear from Map 1 that Roma concentration progressively increases towards the northeast and south-west parts of the country. Incidentally, the areas along the international border, both in the northeast and southwest, particularly adjoining Ukraine and Croatia respectively, have the highest proportion of Roma people in the total population. On the other hand, northwestern, central and southeastern parts have only a nominal sprinkling of these people. In other words, Roma concentration is more in relatively remote, peripheral and less developed parts of the country, while it is quite thin, and sometimes even negligible, in the more developed areas. The only exception to this rule was their concentration in quite a few urban centres, including the capital city, Budapest. As is also the case in the adjoining countries, the Roma people of Hungary live in small, segregated settlements/colonies, which are generally marked by poor and inadequate civic amenities, including potable water supply, and sewage system, etc. (Mladek, 2004, p. 3). Besides, the widespread incidence of economic poverty among the Roma leaves much to be desired in terms of their socio-economic dialogue with the rest of the population.

Fertility

Table 2 reveals significant fertility differentials between Roma and the total population of the county in 1990 and 2003. Expectedly, fertility was lower among the younger people as compared to the older ones irrespective of ethnic differences, i.e., those who declared themselves as Roma, or who spoke Roma language, or the total Hungarian population. However, fertility in the country, as a whole, was roughly half of that of Roma. All the above three sets of population

registered a decrease in fertility during 1990-2003. As expected, the decline in fertility was much slower in case of the Roma as compared to the total population. Accordingly, the fertility differential between the two has got widened notably during these years. In other words, the growth rate of Roma people will continue to be significantly higher than the non-Roma population for many years to come.

The number of Roma children below 15 years of age per household varied from 0.96 in the Great Plain to 1.52 in Budapest region

while the national average for Roma in this regard was 1.19. The size of household among these people ranged between 4.21 in the South Zone to 4.95 persons per household in the East. The size of Roma household (4.51) is more than double the household size for the total population of the country (2.2). This is mainly attributable to a much higher fertility among the Roma as compared to that of the rest of the population. Consequently, the proportion of children below 15 years is also higher among the former as compared to the latter (Table 3).

Table 3 - Hungary: Age Structure of Roma and Total Population

Age Group	Roma (%)		Total Population (%)	
	1993	2003	1991	2001
0-14	35.4	36.8	20.5	16.6
15-19	11.8	10.3	7.9	6.6
20-24	9.4	9.1	6.8	8.0
25-29	7.5	8.7	5.9	7.7
30-34	8.0	7.7	7.0	6.9
35-39	7.6	6.5	8.3	6.0
40-44	6.0	6.4	7.2	7.0
45-49	4.0	5.0	6.4	8.1
50-54	3.2	3.1	5.8	6.9
55-59	2.4	2.5	5.7	6.0
60-64	2.0	1.6	5.6	5.2
65-69	1.4	1.3	5.1	4.8
70+	1.6	1.0	8.3	10.3

Source: Kemény, 2000, p. 23

Table 4 - Hungary: Level of Urbanization (1970 & 2004)

Year	Roma (%)	Total Population (%)
1970	13.9	55.1
1980	15.5	56.9
1990	30.4	73.8
2001	32.2	74.5
2004	33.2	75.0

Source: www.ksh.hu accessed on September 19, 2006.

Age Composition

The age composition of Roma people in Hungary highlights a lower life expectancy among them (males 58-60 years; females 67-70 years) which is 6-8 years lower than that of the total population of the country. The Roma population is still in the early phase of the second stage of demographic transition, and, accordingly, is marked by high fertility and quite low mortality. However, about 20 per cent fall in its TFR during 1993-2003 points out that its demographic transition is going ahead, *albeit* at a slow pace.

Table 3 shows that 0-19 years age group constituted a little more than 47 per cent of total Roma population both in 1993 (47.2 per cent) and 2003 (47.1 per cent). The proportion of above 65 years population was 3.0 and 2.3 per cent respectively in these two years. In contradistinction, the total population of the country had recorded a considerably low share of the below 20 years segment, i.e., 28.4 per cent in 1991 and 23.2 per cent in 2001. On the other hand, the percentage of 65+ years age group in the total population was much higher than among the Roma both in 1991 (13.4 per cent) and 2001 (15.1 per cent). These figures indicate the prevalence of very low fertility and mortality in the total population.

As is usually the case with socio-economically marginalised groups, the Roma population in Hungary is characterized by a notable demographic transition lag *vis-a-vis* the rest of the population of the country. Accordingly, it has a very youthful age-structure which indicates that it will continue its rapid growth rate for at least 2-3 decades to come.

Urbanization

In accordance with their low socio-economic development, the Roma are far behind the rest of the population of Hungary in terms of level of urbanization (Table 4). In 1970, only 13.9 per cent of their population was living in urban areas as against 55.1 per cent in case of the total population of the country. Though notable progress has been

made in this regard during the past about 35 years, the Roma's lag in urbanization *vis-a-vis* the country's total population remains as large as before. For instance, about 33 per cent of them resided in urban areas in 2004, while the corresponding figure for total population was 75 per cent. It is also important to note that quite a large number of Roma have become urban without going through the process of urbanization, i.e., they became urban due merely to the fact that the legal status of their settlement was changed from rural to urban. Besides, as mentioned earlier, there was also some contribution of forced sedentarization of these people at least in some parts of the country. This sort of spurious element in urbanization (Krishan, 1983, p. 44) needs to be kept in view while appreciating the level of urbanization, particularly of a marginalised community like the Roma.

Roma Identity and Languages

The Roma have been able to retain their distinct culture and social organization due mainly to two reasons: (i) their nomadic way of life for a long time was of vital importance in their continual insularity; and (ii) their highly marginalised position in the overall social fabric of society further worked to strengthen their cultural and social identity. However, with their sedentarization, whether voluntary or forced, as in some eastern European countries (Encyclopedia Britannica, 1994, p. 593), their social and cultural cohesion started developing multiple cracks. The post-1990 period of transition in Hungary, as also in other adjoining countries, has particularly been important in building up the momentum in this regard. Besides, the process of assimilation of Roma in Hungarian population has also simultaneously been moving apace. Similarly, the emergence of multiple identities could be seen taking shape among them, as also among the rest of the population.

The pace of shifts among Roma by language and nationality in the country have been quite notable during 1993-2003. These people have become much more inclined

toward their own languages during this period (Table 5). There was an increase in the share of Hungarian speaking Roma in case of Hungarian Gypsy, Bea and Gypsy nationalities, and decrease in case of those belonging to Hungarian nationality. On the other hand, Gypsy as well as Bea speaking Roma registered an increase in their proportion in case of Hungarian and Bea nationality, while their percentage suffered a decline regarding Gypsy and Hungarian Gypsy nationalities

(Table 5). It follows that the transition period since 1990 has witnessed distinct resurgence of Roma linguistic and national identities. This goes in line with a similar trend in case of other smaller nationalities in Eastern Europe during these years. However, it is difficult to forecast as to how long this process of resurgence of Roma languages and cultural identities would continue in the face of accelerating globalization and its attendant socio-cultural homogenization.

Table 5 - Hungary: Roma by Language and Nationality (1993 & 2001)

		Nationality				
Mother tongue		Hungarian	Hungarian Gypsy	Gypsy	Bea	Others
Hungarian	1993	60.2	18.8	18.5	0.2	2.3
	2001	38.6	31.9	25.1	4.2	0.2
Gypsy	1993	21.2	18.3	57.0	1.8	1.7
	2001	29.3	17.1	42.3	3.2	8.1
Bea	1993	18.9	22.4	48.7	8.1	1.9
	2001	39.8	15.2	32.8	11.5	0.7
Others	1993	56.2	18.2	22.0	0.7	2.9
	2001	37.8	29.8	26.8	4.5	1.1

Source: www.ksh.hu accessed on September 19, 2006.

Table 6 - Hungary: Proportion of Workers (1970-2003)

Category	Roma				Total Population			
	1971	1978	1987	2003	1970	1980	1990	2001
Male	85.2	77.3	74.4	28.0	89.3	82.9	80.3	67.3
Female	30.3	47.0	49.3	15.1	34.5	50.3	52.1	55.2
Total	60.0	62.0	62.0	21.4	68.2	69.7	72.1	63.8

Source: Kemeny, 2000, p. 33

Work Participation and Employment

Nearly half of Roma people were employed as unskilled workers, around 10 per cent as semi-skilled, and another 10 per cent as skilled workers. Thus, in spite of the socialist labour market at that time, most of the Roma workers were engaged in lower-rung jobs. In the second half of the 1980s, employment situation worsened for these people, leading to rapid growth in unemployed among them. By 1993, the unemployment rate of the Roma had exceeded 50 per cent, and in some cases it had gone beyond even 80 per cent.

The Roma have passed through two distinct phases in Hungary. During the socialist regime, the process of modernization had rendered irrelevant the traditional occupations of these people. This phase, however, saw a rapid rise in literacy and education, as well as significant growth in employment and related income among them. But from the beginning of the transition period since 1991, the second phase witnessed a significant fall in employment rates among the Roma. In addition, these people have lost all the concessions which were due to them under the previous system. During the past 10 years, a large majority of Roma have lost their jobs, and, thus, have joined the ranks of the rapidly expanding long-term unemployed persons. Their educational qualifications acquired earlier for job purposes have mostly lost their value under the changed circumstances.

The changes in labour market have been dramatic for every one since the fall of the socialist regime. But, it is now evident that the Roma as a group have suffered the most in this connection mainly due to three factors: (i) a very high share (60 per cent) of Roma live in villages and economically depressed areas, while the corresponding figure for the total population is 35 per cent only; (ii) a significant proportion of Roma were employed in various industries which were the first to collapse with the change of regime in 1990 and the knowledge and experience gained by the Roma workers in these could not be easily utilized in other fields; and (iii) ethnic discrimination against the Roma has also

contributed significantly toward Roma unemployment, about 33 per cent, since 1991 (Kertesi, 2003, p.11). The other two-thirds of the difference in the relative labour market stems from the demographic structure of the Roma, low level of educational attainment, and their characteristic territorial distribution in the country.

In order to calculate employment rates it is imperative to have accurate information regarding the size of population. According to the Census sources, the total number of Roma in Hungary was 142,000 in 1990, and 190,000 in 2001. However, it is widely accepted that these figures are much below their actual population. Most of the estimates favour a figure between 450,000 and 500,000 in 1993, and 550,000 and 600,000 in 2005.

In 1993, the proportion of Roma population under 15 years of age was 35.4 per cent and 5.0 per cent were above 59 years, while the comparative figures for the total population were 20.5 and 19 per cent respectively (Table 3). Thus, the Roma population was much more youthful as compared to the total population of Hungary.

Assuming minor changes in demographic composition of Roma, i.e., 35 per cent of their population below 15 years and 1 per cent above 59 years, the total working population among them comes to between 320,000 and 350,000 in 2003. From this figure, one also needs to subtract students as well as those who got retirement before the age of 59 years. According to a study conducted by the National Institute of Public Education (2000, p. 76), around 85 per cent of Roma passing eighth-grade general school examination continue their education further. It can be inferred from this that between 33,000 to 38,000 Roma in the 15-18 years age group were students. Approximately, 10 per cent of Roma, or around 24,000 persons, were retirees owing to reasons other than age. Taking all this into consideration, the estimated Roma labour force could be put between 250,000 and 290,000 persons. Out of a total of 3,698,000 workers in Hungary in 1993, the number of Roma workers was merely 58,000

or 1.6 per cent only (Kemeny, 2000, p. 12).

The number of total employed persons in the country went up to 3,848,000 in 2000, i.e., an addition of 150,000 employees since 1993. Kemeny (2000, p. 18) estimates that the increment in Roma employment was to the tune of 10,000-20,000 between 1993 and 1999. According to the Central Statistical Office of Hungary, no further increase has been recorded since then. Assuming 20,000 as an upper optimistic limit of the growth in Roma employment, one arrives at an estimate of 80,000 working Roma in 2001. Turning to registered unemployment, it is estimated that there were 57,000 Roma in 1993 as against a figure of 640,000 for the total population of the country (Kemeny, 2000, p. 26).

By 2001, the total registered unemployment had fallen to almost half of that in 1993, i.e., to 340,000. However, the

number of the unemployed Roma remained unchanged at 57,000. It means the number of registered unemployed had increased from 9 per cent in 1993 to 16 per cent in 2001. Similarly, the number of Roma in active working age group had increased by 40,000 to 50,000 persons, but the number of active workers experienced an addition of 20,000 only.

From the above mentioned changes, the following important points can be deduced: (i) the number of Roma continuing further studies in age group 15-19 years has gone up notably; (ii) the number of officially inactive Roma not registering as unemployed has also increased in recent years. It does not, however, mean that they are actually inactive. It is likely that many more are now sustaining themselves on work in the hidden and/or black market. The picture can be further refined in this regard. The Roma population of 550,000-600,000 in

Table 7 - Hungary: Work Participation of Roma Males (1970-2003)

Region	1971 %	1978 %	1987 %	1993 %	2003 %
Budapest	90.0	81.4	75.4	40.5	57.7
East	74.8	76.2	68.4	18.4	14.2
The Great Plain	81.8	72.0	71.8	23.7	23.8
North	90.8	81.1	80.8	22.9	19.7
Transanubia	88.9	77.2	73.9	36.6	31.5
Total	85.2	77.3	74.4	28.8	28.0

Source: Kertesi, 2003.

Table 8 - Hungary: Workers by Level of Schooling

Level of Schooling	Roma Population (Per cent)				Total Population (Per cent)		
	1978	1987	1993	2003	1980	1990	2001
0-7 years	81.0	67.9	17.3	16.9	81.3	70.3	19.3
8 years	87.1	85.8	35.0	35.5	88.1	85.1	44.1
Higher	89.1	88.1	48.4	43.7	89.5	89.0	63.8
Total	84.5	80.0	32.4	34.1	79.8	75.3	63.1

Source: www.ksh.hu accessed on September 19, 2006.

2005 means that there were 80,000 to 100,000 Roma families in the country at that time. This implies roughly one or, at the most, two persons with labour income in each family. However, such an average figure is seldom applicable in actual terms or at the ground level situation. A more plausible hypothesis could be that labour income is found concentrated by families as well as by regions. The poor families, and also the poor/depressed regions are marked by a notable lag in legal labour income *vis-a-vis* better-off households/regions.

This also implies that a large section of Roma are engaged in the informal sector which mostly involves daily wage employment which results in excluding them from public insurance and health-care system.

The work participation rate of Roma was 60.0 per cent in 1971 which had come down to 21.4 per cent in 2001 (Table 6). The higher figure in this regard (62.0 per cent) was achieved in 1978 as well as in 1987. In case of the total Hungarian population, the work participation rate was the highest (72.1 per cent) in 1987. A perusal of Table 6 throws up the following main points in this regard: (i) males have a much higher work participation than females; (ii) the male-female gap in work participation has decreased gradually since 1971 mainly due to a greater decline in work participation of males than of females; (iii) the proportion of workers has always remained higher among total population as compared to the Roma. However, the gap between the work participation of the two has widened considerably over the years from 7.7 percentage points in 1978 to 42.4 percentage points in 2003. Significantly, the widening of the gap in this connection has been greater in case of males than females.

Though both the Roma and the total population of the country had recorded a fall in work participation rates, it was certainly staggering in case of the former. In other words, Roma population has been the main loser from the transition as manifested in much higher unemployment rates as well as lower incomes. It has taken place in spite of a number of Roma organizations and minority self-

governments which have ostensibly been working for the promotion of socio-economic development of Roma in the country. Now, the question arises whether these organizations are actually engaged in enhancing socio-economic status of Roma population, or are simply Roma branches of the local authority, and are simply engaged in highlighting as well as justifying programmes of essentially non-Roma ruling class of the country in this connection. As it often happens in the case of the socio-economically marginalised groups, the programmes organized and initiated by and for Roma people have often ended up as programmes of the local authority, and hence, of the 'mainstream' elite of the country. Even if a purely Roma organization initiates an employment or entrepreneurial venture, it would have to make many adjustments/compromises mostly in line with the wishes, sometimes even whims, of the ruling class which is almost entirely from non-Roma people.

Table 7 brings out regional differences in the proportion of workers in Roma male population in Hungary. As expected, the share of workers was much higher under the socialist regime, while it has come down sharply in all the major regions since 1990. It is attributable to the withdrawal of government support and subsidies. However, the regional variations in work participation have become quite pronounced during the transition period. It suggests that the new capitalist mode of development which, in its single-minded pursuit of more and more profit, comes to favour some locations/areas over the others, and hence, creates as well as promotes regional inequalities. This essentially stands in sharp contrast to the state-controlled pattern of development prior to 1990. The highest proportion of workers among Roma was recorded in Budapest region while the lowest was found in the East (Table 7). The same was true for the total population of the country indicating that work participation rate and economic buoyancy of regions showed strong positive correlation and *vice-versa*.

Table 8 provides interesting insights into the differentials regarding the proportion

Table 9 - Hungary: Female Workers by Age-groups

Age	Roma Population (Per cent)				Total Population (Per cent)		
	1978	1987	1993	2003	1980	1990	2001
15-19	38.2	35.3	8.2	2.6	39.4	35.9	5.8
20-24	49.7	51.6	13.9	14.6	52.4	53.4	27.9
25-29	48.3	53.3	15.1	14.1	50.3	59.7	42.3
30-39	56.1	57.0	20.3	23.1	64.1	62.7	63.8
40-54	44.4	45.4	19.7	21.9	47.9	48.5	69.7
Total	47.0	49.3	16.3	15.1	48.5	49.2	61.0

Source: *www.cso.hu* accessed on September 19, 2006.

Table 10 - Hungary: Proportion of Persons by Source of Income (2003)

Category	Percentage
Employee	10.9
Entrepreneur	1.6
Occasionally Employed	3.5
Pension	12.7
Unemployment Allowance	2.8
Students	32.5
Maternity Leave	12.7
On social leave	10.4
Dependents	8.8
Other	4.0

Source: *Kertesi, 2003.*

of workers by level of schooling/education during the time of socialist regime on the one hand, and the transition period on the other. Till 1990, there was not much of a difference in work participation rate of Roma in terms of level of schooling. The same was also equally applicable for the country's total population. However, since the onset of the transition in the country, there has emerged a strong positive correlation between level of schooling and the proportion of workers. Though this correlation is applicable in respect of both Roma as well as the total population, it is unmistakably much more strong in case of the former. Apart from low level of education among the Roma, it also speaks eloquently for the low quality of schooling among these people. Besides, the Roma's marginalised socio-economic position has also made its own contribution in this regard. However, it becomes clear from Table 8 that, unlike in the

past, work participation rate has come to bear a strong correlation with the level of education.

The highest proportion of workers among Roma females was found in 30-39 years age group, while the lowest was in the 15-19 years category (Table 9). As expected, the sharp decline in work participation rate since the beginning of the transition period in the country is visible in all the age groups. The figures for the total Hungarian population also followed the some pattern, except for the fact that in 2003 its highest proportion of female workers was found in 40-54 years group instead of 30-39 years, as for the Roma.

About 11 per cent of Roma were listed as employees in 2003, 1.6 per cent as entrepreneurs, while 3.5 per cent were those who got employment occasionally (Table 10). Every 8th person was a pensioner, and 2.8 per

cent were living on unemployment allowance. Significantly, students constituted 32.5 per cent of total Roma population indicating that literacy rate and education level among these people are now destined to rise rapidly in the near future. The proportions of those on maternity leave, on social leave, and the dependents were 12.7, 10.4 and 8.8 per cent respectively in 2003.

Conclusions

As in other countries of the world, the Roma of Hungary are a marginalised community in socio-economic and political terms. Even their main concentration is found in the marginal areas along the international borders of the country, as is also the case in the adjoining countries. Though they have now adopted sedentary mode of living, partly due to pressure of the state and partly to their own volition, their marginalisation as a

community has not shown any signs of abatement. The same could be said about the Roma of other countries in Europe. In this context, the Roma furnish a very fecund, and an exemplary theme for research regarding the reasons, patterns, implications, and continual reproduction of marginalisation of such groups in the developed as well as developing countries of the World.

In line with their lower level of socio-economic development *vis-a-vis* the non-Roma population of Hungary, they are characterized with a higher natural growth, low level of literacy and education, higher proportion of young population, and a low level of work participation, particularly in regular employment. Apart from other socio-economic and political factors, the demographic lag of Roma people has also played a notable role in the continual reproduction of their marginality in Hungary, as also in other countries of their residence.

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CHALLENGES AND IMPLICATIONS OF POPULATION STABILISATION IN INDIA: SOME REFLECTIONS

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Abstract

At the dawn of the 21st century, the biggest challenge India faces is to cross the hurdle of the three Ps: population explosion, poverty and pollution of the environment. Population figures and other demographic indices published in the 2001 census clearly reveal that our demographic goals have not been achieved to the extent they were specified. India has still to cover considerable distance to achieve the targets set by various commissions associated with the National Population Policy (NPP), the most recent being the Planning Commissions' Vision 2020, inspired by President APJ Abdul Kalam. The objective in the ensuing discussion is to review 20th century demographics in light of 50 years of the government's efforts of Family Planning and Welfare and to assess the prospects and advantages of India achieving population stabilization.

Growth Trends of India's Population

India crossed the benchmark of a billion in the very first year of the 3rd millennium. 11th May, 2000 was declared "Day of the Billion", putting on record India's place as the second demographic billionaire, after China. Given India's demographic momentum, the billion was inevitable, but what one fails to understand is why the goal of population stabilization, which was set into motion more than half a century ago, remains elusive. India was the first country in the world to initiate a 100 per cent centrally sponsored National Programme for Family Planning and Welfare, but during the last century population increased by 331 per cent. This is despite the country having spent 6 billion dollars since 1951 on its family planning programme, which currently employs nearly 4,00,000 people in 22,000 Primary Health Centres and 1,30,000 Sub-Centres across the country. In the budget for 2000-01, presented to the Parliament, Rs. 3,520 crores were earmarked for Family

Welfare, but the department is currently making demands for doubling this figure to implement the New Population Policy (2000). Ironically, expenditure on family planning/welfare has risen at a faster rate than growth of population. The question therefore being hotly debated is why India lags behind, when other Asian countries, including some from the Islamic Block, Iran for example, have successfully stabilized their populations, despite much higher fertility levels. In the new millennium Census 2001, India figures among the poorest, most illiterate, most malnourished and least gender sensitive nations in the world.

India's population increased five times in the last century while the world population increased threefold. The country today has 16 per cent of the world's population on 2.4 per cent of the earth's land area. Currently world population is growing by 90 million per year in which India's share is 18 million and China's 14 million. If current trends continue, India will overtake China as the world's most populous country by 2045.

WORLD: Crude Birth and Death Rate in Selected Countries, 1996 (estimated)

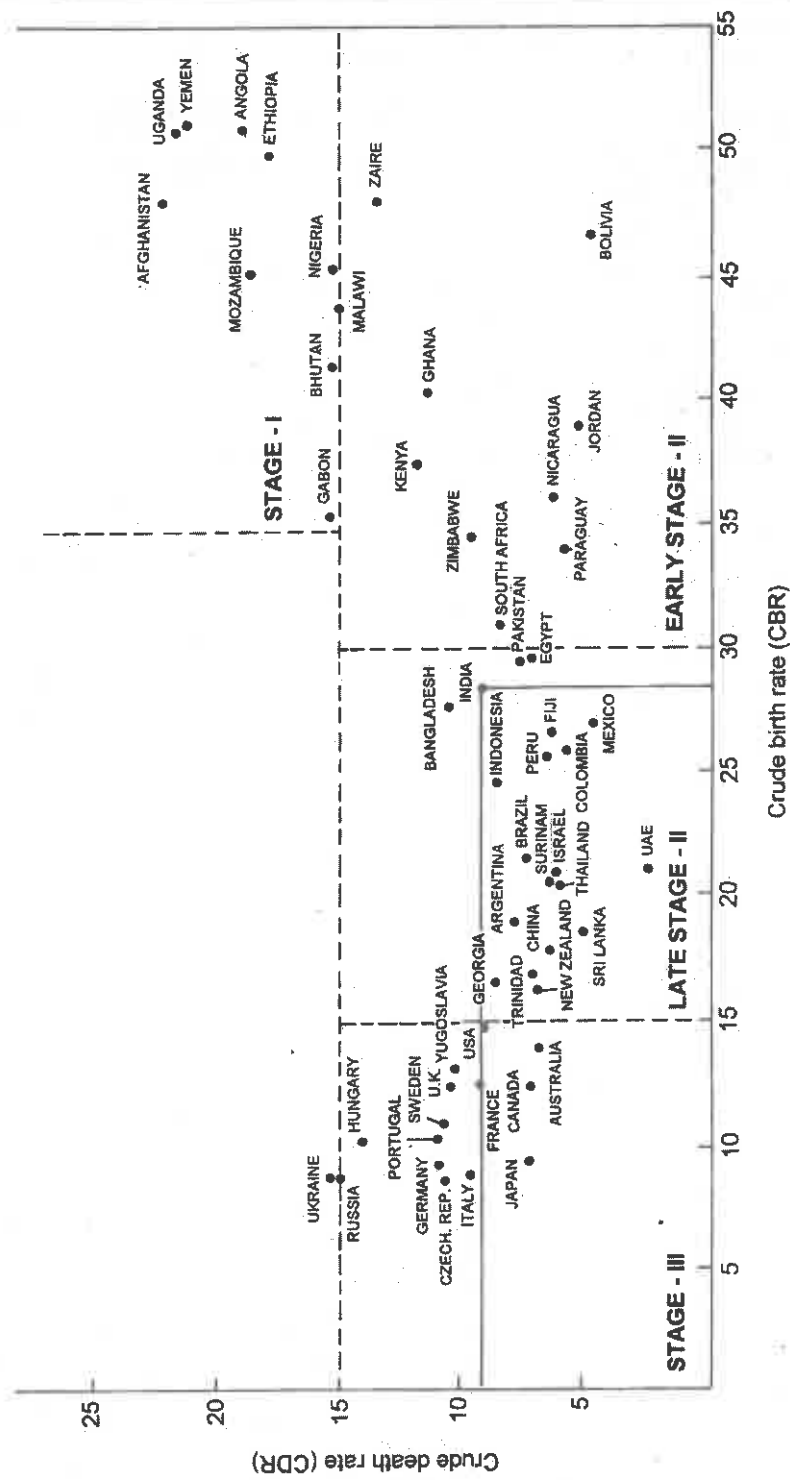


FIG. - 1

Table 1: Population Transition in India (1901-2001)

Census Year	Population in millions	Average annual exponential growth rate	Growth phases
1901	238.4	-	Stagnant ; High Birth and Death Rates
1911	252.1	0.56	
1921	251.3	-0.03	
1931	279.0	1.04	Steady growth ; Intermediate stage
1941	318.7	1.33	
1951	361.1	1.25	
1961	439.2	1.96	Rapid population growth ; High Birth Rate, Low Death Rate
1971	548.2	2.20	
1981	683.3	2.22	
1991	846.3	2.14	Dissipating High growth before gradually declining
2001	1027.0	1.93	

Source: Office of the Registrar General India and Ministry of Health and Family Welfare.

Despite the gloomy picture highlighted above the country has several demographic achievements to its credit after 50 years of the National Family Planning Programme (Govt. of India, Planning Commission, National Population Policy, 2001). These include:

- (i) Reducing Crude Birth Rate (CBR) from 40.8 in 1951 to 26.1 in 2001.
- (ii) Halving Infant Mortality Rate (IMR) from 146 per 1000 live births to 70 per 1000 live births in 2001.
- (iii) Quadrupling Couple Protection Rate (CPR) from 10.4% in 1971 to 44% in 2001
- (iv) Reducing Crude Death Rate (CDR) from 25 in 1951 to 8.7 in 2001.
- (v) Adding 25 years to life expectancy from 37 years to 62 years.
- (vi) Achieving universal awareness of the need for, and methods of, family planning.
- (vii) Reducing Total Fertility Rate (TFR) from 6.0 in 1951 to 3.1 in 2001.

Demographic Transition

India is following the trajectory of demographic transition common to most developing countries (Fig. 1). However, the pace of transition has been relatively slow. Therefore, unlike China, India has been able to avoid the adverse effects of very rapid changes in numbers and age structure of population on social and economic development. It is also interesting to note that the demographic transition has not necessarily been associated with high-income levels and a highly urbanized and industrialized social structure, a feature typical of western societies in the last two centuries. This is not to underestimate the importance of certain minimum conditions of education, health, employment etc., but to point out that the transition can be triggered off and its propagation on the population front can take place in the Indian context at a lower threshold of economic and industrial development. Kerala is not the most urbanized state or economically and industrially the most well-developed, yet the demographic transition is complete. The important inferences that can

Projected Population Growth in Various States 1996-2016

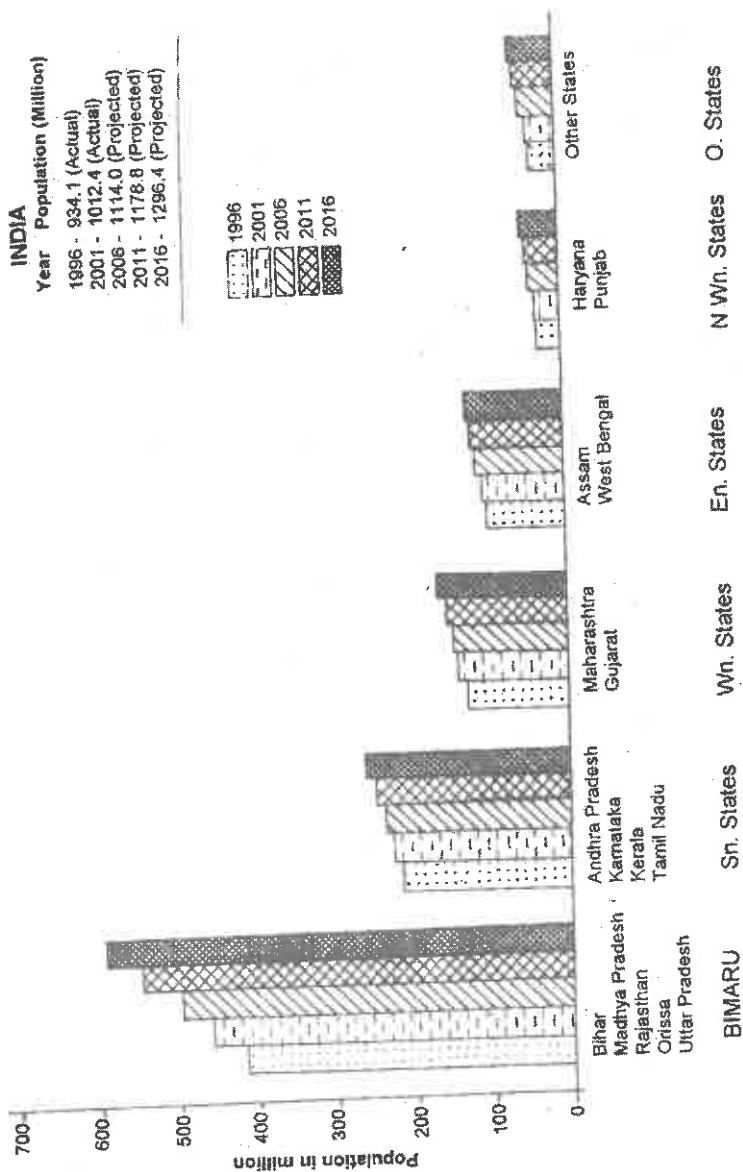


FIG. - 2

Table 2: Annual Growth Rate of Population, Female Literacy, Sex Ratio and Percentage Growth of Per Capita Income in select States of India.

India/ States	Population (millions)		Annual growth rate (%)		%Female literacy	Sex Ratio	Per Capita Income (at 1980-81 prices)		
	1991	2001	1981-91	1991-01	2001	2001	1980-81	1996-97	% change
INDIA	846.4	1027.5	2.01	1.93	54.16	933	1625	2814	70.5
Northern									
Punjab	20.3	24.3	1.89	1.80	63.5	874	2674	4171	56.0
Haryana	16.5	21.0	2.42	2.47	56.30	861	2330	3996	71.5
Uttar Pradesh	132.0	166.0	2.28	2.30	43.0	898	1278	1628	27.4
Madhya Pradesh	48.6	60.4	2.41	2.18	50.3	920	1358	1877	38.0
Rajasthan	44.0	56.5	2.50	2.49	44.0	922	1228	2247	83.0
Eastern									
Bihar	64.5	82.9	2.10	2.50	33.6	921	917	1010	10.1
West Bengal	68.0	80.2	2.14	1.64	60.2	934	1773	2641	49.0
Orissa	31.7	36.7	1.83	1.48	50.1	972	1314	1595	21.4
Assam	22.4	26.5	2.17	1.73	56.0	932	N.A.	N.A.	N.A.
Western									
Maharashtra	78.9	96.8	2.29	2.04	67.5	922	2425	4853	100.1
Gujarat	41.3	50.6	1.92	2.03	58.6	921	1940	3717	91.6
Goa	1.2	1.3	1.47	1.39	75.5	960	3145	6220	97.8
Southern									
Kerala	29.1	31.8	1.34	0.90	87.9	1058	1568	2274	45.0
Tamil Nadu	55.9	62.1	1.43	1.06	64.5	986	1448	2876	98.6
Andhra Pradesh	66.5	75.7	2.37	1.30	51.5	978	1380	2134	54.6
Karnataka	45.0	52.7	1.92	1.59	57.5	964	1380	2518	64.5

Source: (i) Census of India Paper 1 of 1991 and Paper 1 of 2001, New Delhi.

(ii) EPW Research Foundation 1998, Mumbai.

be derived are that social development is as important, if not more important, than economic development. It is therefore necessary to change the emphasis from the level of economic development to social welfare indicators for developing a target-based model for Family Planning.

The Indian census has chartered the momentum of growth during the 20th century into four distinct phases (Table 1). During the

first of these phases, covering a period of 80 years, there was a transition from stagnant to rapid population growth associated with declining death rates. The fourth phase, covering the last 20 years, can be described as watershed decades as growth rates have been consistently declining mainly due to a fall in birth rates. During this period, average annual growth rates fell from 2.14 per cent in 1991 to 1.93 per cent in 2001, recording the sharpest decline since independence.

**Table 3: Population Profile of 9 States and Union Territories of India
(TFR less than or equal to 2.1)**

State	Population on 1-3-99* (millions)	% of Total Population	Total Fertility Rate, 1997	Infant Mortality Rate, 1998	Contraceptive Prevalence Rate, 1999
INDIA	981.3	-	3.3	72	44%
Goa	1.5	0.2	1.0@	23	27.1
Nagaland	1.6	0.2	1.5@	N.A.	7.8
Delhi	13.4	1.4	1.6@	36	28.8
Kerala	32.0	3.3	1.8	16	40.5
Pondicherry	1.1	0.1	1.8@	21	56.9
A & N Islands	0.4	0.04	1.9@	30	39.9
Tamil Nadu	61.3	0.2	2.0	53	50.4
Chandigarh	0.9	0.09	2.1@	32	35.0
Mizoram	0.9	0.09	N.A.	23	34.6

@ Three year moving average TFR 1995-97

* Population Projections by Technical Group of Population Projections, 1996.

Source: Registrar General of India.

**Table 4: Population Profile of 11 States and Union Territories of India
(TFR more than 2.1 but less than 3)**

State	Population on 1-3-99* (millions)	% of Total Population	Total Fertility Rate (1997)	Infant Mortality Rate (1998)	Contraceptive Prevalence Rate (1999)
Manipur	2.21	0.2	2.4@	25	20.1
Daman & Diu	0.1	0.01	2.5@	51	30.2
Karnataka	51.4	5.2	2.5	58	55.4
Andhra Pradesh	74.6	7.6	2.5	66	50.3
Himachal Pradesh	6.5	0.7	2.5	64	48.2
Sikkim	0.5	0.06	2.5	52	21.9
West Bengal	78.0	7.9	2.6	53	32.9
Maharashtra	90.1	9.2	2.7	49	50.1
Punjab	23.3	2.4	2.7	54	66.0
Arunachal Pradesh	1.2	0.1	2.8@	47	14.0
Lakshadweep	0.07	0.01	2.8@	37	9.1

@ Three year moving average TFR 1995-97

* Population Projections by Technical Group of Population Projections, 1996.

Source: Registrar General of India.

Table 5: Population Profile of 12 States and Union Territories of India (TFR more than or equal to 3)

State	Population on 1-3-99* (millions)	% of Total Population	Total Fertility Rate(1997)	Infant Mortality Rate(1998)	Contraceptive Prevalence Rate(1999)
Orissa	35.5	3.6	3.0	98	39
Gujarat	47.6	4.8	3.0	64	54.5
Assam	25.6	2.6	3.2	78	16.7
Haryana	19.5	2.0	3.4	69	49.7
Dadra & Nagar Haveli	0.2	0.02	3.5@	61	29.1
Tripura	3.6	0.3	3.9@	49	25.2
Meghalaya	2.4	0.2	4.8@	52	4.6
Madhya Pradesh	78.3	8.0	4.0	98	46.5
Rajasthan	52.6	5.4	4.2	83	36.4
Bihar	98.1	10.0	4.4	67	19.7
Uttar Pradesh	166.4	17.0	4.8	85	38.2
Jammu & Kashmir	9.7	1.0	N.A.	45	15.0

@ Three year moving average TFR 1995-97.

* Population Projections by Technical Group of Population Projections, 1996.

Source: Registrar General of India.

Table 6: Age Composition as Percentage of Total Population

Year	0-15 years	15-59 years	+ 60 years
1991	37.76	55.58	6.67
2001	34.33	58.70	6.97
2011	28.48	63.38	8.14
2016	27.73	63.33	8.94

On the flip side, it was during these decades that the North-South Demographic Divide was observed, reflecting the sharp contrast in growth rates between the southern and northern states. The southern states, viz., Kerala, Tamil Nadu, Andhra Pradesh and

Karnataka have either achieved population stabilisation or are nearly there. In contrast, the states in the north, like Uttar Pradesh, Bihar, Rajasthan and Madhya Pradesh will require at least half a century to stabilize their population if current growth rates persist.

Inter-state Demographic Differentials

There is a stark contrast in the demographic parameters between the northern and southern states. An observation of the annual growth rates of the states reveals that during 1991-2001 the rates in Kerala (0.9 per cent) and Tamil Nadu (1.0 per cent) are lower than the rate needed to maintain a stable population (Table 2). Andhra Pradesh, which recorded the fastest decline in the last census, has an annual growth rate of 1.3 per cent, which is just enough to maintain a stable population. Growth rates in Karnataka (1.6 per cent) as well as the eastern states of Orissa (1.5 per cent), West Bengal (1.6 per cent) and Assam (1.7 per cent) are lower than the national average of 1.93 per cent. On the other hand, except for Punjab (1.8 per cent), all north Indian states especially the BIMARU states (Ashish Bose's acronym for Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh), which are demographically, economically, politically and socially backward, have recorded the highest growth rates: Bihar (2.5 per cent), followed by Rajasthan (2.49 per cent), Madhya Pradesh (2.41 per cent) and Uttar Pradesh (2.30 per cent). Low sex ratios, low female literacy levels and low per capita income characterize the demographic structure of the BIMARU states. The southern states, on the other hand, have sex ratios which are much higher than the national average 933 (Kerala leads the country with a sex ratio of 1058), higher female literacy levels and higher per capita income. The sharp decline in the growth rate of these states is generally accompanied by a progressive decline in the total fertility rate of women in the reproductive age group. TFR's in the country reveal three distinct regional trends. At least 9 States and Union Territories, including Tamil Nadu, Kerala and Goa from the South, have already achieved replacement level of fertility (TFR=2.1). They account for 113.1 million or 13.4 per cent of the total population (Table 3). The second group has 11 states with a TFR of more than 2.1 but less than 3, comprising 338 million or 34.0 per cent of the country's population (Table 4).

The third group of states with a TFR of more than 3 currently constitute 44 per cent of India's population. It is this group which is the cause of the country's demographic problem (Table 5). The five states of Bihar, Madhya Pradesh, Orissa, Rajasthan and Uttar Pradesh that currently constitute nearly 44 percent of the total population, are projected to comprise 48 percent of the total population in 2016 (Fig. 2). These states will contribute an anticipated 55 percent increase during the period 1996-2016. Moreover, the states of Bihar, MP, Rajasthan and UP will continue to record positive growth until 2051 while all other states will register a decline (Srinivasan). Thus, the demographic trends in these states will largely determine the timing and size at which India achieves population stabilization.

In sharp contrast, the southern states of Kerala, Goa and Tamil Nadu have already achieved replacement level fertility and other demographic parameters comparable to those in developed countries.

The demographic divide has great implications, both socially as well as politically. The failure of the northern states to achieve demographic transition will derail the country's population stabilization programme. It will also lead to social instability, as there will be a mass exodus of population to states which have achieved a higher level of socio-economic development and have managed to contain their natural increase. States like Maharashtra, Gujarat, West Bengal, Goa, Haryana and Punjab are already at the receiving end of large scale immigration.

The differentials in demography between the north and south also have political ramifications. As the number of seats in the Lok Sabha is correlated with the population, the northern states will eventually corner a larger share of seats in the lower house of Parliament. Presently the 42nd Constitutional Amendment has frozen the number of Lok Sabha seats on the basis of 1971 census up to 2011. The Swaminathan Committee Report has proposed that the date be extended to 2026. If this is not done then states with high

growth rates such as Uttar Pradesh will be rewarded with 100 seats in the Lok Sabha instead of the present 87, while states which have completed the demographic transition, will be penalized with fewer seats.

Constraints in the path of Population Stabilisation

Despite massive government efforts at family planning since 1951, two thirds of India's population growth took place in the post -1971 period. It peaked during 1961-81 and has since shown a consistent downward trend. In 2001 India's population touched 1027 million. The growth rate decreased to 21.4 per cent in 2001 from 23.9 per cent in 1991, a decline of 10 per cent. Though growth rates have been falling consistently since the last two decades, they are nowhere near replacement level – a goal set by the planners for the new millennium. The constraints in the path of population stabilization include:

(a) Proportion of Population in the Reproductive Age Group: The phase of rapid growth is likely to continue for sometime, *albeit* at a slower pace, due to the large size of India's population in the reproductive age group (Table 6). It has been estimated that the contribution of this factor to growth is 58 per cent. This implies that even if India had achieved replacement level fertility by 2001, the existing inbuilt momentum for growth is so high that it will take at least another 60-70 years for the population to stabilize. A TFR of 2.1 will not translate into zero population growth (ZPG), because a young population (over 34 per cent of the population in India is in the age group 0-15 years) will result in a large number entering the reproductive age group. Thus, if a diagnosis of India's population problem has to be made, the solution lies in focusing attention on states with proportionately higher percentage of population in the age group 0-15 years i.e. Bihar, U.P., M.P. and Rajasthan.

(b) Early marriage: Early marriage is another cause for high fertility - at least 50 per cent

girls marry before reaching 18 years of age, the legal age of marriage, resulting in the typical reproductive pattern: too early, too frequent and too many. This figure rises to 75 per cent in the Hindi speaking belt. In the younger age groups at least one third of the births occur at intervals of less than 24 months. To counter this, counseling and family planning should address younger couples, who are yet to complete their fertility, and not those between 25-29 years, by which time total fertility has already been achieved. The timing for adopting family measures is critical in reducing the number of children and for increasing the spacing between births.

(c) High Infant Mortality Rates: IMR for India is 70 per 1,000 live births and it is estimated that this factor contributes 20 per cent to population growth in the country. Over 20 per cent of worldwide child mortality occurs in India. More than two million children die annually from preventable and curable infectious diseases and other causes. With substantially higher under-five mortality rates, at 101 per 1,000 live births, India ranks 49th in the world in under-five mortality, a level similar to Ghana, Swaziland and Nepal. According to a recent global report on newborn mortality launched by UK-based NGO "Save the Children", India has the dubious distinction of having both the highest number of newborn deaths as well as the highest number of maternal deaths in the world (Sinha, 2006). As observed in the case of fertility, differences in child mortality exist by state, gender, economic status and location, with the highest rates in the northern states. Improved public health interventions related to water and sanitation, and medical interventions such as vaccine coverage and the use of antibiotics should result in reductions in infant and child mortality. However, this will result in acceleration in growth rates of population if higher child survival rates do not neutralize the impact of birth rate reductions, which depend on the age of marriage and the fertility rate.

(d) Failure of the National Family Planning and Welfare Programme: India's voluntary

family planning programme has achieved important results over the last 50 years. Though it never became a people's movement, it succeeded in creating awareness among the masses. Knowledge of reproductive health has increased dramatically; nationally, contraceptive use by women of reproductive age increased from 41 per cent in 1992-93 to 48 per cent in 1998-99; and the average number of children per family dropped by over 40 per cent from 5.2 to 2.9 during the period 1972 to 1998-99. Nonetheless, it has failed to lower fertility to the extent required to achieve population stabilization. The Eighth Plan document tacitly acknowledges that the program has been a failure. It notes that in spite of a considerable increase in the couple protection rate, there has not been a commensurate decline in the birth rate. The late Prime Minister Rajiv Gandhi admitted this while noting that increases in allocation to the family planning program had not been accompanied by expected returns.

The factors impeding the success of the family planning programme may be described as follows:

(i) Failure to promote easily reversible contraceptive methods: The choice of contraceptive methods is limited and sterilization remains the method of choice. Vasectomy was promoted until 1977 but after the Emergency focus shifted to female sterilization. This method being inflexible appeals only to older couples who have completed their total fertility. Other approaches, such as delaying the age of marriage and first pregnancies and encouraging longer birth intervals, present major social and programmatic challenges. Religious and medical barriers exist in some areas, as do cultural issues associated with the preference for boys and denial of opportunities for girls and women.

(ii) Use of coercive policies: The Emergency in 1975 facilitated the passage of a draconian population policy which implicitly advocated compulsory sterilization. This supposedly "welfare" programme resulted in 1774 deaths, as admitted by the Shah Commission of

Enquiry instituted by the then government. The acrimony generated by the policy not only brought down the government but also resulted in a sharp fall in programme performance following the change of government.

(iii) Policy statements of various national population committees have seldom been promptly approved or implemented : It is on record that the National Population Policy of 1976 and Policy Statement on Family Welfare Programme 1977, were laid on the Table of the House in Parliament, but were never discussed or adopted. In 1991, the National Development Council (NDC) appointed a committee which proposed the formulation of a National Population Policy to take a long term holistic view of development, population growth and environmental protection and to suggest guidelines for short, medium and long term perspectives and goals (Planning Commission 1992). In 1993, an expert group, headed by M. S. Swaminathan was asked to prepare a draft National Population Policy (NPP) to be discussed by the cabinet and by Parliament. In 1994, the Swaminathan Committee Report was circulated among Members of Parliament in order to reach a broad political consensus on a NPP. The Draft NPP was approved by the cabinet in November 1997 but could not be placed in either House of Parliament due to the dissolution of the Lok Sabha. Thereafter, a revised draft was placed before the cabinet in March 1999. The cabinet appointed a group of ministers (GoM) with 100 members headed by the Deputy Chairman of the Planning Commission to debate upon various issues of the Policy. The finalised draft was discussed by the Cabinet and NPP 2000 was formulated. The six to seven years taken to finalise a policy document is a reflection of the transaction costs inherent in our democratic system. During this period the population of the country increased by 100 million.

National Population Policy 2000 is to be largely implemented and managed at the *panchayat* and *nagar palika* levels, in coordination with the concerned State/UT

administrations. The National Commission on Population (NCP), presided over by the Prime Minister, with members drawn from wide-ranging constituencies, including independent experts, is to oversee and review its implementation. To address the special needs of Bihar, M.P., Rajasthan and U.P. an Empowered Action Group (EAG) was constituted on March 20, 2001 to closely monitor the implementation of Family Planning Programmes in EAG states. Though the NCP was constituted in May 2000, its first meeting was held in July 2005. Little action has taken place in the States and other levels of administration despite several guidelines contained in the Policy. The lack of effective implementation would naturally have serious repercussions on achieving the goals of NPP 2000.

(d) Role of Non-Government Organisations

(NGOs): International agencies disenchanted with the government's family planning programme chose to fund the NGOs which has also not yielded desired results. Recent experience has shown that NGOs are becoming elitist organizations, far removed from the people. To quote Ashish Bose, they are either 'donor driven NGOs who will shut shop as soon as foreign money is withdrawn', or 'government sponsored NGOs which are captured by bureaucrats or the wives of ministers'.

Interventions and Strategies

The above analysis underscores the inherent dynamics of population in the country. Clearly, the factors of high fertility and momentum of age structure cannot be disregarded in any attempt to curtail the population crisis. These have emerged significant in bringing about the North-South divide during the last intercensal decade. The role of CDR has reached a plateau and is not very significant in influencing growth rates, since CDRs in the BIMARU states too have come down to the national average. The capacity of the public sector to restrain population growth remains severely limited.

In a study on Maharashtra an examination of the factors which influence growth rates independently and collectively, revealed that women practicing family planning and percentage of birth order 3 and above shows high negative correlation (Diddee, 2002). On the other hand, a strong association exists between girls marrying before 18 years and higher percentage of birth order 3 and above. The composite index derived by ranking all development variables shows an even higher correlation between birth order 3 and percentage of girls marrying below 18 years. In contrast, safe delivery, complete immunization, literacy level of females and percentage of births and deaths registered, show high positive correlations with values of composite index.

Based on the above observations the measures for population stabilization which should be given top priority may be suggested as follows:

1. Increasing the age of marriage to 21 years: Late marriage depresses teenage fertility and lowers TFR. Goa and Kerala have been able to quicken the stabilization process due to this factor.

2. Timing for adopting Family Planning to coincide with peak periods of fertility: Family planning must be initiated in the younger age groups. Currently 85 per cent of the women practising family planning are between 25-29 years.

3. Raising level of education for females above the primary level: Higher levels of education for girls especially beyond middle and high school results in greater acceptance of family planning and increased spacing between births.

4. Expanding the outreach and access of contraceptives: Despite greater awareness of the family planning programme, a large number of the 168 million couples in the reproductive age group are unable to avail of these facilities because of poor quality services. There is a need to improve the logistics and

delivery systems for contraceptives, including Inter Uterine Devices, injectables and other reproductive health products, such as IFA tablets and safe delivery kits as well as to expand their availability through private commercial sector providers. Currently the unmet need for contraception is around 20 per cent. This must be fulfilled immediately to avert unwanted births particularly for the 74 per cent rural population living in 6 lakh villages.

5. Mobilization of *panchayati raj* institutions: Grass root interventions are vital to organize and oversee service delivery and accountability.

6. Temporary stop to having children: A radical movement named TAB89 meaning "Take A Break: Have No Unprotected Sex in 2008 and 2009" which has its roots in the Indian American community in Los Angeles, urges people in India to stop having children for two years. At a 50 per cent success rate, TAB89 will make a difference of 100 million in India's population over the next 30 years. The movement's aim is to create awareness of the population problem in India and to link resources, opportunities, outlets and volunteers so that the poor not only get access to safe birth control measures and family planning, but that they also feel secure enough not to feel the need to have more children as an "insurance" for the future. Their strategy is to spread a unified message on a national front by appointing 593 district managers, who will be responsible for devising customized TAB89 action plans. The movement started in 2005 and currently the organisation has 150 volunteers, about 60 per cent in India and 40 per cent in the United States. They are attempting to increase this to 5000 by the end of the current year. While from a tactical perspective this mission seems impossible, every effort to tackle the population problem should be encouraged, since a multi-pronged approach incorporating both the public and the private sector is the only solution to solving the population crisis in India.

Advantages of achieving Population Stabilisation

As pointed out in a technical paper submitted to the Planning Commission by K. Srinivasan of the Population Foundation of India, a substantial increase in the population of the country by the year 2051 cannot be avoided. A linear extrapolation of the observed fertility trends in different states in the previous 20 years, into the future until 2051, assuming that there will be no additional efforts on the part of the central and state governments to hasten the decline, projects a population of 1628 million by 2051. If it is assumed that the fertility goals set in the National Population Policy 2000 and state policies recently announced for UP, MP, Rajasthan and Andhra Pradesh will be realised and fertility will be brought down to the floor value of 1.6 in these states, the projected population is 1416 million. There is, thus, a 212 million difference between the two projections - a clear indication of the need to take the task of population stabilisation seriously.

In recent years a view has gained ground that what matters is not the size of the population, but its age structure. A population "bulge" in the working age - groups, however large the total population, is purported to be an inevitable advantage. Thus, India, which is beginning to be characterised by such a bulge (Table 6) is seen as advantaged, despite its large population. This demographic dividend to be derived from the age structure of the population is traced to the fact that India is, and will remain for some time, one of the youngest population countries in the world. A third of India's population was below 15 years of age in 2001. In 2020, the average Indian will be only 29 years old, compared with 37 in China and the United States, 45 in Western Europe, and 48 in Japan. The demographic process this implies would create a large and growing labour force, which is expected to deliver unexpected spin-offs in terms of growth and prosperity with the potential of leapfrogging the country into the orbit of higher economic growth. It is estimated that by 2020 the US will be short of

17 million people of working age, China 10 million, Japan 9 million and Russia 6 million. Against this, India will have a surplus of 47 million working age people. Thus India is expected to continue having a competitive advantage in labour costs, which would be sustainable up to 2050.

It is however, pertinent to note that if the "window of opportunity" available when the population bulge enters the working age groups is to result in an acceleration in economic growth, the processes of development must be such as to ensure that the quality of those entering the workforce is of the desired level and that these workers find employment opportunities as and when they enter the labour force. To quote analysts David Bloom and David Canning(2001) "both empirically and theoretically there is nothing automatic about the link from demographic change to economic growth. Age distribution changes merely create the potential for economic growth. Whether or not this potential is captured depends on the policy environment". Thus while East Asia's macroeconomic performance is seen as being linked quite closely to its demographic transition, with as much as a third of its "miracle growth" estimated to be on account of the "demographic dividend", Latin America is seen to have "stumbled" during the 1950s and 1960s, when its demographic trends resembled those in East Asia.

A critical factor in the debate with respect to the "window of opportunity" is the use of the notion of the dependency ratio, defined as the ratio of the non-working age to working-age population, rather than the ratio of non-workers to workers. The difference between the two is determined by the extent of absorption into work of the available labour force, which must take account of unemployment and underemployment. This difference explains why some countries are able to exploit the demographic advantage while others are not.

Unemployment and underemployment is a major problem in India. The crisis of employment is reflected by the following facts:

1. India's labour force is growing at a rate of

2.5 per cent annually, but employment is growing at only 2.3 per cent. Thus, the country is faced with the challenge of not only absorbing new entrants to the job market estimated at seven million people every year, but also clearing the backlog.

2. Sixty per cent of India's workforce is self-employed, many of whom remain very poor. Nearly 30 per cent are casual workers i.e., they work only when they are able to get jobs and remain unpaid for the rest of the days. Only about 10 per cent are regular employees, of which two-fifths are employed by the public sector.
3. More than 90 per cent of the labour force is employed in the "unorganised sector", i.e. sectors which don't provide social security and other benefits of employment available in the "organised sector."
4. Over 70 per cent of the labour force in organised as well as unorganised sectors is either illiterate or educated below the primary level.
5. There appears to be some confusion about the figure of open unemployment. The unemployment figure given in the Executive Summary of the Ninth Plan, gives the figure of open unemployment as 7.5 million while the Annual Report of the Labour Ministry for 1995-96 puts the figure for 1995 at 18.7 million. An internal government paper prepared in 1997 put the unemployment figure at the beginning of the Eighth Plan at 17 million and at 18.7 million at the end of 1994-95. Perhaps the Planning Commission referred to the current figure while the Labour Ministry figure referred to the accumulated unemployment backlog.
6. Underemployment in various segments of the labour force is quite high. For instance, though open unemployment was only 2 per cent in 1993-94, the incidence of underemployment and unemployment taken together was as much as 10 per cent that year. This, in spite of the fact that the incidence of underemployment was reduced substantially in the decade ending 1993-94.
7. According to the Planning Commission, the

States which face the prospect of increased unemployment in the post-Ninth Plan period (2002- 2007) are Bihar, Rajasthan, Uttar Pradesh, Kerala and Punjab. The first three are BIMARU states characterized by high population growth, poor quality of life and infrastructure. In areas like education, health, employment generation, social equality etc. their record is abysmal.

The implications of the above are clear for India. The enormity of the population problem impacts every aspect of India's infrastructure – housing, agriculture, environment, water table and every facet of sustenance. As per the 2001 Census of India 30 percent of the population lives on less than \$1 a day, and 78 percent lives on less than \$2 a day and 25 per cent of the country's population lives below the poverty line. One in 5 people, a total of 200 million, are with poor or no housing. At least half of them do not have an address. They are unemployed, illiterate and lack the awareness of the macro picture. These families are growing. Of the 180 lakh born every year, at least 40 lakh are being born into poverty every year. Each year

India adds at least 1 million children that will not go to school. Moreover the states of Bihar, Rajasthan and Uttar Pradesh which have the highest growth rates in the country also have the highest unemployment rates. A concerted effort will have to be made to revive rural India. While the corporate sector is growing by leaps and bounds, over 25,000 farmers have committed suicide since 1997. A study by Abhijit Singh of Jawaharlal Nehru University revealed that consumption of the bottom 80 per cent of the rural population, numbering 600 million, has declined in the last 15 years (Firodia, 2006). If the problems of the agricultural sector are not addressed, they will become a roadblock to the country's progress. Investments in human capital need to be taken up on a war footing. This would entail providing education and employment opportunities, besides investing heavily in infrastructure. If the country fails to address these obstacles to growth it will not be able to capitalize on the "window of opportunity" provided by the population "bulge" it is currently experiencing in the working age groups.

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SOME ASPECTS OF POPULATION GEOGRAPHY OF THE COLONIAL PUNJAB (1849-1947)

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Abstract

The focus of this study is on the population growth in colonial Punjab including princely states under the British rule over a span of about one century. Though the British Government made some efforts prior to 1881, but regular and systematic censuses were conducted from 1881 onwards. Punjab had a checkered history of population growth from 1881 to 1911. During this period death rate exceeded the birth rate due to occurrences of epidemics and famines. The next decade had a small growth but the following two decades experienced a large growth of more than nine million. One of the major factor for the high growth of population during this period was the reclamation of vast tracts of waste land through a newly laid network of perennial Canals. The most important feature of demographic history of the province was the intra-provincial migration of the people from the over populated central districts into the newly developed Canal Colonies. This number of more than two and half lakh immigrants was many times more than the number of people who had migrated to other provinces or other British Colonies. During the period of 60 years between 1881 and 1941 the comparative increase in population was higher in the British ruled districts than in the Native States. The population of the province in 1941 was more than thirty four million of which twenty eight million was in British Punjab and the total population of the Native States was only six million.

Colonial Punjab

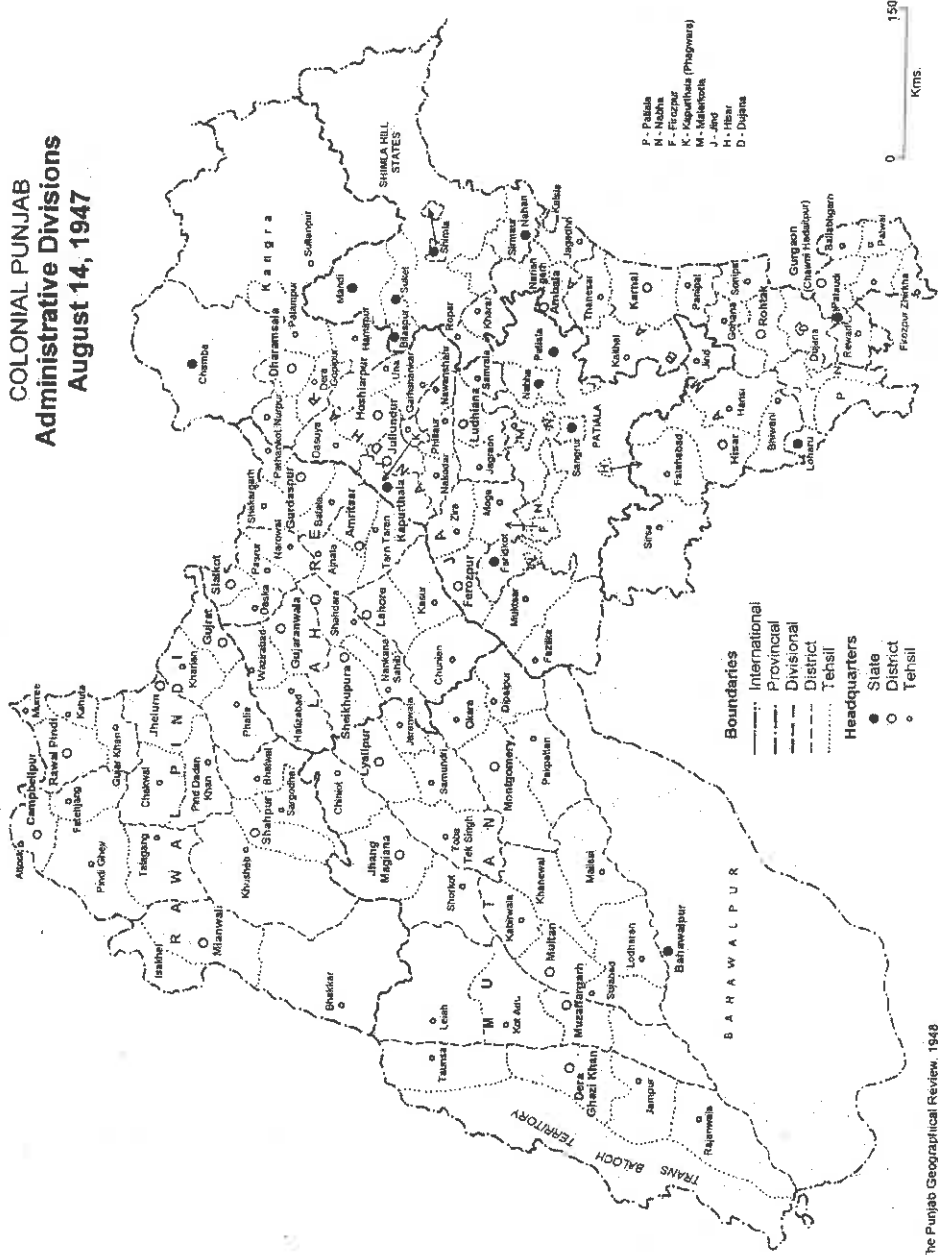
An important feature of the colonial rule in Punjab was the carrying out of the census operations. The first census was conducted in 1855 and it covered only a few cities and towns. Another census was conducted in 1868 but it was also incomplete. From 1881 onwards it became a systematic and regular decennial count. Between 1881 and 1941, seven censuses were conducted which generated useful data for understanding the socio-economic and political scenario of the British Punjab as well as the Native States.

Ganesh Das in his work '*Char Bagh-i-Punjab*' (undated) provides information about

the nomenclature and size of the 90 towns and cities of Punjab in the early nineteenth century (Grewal, 1994). According to Ganesh Das there were 90 urban centres in the Punjab, which he equated with the former Mughal province of Lahore. He used various terms for classifying towns and cities such as *Qasba* (small town), *Shahr* (a large urban centre) and *Baldeh* (very large city). Although Das did not provide even rough figures of population an idea about their population can be obtained from the census of 1855.

At the time of the 1941 census, the British ruled territory of Punjab consisted of 29 districts and 17 Princely States. It also

**COLONIAL PUNJAB
Administrative Divisions
August 14, 1947**



MAP - 1

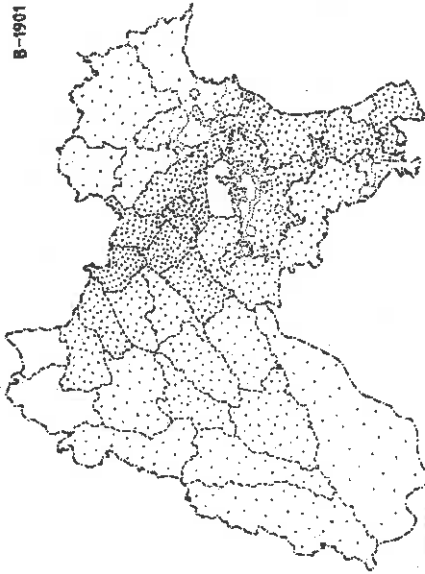
Source: The Punjab Geographical Review, 1948

Colonial Punjab : Distribution of Population

A-1881

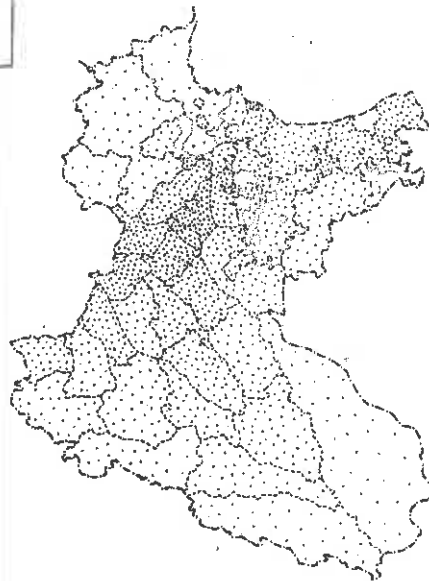


B-1901

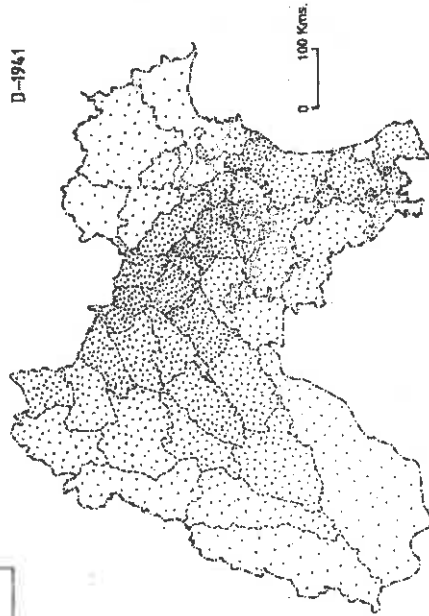


One dot = 25000 persons

C-1921

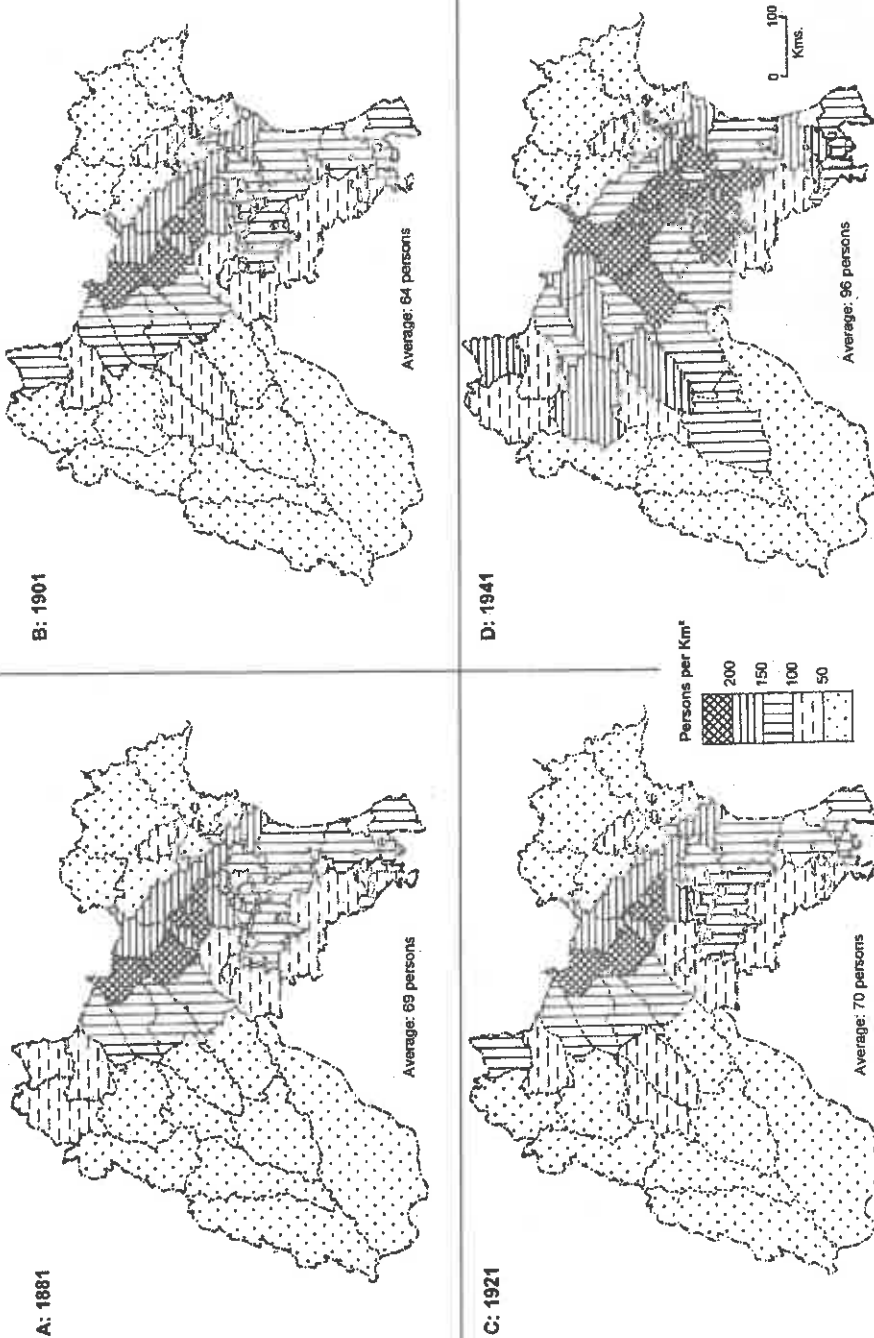


D-1941



MAP - 2

Colonial Punjab : Density of Population



Source: Census of India 1881-1941

MAP - 3

included 18 small and large native states collectively called Shimla Hill States (Map 1). The total population of the Province in 1941 was 3,43,09,861 persons and the total geographical area was 1,38,105 square miles (3,57,526 km²). Population density of the Province was 248 persons per sq. mile (96 persons km²). The population of Punjab was distributed over 52,047 villages and 287 towns. The geographical area under the Punjab districts was 2,56,522 km². The population of the British districts was 28.4 million and they occupied 82.8 per cent area of the Province. In comparison the Native States of Punjab constituted 28.3 per cent of its geographical area and accounted for only 17.2 per cent population of its population. The geographical area of the Native States in 1941 was 1,01,005 km² with a population of 58,91,042 persons, showing a population density of 58 persons km².

Population Distribution

The origin of villages and towns in the region can traced back to the period of Indus Valley civilization (B.C.2700 to 1500). This civilization vanished for unknown reasons and its disappearance may have coincided with the first wave of Aryan penetration into North-West India. Although the Aryans originally were a pastoral stock they adopted sedentary farming and settled down in village communities (Trevaskis, 1928, p. 43).

The central and northern districts including the Bist-Doab formed the core area of population in the Province (Map 2). Population density in this region ranged from 193 to 348 persons per km². Map 3A and B show that population density tapers off towards the north-east, north-west and the south-west. A significant increase in population numbers was experienced in the south-western parts. This was mainly associated with immigration of the peasant community from the central and northern districts.

The pattern of population distribution in the *doabs* (interfluves) seems to be related to their being wheat producing areas in which belts of highest concentration of population

followed the interfluvial axes having the most fertile alluvium. This feature was the reverse of what was common in rice producing areas (Geddes, 1937, p.347).

In the north-eastern hilly and mountainous region comprising of Kangra and other Punjab Hill States the population was relatively sparsely distributed with the main concentrations occurring along the river valleys which presented a contrast to the thinly populated or uninhabited regions of high altitudes. The arid and semi-arid parts of southern Punjab and adjoining Native States were also thinly populated and settlements were far-spaced. The distribution of population depended on the availability of water and the food producing capacity of the region. In many cases the flood-plains prone to repeated flooding in the rainy season were uninhabited. Unlike the urban population, the distribution of rural population had special characteristics e.g., agglomerated village settlements in the Punjab plains.

In the hilly and mountainous regions, more particularly in north-east Punjab, the settlements were small mainly because of the scarcity of cultivable land. Moreover, ethnic structure and productivity of land determined the distribution of population. Stronger caste groups like the Jats and Rajputs shared fertile lands in the plains and the river valleys while the poor quality land was left to be cultivated by weaker sections of the farming community such as Gujjars and Arains.

Population Density

In 1881 the population density of the Province was 64 persons km². Map 3A shows that in whole of the western, south-eastern, and north-eastern Punjab population density was less than 50 persons/ km². The western Punjab before the introduction of canal irrigation was an arid region and hence supported only the minimum possible population. In north-eastern Punjab including Kangra and the Hill States, the climate and terrain were too harsh to support a large population. In the western and south-western Punjab, Mianwali district with 18 persons per

Table 1 - Colonial Punjab: Population according to Districts and States (1881-1941)

(Population in thousand)

		Census						
		1881	1891	1901	1911	1921	1931	1941
Punjab Province		20,801	22,916	24,367	23,792	25,102	28,491	34,310
Punjab (Districts)		16,939	18,653	19,943	19,579	20,685	23,581	28,419
1.	Hissar	673	776	782	805	817	899	1007
2.	Rohtak	554	780	631	834	772	806	956
3.	Gurgaon	642	760	746	715	682	806	851
4.	Karnal	855	863	83	730	829	740	995
5.	Ambala	830	865	816	691	681	743	848
6.	Shimla	36	36	40	38	45	37	39
7.	Kangra	731	763	768	770	766	801	899
8.	Hoshiarpur	901	1011	960	919	165	1032	206
9.	Jalandhar	790	908	918	802	823	944	1127
10.	Ludhiana	619	649	673	517	568	672	819
11.	Ferozepur	747	649	958	517	1099	672	1423
12.	Lahore	924	899	1162	1000	1130	1179	1695
13.	Amritsar	893	993	1024	881	929	1117	1414
14.	Gurdaspur	824	944	940	837	852	971	1154
15.	Sialkot	881	962	933	872	877	980	1190
16.	Gujranwala	617	661	891	606	624	736	912
17.	Shekhupura	--	--	--	--	--	--	--
18.	Gujrat	689	806	751	788	824	922	1104
19.	Shahpur	422	478	524	645	720	821	999
20.	Jhelum	589	514	594	512	477	541	630
21.	Rawalpindi	821	534	931	548	569	634	785
22.	Attock	--	448	--	519	512	584	676
23.	Mianwali	366	287	425	341	358	412	506
24.	Montgomery	427	417	498	482	686	1000	1329
25.	Lyallpur	--	469	--	824	958	1151	1396
26.	Jhang	391	402	1003	525	571	662	822
27.	Multan	557	635	711	813	889	1114	1484
28.	Muzaffargarh	339	494	406	569	568	591	713
29.	Dera Ghazi Khan (a)	385	428	495	500	496	491	622
	Biloch transfrontier territory (b)	--	6	24	29	27	30	40

Contd...

Native States (Having political relationship with the Punjab Govt.)		3862	4424	4417	5891	4263	4213	4910
1	Dujana	23	26	24	25	26	28	31
2	Pataudi	18	19	22	19	18	19	22
3	Kalsia	68	69	67	56	57	60	67
4	Shimla Hill States							
a)	Total Bashahr	64	76	85	93	90	104	116
b)	Nalagarh	53	54	53	49	47	50	53
c)	Total Keonthal	31	37	42	46	47	48	52
d)	Bhagal	21	25	26	26	25	26	28
e)	Total Jubbal	20	21	22	25	26	27	30
f)	Baghat	8	9	2	9	10	10	11
g)	Kumarsain	10	10	12	12	12	13	14
h)	Bhajji	2	12	13	15	14	15	16
i)	Mahlog	9	5	9	9	8	8	9
j)	Balsan	5	4	7	6	6	7	7
k)	Dhami	3	4	5	4	5	5	5
l)	Kuthar	4	2	4	4	4	4	5
m)	Kunihar	2	2	2	2	2	2	5
n)	Mangal	1	1	1	1	1	1	2
o)	Bija	1	1	1	1	1	1	1
p)	Dharkoti	1	1	1	1	1	1	1
q)	Tharoch	3	4	4	4	4	5	5
r)	Sangri	3	3	3	3	3	3	4
Having political relationship with the Govt. of India								
5	Loharu	14	20	15	19	21	23	28
6	Sirmur	112	136	136	139	140	148	156
7	Bilaspur	87	92	91	93	98	101	110
8	Mandi	147	167	174	181	185	207	133
9	Suket	52	52	55	55	54	58	71
10	Kapurthala	253	300	314	268	284	317	378
11	Malerkotla	71	76	78	71	80	83	88
12	Faridkot	97	115	125	130	151	164	199
13	Chamba	116	124	128	136	142	147	169
14	Patiala	1467	1584	1597	1408	1500	1626	1936
15	Jind Phulkian	250	285	283	272	308	325	361
16	Nabha States	262	283	285	249	363	288	340
17	Bahawalpur	573	650	650	781	781	985	1341

Source: (a) Census of India -Punjab 1881, Vol. VI, Table iv.

(b) Census of India -Punjab 1931, Vol. XVII, Part II, pp. 102-104

(c) Census of India -Punjab 1941, Vol. VI, pp. 20-22

Table 2-Colonial Punjab: Density of Population according to Districts and States(1881-1941)
(Persons per km²)

		Census Year			
		1881	1901	1921	1941
Punjab Province		64	69	70	96
Punjab (Districts)		75	69	71	96
1.	Hissar	50	58	61	75
2.	Rohtak	120	140	121	165
3.	Gurgaon	125	145	118	147
4.	Karnal	101	109	102	123
5.	Ambala	180	168	140	171
6.	Shimla	137	190	219	186
7.	Kangra	30	31	31	35
8.	Hoshiarpur	174	176	165	206
9.	Jalandhar	245	268	240	326
10.	Ludhiana	172	186	157	226
11.	Ferozepur	80	90	104	137
12.	Lahore	96	148	167	252
13.	Amritsar	239	251	228	347
14.	Gurdaspur	168	197	178	241
15.	Sialkot	196	229	215	292
16.	Gujranwala	92	124	104	153
17.	Shekhupura	88	98	106	143
18.	Gujrat	130	136	142	189
19.	Shahpur	34	39	60	81
20.	Jhelum	57	70	66	88
21.	Rawalpindi	65	107	109	150
22.	Attock	44	48	47	63
23.	Mianwali	18	21	25	36
24.	Montgomery	36	37	60	122
25.	Lyallpur	--	71	64	93
26.	Jhang	21	71	64	93
27.	Multan	35	47	59	102
28.	Muzaffargarh	36	36	39	49

Contd...

29.	Dera Ghazi Khan (a)	28	20	20	25
	Biloch transfrontier territory (b)	--	--	--	--
	Native States (Having political relationship with the Punjab Govt.)	41	47	44	58
1	Dujana	90	131	121	165
2	Pataudi	18	22	18	22
3	Kalsia	156	168	118	138
4	Shimla Hill States	6	8	9	27
a)	Total Bashahr	81	79	66	34
b)	Nalagarh	33	45	62	68
c)	Total Keonthal	64	80	81	88
d)	Bhagal	33	45	62	68
e)	Total Jubbal	64	80	81	88
f)	Baghat	24	27	34	68
g)	Kumarsain	90	50	61	139
h)	Bhajji	41	50	56	64
i)	Mahlog	49	53	59	68
j)	Balsan	81	81	65	68
k)	Dhami	39	51	41	45
l)	Kuthar	50	67	66	71
m)	Kunjhar	9	10	--	73
n)	Mangal	34	40	33	37
o)	Bija	119	12	--	82
p)	Dharkoti	28	13	--	48
q)	Tharoch	19	25	--	30
r)	Sangri	63	11	--	71
	Having political relationship with the Govt. of India				
5	Loharu	24	58	61	75
6	Sirmur	36	50	52	55
7	Bilaspur	75	78	83	94
8	Mandi	47	59	63	79
9	Suket	48	54	54	70
10	Kapurthala	155	203	183	227
11	Malerkotla	164	182	188	206

Contd...

12	Faridkot		58	76	91	121
13	Chamba		14	16	17	21
14	Patiala		105	104	97	126
15	Jind	Phulkian	80	84	92	108
16	Nabha	States	104	122	107	139
17	Bahawalpur		15	17	19	30

Source: (a) Census of India - Punjab 1881, Vol. VI, Table iv.

(b) Census of India- Punjab 1931, Vol. XVII, Part II, pp.102-104

(c) Census of India -Punjab 1941, Vol. VI, pp. 20-22.

Table 3-Colonial Punjab: Growth of Population (1855-1941)

Year	Punjab Province		British Punjab		Native States		Ratio between Population of Punjab Districts and Native States
	Population (in million)	Population variation	Population (in million)	Population variation	Population (in million)	Population variation	
1855	17.6	--*	17.6*	--	--	--	--
1868	19.7	--*	19.7*	+2.1(a)	--	--	--
1881	21.1	--	17.3	--	3.8	--	--
1891	22.9	+1.7	18.7	+1.4	4.3	+0.4	4.4:1
1901	24.4	+1.5	19.9	+1.2	4.4	+0.1	4.3:1
1911	23.8	-0.6	19.6	-0.3	4.2	-0.2	4.5:1
1921	25.1	+1.3	20.7	+1.1	4.4	+0.2	4.7:1
1931	28.3	+3.4	23.6	+2.9	4.9	+0.5	4.7:1
1941	34.3	+5.8	28.4	+4.8	5.9	+1.0	4.8:1

Source: (a) Census of India - Punjab, 1931, Vol. XVII, Part II, p.6.

(b) Census of India - Punjab, 1941, Vol. VI, pp 8-16.

* Estimated population.

km² had the lowest population density among Punjab districts and Native States except some of the Shimla Hill States (Table 2). In Shimla Hill States as a whole the population density in 1881 was as low as only six persons per km².

In the same census year the highest density of more than 200 persons per km² was recorded in the central districts of Jalandhar, Amritsar and Sialkot. The high population density in these districts can be attributed to

the flat surface, high fertility of land and a high percentage of irrigated area.

In 1901 the pattern of population density in eastern Punjab and the Phulkian States was almost the same. However, with the extension of canal irrigation in Jhang district population density increased from 21 persons in 1881 to 71 persons per km² in 1901 (Table 2). In the north-west the population density increased from 65 persons to 74 persons per km² in 1901 (Map 3B). The average population

density of the province rose from 64 to 69 persons per km² (Table 2). In the British districts in this year the density of population was 69 persons per km² whereas in the Native States it was only 47 persons. The variation in population density between British districts and Native States can be attributed to the poor quality of land and consequently low agricultural productivity which could not support high population. Jalandhar district had the highest density of 245 persons per km². The Shimla Hill States again recorded the lowest density of 8 persons per km² in 1901.

The total population of the province in 1921 was 2,51,01,514 and the average population density was 70 persons per km². Of the total population, British Punjab had 20.7 million and the Native States accounted for only 4.42 million. In the British Punjab the density was 70 persons per km² and the highest density was again confined to the central districts of Jalandhar, Amritsar and Sialkot. Population density in this region tapered off towards east, west, south-west and south (Map 3C).

Another important feature of population density was that its increase during 1901-1921 was by only one person per km² as compared to that of 1901. In fact between 1901 and 1911 the population in the Province had decreased (Table 1). This may be attributed to the spread of epidemic of plague. At the end of this decade the average density of population in the Province came down to 63 persons. Of all the seven censuses conducted between 1881 and 1941, this was the only census year which recorded a decline in total population and also the density (Census of India- Punjab, 1941, Vol. VI, p.8). Although between 1911 and 1921 nearly 2 million people were killed due to an epidemic of influenza and also due to a large number of casualties that took place among the Punjabi troops in the First World War, yet there occurred an increase in the population of the Province by 1.3 million (Table 3). The average density rose to 70 persons per km² as compared to 63 persons per km² in 1911. In the British

districts population density in 1911 was 73 persons per km² whereas in Native States the density was only 42 persons per km². The reason for higher population density was a higher birth rate than mortality rate, which was determined by various factors like improved public health measures undertaken and, an improved agricultural and industrial base.

Between 1931 and 1941 a new scenario had been created. In 1931 the population of British Punjab increased by 2.9 million as compared to 1921. The population density increased to 80 as compared to 70 persons per km² in 1931. Between 1931 and 1941 population rose by 4.8 million and the population density in the province increased to 96 persons per km² in 1941.

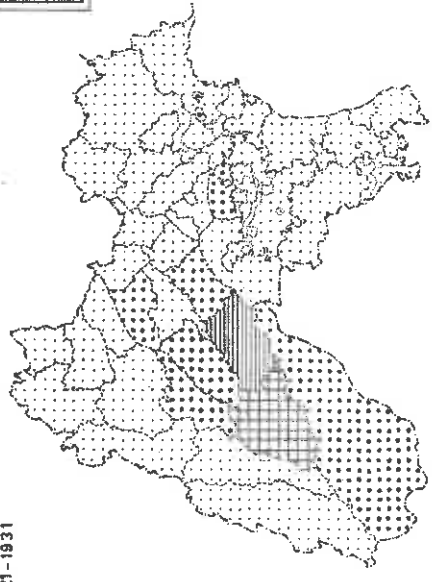
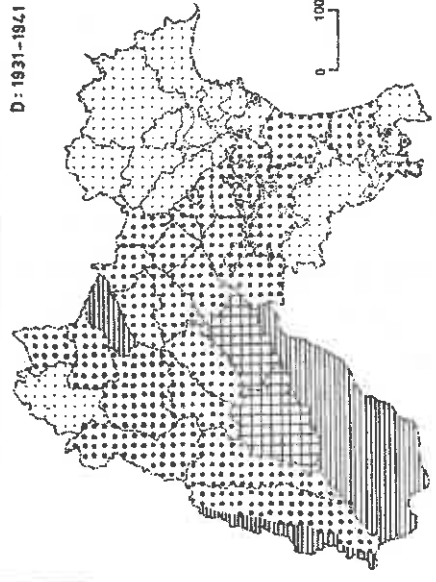
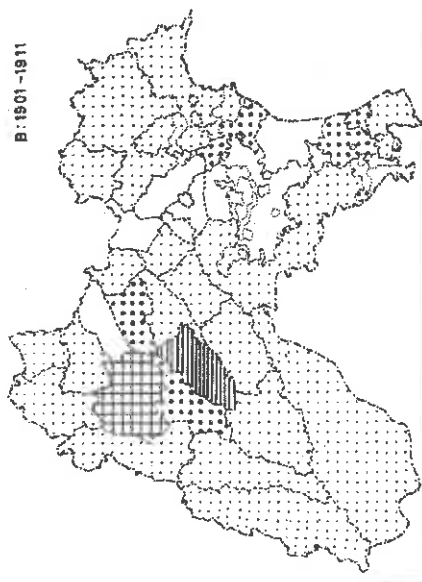
In the British districts, the population in 1941 was 28.4 million as compared to 5.9 million in the Native States (Census of India-Punjab, 1941 Vol. VI, p.8 and Table 3). Population density in the British territory rose to 96 persons whereas in Native States the comparative figure was only 58 persons per km².

A comparison of Map 3A, B, C and D reveals that in 1921 there were only three central districts viz., Jalandhar, Amritsar and Sialkot where population density was above 200 persons per km². In 1941 a large territory containing Ludhiana, Lahore, Shimla and the Native States of Kapurthala and Patiala joined this group. In western Punjab a sizeable area containing the Canal Colonies attained a density of 100 to 200 persons per km². In 1921, the density in these districts had ranged between 50 to 150 persons per km². The rise in density in western districts was due to the immigration of a large number of people into the Canal Colony areas between 1901 and 1931.

Population Growth

Prior to the introduction of a regular and systematic census in 1881, two attempts had been made by the British Government, first in 1855 and the second in 1868. However,

Colonial Punjab : Annual Growth of Population



Population growth

Above 3.0
2.5 - 3.0
1.5 - 2.5
0 - 1.5
Decrease

Table 4 - Colonial Punjab: Birth and Deaths (1931-1941)

District	1931-1941		Per 1,000 of 1931 Population		Columns 2-3 (in thousand)
	Births	Deaths	Births	Deaths	
British Territory	10,617,578	60,85,173	450	258	4,532
Hisar	38,928	2,67,579	444	298	131
Rohtak	4,04,308	2,25,188	502	279	179
Gurgaon	3,72,863	2,37,435	504	320	135
Karnal	4,07,748	2,77,124	478	325	131
Ambala	3,38,154	2,29,097	455	308	109
Shimla	12,641	9,058	344	246	4
Kangra	3,06,017	2,30,557	382	288	75
Hoshiarpur	4,58,734	2,92,783	445	284	166
Jalandhar	4,43,373	2,36,774	469	251	207
Ludhiana	3,14,970	1,83,136	469	272	132
Ferozpur	5,46,468	3,15,941	472	273	231
Lahore	5,80,161	3,23,482	421	234	257
Amritsar	5,51,889	3,15,144	494	282	237
Gurdaspur	4,96,388	2,78,100	511	286	218
Sialkot	4,91,076	2,55,804	501	261	235
Gujranwala	3,31,386	1,97,790	450	269	134
Sheikhupura	3,31,092	1,69,907	475	244	161
Gujrat	3,91,152	2,09,617	424	227	182
Shahpur	3,43,738	1,90,958	419	232	153
Jhelum	2,20,339	1,26,460	407	234	94
Rawalpindi	2,54,812	1,48,595	402	234	106
Attock	2,22,062	1,31,111	380	225	91
Mianwali	1,96,474	1,12,143	176	272	84
Montgomery	4,58,621	2,11,905	159	212	247
Lyallpur	5,70,711	2,65,098	186	230	306
Jhang	2,84,586	1,43,849	428	216	141
Multan	4,68,924	2,54,069	399	216	515
Muzaffargarh	2,27,965	1,37,321	386	232	91
Dera Ghazi Khan	1,91,998	1,09,148	391	222	83

Source: Census of India - Punjab 1941, Vol. VI, p. 18.

in these two censuses only an estimation of the population of British territory was made and the Native States had been excluded. According to these estimates the population of Punjab was 17.6 million in 1855 and 19.7 million in 1868 (Table 3, and Census of India - Punjab, 1931, Part I, Vol. XVII, p.15).

According to the census of 1881 the population of the Province including the Punjab States was 21.1 million. Out of this British Punjab had a population of 17.3 million and the remaining 3.8 million persons resided in the Native States. In the next census conducted in 1891 the total population of the Province rose to 22.9 million showing an increase of 1.7 million persons over the previous decade (Table 3). Population growth in British districts was 1.4 million whereas the growth in Native States was 0.4 million only. The small growth in the Native States occurred not only due to a small population base but also due to higher death rate. On the onset of the twentieth century, in 1901, the population of the Province was recorded at 24.4 million, which was higher by 1.5 million persons as compared to the last census.

In the next census of 1911, the population of the Province decreased by 6 lakh persons and came down to 23.8 million. The decrease in population occurred not only in the British Punjab and Native States but also in the adjacent areas like Rajputana and the United Provinces. The decrease in population was caused by the appearance of recurring epidemic of plague in the early part of the decade. More than 20 lakh people had died in the British districts only (Census of India Report - Punjab, 1931, Vol. XVII, pp.41-42).

In 1921, population of the Province rose to 25.1 million from 23.8 million persons in the last census. The population increased by 1.3 million despite the fact that a large number of Punjabi soldiers had died in the First World War and a substantial number of persons perished due to the spread of the deadly epidemic of influenza in 1918. The reason behind the increase in population was the higher birth rate as compared to the

previous decade (1901-1911). In 1931, the population of the Province increased to 28.3 million, an increase of 3.4 million persons since the last census. The increase in population between 1921 and 1931 was 2.9 million in British Punjab and 0.5 million in the Native States (Table 3).

The last census of the British period conducted in 1941 recorded the highest increase of population as compared to the previous six censuses. The total population of the Province in 1941 was 34.3 million, an addition of 58 lakh persons. This figure was almost equal to the total population of the Native States in that year (Table 3). Punjab districts contributed 48 lakh persons to the total increase whereas Native States recorded an increase of ten lakh persons. The high growth of population may be attributed to the epidemic-free period between 1931 and 1941. Among other reasons behind this high increase were the high birth rate and a low death rate. During this period the number of total births in British Punjab was 10.6 million as compared to 6.1 million deaths. For every 1000 persons of the population of 1931, there were 450 births and 258 deaths. It marked an increase of 292 persons for each thousand of population (Table 4).

During the British period (1849 to 1947) there was a two fold increase in the size of population of the Province. For the period between 1881 and 1941 the compound annual growth rate of population of the Province has been worked out at 0.84 per cent. It was higher in the British ruled districts (0.87 per cent) as compared to the Native States where it was 0.71 per cent (Table 5). The higher growth rate of population in Punjab districts may be explained by a better provision of healthcare, high birth rate, low death rate, faster development in agriculture, better transport network and the inflow of migrants to the Canal Colonies.

Population growth during the colonial period can be divided into two distinctive phases, of lesser compound growth rate of 0.47 per cent between 1881 and 1921 and, the higher compound growth rate of 1.57 per cent

Table 5 - Colonial Punjab: Population Growth Rate (1868-1941)*(Growth rate in per cent)*

Year	Punjab Province	British Districts	Punjab States
1868*	0.87	1.09	0.20
1881	0.42	0.56	0.11
1891	0.97	0.97	0.97
1901	0.62	0.69	0.38
1911	-0.24	-0.18	-0.48
1921	0.54	0.57	0.48
1931	1.27	1.40	1.11
1941	1.87	1.87	1.87
1881-1921	0.47	0.50	0.34
1921-1941	1.57	1.60	1.45
1881-1941	0.87	0.87	0.71

Source: (a) *Census of India - Punjab, 1931, part I, p. 15.*(b) *Gopal Krishan, Demographic Scenario of the Colonial Punjab, 2004, p.13*

* Estimated after adjustment.

Table 6 - Colonial Punjab: Urban Population(1881-1941)

Sr. No.	Census year	Punjab		Proportion of Population	Percentage of Population		
		Number of towns	Urban Population (in million)		Punjab	British Territory	Native States
1.	1881	168	2.48	100.0	11.9	12.0	11.2
2.	1891	163	2.46	99.3	10.7	10.7	10.7
3.	1901	166	2.58	104.3	10.6	10.6	10.5
4.	1911	167	2.33	94.4	9.8	10.1	8.4
5.	1921	185	2.60	105.0	10.3	10.7	8.7
6.	1931	222	3.55	142.4	12.4	13.0	9.2
7.	1941	287	5.04	203.6	14.7	15.3	11.6

Source: (a) *Census of India - Punjab, 1931, Part I, Vol. XVII, pp. 90-91.*(b) *Census of India - Punjab, 1941, Vol. VI, p. 3.*

between 1921 and 1941 (Table 5). The trend of growth rate did not differ drastically between the British Punjab and the Native States. Up to 1921 Punjab Province was in the first phase of demographic transition with a high birth rate of 50 per 1000 and a death rate which was only a little lower. The period between 1921 and 1941 was that of the second phase of demographic transition. This period experienced a constantly high birth rate while the death rate declined steadily. The fall in death rate was achieved through a control over famines and epidemic diseases.

In British Punjab, the most dynamic region in terms of population growth was the area of the Canal Colonies. In this part the annual growth rate of population was 2 to more than 2 per cent between 1891 to 1941 (Map 4). As we move away from this core region the growth rate tapers off.

The eastern wing of Punjab in general and the thickly populated districts in particular formed a source region from where large scale emigration took place to the Canal colony areas. Regional variations in the population growth rate were a function of the migration factor. The population growth rate in the Native States was, however, lesser than the British districts mainly because of higher death rate and other related factors.

In-migration and Out-migration

Demographic vitality was one of the important features of the colonial period in Punjab. Large scale migration was witnessed within the Province and out of the Province. During 1886 and 1947 a large number of small canal projects were executed and nine Canal Colonies were developed in the western and south-western part of West Punjab. These Canal Colonies which were developed in waste lands or almost useless land paved the way for migration from the over populated central districts. About 80 per cent of the immigrant population comprised of peasants from this part. Nearly two thirds of them were Jat-Sikhs, Muslims and Hindus. Other segments of population comprised the low caste strata of Combos, Arains, Sikhs and Hindu Sainis.

Rajput castes hailing from Hoshiarpur and the adjoining Jalandhar and Kangra districts were also allotted agricultural land in the Canal Colonies.

These Canal Colonies redefined the demographic scene of Punjab due to the large scale movement of population into colony areas from the eastern wing of Punjab. In this way a new land and people equilibrium got established and the mean centre of population shifted towards the west. The major role in the redistribution of population was played by the peasant farmer. A well planned landscape by a dense network of railways, roads, rectangular and square fields and dynamic market towns emerged in an area which was previously a dry and waste land. It may not be out of context to mention here that all that happened between 1887 (the year pertaining to the opening of major Canal Colonies) and 1947 was to prepare a base for the happenings that culminated in the never-experienced large scale exodus and carnage of population during the partition of India.

Emigration was associated with recruitment in the army from Kangra, Gujrat, Jhelum, Rawalpindi and Rohtak districts where either due to poor agricultural base and small land holdings or high population pressure people were compelled to opt for army service. Native States also contributed to the army recruitment. During the First World War nearly two-thirds of the British army consisted of Punjabi troops and at no time this share fell below three fifth (Talbot, 1988, p.45).

Emigration from Punjab Province started mostly in the form of labour for laying railway lines in other East-African and South-East Asian Colonies. A small scale emigration also took place to Canada and the South-American countries. Large scale immigration from within Punjab was for places like Lyallpur, Shahpur, Multan and Montgomery and some parts of the adjoining districts of Gujranwala, Sheikhpura and Jhang. Most of the persons who migrated to these colony districts were permanent migrants. The number of persons who emigrated from outside to settle in Punjab was insignificant as compared with the number of migrants to Canal Colonies from within the

**Table 7 - Colonial Punjab: Population Growth in Urban Centres (1881-1941)
(Class I, II and III)**

Sr.No.	Name of City/Town	District or State	Population		Percent Population Growth
Class I : Above 1,00,000					
1.	Lahore	Lahore	1,49,316	6,71,657	2.43
2.	Amritsar	Amritsar	1,51,896	3,91,010	1.52
3.	Rawalpindi	Rawalpindi	52,975	1,85,035	2.02
4.	Multan	Multan	68,671	1,42,768	1.17
5.	Sialkot	Sialkot	45,762	1,38,708	1.79
6.	Jalandhar	Jalandhar	52,119	1,35,283	1.53
7.	Ludhiana	Ludhiana	44,163	1,11,639	1.49
8.	Ambala	Ambala	67,463	1,07,383	0.74
TOTAL POPULATION			6,32,368	18,83,485	
Class II : 50,000 to 1,00,000					
9.	Gujranwala	Gujranwala	22,844	84,545	2.11
10.	Ferozpur	Ferozpur	39,571	82,502	1.18
11.	Patiala	Patiala	53,629	69,850	0.42
12.	Kasur	Lahore	17,336	53,101	1.80
13.	Jhang, Maghiana	Jhang	21,629	50,051	1.35
TOTAL POPULATION			1,55,048	3,40,044	
Class III : 20,000 to 50,000					
14.	Rohtak	Rohtak	15,699	48,148	1.80
15.	Batala	Gurdaspur	24,281	44,458	0.97
16.	Bhiwani	Hisar	33,762	43,921	0.42
17.	Bahawalpur	Bahawalpur	13,635	40,015	1.73
18.	Montgomery	Montgomery	3,178	38,345	4.06
19.	Panipat	Karnal	25,022	37,837	0.63
20.	Karnal	Karnal	23,133	37,444	0.73
21.	Hoshiarpur	Hoshiarpur	21,363	35,345	0.80
22.	Chiniot	Jhang	10,731	34,437	1.88
23.	Jhelum	Jhelum	21,107	33,191	0.72
24.	Dera Ghazi Khan	Dera Ghazi Khan	22,309	32,139	0.58
25.	Gujrat	Gujrat	18,743	30,899	0.80
26.	Rewari	Gurgaon	23,972	30,673	0.39
27.	Malerkotla	Malerkotla	20,621	29,321	0.50
28.	Hisar	Hisar	14,167	28,619	1.13
29.	Fazilka	Ferozpur	6,851	28,262	2.21
30.	Wazirabad	Gujrat	16,462	27,079	0.79
31.	Jagraon	Ludhiana	16,873	26,704	0.73
32.	Kapurthala	Kapurthala	15,237	26,067	0.86
33.	Bhatinda	Patiala	5,084	24,833	2.57
34.	Narnaul	Patiala	20,052	23,067	0.22
35.	Nabha	Nabha	17,116	22,625	0.44
36.	Hansi	Hisar	12,656	22,590	0.93
37.	Kaithal	Karnal	14,754	22,329	0.66
38.	Sirsa	Hisar	12,292	20,718	0.83
39.	Muksar	Ferozpur	3,125	20,651	4.85
40.	Kotkapura	Faridkot	6,196	20,584	1.93
41.	Faridkot	Faridkot	6,593	20,375	1.82
42.	Bhera	Shahpur	15,165	20,219	0.46
TOTAL POPULATION			4,60,179	8,70,895	

province (Census of India 1931, Part I, Vol. XVII, p. 118).

Urbanisation

The major difference between urban and rural population is that the former is engaged in trade, commerce, and such allied occupations while the latter is occupied in agriculture.

During 1881-1941 the process of urbanisation in colonial Punjab was marked by many ups and downs. In the first regular census conducted in 1881 the urban population of the Province was 2.48 million which comes to 11.9 per cent of the total population. The share of urban population in the Province declined in each census year until 1911. Even in the next census of 1921 the percentage of urban population was lower than the comparative figure of 1881 (Table 6). The trend of low growth in urban population between 1901 and 1921 may be attributed to the spread of epidemics. These epidemics in the province proved to be more fatal in the congested atmosphere of the towns and cities than in the countryside. It was only between 1921 and 1941 that the percentage of urban population increased from 10.3 in 1921 to 12.4 per cent in 1931 and from 12.4 to 14.7 per cent in 1941 (Table 6).

The number of towns was 168 in 1881 and it decreased to 166 in 1901. However, it increased to 185 in 1921. Between 1901 and 1921 the increase in the number of towns was 19. This small increase may be related to an overall decline in the population of the Province, particularly between 1901 and 1911, because of the increased death rate or due to spread of fatal epidemics.

The second phase of urbanization between 1921 and 1941 was quite conspicuous for the emergence of many new towns, some of which were engaged in various agro-based industries while others emerged as market towns as well as service centres along the major railway lines, railway junctions and other transportation routes. Most of such towns had their origin in the Canal Colonies. The

decline in death rate due to control over fatal diseases and epidemics through the extension of health services led to a higher rate of natural increase especially when the birth rate remained at the higher side.

Many colony towns such as Layllpur, Sargodha, Montgomery and Chichawatni were developed on planned lines. With the exception of Ludhiana, cantonment towns in all the district headquarters were established as well as new Civil Line areas on the periphery of old towns and cities were also developed on planned lines.

Table 7 gives an idea of the growth of urban population during the two census years of 1881 and 1941. Some of the newly added towns during this period contained people from places which were towns in the past but were no longer so in the intervening censuses. For example, the decaying towns of Shahpur, Gugaira, Okara, Kamalia and Dipalpur were not so important as large numbers of people from these towns shifted to the newly emerged colony towns such as Lyallpur, Montgomery, Sargodha and Gojra (Census of India - Punjab, 1931, Part I, Vol. XVII, p. 91).

At the time of the Census of 1941 there were 287 urban centres in the Province with a population of 5.04 million. Out of the total number of towns 224 were in the British districts and the remaining 63 towns were in the Native States. The north and eastern plain region had the highest number of urban centres. Important towns or cities of the Punjab in 1941 were Lahore, Amritsar, Jalandhar, Ludhiana, Ferozpur, Gujranwala and Patiala.

In 1941 the total number of Class I cities having a population of 1,00,000 and above was eight. The two largest cities of Lahore and Amritsar had a population of 6.72 and 3.91 lakhs respectively (Table 7).

The number of Class II towns with a population between 50,000 and 1,00,000 was five with a total population of 3.4 lakhs. The number of towns in the Class III was 29 with a population of 8.7 lakh. The number of Class IV towns was 39 and the total population of these towns was 5.37 lakh. The number of

Class V towns was 51. Their total population was 3.87 lakh. The Class VI towns with population of 5,000 and less consisted of 13 towns and had a total population of 37,578 persons.

The annual growth of population of individual towns between 1881 and 1941 reveals interesting trends (Table 7). In all the major cities having a population above 1,00,000 the rate of growth ranged from 0.746 in Ambala to 2.434 per cent in Lahore. In the Class II towns, five towns with the exclusion of Patiala (0.423 percent) the growth rate ranged from one to more than 2 per cent. In the Class III, the highest rate of growth (4.859 per cent) was noted in Muktsar whose population had increased from 3125 in 1881 to 20,651 in 1941. Another important town in this group was Montgomery which experienced a growth of more than 4 per cent.

In 1941, there were 20 towns which recorded a negative growth because of decline of population either due to the shift of urban population to the newly emerging towns in Canal Colonies or elsewhere. An interesting feature was that with the sole exception of Pind Dadan Khan no other town suffered a negative growth among towns or cities which had medium to large population (10,000 to 1,00,000 and above).

Amritsar and Lahore which were considered as cultural, commercial and industrial hubs of Punjab had a population of about 1.5 lakhs each in 1881. Lahore, known for its antiquity had a population of 1,49,316 persons as compared to 1,51,896 persons in Amritsar. But in the next Census of 1891 Amritsar lost its first rank to Lahore, which until 1941 remained at number one position with an annual growth of 2.4 per cent or about 3.5 times an increase since the first Census of 1881. Lahore and Rawalpindi experienced a doubled increase. Jalandhar and Amritsar had a growth of about 1.5 per cent between 1881 and 1941. Lahore, by virtue of its status as the Provincial Capital and its role as an eminent educational and cultural centre was bound to grow the fastest. The population of Lahore and Amritsar further rose by 4.5 and 2.6 times

respectively during this period.

In the early period of colonial rule majority of the population of Punjab Province was living in villages and most of the towns were small in size and the linkages provided by roads, railways and other means were very weak. The scenario changed gradually with the emergence of planned towns and villages in Canal Colonies. Agro-based or agro-marketing and processing centres started emerging particularly in Canal Colonies which finally activated the functional character of towns located along the major railway lines. The District Headquarters towns also underwent a major change in their administrative, commercial, and industrial functions. The railway network and newly laid out roads strengthened the linkages between major cities within the Province itself and with the important port-cities such as Karachi, Bombay and Calcutta.

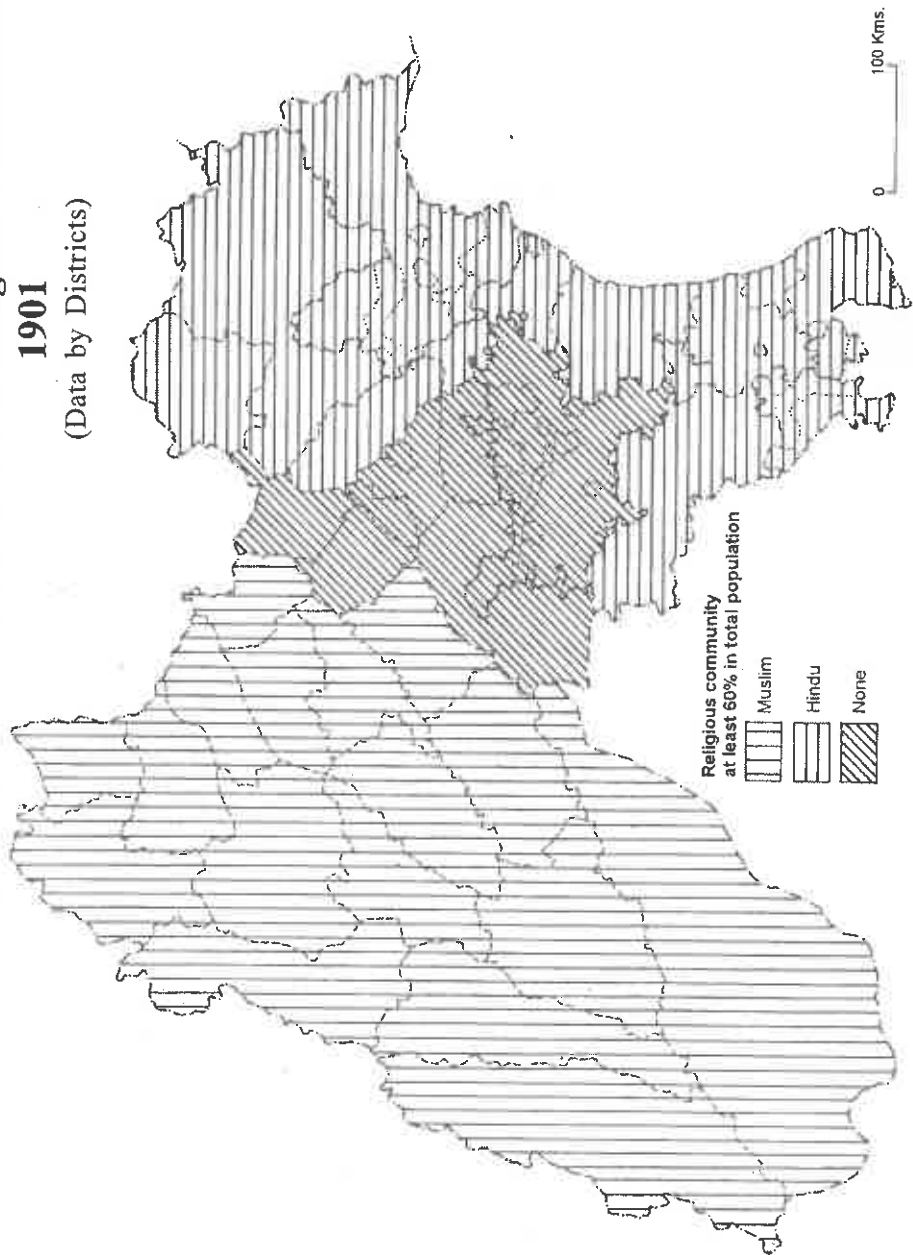
Religious Composition

A remarkable feature of the population of Punjab Province was its religious composition which represented all the major and minor religions. The main religious communities in the Province were Muslims, Hindus and Sikhs. The minority communities were Christians, Buddhists, Jains and Ad-dharmis. Such trading communities as Parsis and Jews were also present, though in small numbers. These religious communities represented a sort of evolution in cultural diversity. However, this religious diversity ultimately became a divisive force in Indian polity and formed the basis for the Partition of India in 1947 on religious considerations.

There were two provinces of India, Punjab and Bengal, which were partitioned on the basis of religion. Western Punjab was dominated by Muslims and Hindus and Sikhs formed the minority communities when it became a part of Pakistan. The eastern part of the Punjab was dominated by Hindus and Sikhs while Muslims were in minority when it became a part of India.

At the time of the 1941 Census of

Colonial Punjab
Concentration of Religious Communities
1901
(Data by Districts)



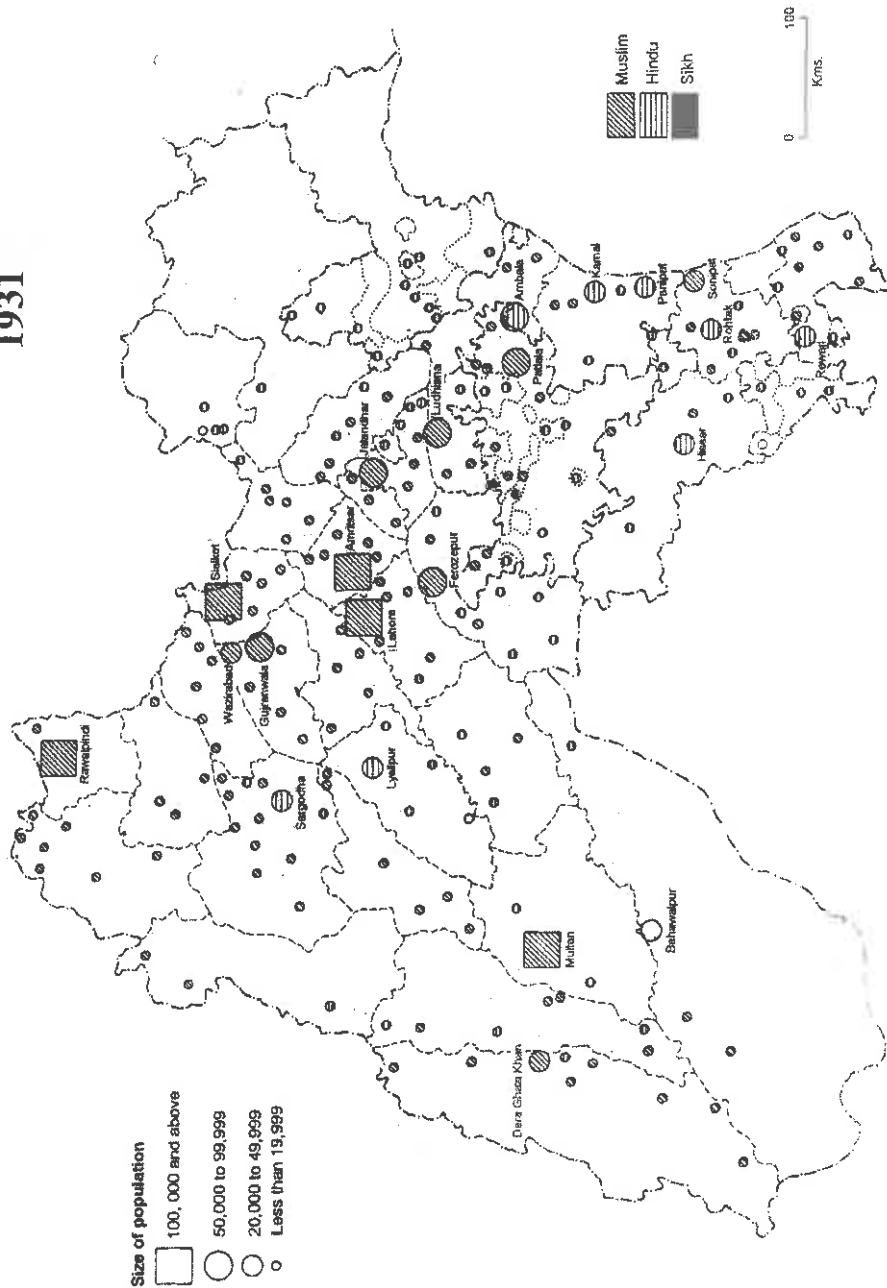
Religious community
at least 60% in total population

- Muslim
- Hindu
- None

Source: Census of India 1881-1941

MAP - 5

Colonial Punjab Religious Communities by Towns 1931



MAP - 6

British India, Muslims with 53.2 per cent population were in absolute majority. The percentage of Hindus and Sikhs was 29.1 and 14.9 per cent respectively. The share of Christians was 1.5 per cent and the population percentage of other communities was 1.3 per cent. Table 8 shows that in the Census of 1881 the gap between the proportion of Muslim and Hindu population was not so wide. At that time the Muslims had a share of 47.6 per cent and Hindus with 43.8 per cent of population were a close second. The Sikhs at that time were 8.2 per cent of the total population of the Province. It is evident that the share of the Muslim population increased steadily from 47.6 to 53.2 per cent between 1881 to 1941. The proportion of Sikh population during this period increased from 8.2 in 1881 to 14.9 percent in 1941. In case of Christians and other religious communities, their proportion was very small, though their numbers experienced a gradual increase.

It was only the Hindu community which instead of an increase, experienced a continuous decrease in its proportion between 1881-1941. Their proportion in the total population came down from 43.8 to 29.1 per cent in 1941 (Table 8). This decrease in Hindu population may be attributed to the

conversion of Hindu population to Islam, Sikhism and Christianity. The major conversions were from the lower castes among the Hindus. The conversion was negligible in the case of high caste Hindus (Census of India, 1931, Part I, Vol. XVII, p. 328).

In case a map of colonial Punjab in 1901 including the British districts and Native States is drawn showing the distribution of major communities of Muslims, Hindus and Sikhs - accounting for at least 60 per cent of the total population - a clear buffer zone emerges between these two religious communities, where both of them were not in majority (Map 5). This conspicuous zone sandwiched between these two communities is almost the region of the Indian Punjab created in 1966 where the Sikhs comparatively show their high concentration (Map 5). In this region Punjabi was the spoken language as compared to Hindi in the east and south-east and *Lahendi* in the west (Douie, 1916).

During the British period, out of the three major communities, the concentration of Hindu population was more in the towns and cities as compared to their share in the total population. In comparison, the Muslims were less urban keeping in view their share in the population of the Province. A majority of

Table - 8 : Colonial Punjab: Religious Composition of Population (1881-1941)

Census year	Muslims	Hindus	Sikhs	Christians	Others
1881	47.6	43.8	8.2	0.1	0.3
1891	47.8	43.6	8.2	0.2	0.2
1901	49.6	41.3	8.6	0.3	0.2
1911	51.7	35.8	12.1	0.8	0.2
1921	51.1	35.1	12.4	1.3	1.0
1931	52.4	30.2	14.3	1.5	1.6
1941	53.2	29.1	14.9	1.5	1.3

Source: (a) Census of India - Punjab, 1931, Part I, p. 69.
 (b) Census of India - Punjab, 1941, Vol. VI, p. 31.

the Sikh population lived in rural areas. Jat Sikhs, a land owning agricultural community, formed the largest segment among the Sikh population. This may account for the concentration of Sikh population in rural areas.

In 1941 the share of Hindu population was 29.1 per cent of the total but they accounted for nearly 38 per cent of the urban population in the Province. In comparison the Muslims which formed 53.2 per cent of the total population accounted for 54.4 per cent of the urban population. On the other hand Sikhs formed 14.9 of the total population and had only 8.4 per cent of their population in towns or cities.

On the whole Hindus were more urban than Sikhs and Muslims. Their proportion in towns was higher than their total number warranted. Proportionately more Muslims were urban than Hindus in eastern Punjab. The situation was reverse in the western part of Punjab which was predominantly Muslim, the urban population had a large number of Hindus (Map 6).

In the eastern part of Punjab where the Hindus had a higher proportion in the total population, Muslims resided in urban areas in proportionately larger numbers, while in the western Punjab which was dominated by Muslim population, a large proportion of Hindus resided in towns (Census of India - Punjab, 1931, Vol. XVII p. 96). Another interesting point emerging from the study of religious composition of urban centres is that out of the total 222 cities and towns in 1931, the Muslims had a majority in 60 per cent of the towns. Hindus were in majority in 39 per cent of the towns and the Sikhs had a majority in only two small towns of Bhadaur and Dhanaula in Patiala and Nabha States respectively (Map 6). Further, Muslims were in majority in towns located in the western part of the Punjab, Bist-Doab and in the districts surrounding Delhi. Hindus were in majority in the towns of the Hill States, Sikh Principalities and the south and south-eastern parts of the Province.

One of the important features of the religious composition of the Province was the

distribution of some castes or tribes cutting across their religious affiliations. Jats were Muslims in the west, Muslims and Sikhs in middle and Hindus in east and south-east Punjab. The same was true of the important castes of Gujjars and Rajputs (Duie, 1916, p. 104). The situation was also similar in case of many other castes. Since most of the converts into Islam or Sikhism originally belonged to Hinduism, their customs and rituals survived even after a gap of centuries.

Conclusion

During the colonial period, Punjab experienced considerable change in its population characteristics. Within a span of 60 years, the population of the Province increased from 20.8 million to 34.3 million. The population of British Punjab had a higher rate of growth as compared to the population growth of Native States because of a number of factors. Population increase in the British districts during this period was 7.6 million, where as it was only 1.2 million in case of the Native States.

Population density in the Province increased from 64 persons km² in 1881 to 96 persons per km in 1941. This density was higher in the British districts than in the Native States. The highest density in the Province was recorded in the central districts and the lowest density was noted in the south-western arid and north-eastern mountainous districts and the Native Hill States. The time span between 1901 and 1911 was the only period which saw a fall in population growth, which can be attributed to the outbreak of epidemic of plague and other fatal diseases. Control over epidemics was achieved through the adoption of effective public health measures.

The most important feature of demographic history of colonial Punjab was the intra-provincial immigration of peasant families from the congested districts into newly developed Canal Colonies. Nearly 2.4 million people migrated into these colonies. Some of the Punjabis, mostly consisting of skilled artisans and unskilled labour, also migrated to

over-seas British Colonies. Immigration and emigration both proved to be a boon in improving the standard of living of their families and the regions to which they belonged.

Another striking feature was the increase in urban population. The number of towns in the Province increased from 168 in 1881 to 287 in 1941. The religious composition of the Province and of its cities and towns were equally important aspects. Muslims with 47.6 per cent of the population in 1881

formed the largest religious community followed by Hindus (43.8 percent) and Sikhs (8.2 percent). In 1941 Muslims, Hindus and Sikhs shared about 53, 29 and 15 percent population of the Province respectively. An interesting point emerging from the analysis of the religious composition of urban population is that in the Muslim dominated parts of western Punjab Hindus were more urban than the Muslims, and the Muslims were more urban in the Hindu dominated eastern and south-eastern Punjab. Sikhs in 1931 were the major religious group only in two small towns.

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DIFFERENTIALS AND DETERMINANTS OF FERTILITY IN BIHAR AND TAMIL NADU: SOME EXPLORATIONS

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Abstract

The paper attempts to analyze the fertility levels and trends in two states in India which have been chosen from two clusters i.e. one where crude birth rate and crude death rates are low and the other where these two are relatively high. These are Tamil Nadu and Bihar respectively. The discussion on determinants of fertility has been categorized into four broad factors i.e. demographic, economic, social and others. The demographic factors include- age at marriage, age structure of the population, proportion of women in the reproductive age, mortality levels especially- infant mortality rate and its impact and the use of family planning measures. The social factors include literacy, educational levels of population and, population composition in terms of social groups. Besides this, such aspects as kinship structure and cultural ethos and values have also been considered, e.g. the role of son preference etc. The analysis of these is mainly based on a review of existing literature and other research related to the two states. In economic factors, overall development of infrastructure, especially of health, and its availability, levels of urbanization, work participation and occupational characteristics of population have been evaluated. Besides, the analysis on agricultural development of the two states has been limited to the review of research on the specified areas. Among other factors, Government policies and intervention has been considered as a major determining factor.

The analysis is based on primary as well as secondary sources of data. The secondary sources of data include Sample Registration Bulletin, Census of India, data from Centre for Monitoring Indian Economy (CMIE), National Family Health Survey (NFHS), and National Council of Applied Economic Research (NCAER). The analysis of primary data is based on a fairly large sample collected by NCAER for their all India survey of 35,000 households during the 1990's. The analysis in the present paper is based on 2155 rural households spread over 12 districts and 116 villages in the state of Bihar. For the state of Tamil Nadu 1456 rural households spread over 8 districts and 76 villages have been taken.

Proximate Determinants of Fertility

Despite decades of intensive and sophisticated academic work, a good deal about the determinants of fertility is still not known. The work by Bongaarts (1982) and

Bongaarts and Potter (1983) on the proximate determinants of fertility is a major accomplishment in quantifying the effect of the intermediate variables on fertility. Specifying the determinants of fertility in different regions or different cultural settings is a challenging task. Nevertheless, keeping

in mind the research work of Indian researchers, the plausible determinants of fertility differentials in India may be broadly divided into three categories: (i) Demographic factors (ii) Social factors, and (iii) Economic factors. Demographic factors include age structure of the population, age at marriage or changes in nuptial levels, proportion of women in the reproductive age and, use of family planning measures etc. These also include aspects of mortality. The social factors include literacy and educational levels of population, population composition in terms of social groups, kinship structure, cultural ethos and values etc. The economic factors may be taken as overall development of infrastructure especially of health and its availability, level of urbanization, work participation rate and occupational structure in the society i.e. agricultural or industrial and, income levels of the individuals. Above all, government policies or government intervention has also been considered as an important factor in determining fertility levels.

Various researchers, however, have specified the proximate determinants differently. For instance, the fertility decline in Kerala has been attributed to its high literacy levels especially female literacy (Nag, 1984; United Nations, 1995; Srinivasan 1996). In fact, education is the most commonly used indicator for fertility transition. At the micro-social level, educated women have been typically portrayed as 'forerunners' of the fertility transition. However, the commonly held view that fertility falls uniformly with education has been challenged now. Instead, an inverted U-shaped relationship between female education and fertility is documented. World Fertility Survey (1989) presents comparable data for a large number of countries and it is being concluded that education generally exerts a negative influence on fertility. The shape and strength of the association was nevertheless judged to be contingent on the level of economic development, social structure and cultural milieu (Cocharne, 1983; UNESCO 1983; Weinberger 1987).

Besides female education, researchers have discussed other social indicators such as women's status and fertility behavior. (Ware 1981, Mason 1984, Caldwell and Caldwell 1988, Cain 1989; Basu 1992). It has been documented that higher women's status is linked to lower fertility and support for this has been found in both developed and developing countries. Female labor force participation has been taken as an indicator of women's status on the assumption that earning capacity empowers women and enhances their autonomy. Dyson and Moore (1983) however, contest such a picture for northern India, which has a patriarchal kinship system characterized by arranged marriages, dowry payments, early age at marriage, and social segregation of the sexes, limited spousal communication and son preference.

Son preference has been considered an important factor in determining high fertility in northern states of India (Bardhan 1988; Basu 1989; Dharmalingam 1996). With recent NFHS II, IIPS data, it can be concluded that son preference is strong in the states of northern and central region and weak in most of the southern states. Further, son preference has a significant effect on fertility, though its effect varies from state to state. It has been argued in the study that if gender preference for children could be entirely eliminated, the level of fertility in India would fall by about 8 per cent. In this regard, population policy needs to pay special attention to the possible consequences of high son preferences that affects significantly the retardation of fertility decline.

Age structure and age at marriage has been considered an important factor in fertility behaviour by Srinivasan (1996), Zacharia (1984) and Premi et al.(1989). In a recent state-wise analysis, Srinivasan (1996) has shown that the demographic force of changes in the age-structure of population, particularly the rise in the proportion of younger women in reproductive age have contributed to a substantial increase in the crude birth values. He has also pointed out that due to rise in age at marriage, marital fertility has declined in

the states. Demographers have estimated a probable decline in fertility with increasing marriage by five years. Using the Calcutta-Singur data, it is argued that if the mean age at effective marriage for all Indian women were raised from 16.8 to 20.5 years, the birth rate would be reduced by 23 per cent after 20 years. It is estimated that if the minimum age at marriage for women were actually 20, the eventual decrease in the Indian birth rate would be about 30 per cent. Women who marry markedly later than the average age at effective marriage for their groups have significantly fewer children than those who marry earlier (Jain 1986). Over a period of time i.e. from 1961 to 1991, there are evidences that the age at marriage is increasing in many states. Mamdani on the basis of his interview in Manupur village concludes that delay in age at marriage has been largely due to economic reasons (Mamdani, 1972). The recent intensification of agriculture in the area has increased the workload of a farming family, not only in the fields but also at home where women's work, such as preparing and serving food, looking after animals etc. have increased greatly. So the longer a girl remains unmarried, the larger her natal family has the benefit of her valuable work. Furthermore, a grown up, unmarried daughter can earn part of her dowry by weaving mats, sewing clothes and spinning. In the families of landless labourers as well, the age of the girls at effective marriage has risen sharply, in part at least because grown daughters can earn good wages, especially at periods of peak labour demand.

Besides demographic determinants, many authors argue that the socio-economic changes alter the cost-benefit ratio of children to parents and the society. The examples are cited for the state of Kerala. It has been argued that developments in public health have resulted in increased number of surviving children and, parents' perceived higher cost of educating their children, has paved the way for successful practice of family planning (Krishnan, 1986; Zachariah, 1984, 1994; Visaria 1988). They have argued that

development of a network of service facilities and making them easily available and accessible contributed significantly to fertility decline in Kerala.

The principal factors affecting fertility in the above mentioned studies are the basic demographic and socio-economic variables. However, it has been argued that the basic determinants of fertility discussed above do not operate as favourably in the state of Tamil Nadu as compared to the states where the levels of fertility have declined. Near replacement level in fertility is a matter of debate. Mari Bhat (1996) has pointed out that the 'Tamil Nadu puzzle' has set a new stage in our knowledge of fertility transition in India. In fact, Tamil Nadu's fertility rate dipped to near replacement level in the early 1990s while its IMR was hovering around 56, the female illiteracy was as high as 48 per cent, the percentage of population below poverty line was as high as 33 per cent and Tamil Nadu occupies the last rank among the Indian states with respect to dietary energy intake. Paradoxically, Tamil Nadu's fertility decline was sharper and the conditions under which it occurred were less favourable than those in Kerala. This suggests that the factors operating in Tamil Nadu are other than socio-economic reforms, literacy, IMR and the standard Indian family planning programme. Mari Bhat has further argued that Tamil Nadu's decline in fertility has been affected by two factors viz., (i) exposure to mass media and (ii) a low proportion of joint families in the state. In view of this framework, an attempt has been made in the following sections to compare the fertility differentials in Tamil Nadu and Bihar.

Context of Present Study

The population of India has been rising rapidly in size since fifties, and during the decade 1991-2001, it increased at a rate of 1.98 percent annually. However, this growth rate was slightly lower than the one during the last decade (2.12 per cent). There are also significant variations in the growth rates among the states that are mostly attributed to

Table 1 : Trends in Population Growth (1901-2001)

Census Decade	Bihar	Tamil Nadu	India
1901-11	3.67	8.57	5.75
1911-21	-0.66	3.47	-0.31
1921-31	11.45	8.52	11.0
1931-41	12.2	11.91	14.22
1941-51	10.27	14.66	13.31
1951-61	19.76	11.85	21.51
1961-71	21.33	22.30	24.80
1971-81	24.06	17.5	24.66
1981-91	32.49	14.94	23.5
1991-2001	28.43	11.19	21.53

Source: Census of India, Various Years, Government of India, New Delhi.

Table 2 : Female Mean Age at Marriage

States	1961	1971	1981	NCAER (1993)	NFHS-I (1993-94)	NFHS-II (1998-99)	2001*
Bihar	14.3	15.3	16.6	17.4	16.06	17.0	19.0
Tamil Nadu	18.2	18.3	18.4	20.5	19.01	19.8	20.8
All India	16.1	17.2	18.3	20.0	17.5	NA	19.9

Source: (i) Census of India, Various Years, GOI, New Delhi. (ii) NCAER, HDI Survey, 1993-94. (iii) * mean age at effective marriage. (v) NA - Data not available.

Table 3: Age-Specific Fertility Rates

Age-Group	BIHAR			TAMIL NADU			All India		
	1981	1991	2001	1981	1991	2001	NFHS (I)	NFHS (II)	2001
15-19	114.0	78.5	53.5	71.00	45.3	32.6	121.0	113.0	48.9
20-24	275.5	230.8	244.6	207.7	186.7	181.9	241.0	223.0	215.9
25-29	277.4	203.9	233.3	193.8	130.7	129.2	190	180	177.3
30-34	214.0	165.1	180.9	124.6	54.6	46.1	141	112	98.5
35-39	145.0	116.1	104.3	55.1	20.8	12.4	78	50	49.9
40-44	73.1	59.9	54.6	19.5	4.2	3.2	26	18	21.2
45-49	25.2	26.5	15.3	5.3	1.5	0.8	4.0	2.0	7.3

Source: Various issues of SRS and National Family Health Surveys-I (1993-94) and II (1998-99).

Table 4 : Cumulative Percent Fertility

Age-Group	Bihar			Tamil Nadu			All India
	1981	1991	2001	1981	1991	2001	2001
15-19	10.1	8.9	9.0	10.5	10.2	7.9	9.6
20-24	34.4	35.1	38.6	41.2	52.3	55.8	48.4
25-29	58.9	58.3	65.9	69.8	81.7	86.7	76.3
30-34	77.8	77.0	83.8	88.2	94.0	97.0	90.5
35-39	90.6	90.2	94.7	96.3	98.7	99.3	97.1
40-44	97.1	97.0	98.9	99.2	99.7	99.9	99.4
45-49	100	100	100	100.0	100.0	100.0	100.0

Source: Sample Registration System, Statistical Report, 2004.

Table 5 : Infant and Child Mortality in Bihar and Tamil Nadu

Year	Tamil Nadu		Bihar		All India	
	CDR	IMR	CDR	IMR	CDR	IMR
1982*	11.6	87	13.7	110	12.1	107
1987*	9.5	77	13.1	110	11.0	95
1992*	8.5	57	10.5	71	9.7	78
NFHS-I	12.0	67.7	11.5	89.2	-	78.5
NFHS-II	-	48.2	10.0	72.9	-	67.6
2005	7.4	37	8.1	61	7.6	58
%Change (1991-2001)	-9.2	17.4	-20.3	-20.4	-14.4	-18.7

Note: * refers to the three years moving average e.g 1982 represents average of the years 1981, 1982 and 1983.

Table 6 : Total Fertility Rates according to Social Groups

Categories	Bihar	Tamil Nadu	All India
Hindus	5.2	3.1	4.2
(SCs and STs)	5.4	3.1	4.6
Other Hindus	5.0	3.1	4.0
Muslims	6.0	3.1	5.8
Other Minorities	6.0	1.3	3.1
All Groups	5.3	3.0	4.3

Source : NCAER Survey (1993-94).

migration, differentials in mortality rates and to some extent differences in the marital fertility of population. On the basis of these statistics, Indian states can be categorized into different demographic zones and the pattern reveals a clear north-south divide (Bose, 1992). One finds Bihar, Uttar Pradesh, Rajasthan and Madhya Pradesh among the demographically vulnerable states, while the states of Kerala, Tamil Nadu, Karnataka, Andhra Pradesh and Gujarat are among the demographically progressive states.

The present paper attempts to analyze the fertility levels and trends in two states of India, which have been chosen from these two clusters, i.e. one where crude birth rate (CBR) and crude death rate (CDR) are low and the other where these are relatively high. These two states are Tamil Nadu and Bihar respectively. It may be emphasized that during 1991-2001 Tamil Nadu registered a decadal growth rate of 11.19 per cent, which was second lowest in the country, next only to Kerala (9.42 per cent). On the other hand, Bihar registered a growth rate of 28.43 per cent during the same decade. According to Sample Registration Statistics (2004) these states show remarkable differences in terms of crude birth rate and total fertility rate—in Bihar, CBR is 28.1 and TFR is 4.4 children per woman, while in Tamil Nadu total fertility rate (TFR) is 2.0 which is very close to the replacement level. The trends in population growth of these two states are shown in Table 1.

It may also be noted that in terms of economy the state of Tamil Nadu is not as prosperous as Punjab and Haryana. Similarly, in terms of female literacy and child survival, the state does not show as remarkable a performance as Kerala. Further, infant mortality rate per'000 is 11 in Kerala, 49 in Tamil Nadu and 62 in Bihar (SRS, 2004). Even then, the state of Tamil Nadu has registered a considerable decline in fertility. That is why it is interesting to find out the underlying determinants of fertility in Tamil Nadu and its comparison with the state of Bihar, which is economically backward and has an altogether different socio-cultural milieu.

Sources of Data and Methodology

The paper is based on primary as well as secondary sources of data. The secondary sources of data include Sample Registration Bulletin, Census of India, data from Centre for Monitoring Indian Economy (CMIE), National Family Health Surveys (NFHS I and II), and National Council of Applied Economic Research (NCAER). The primary data pertains to a fairly large sample collected by NCAER for their all India survey of 35,000 households during the 1990's. The data for the present paper pertains to 2155 rural households spread over 12 districts and 116 villages in the state of Bihar. For the state of Tamil Nadu 1456 rural households spread over 8 districts and 76 villages have been taken. The causal relationship between determinants of fertility has been worked out using multiple regression technique.

Determinants of Fertility

The determinants of fertility may be grouped as demographic, socio-behavioral and economic.

DEMOGRAPHIC DETERMINANTS

Age at Marriage: The female age at marriage occupies a prominent place in fertility behavior as entrance to marriage is used as an indicator of her exposure to the risk of child bearing. A comparative picture for the female mean age at marriage for the two states is given in Table 2. The table shows that female age at marriage is quite low in Bihar as compared to the all India average and that over a period of time although the age at marriage has increased but it is still low as compared to the state of Tamil Nadu.

Age at marriage may be related to the age specific fertility rates which are presented in Table 3. It is evident from the table that as compared to Bihar, the women of Tamil Nadu seem to terminate child bearing at a much younger age. Table 4 which shows cumulative percent fertility values suggests that in case of Bihar, there was no shift in the pattern of fertility during the decade 1981-1991. The

state of Tamil Nadu on the other hand recorded an accelerated pace of child bearing during the same period. Swamy and Sinha (1994) in their study, using decile values of the cumulative percent fertility, have concluded that in 1981 in the state of Bihar 90 percent of the fertility contribution came from women between 35-39 years of age. In comparison in the state of Tamil Nadu a similar contribution came from women by 34 years of age. By 1991, the state of Tamil Nadu had made rapid progress in reducing the length of reproductive period in the course of attaining 90 percent of the fertility, whereas Bihar had not made any dent in reducing the length of the reproductive period. In fact, the women of Tamil Nadu stop child bearing by the age of 35-39, whereas in case of Bihar child-bearing continues even after women attain forty plus age.

Though, marriage age is a crucial factor in explaining fertility levels, it is influenced by a number of social, economic and cultural factors such as education, work participation rates, place of residence, and religious and cultural practices etc.

Mortality: The relationship of mortality, especially infant and child mortality, with fertility is well documented (Scimshaw 1978; Richter and Adlakha 1989; Chaudhry 1982; El Deeb 1989). Though the exact nature of this relationship is less evident empirically, the four possible mechanisms through which child mortality may operate to influence the level of fertility are linked with the biological, replacement, insurance and societal response effects. This relationship assumes further significance, because there are distressingly high levels of infant and child mortality in our country. Table 5 shows a remarkable difference in CDR, IMR and child mortality under 5 years of age in the two states under study.

High mortality rates, particularly infant mortality, lead to an increase in the number of births required for achieving a desired family size and consequently this leads to high fertility. In this context, one can say that while explaining the fertility differentials in two states, CDR, especially infant and child

mortality, plays a determining role. Over a period of time, infant mortality in Bihar has declined significantly, yet the level continues to be high and requires immediate attention. Further, efforts to promote child survival among various socio-economic groups need to concentrate on very young mothers whose children are closely spaced. As pointed in NFHS II, it must be noted that infant mortality is 49 percent higher among children born to mothers under age 20 than among children born to mothers in the age group of 20-29 years.

At the same time, it should also be kept in mind that infant and child mortality itself is affected by a number of other factors such as availability of health care facilities, better nutritional intake which is a proxy of better economic conditions, and also the educational levels especially women education, as these have a direct bearing on the desired family size and the planned number of births.

SOCIO-BEHAVIOURAL FACTORS

Social determinants of fertility include social groups/hierarchy and religion, women's status, overall educational levels and women's education in particular. Among behavioural factors, use of family planning measures and role of son preference are included.

Social Groups/Hierarchy: The inverse relation of caste status and fertility is exemplified theoretically as well as empirically as is evident from some surveys. It should be mentioned that the secondary data availability for recent years on caste affiliation and fertility behaviour is fragmentary. In the present study, TFR in relation to religious affiliation has been discussed using NCAER 1993-94 household data (Table 6). It shows that at all India level, among Hindus, TFR is 4.2 children as compared to 5.8 children among Muslims and 3.1 among other minorities. A comparison of two states however, shows that while Bihar shows a high TFR among Muslims as compared to Hindus there is no difference in TFR with respect to Hindu and Muslim population in Tamil Nadu.

It may also be noted that SC and ST population constitutes about 22 percent in Bihar and 18 percent in Tamil Nadu as per 2001 Census. One finds a large gap in SC, ST and non-SC, ST population in terms of age at marriage and child mortality (NCAER, 2000), as these are considered to be disadvantageous section of population. The interesting point however, is that the gap among these groups is quite large in Bihar, while it is not so in the state of Tamil Nadu.

Women's Status : Women's status to a large extent depends on the social structure, i.e. whether the society is patriarchal or matrilineal. Women's status also gets reflected in the social values in the family as well, which are nurtured from childhood as part of the cultural legacy. It is widely accepted that in north Indian states, these values show a major bias against girl child. Though, it is not possible to make an index of women's status (as this itself requires a large literature review and lies

beyond the scope of present study), an attempt has been made to gauge the status of women through an indirect measure. Excess of female mortality over male mortality by age 5, may be taken as an indicator of female autonomy. Generally it is found that sex ratio is favourable to male at birth, i.e. 104 male babies are born per 100 female babies. Biologically, female child is stronger than the male child, and in most societies, male child survival is less than the girl child during infancy and childhood. Hence, disparity in male female child mortality may be taken as an indicator of the women's status. Female child mortality is much higher in case of Bihar as compared to Tamil Nadu. In joint Bihar (Bihar and Jharkhand), 30 out of 31 districts recorded a female mortality higher than that of male. In Tamil Nadu, only 5 out of 16 districts had such a situation.

Education, work participation and exposure to mass media are some of the means

Table 7 : Fertility Indicators by Level of Education (2001)

Indicators	Illiterate	Total literate	Without formal education	Below Primary	Primary	Middle	Class X	Class XII	BA & Above
Bihar (% Female Pop.)	65.3	34.7	5.0	6.8	6.0	9.3	4.9	1.6	1.1
GFR	147.2	103.9	149.8	115.2	70.9	91.4	107.3	106.5	94.1
TFR	5.0	3.3	4.6	4.0	2.6	3.2	2.8	2.5	2.1
T.N. (% Female Pop.)	25.0	75.0	0.0	22.5	17.6	14.4	10.3	5.8	4.3
GFR	50.5	73.8	0.0	91.0	75.6	66.1	56.0	57.9	67.3
TFR	2.5	2.0	0.0	2.7	2.1	1.9	1.6	1.4	1.3
India (%F.P)	43.2	56.8	3.6	11.9	11.3	14.2	8.2	4.1	3.5
GFR	120.1	83.8	119.2	120.0	80.0	68.0	67.8	60.1	64.9
TFR	4.1	2.4	3.9	3.5	2.3	2.0	1.8	1.5	1.5

Source: Census of India, 2001 and SRS Statistical Report, 2004

Table 8 : Distribution of Sample Households (NCAER:1993-1994)

States	Total districts	Selected Districts	Villages	Households
Bihar	42	12	116	2155
Tamil Nadu	20	8	76	1456
All India	433	195	1765	33230

Source : NCAER (1996).

by which women gain status and autonomy. Both of these are important aspects of their empowerment. To measure it directly NFHS-II asked questions on women's participation in household decision-making, their freedom of movement, and their access to money and freedom to spend it. Women's autonomy and status is likely to have a significant impact on the demographic and health-seeking behavior of couples because it affects women's relative control over fertility and influences women's attitudes e.g. attitudes concerning the sex composition of children, and abilities i.e. the ability to obtain health services for themselves and their children. According to NFHS-II more than half of women in Bihar are not involved in decisions about seeking their own health which clearly reflects its direct bearing on high fertility rates in the state.

Education : Education is a relevant indicator for fertility analysis at various levels. At the macro-level, the level of education has been typically employed to compute an index of socio-economic development. More recently, education has come to be regarded as a catalyst of 'modernisation' in innovation-diffusion theories (Cleland and Wilson, 1987). The adult literacy rates of the two states under study show that in Bihar, literacy rates are quite low and the picture is very dismal in case of female literacy. In comparison to all India female literacy of 54.16 percent, in Bihar this figure is as low as 33.57 percent (Census 2001). In the state of Tamil Nadu, female literacy is 64.5 percent and overall literacy is 82 percent. Though it is still lower than the state of Kerala, one can argue that a higher proportion of female literacy has a positive impact in creating an awareness to have a small family size and hence, reducing fertility levels in Tamil Nadu.

Health Care and Family Planning : Besides literacy, the desire to keep a limited family size may be obtained by knowing the health care measures utilized, as well as the proportion of couples who adopted family planning measures in the two states. The quantitative information of the two states presents a very contrasting picture. In the

state of Bihar, only 16 percent of the total births were institutional in 2001, as compared to 65 percent in Tamil Nadu. It shows a wide gap in the medical attention sought by mothers during births and has a bearing on IMR and maternal mortality which ultimately affects the TFR of the two states. Similarly, the percentage of effectively protected couples is about two and half times more in Tamil Nadu as compared to Bihar, which again has a direct effect on fertility levels. The wide difference in adoption of these measures in these states may be due to difference in exposure to mass media, as shown in a study by Mari Bhat (1996). Among other reasons may be included the impact of social movements and the status of delivery of health care facilities in these two states.

Type of Family and Household Size: It may be noted that in Tamil Nadu, the average household size is 4.5, which suggests that most of the families are undoubtedly nuclear. It can be argued that joint family residence, besides curtailing the freedom of younger couples in reproductive choices also tend to restrict the exposure of young women to mass media.

ECONOMIC DETERMINANTS

Among the economic determinants which influence fertility behavior can be included the development of infrastructure, women workforce participation, sectoral distribution of workforce, residence by area i.e. urban or rural and, income levels of households.

Income: Though income is a major constituent of the economic determinants, its association with fertility levels is being attempted quite scarcely as the secondary data on household income is rather difficult to obtain. In order to understand the effect of income on fertility, NSS data has been used. It shows a regular decrease in fertility among households with increasing income. In 1960-61 round data, a sample of 16,289 urban couples was classified into five categories. Similarly, for another round of data i.e. 1964-65, a sample of 39,469

rural respondents was considered. More recent data on income and fertility can be obtained from NCAER household survey (HDI, 1996). At the all India level, it shows a clear positive association with household income. It is evident that in rural India, fertility decline is quite remarkable as the household income doubles. Though after a given level of income, the decline in fertility is not visible. It may also be noted that TFR remains indifferent if the same households are classified according to land holding and occupational structure.

Female Workforce Participation : Traditionally, female labor force participation has been used as an indicator of women empowerment on the assumption that earning capacity empowers women and enhances their autonomy. However many working women, particularly those in family enterprises, agricultural employment and informal sector, gain little or no control over resources. Thus participation in the labor force *per se* may not be very revealing in terms of fertility behavior as the type of employment women are engaged in. A comparison of women work participation in the two states shows that women's work participation is almost double in Tamil Nadu as compared to Bihar in terms of usual status activity. In case of usual and subsidiary status also in Tamil Nadu, the share of women in gainful employment is more than double as compared to Bihar state.

Type of Residence : The type of residence, i.e. rural or urban, has also been considered an important determinant affecting fertility behavior. Tamil Nadu is the second highly urbanized state after Maharashtra. In case of Bihar, a little more than one-tenth of its population resides in urban areas and over a period of 30 years, the process of urbanization in the state has been sluggish. This certainly has an impact on fertility behavior in the sense that in urban areas, people get more exposure to education and get more access and awareness to various means towards limiting their families.

Besides these variables, the overall

development of the two states may be compared in terms of availability of infrastructure. This is considered a proxy of levels of economic development. The data shows Tamil Nadu at a higher level as compared to Bihar. A poor state of infrastructure development in Bihar has certainly affected the levels of social development, which in turn affects the fertility behaviour of the population, and the state remains at an earlier stage of demographic transition.

Evidences from household level primary data

During 1993-94, NCAER conducted a fairly large household survey of about 33,500 households in 16 major states in India, primarily to obtain a Human Development Profile (NCAER, 1996). These rural households were spread over 195 districts (out of 435 districts) and 1765 villages of rural India. In the state of Bihar (undivided), 2155 households were selected from 116 villages in 12 selected districts, while in Tamil Nadu 1456 households were selected from 76 villages, spread over 8 districts out of a total of 20 districts in the state (Table 8). During this survey information related to various social and economic characteristics of the households was collected. The data for this paper have been drawn from this larger survey.

In this section, an attempt has been made to analyze the correlates of fertility in the selected states on the basis of household data. As stated earlier, fertility is measured in terms of CBR, TFR, GFR, ASFR etc. However, for the present analysis it has been measured in terms of mean number of ever born children (MCEB) per married woman. Since no information was collected on current fertility hence, it is not possible to compute Total Fertility Rate (TFR). Also attempts to compute MCEB for women who have completed their fertility, i.e. women in 40 to 49 years age-group were hampered due to the small sample size as it accounts for only 10 to 15 per cent of total sample of ever married women in 15 to 49 years age group. Hence, in this analysis, MCEB of ever married women in 15 to 49

**Table 9 : Summary Statistics of Fertility Determinants of Sample States
(Women in 15 to 49 years)**

Characteristics	BIHAR		TAMILNADU	
	Mean	S.D.	Mean	S.D.
Mean No. of live births	3.05	2.16	2.47	2.06
Male live births	1.70	1.38	1.30	1.31
Female live births	1.35	1.33	1.17	1.24
Total living children	2.43	1.91	1.78	1.51
Male living children	1.48	1.21	1.09	1.01
Female living children	1.16	1.16	0.98	0.99
LB-LC	0.40	0.84	0.32	0.78
Women's age in years	30.46	8.43	30.55	8.34
Gap in years between women & spouse	5.50	3.52	7.02	4.23
Mean age at marriage	16.06	5.80	19.02	7.80
Mean age at effective marriage	16.87	5.71	19.10	7.74
Women's Literacy Status				
Illiterate	0.81	0.39	0.55	0.49
Below Primary	0.03	0.16	0.14	0.35
Primary	0.04	0.20	0.09	0.29
Middle	0.06	0.23	0.12	0.32
Matric & above	0.07	0.25	0.10	0.30
Household Characteristics				
Cultivators	0.41	0.49	0.33	0.47
Salaried	0.12	0.32	0.14	0.35
Wage Earners	0.26	0.44	0.43	0.49
Others	0.22	0.41	0.10	0.30
Lower segment below poverty	0.23	0.42	0.29	0.45
Lower segment above poverty	0.27	0.44	0.23	0.42
Upper segment above poverty	0.05		0.46	0.41
Social Groups				
Sch. Tribes	0.12	0.33	0.00	0.07
Sch. Castes	0.22	0.41	0.36	0.48
Other Hindus	0.44	0.49	0.57	0.49
Muslims	0.18	0.39	0.02	0.13
Village Characteristics				
Less Developed	0.32	0.46	0.01	0.11
Moderate Developed	0.40	0.49	0.26	0.44
High Developed	0.31	0.46	0.73	0.45
Other Characteristics				
Female Watching/listening TV/radio	0.26	0.44	0.47	0.50
Anganwadi in village	0.19	0.39	0.74	0.44
CHW in village	0.15	0.36	0.52	0.50
Female agricultural wage Rs.	22.92	4.62	21.33	5.89
Female non-agri. wage (RS)	26.80	11.13	46.73	33.24
Special Scheme on Education	0.03	0.20	0.73	0.44
Special Scheme on health	0.09	0.29	0.60	0.49
Special Scheme on women	0.01	0.10	0.21	0.41
N	2504		1509	

years age group has been taken as a measure of fertility. Fertility thus measured may have some limitations since this data does not reflect the status of current fertility, yet it has certain advantages also. This is due to the fact that many factors, which lead to fertility differentials, act in a sustained way over many years and their cumulative effect upon fertility is much more readily observable than their cross-sectional effect at a particular data. For this reason, children ever born (CEB) data are particularly useful for studying differential fertility. Hence for this analysis, CEB has been taken as the dependent variable i.e. as a measure of fertility.

A summary of statistics of socio-economic characteristics of the selected sample of the two states is given in Table 9. It shows that mean age at marriage in Bihar is 16.06 years, while it is 19.02 years in Tamil Nadu. Similarly, of the sample women, one finds that while in Bihar as many as 81 per cent of the women were illiterate, this proportion was much lower (55 per cent) in Tamil Nadu. The distribution of households according to social groups reveals that while in Bihar 18 per cent of the sample women belonged to Muslim community; it was just 2 per cent in Tamil Nadu.

There are also wide variations in village characteristics of the two states. In Bihar, about 32 per cent of the villages were less developed (in terms of availability of various infrastructure) while it was just 1 per cent in Tamil Nadu. Similarly, exposure to mass media may be obtained by the variable identified as women watching T.V. and listening to the radio, which is 26 per cent in Bihar and 47 per cent in Tamil Nadu. It may also be noted that the Government efforts seem to be quite half hearted in Bihar as the data show that only 1 to 9 per cent of the sample villages were covered under any special scheme on education, health and any women specific program, while in Tamil Nadu, about one-fourth villages had special schemes on women and nearly three-fourths were covered under special education and health programs. Hence, the data indicates that there are wide variations in the social and economic

characteristics of the sample households of the two states.

Variables of Regression Model

In order to measure the causal relationship among these variables, an attempt has been made to explain the determinants of fertility using household level primary data. As stated earlier, fertility or the dependent variable has been defined as mean number of ever born children to ever-married women in 15 to 49 years age group. The details of eight explanatory variables of the regression equation are described below.

The female mean age at marriage is a proximate determinant of fertility and thus could directly influence the number of children born. Hence, it has been hypothesized that there is an inverse relationship between age at marriage and level of fertility. For regression analysis effective mean age at marriage i.e. age of consummation of marriage has been taken as an explanatory variable. It is due to the fact that while in north India, the practice of early marriages is quite common yet, one finds that there is some gap in its consummation or say the '*gauna*' or the real period when the girl starts her marriage is a few years later. Effective age at marriage is expected to capture the influence beyond the obvious technical relationship. Moreover, female age at marriage is a powerful indicator of status of women, with early marrying population characterized by low female autonomy (Mason, 1990).

Another independent variable viz. total income of the household, shows the economic characteristics of the household and it has been presumed that among higher income households the fertility is low due to a number of reasons. This variable has been taken in log terms rather than absolute income for the present computation.

The variable adult literacy i.e. literacy of 15+ population has been considered as inversely related with fertility. Though the relationship between fertility and education has been disputed by many researchers on the

basis that only literacy and a few years of schooling does not change the behavior of the population. Yet, in this regression model total adult literacy has been considered due to the fact that CEB refers to cumulative births and total adult literacy rate of a household is an outcome of sustained change over years. It needs to be emphasized that total literacy instead of female literacy is considered due to the fact that fertility decisions are still being taken by male members in the Indian patriarchal set up.

Child mortality is hypothesized to be positively related with fertility. It has been assumed that when infant and child mortality is high, there is a tendency to have more children in order to nullify the impact of mortality. The variable of household size is assumed to be positively related with fertility. The logic is that in extended or joint family system, costs and care of children are shared. Moreover young couples, especially women, enjoy less autonomy and resistance to new ideas and innovations in such families.

The other two variables i.e. the percent couples using family planning measures and number of abortions per married woman represent proximate determinants of fertility. These are fertility behavior variables and inversely related with fertility. These two behaviors are predicted for an explanation of deliberate attempts to control fertility. Another variable, female work participation rate, is considered as inversely related with fertility. There is some problem with this indicator in the sense that the women who are working in fields are also taken as workers. Hence, it cannot be taken as a proxy of female autonomy and a high women status. Nevertheless, it would be interesting to see what kind of relationship does female work participation reflects *vis-à-vis* fertility in the two states. The variables used for the multiple regression model are listed below:

Y: Mean number of children ever born per married woman

X1: Effective mean age at marriage

X2: Total income of the household (taken in log terms),

X3: Adult literacy rate,

X4: Child mortality,

X5: Adoption of family planning measures,

X6: Number of abortions per married woman,

X7: Female work participation, and

X8: Household size/type of household.

The results of multiple regression i.e. mean children ever born as a function of the above discussed explanatory variables are presented in following equations:

Bihar

$$Y = -.347 + .035 (x_1) - 2.92 (x_2) + .0901 (x_3) + 2.071 (x_4) + .008 (x_5) + .519 (x_6) + 1.037 (x_7) + .223 (x_8)$$

(4.31) (-1.90) (.80) (17.60) (7.93) (1.86) (4.24)

(15.58),

$$(R^2) = .284 \quad N = 2155$$

Tamil Nadu

$$Y = -.380 + .302 (x_1) - 4.72 (x_2) - .1314 (x_3) + 2.366 (x_4) + .0102 (x_5) + .587 (x_6) + .4243 (x_7) + .223 (x_8)$$

(4.75) (-3.42) (-1.28) (24.08) (3.27) (3.996) (1.82) (13.19)

$$(R^2) = .4423 \quad N = 1456$$

The results for the state of Bihar show that child mortality is positively and significantly related to fertility, followed by household type i.e. in large/ joint/ extended families, the fertility is high as compared to nucleated households. As expected, the regression shows income to be inversely and significantly related with fertility. It may be noted that in case of Bihar, adult literacy shows an insignificant relationship with fertility. The effective mean age at marriage shows a positive association, which is contrary

to the practice and theory. Surprisingly, the proximate determinants of fertility, i.e. induced abortions and use of family planning measures *vis-à-vis* fertility also show a positive causal relationship in case of Bihar. In general, the analysis suggests that high fertility in Bihar is closely associated with the high level of child mortality, presence of joint and extended family structure or say strong patriarchal system and widespread poverty.

In case of Tamil Nadu, the adjusted correlation coefficient (R^2) is 0.4423, indicating 44 percent of the variation in fertility being explained by the identified eight variables. In this state also, fertility behavior shows a positive and significant relationship with child mortality, and household type/size. It shows a negative causal relationship with income and literacy. However, the relationship is insignificant with the age at marriage and adoption of family planning measures. Hence, the regression analysis based on primary data reveals that in Tamil Nadu, the significant explanatory variables determining fertility behavior in the sample population are education, economic prosperity, child mortality and household type.

Conclusion

The states of Bihar and Tamil Nadu are at different stages of demographic transition as reflected by their diverse rates of mortality and fertility. Though incidence of poverty is high in Tamil Nadu (slightly more than the all India average), the state shows a remarkable achievement in terms of fertility decline. On the contrary, the incidence of poverty is very high in Bihar and the state also ranks among the states experiencing high fertility rate. The study however, provides empirical evidence that the state of Bihar lacks in provision of various infrastructure facilities which is not so in case of Tamil Nadu.

The discussion on the present levels of fertility shows remarkable differences not only at states aggregate level but also at micro level. It shows that there are wide inter-

district variations in Total Fertility Rate and Crude Birth Rate in Bihar, while it is not so alarming in Tamil Nadu. The discussion on determinants of fertility has been categorized into four broad group of factors, i.e. demographic, economic, social and others. Among demographic factors, one finds that female mean age at marriage is quite low (16.06 years) in Bihar, while this is 19.02 years in case of Tamil Nadu. Further there is a wide rural-urban difference in the state of Bihar while this difference is marginal in Tamil Nadu. This difference in marriage age is well documented in age-specific fertility rates of the two states. Not only the age of marriage is high in Tamil Nadu, there is also a reduction in the length of reproductive period. In Tamil Nadu, women almost stop child bearing after they reach the 34-39 years age bracket. This is not so in Bihar. This pattern may be attributed to the overall women's status, their education and, involvement in economic activities which needs greater attention in case of Bihar. Similarly, one finds significant differences in infant and child mortality rates of the two states. This may be attributed and, as empirically shown, is due to inadequate health care infrastructural facilities in the state of Bihar. Lack of infrastructural facilities, especially health care has a compound negative impact which ultimately gets reflected in fertility differentials of the two states.

The analysis of data shows that women's level of education has a correspondence with low fertility rate and the fertility difference between the two states may be better explained by this variable very clearly. The other factors i.e. contraceptive prevalence rate, exposure to mass media etc. also show striking differences in the two states, placing Tamil Nadu in an advantageous position. The analysis of secondary data on income *vis-à-vis* fertility does not show much correspondence at the micro level, yet at state level it shows that fertility declines as one moves from low to higher income categories.

The analysis of primary data reveals that in both the states child mortality

significantly influences fertility behavior. This indicates that concerted efforts need to be made by Government or private institutions for the provision of medical facilities, trained staff and pharmaceuticals. Decline in mortality is significantly related with the desire to reduce the demand for children. One finds a strong association between high fertility and strong patriarchal system, and presence of joint family structure in Bihar. This further suggests that in Bihar a high son preference may be a factor affecting the fertility behavior. However, this needs further corroboration.

The comparison of the village level characteristics of sample villages of the two states shows that in terms of infrastructural development particularly health care, education and other parameters of economic development, the villages of Tamil Nadu are better placed as compared to Bihar. And this is a typical example to confirm that total development results in reduced birth rate, or demand for children. The effective implementation of family planning programs in the state must have motivated women to use public health care facilities, where they not only received family planning services but also maternal and child health care services.

The study also throws some interesting areas for further probing. Tamil Nadu's experience is marked by a number of interlocking initiatives across a range of areas that must have generated positive synergies. For example, interventions in the food and nutrition sector increased the efficacy of health interventions e.g. the mid day meal scheme's impact on the nutritional status of children. This could also influence the school enrolment and attendance. The cumulative effect of raising literacy levels, especially of women had positive impact on health status of women and children and the lowering of fertility levels in the state.

Hence, implementation of social programs can be a reinforcing and an effective vehicle for development and change in the state of Bihar. Tamil Nadu remains an instructive state of how state interventions spurred up by both political and ideological considerations can speed up the pace of realizing key human development objectives in a relatively short span of time. The state's success illustrates the importance of political will for effective program delivery and this is the need of the hour to tackle high fertility in Bihar also.

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PROFESSOR R. P. S. GOSAL

(26th July 1957 - 20th August 2006)



Professor Ravinder Paul Singh Gosal, born on 26-07-1957 at Ludhiana, left for his heavenly abode on 20-08-2006 just after completing only 49 years of age. He received his education, right from his schooling, at Chandigarh. He graduated from DAV College, Chandigarh in 1977, obtained his post-Graduate degree in Geography from the Department of Geography, Panjab University, Chandigarh in 1979 and completed his M. Phil in 1981 from the same department.

After completing his M.Phil. Prof. R. P. S. Gosal started his teaching career as a Lecturer at DAV College, Chandigarh where he taught for about three years from 21-07-1981 to 30-08-1984. He joined the Department of Geography, Panjab University, Chandigarh on 31-08-1984 as a Lecturer. Having joined a University Department, he continued to pursue his research and completed his Ph.D. in Population Geography in 1991. He was promoted as Reader in Geography on 21-7-1994. He was Chairman of the Department from 29th October, 1996 to 28th October, 1999. On 31st July, 2003 he was promoted to the position of Professor of Geography.

He was an invited delegate at the Annual Conference of Association of American Geographers held at New York in March 2001. He also served on the Governing Body and Executive Council of various Association of Geographers at the National level.

It is indeed very painful to write an obituary of a person so dear to you whom you have seen growing from his childhood. Having interacted with him as his teacher, research supervisor, colleague, Chairman etc., I can vouch that the department has lost a dedicated teacher and researcher, who combined in him multifaceted professional and personal qualities.

Professor R. P. S. Gosal was an immensely dedicated teacher who was always keen to use advanced teaching tools. As a researcher he never hesitated to take up challenging research themes. Above all, he was a good observer, a quality that each geographer must possess. While in Chair he believed in carrying all his colleagues with him while not compromising his independent authority that the Chair warranted.

Apart from his contributions to geography, the department will remember him for his all out efforts to upgrade and modernise the infrastructural setup. The colleagues in the department will remember him for many of his personal qualities like a happy soul with positive thinking; politeness and firmness; friendliness and righteousness and above all, for his being most humane. While his students will miss him for his empathy, his friends will remember him for his trustworthiness. The Gosal family, whose loss is irreparable, shall ever miss him for his caring nature at a time when it needed him the most.

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