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ABSTRACT

MIGRATION AND FERTILITY IN INDIA

By

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The main focus of this dissertation is to investigate the relationship between internal migration and the overall fertility of developing countries. In developed countries, rural fertility rates are higher than urban fertility rates. Fertility rates of urban residents who are migrants from a rural area are lower than the fertility rates of the residents of the region of their origin and, in some places, even lower than the fertility rates of the urban areas in which they now live. If the move from country to city reduces the fertility of migrants, then other things being constant, the main effect of rural to urban migration is to lower the overall fertility of a country. Because of the differences between rural and urban fertility rates, the overall fertility of a country at a given time is largely a function of the rural-urban distribution of its population, and since the main stream of migration is typically from rural to urban areas, the future fertility rate of a country is importantly a function of the rates of rural to urban migration.

These causal patterns have been well established by empirical research in developed countries such as the United States and those in Europe. But because of lack of data, we have not known whether the same causal patterns hold true in developing countries like Sri Lanka, India, Bangladesh, and countries of Africa. Relatively recently data have become available for some developing countries, and India is one of them. This dissertation will examine the relationship between migration and fertility in India, and provide an empirical test of some of the explanations of these relationships.

With increasing economic opportunities, rising expectations, social integration, development of transportation and communication facilities, the volume of migration in developing countries is likely to increase in future. In developing countries, where a majority of people still live the rural areas, migration of people to urban areas will be encouraged by availability of more and better jobs and improved economic conditions in the urban areas. And since desperate efforts are being made in the developing countries to reduce population pressures, the subject of migration and fertility is of considerable interest.

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CHAPTER 1

THEORY AND LITERATURE

PROBLEM STATEMENT:

The main focus of this dissertation is to investigate the relationship between internal migration and the overall fertility of developing countries. In developed countries, rural fertility rates are higher than urban fertility rates. Fertility rates of urban residents who are migrants from a rural area are lower than the fertility rates of the residents of the region of their origin and, in some places, even lower than the fertility rates of the urban area in which they now live. If the move from country to city reduces the fertility of migrants, then other things being constant, the main effect of rural to urban migration is to lower the overall fertility of a country. Because of the differences between rural and urban fertility rates, the overall fertility of a country at a given time is largely a function of the rural-urban distribution of its population, and since the main stream of migration is typically from rural areas to urban areas, the future fertility rate of a country is importantly a function of the rates of rural to urban migration.

These causal patterns have been well established by empirical research in developed countries, such as the United States and those in Europe. But because of lack of data, we have not known whether the same causal patterns hold true in developing countries like Sri Lanka, India, Bangladesh, and the countries of Africa. Relatively recently data have become available for some developing countries, and India is one of them. This dissertation will examine the relationship between migration and fertility in India, and provide an empirical test of some of the explanations of these relationships.

WHY STUDY MIGRATION AND FERTILITY?

With increasing economic opportunities, rising expectations, social integration, development of transportation and communication facilities, the volume of migration in developing countries is likely to increase in future. In developing countries, where a majority of people still live in the rural areas, migration of people to urban areas will be encouraged by availability of more and better jobs and improved economic conditions in the urban areas. And since desperate efforts are being made in the developing countries to reduce population pressures, the subject of migration & fertility is of much current interest.

WHY FOCUS ON INDIA?

The reasons for studying the relationship between migration and fertility in India are the following:

1. Availability of relevant data. Among the developing countries, India has the best data available in terms of both quality and quantity.
2. India is a very large country and changes in the population of such a large country influence the whole world.
3. My own interest in and knowledge about India is an advantage in understanding the complexity of the association between migration and fertility caused by various socio-economic factors which are peculiar to India.
4. Limitations of resources.

THEORETICAL BACKGROUND:

Demographic transition theory states that both fertility and mortality of a population will decline from high to low levels as a result of economic and social development. Accordingly, industrialization and migration (through urbanization) have been observed as the crucial correlates of fertility decline. As mentioned before, among other factors, urbanization is caused by substantial rural to urban migration. These rural to urban migrants form a selected group with respect to age,

sex, marital status, and family status. They include an excess of adolescents and young adults as compared to nonmigrants, and among these migrants there are more males than females. In addition, many of these young adults are married and their migration to urban areas temporarily separates them from their spouses. This incidence of physical separation of spouses from each other is an important factor tending to depress the fertility of the rural migrants, depending partly on the frequency of visits to the villages of origin or the duration of continuous separation (Zachariah, 1968).

Zachariah, in his study of Greater Bombay, India, pointed out that migration might affect fertility through factors such as changes in the proportion ever marrying, changes in the age at marriage, separation of husbands from their wives, and changes in marital fertility for reasons other than the physical separation of spouses. On the basis of an analysis of 1961 census data, Zachariah examined some of these variables and found that the average age at marriage and the percentage never marrying were higher among the women who came to Bombay prior to marriage compared to the women at the place of origin. Zachariah estimated a 30 percent reduction in fertility on these counts for the migrants who came to Bombay before marriage (Zachariah, 1968).

Though the migration differentials and the selectivity issues were addressed by Zachariah in quite detail, he was unable to separate the recent migrants from the total number of migrants. Therefore, it was not possible to compare the characteristics of the new migrants with those of the old migrants or the urban natives. The data gathered by Zachariah were not suitable for this purpose. Moreover, his estimates of the reduction in fertility due to the separation of migrant husbands from their wives were based on the assumption of periodicity of return visits and the frequency of coitus for which only very scanty data are available. But now, due to the availability of more data, we can further examine Zachariah's assumptions.

As pointed out by Zachariah, it is true that the physical separation of spouses has a depressing effect on fertility, but that seems to have only a short term effect because many of the rural migrants eventually do take their spouses (families) with them at a later date after achieving some degree of economic stability. This separation and eventual reunion of families establishes nuclear families in the urban areas. In these families the rearing of children requires more parental time and more market goods and services. Since the goods and services which were formerly provided by the extended

family have now to be purchased, the demand for children is reduced. Moreover, the new context in which the migrants live in the form of new kinds of jobs, new surroundings, and better educational and income opportunities that become available, creates a new outlook on the world. When this outlook is accompanied by a flow of modern goods, it generates gradually rising consumption standards. These processes not only weaken the influences favoring high fertility but also set up steady pressures towards rising consumption standards that inhibit people from having large families (Stark, 1978).

The above discussion pertains to the rural migrants who are married. But not all the rural migrants are married and separated from their spouses due to migration. Many of them are not married yet. Migrants in the young age groups are relatively better educated than those who do not migrate. More educated people have a greater tendency to migrate largely because they can earn relatively higher incomes in the urban areas and for them the rural-urban differentials in income are greater than for the less educated ones. These migrants also try to delay their marriages (Bulsara, 1964; Rele, 1964).

While the majority of researchers have found or assumed that there exist rural-urban fertility

differentials, Visaria (1971) has asserted the virtual absence of rural-urban fertility differentials in India. He mentions that on the one hand the high fertility of the recent migrants might inflate the overall urban fertility, while on the other the lower fertility of the rural women whose migrant husbands had separated from them may lower the overall rural fertility levels. These two possible forces operating in opposite directions may be responsible for reducing the overall fertility differentials in the rural and urban areas, and even mask the lower fertility norms and behavior of the urban natives and long term migrants to urban areas. Visaria has cited the National Sample Survey (NSS) data in support of his assumption of the absence of the rural-urban fertility differentials. In order to examine the effect of husband's separation on the wife's fertility, Visaria collected the data from 23 villages in two of the districts of Gujrat and Maharashtra states of India. In both these districts the fertility of the women whose husbands were absent for more than six months was found to be lower than those with the husbands present.

Information about the women who had migrated from the surveyed villages to Greater Bombay was also collected from their relatives living in the surveyed villages and this information was verified by

interviewing a sample of these women in Bombay. Visaria observed some discrepancies in the reported age of women, and number of children born & surviving. The analysis revealed that the fertility of migrant women living in Bombay was lower than those who had not migrated from the surveyed villages. But Visaria attributed these differences to the separation of spouses, and a higher educational level of the migrant women. Thus, according to Visaria, place of origin (rural or urban) does not seem to make a difference in the fertility.

The weakness of Visaria's study is that he did not control for any of the socio-economic variables. Merely, on the basis of the NSS data, Visaria contended that there was virtual absence of the rural-urban fertility differentials in India.

Though Visaria's study is an improvement over Zachariah's, thus far there is no conclusive evidence to his basic premise of presence or absence of fertility differentials between the urban and the rural areas. He did not compare the fertility of the rural migrants with that of the urban natives at the place of destination. His information about the fertility of the migrants was based on the information obtained from their nonmigrant relatives, but the information provided by the nonmigrant relatives is quite likely to be different from that

provided by the migrants themselves. In the present investigation we have relevant data available to study the rural-urban fertility differentials by controlling for several socio-economic variables.

Arguing against Visaria's study, Rele and Kanitkar have reported another study suggesting the presence of fertility differentials with regard to place of residence. Rele and Kanitkar took a step forward in the direction of studying the relationship between migration and fertility by taking into account the duration of residence and some socio-economic variables. Because of the simultaneous operation of both the 'push' and the 'pull' factors, the Indian metropolitan areas gain population. Moreover, the selection at both ends of the socio-economic scale results in the migrant population containing the members from the lower as well as the higher socio-economic groups. Thus, there is a possibility that fertility differentials by former place of residence may exist in metropolitan areas. Rele and Kanitkar have tried to locate the factors causing such fertility differentials by analyzing the fertility of currently married women in Bombay in relation to their former residence.

Based on the 1966 fertility survey carried out among the 7,872 currently married women in Bombay, Rele

and Kanitkar analyzed the relationship between fertility and residential status. They grouped these women into three categories: rural migrants migrating to Bombay from rural areas; urban migrants, migrating to Bombay from other urban areas; and non-migrants, originally born and raised in Bombay. In other words, they grouped these women into three groups according to the place where they had spent most of their lives prior to their coming to Bombay. Their analysis revealed the fertility of the rural migrants to be the highest and that of the urban migrants to be the lowest. The fertility of non-migrants was between these two extremes. However, controlling the effect woman's education considerably reduced these differentials. Thus, in this study the educational background of women was found to be more important than migration in explaining the fertility differentials (Rele, and Kanitkar, 1974).

Rele and Kanitkar's study is an improvement over other studies reported previously in as much as the fertility rates of rural as well as the urban migrants were compared with those of the non-migrants at the place of destination. But besides education no other socio-economic variables were used as controls. Their sample included a considerable number of Parsee (related to Persian) women who are characterized by considerably

lower fertility. This could have been responsible for the low fertility of the non-migrants. Instead, a more representative sample should have been taken and more socio-economic variables should have been used as controls.

In yet another study, El-Badry studied the fertility of different kinds of migrants. This study was also done in Bombay city in India. El-Badry analyzed the information contained in the birth certificates for a sample of 1,000 women between the ages of 15-49 years who gave births during the year 1960. His analysis revealed the existence of fertility differentials according to the place of origin of the husbands of these women. Women whose husbands migrated from South India had the lowest fertility while those with husbands from the North had the highest fertility. El-Badry attributed these differences to the possible variations in their socio-economic and educational status. But he lacked sufficient data to control for these variables. Interestingly enough, his analysis revealed a consistent increase in age-standardized parity averages with an increase in the duration of stay in Bombay irrespective of the region of origin. His explanation of this phenomenon was that in Bombay there was little assimilation among the migrants coming from different parts of India, and that these

immigrants were very different from the native population of Bombay (El-Badry, 1967).

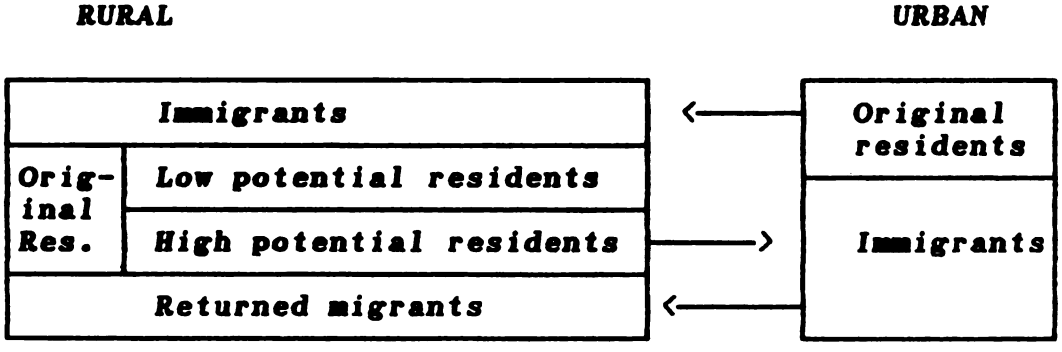
The drawbacks in El-Badry's study were that, like Visaria, he also did not have enough data to control for many variables. The results of his study show an increase in wife's parity level according to the husband's place of birth. These observed differences in the parity in relation to the geographic origin of the migrants are apparently related to the differences in educational and occupational patterns, with the migrants from the South having considerably higher education and better occupation than those from the North. But El-Badry did not have access to any statistics on such socio-economic characteristics of the migrants. The physical separation of spouses is another important factor affecting the fertility behavior of the migrants, but El-Badry paid no attention to this factor. Therefore, it is not possible to give a clear interpretation of the fertility trends from South to North India. It may either mean a relatively higher fertility level in the areas of in-migration because of an improvement in the living conditions, or a tendency for immigrants to have smaller families at the time of migration as compared to the urban natives. Subsequent researchers have tried to clarify some of these ambiguities.

In a study by Majumdar and Das (1972) in West Bengal state of India some aspects of adoption of family planning practices by migrant and old-settlers in five villages were studied. The study revealed that migrants had a more favorable attitude towards family planning practices than the old settlers and that migrants adopted institutionalized sources of family planning more than the old settlers.

Most past research supports the existence of rural-urban fertility differentials. But in order to study the relationship between migration and fertility, it is necessary to consider the socio-economic and demographic factors which influence fertility even though we do not have a firm theory here to generalize the influence of such factors, since the strength and relevance of factors which affect the relationship between migration and fertility will vary from one social setting to another. However, It is reasonable to assume that the fertility differentials do exist and these differentials widen with migration. Fertility rates of women living in the rural areas are higher than those living in the urban areas. The rural people have greater faith in and attachment to large joint family life. They believe that the power and strength of the family and brotherhood can only be had if there is a common kitchen.

Furthermore, a lack of variety of occupations also leads rural people to live in joint families which inhibits migration and hence their fertility remains high. To sum up, since the migrants are usually younger in age and many of them migrate when single and delay their marriages, and those who are married leave their families behind and bring them only when they have accumulated some money and acquired a suitable place of living, the husband-wife separations result in reduced fertility levels (Bulsara, 1964). It is, therefore, held that the fertility of migrants as a class is lower than that of the urban natives.

The above discussion is summarized in the following diagram and the arguments following the diagram:



The above diagram depicts various characteristics of the migrants. Based on these characteristics, following assumptions can be made:

1. Fertility of low potential rural migrants (those migrants who are less educated, are older in age, and have low socio-economic status and, therefore, less likely to migrate) is similar to the fertility of high potential rural migrants (those who are relatively younger, are more educated, and belong to a higher socio-economic status and, therefore more likely to migrate).
2. Fertility of urban migrants to rural areas is lower than the fertility of original urban residents.
3. Fertility of rural returned migrants is the same as the fertility of urban immigrants.
4. Fertility of rural returned migrants is lower than the fertility of either low or high potential rural residents.

Since the rural migrants to urban areas acquire a higher standard of living and become more knowledgeable during their stay in the urban areas, they are more likely to have a positive impact on their rural friends and relatives after returning to the rural areas of their origin. Rural people who did not migrate are more likely to adopt the life style and advice of these returned migrants. Similarly, urban migrants to rural areas are held in higher esteem and treated with greater respect by the rural people by way of seeking advice from them, listening to their experiences in the city, and following

them with an intention of improving their own life style.

In summary, it can be stated that:

A. Returned migrants persuade the rural others (those who remain in the rural areas) to have lower fertility.

B. Urban immigrants also persuade the same rural people to have lower fertility.

Therefore,

1. The greater the number of urban immigrants, the lower will be the resultant rural fertility and the greater the number of persuaders who persuade the original rural residents, the lower will be the resultant rural fertility. Hence, the total rural fertility will decrease.

2. The fewer the urban immigrants, the higher the resultant urban fertility. The fewer the persuaders for process (A), the smaller the decrease in the fertility of low and high potential migrants.

3. Greater the number of returned migrants, more the persuaders for process (B). Hence, the fertility of both the low as well as high potential types of residents will decrease, assuming that both the returned migrants and the immigrants persuade the rural residents to have lower fertility.

Therefore, the rural to urban as well as urban to rural migration streams are hypothesized to result in lower

fertility. The combined effect of these migration streams will be a reduction in the overall fertility levels. In addition, it should be recognized that fertility is likely to be affected not only by the magnitude of migration but also by certain other socio-economic variables. We will, therefore, include some intervening variables such as literacy level, age at marriage, female labor force participation rate, and the per capita income to be used as controls.

On the basis of the this discussion and assumptions we can state our first hypothesis as:

HYPOTHESIS 1:

The higher the flow of rural migrants to urban areas of a state, lower its total urban fertility level.

In order to test this hypothesis, we will examine the relationship between the total urban fertility rate and the following variables:

i. Rural to urban migration rate for both sexes combined.

ii. Rural to urban migration rate, males.

iii. Rural to urban migration rate, females.

Each of these variables will be examined controlling for the following variables:

1. Urban literacy rate, both sexes combined.
2. Urban literacy rate, males.

3. Urban literacy rate, females.
4. Percentage of females ever married, age 15-19 years, urban areas.
5. Percentage of females in labor force, urban areas.
6. Per capita income, urban areas.

According to the above hypothesis, urban fertility rates are expected to be negatively correlated with migration variables i, ii and iii. But this relationship may be affected by various socio-economic variables. Control variables 1 through 6 listed above are some of the important socio-economic variables. It is possible that these variables affect the fertility behavior of urban residents, but the inverse relationship between urban fertility rates and rural to urban migration rates is expected to persist even after we hold the effects of these socio-economic variables constant. In other words, the partial correlations between urban fertility and rural to urban migration rates are expected to be significant even after removing the effects of the control variables 1 to 6.

Though the main stream of migration in most of the developing countries is from rural to urban areas, there is another stream of migration and that is the migration from urban to rural areas. This is primarily return migration in which the urban migrants are either

drawn back to or they are driven back by a shortage of housing and employment in the urban areas. The states which have high rural to urban migration rates, typically also have higher rates of urban to rural migration. These returned migrants not only have lower fertility themselves, but also spread the low fertility norms in the rural areas. They usually return with new ideas, attitudes and values acquired during their stay in the cities, and people at their native places often seek their advice and listen to them with respect. These permanent returnees are the catalysts of change. It is also the case that family welfare workers sometimes seek help from these returned migrants in changing the behavioral patterns of the villagers.

Finally, there are those people who are originally the residents of the cities but due to, say housing problems, or high cost of living or a lack of adequate employment opportunities decide to migrate to the rural areas. They often migrate to rural areas with the intention of starting some sort of business and also to avail themselves of cheaper housing. This migration takes a large number of people, with an urban background and outlook, from urban to rural areas and like the returned migrants, these migrants also spread low fertility norms. Therefore, it is reasonable to think of

the existence of an inverse relationship between urban to rural migration rate and rural general fertility. Based on these arguments we can state our second hypothesis as:

HYPOTHESIZE 2:

The higher the rate of urban to rural migration in a state, the lower will its overall rural fertility levels be.

In order to test this hypothesis, we will examine the relationship between general rural fertility rate and the following variables:

i. Urban to rural migration rate for both sexes combined.

ii. Urban to rural migration rate, males.

iii. Urban to rural migration rate, females.

Each of these variables will be examined controlling for the following:

1. Rural literacy rate, both sexes combined.
2. Rural literacy rate, males.
3. Rural literacy rate, females.
4. Percentage of females ever married, age 15-19 years, rural.
5. Percentage of females in labor force, rural.
6. Per capita income, rural.

According to the above hypothesis, rural

According to the above hypothesis, rural fertility rates will be negatively correlated with migration variables i, ii and iii. But this relationship may be affected by various socio-economic variables. Control variables 1 through 6 listed above are some of the important socio-economic variables. It is possible that these variables affect the fertility behavior of rural residents, but the inverse relationship between rural fertility and urban to rural migration is expected to persist even after we hold the effects of these socio-economic variables constant. In other words, the partial correlations between rural fertility rates and urban to rural migration rates are expected to be significant even after removing the effects of control variables 1 to 6.

Since both rural to urban and urban to rural migration streams are hypothesized to result in lower fertility, the combined effect of these two streams of migration will be a reduction in the overall fertility levels of a state. Therefore, a third hypothesis, derived from the above two hypotheses, is stated as follows:

HYPOTHESIS 3:

The higher the combined rate of rural to urban and urban to rural migration, the lower the general fertility levels of a state.

In order to test this hypothesis, we will examine the relationship between total fertility rate of a state and each of the variables i, ii, and iii listed below:

i. Rural to urban and urban to rural migration rate, both sexes combined.

ii. Urban to rural and rural to urban migration rate, males.

iii. Urban to rural and rural to urban migration rate, females.

Each of these three variables will be examined controlling for the following:

1. State literacy rate, both sexes combined.
2. State literacy rate, males.
3. State literacy rate, females.
4. Percentage of females ever married, age 15-19 years, in entire state.
5. Percentage of females in labor force, entire state.
6. Per capita income, entire state.

According to the above hypothesis, the fertility rates of the entire state will be negatively correlated with migration variables i, ii and iii. But this relationship may be affected by various socio-economic variables. Control variables 1 through 6 listed

above are some of the important socio-economic variables. It is possible that these variables affect the fertility behavior of the residents of a state, but the inverse relationship between the overall fertility of a state and the urban to rural & rural to urban combined migration rate is expected to persist even after we hold the effects of these socio-economic variables constant. In other words, the partial correlations between the fertility of a state and its combined urban to rural & rural to urban migration rates are expected to be significant even after removing the effects of the control variables 1 to 6.

CHAPTER 2

METHODOLOGY

This chapter discusses the methodological issues associated with the study of the relationship between migration and fertility. The main source of data for studying this relationship is the 1971 Decennial Census of India. The census data of India is a very valuable and comprehensive source for such purposes because India possesses an advanced data system for assessing the relationship between migration and fertility. In fact, very few developing countries have the range of statistics possessed by India.

In India, a census is conducted every ten years. A population census is conducted with reference to a specific date known as the reference date. The 1971 census of India was taken with April 1, 1971 as the reference date. Obviously, counting and collecting personal information on 548 million people (India's population in 1971 was 548 million) in a single day is an extremely difficult task. Therefore, a period of three weeks preceding the reference date is fixed as the enumeration period. Although the entire period is used

for enumeration, the data are collected in such a way that they relate to the reference date only. The enumeration period for 1971 census was from March 10, 1971 to March 31, 1971. During this period the census workers throughout the country visited every household in their respective areas to record the census information. In order to relate the information to the reference date of April 1, the enumerators revisited all the households in their areas between April 1-3 to ask questions about births and deaths that might have occurred after their last visit and before April 1,1971. Necessary changes were made in their records for such births and deaths before calculating the population as on April 1, 1971. The homeless people were counted in one night, that is, the night of March 31, 1971.

PROCESS OF ENUMERATION:

Statistics on migration and fertility have traditionally been collected in the Indian census with reference to place of birth since the first census was taken in 1881. In the 1971 census the classification of migrants was done on the basis of place of birth as well as the place of last residence. The question put for collecting migration statistics on place of birth was as follows:

a. place of birth

b. Rural/Urban

c. District

d. State/Country

The above information was collected in respect of every person if he or she had another place of normal residence irrespective of his or her place of birth before coming to the present place of enumeration. Even if a person was born at the place of enumeration but had to migrate due to the nature of his work or for educational purposes, and returned to the place of enumeration, the person was deemed to have had another place of residence prior to enumeration. The last place of previous residence is relevant only if the person had been outside the village or town of enumeration and not simply in another house or locality in the same place. Where a person had merely gone out to another place or had been shifting from place to place purely on tour or pilgrimage or for temporary business purposes, he/she was not considered to have had another residence different from the place where that person or his/her family normally resided. But if the person had the normal residence elsewhere at any time prior to enumeration at his place of last residence, irrespective of where he was born, such a place of previous residence was recorded.

TABULATION PROGRAM:

The census does not end with the compilation of enumeration data. In fact, it marks the beginning of another arduous operation of tabulating the enumerated information. After the enumeration in 1971, millions of *Individual Slips* had to be collected from different corners of each state. Each of these slips had to be sorted and resorted so that the information could be taken out for preparing the tables. After tabulation, the 1971 census data were made available in the form of eight Tables described briefly as follows:

A SERIES: General Population Tables (5 in number) showing the size of population, decidual variations in population since 1901, villages classified by population, towns classified by size and their growth rate since 1901 and particulars of the standard urban areas.

B SERIES: Economic Tables (19 in number) giving various economic characteristics such as the industrial and occupational classification of workers cross-classified by age, educational level, and employment status for rural and urban areas separately.

C SERIES: Social and Cultural Tables (10 in number) giving the composition of households, distribution of population by age, sex and educational levels, mother-tongue, and any subsidiary language, religion, and caste.

D SERIES: Migration Tables (6 in number) giving the break-up of migrants by place of birth and place of last residence, cross-classified by characteristics such as age, educational levels, duration of residence and marital status of the migrants.

E SERIES: Establishment Tables (6 in number) giving the distribution of establishments of broad types such as manufacturing, trade or other establishments, size of employment, types of fuel or power used for industrial establishments, and household industries.

F SERIES: Fertility Tables (5 in number) giving the distribution of married women, and the related births during the last one year, cross-classified by characteristics such as educational level, present age, age at marriage, duration of marriage, and religion.

G SERIES: Special Tables of Degree Holders and Technical Personnel (12 in number) tabulating fairly detailed information on the distribution of the degree holders and technical personnel by subject fields, employment status, sector of employment, emoluments, the unemployed by duration of unemployment, and the level of education.

H SERIES: Housing Tables (4 in number) giving the distribution of census houses by the uses they are put to, material of wall and roof, size of households and the number of rooms occupied.

For all the states, except Himachal Pradesh, Jammu & Kashmir, Manipur, Meghalaya, Nagaland, and Tripura, the tables are based on the processing of ten percent rural and twenty percent urban individual slips. Later on, the sample data were inflated to 100 percent according to the sampling procedure described below. In case of the above mentioned states, processing was done on a 100 percent basis because of the small population sizes of these states.

SAMPLING AND SELECTION PROCEDURES:

From the individual slips relating to the rural parts of a district, a ten percent sample was selected systematically with a random start. For the urban parts of the district a twenty percent systematic sample was selected with a separate random start. The sample sizes were adopted on consideration of required precision, available resources, and operational convenience.

The sample design adopted was a stratified systematic sample of the individual slips. For the purpose of sample selection, each district was divided into three sub-regions as follows:

1. Tehsil or police station (rural)
2. Non-city/Urban district
3. City (urban unit with population of 100,000 or more)

These sub-regions were termed operational units. If any of the operational units was unduly large it was divided into operational sub-units of at least 20,000 people. Similarly, small-sized operational units were either merged or added to a contiguous unit so as to form an "effective operational unit" of a minimum size. Adoption of these operational units ensured accuracy in the sample selection maintaining at the same time the stability in the sampling fraction within the tabulated areas. The procedure adopted ensured effective control over sample selection within each block as well as in the entire operational unit.

For the purpose of sampling, the individual slips were sorted out according to eleven broad industrial categories and nine broad age groups for each sex. Thus, the individual slips of a particular operational unit were sorted out in (11)(9) = 99 cells for males and 99 cells for females separately. Sampling was done in each of the operational units independently by taking separate random starts. The slips were then distributed into ten (or five) pigeon-holes for rural (or urban) samples, and then one pigeon-hole was selected at random. The slips falling in the selected pigeon-hole constituted the sample.

ESTIMATION PROCEDURE:

The tables prepared for each of the districts/states from the ten percent rural and twenty percent urban sample slips were inflated to give the final estimation tables. These estimated tables were compared with the population figures available from the primary census analysis tables which were prepared on the full count basis. This way of estimating the cell frequencies ensured column/row totals of the estimated tables tally with that of the full count tables. This is convenient to the user because after adjustment the identical column/row totals are found in tables having the same marginal specifications. The adjustment diminishes the sampling variance to some extent because greater the number of control variables, smaller the sampling variance of the adjusted frequencies.

RELIABILITY OF ESTIMATES:

An exact formula cannot be given for measuring the precision of the estimates in view of the systematic sampling design adopted. A rough estimate of the relative standard error on the basis of a simple random sample is given by $\sqrt{[(1-f)(1-p)/np]}$, where f is the proportion sampled (0.10 in case of rural, and 0.20 in case of urban areas), p is the estimated proportion in any cell, n is the sample size. In the 1971 census, the individual slips

were sorted by sex, industrial category, and the age groups before sampling. It is expected that the efficiency would be considerably higher than a simple random sample of identical size. Extensive studies conducted have indicated that the systematic sampling of individuals is more efficient than simple random sampling, especially when the individual slips were presorted for most of the characteristics of the migrants (Lahiri, 1971). Thus, the estimates prepared on the basis of systematic sampling in 1971 census can be treated as fairly reliable.

VALIDITY OF CENSUS DATA:

In the Indian census we are faced with several issues regarding the validity of the census data. Some of them are as follows:

1. The level of general literacy of India's population is very low. This reduces the level of response of the population census as well as that of the census taker. This is the basic drawback which makes it difficult for the Indian census bureau to make major improvements in the questionnaire from one census to another. The same reason prevents the Registrar General from adopting more meaningful concepts, definitions, methods and classificatory systems in the tabulation. The data on age, marital status, migration, language, and economic

activities are broadly, vaguely and approximately described and will not stand scrutiny except at certain levels of aggregation where large numbers pose further problems to the already defective data.

2. Another reason is the ad hoc and rather disheartening quality of the census taker. He is not paid for his work, is insufficiently trained, virtually forced to work for the government, and often no more than barely literate, drawn from a bewildering variety of assignments, few of which demand intellectual rigor. Many of the concepts and definitions so carefully formulated in the printed instructions escape the census taker's comprehension. As a result, the census authorities have to be content with only the broadest and crudest responses to the census schedule. The majority of the answers are given in very general terms, not lending themselves readily to the detailed sub-classification.

3. A lack of planning of computer capacity, time, and personnel adversely affect the validity of the census data. Consequently, a large number of data processing problems are solved in an ad hoc manner as and when they arise at particular time and place. It is not always possible to work out a common program even in the case of complex cross-tabulations. Therefore, the programmer is often left uninitiated in how certain parts of a

program should be developed differently from certain other parts.

4. The lack of sufficient funds to commit money and machinery well in advance to be commensurate with the task envisaged affects the validity of the data.

5. Lack of printing facilities straight from the computer print-out causes enormous delays in the publication of census reports.

Though there is not much one can do to solve the problems of reliability and validity at this point, one can simply recognize the difficulties related to reliability, validity, and other weaknesses of the Indian census data. Keeping all these complexities in mind, we are using the data from the 1971 Census of India to study the relationship between migration and fertility. We will do the analysis separately for rural areas, the urban areas and rural & urban areas combined.

HOW ARE WE GOING TO TEST OUR HYPOTHESES?

Our main goal is to study the effect of migration on fertility. For this purpose we have designed three hypotheses. The dependent variable is the fertility rate (rural fertility rate, urban fertility rate, and rural & urban combined fertility rate). The independent variables are the migration rates (rural to urban migration rate, urban to rural migration rate, and rural

to urban & urban to rural combined migration rate). In addition, we will use the following variables as control variables:

1. Gender
2. Literacy rate
3. Percentage of women ever married
4. Percentage of females in labor force
5. Per capita income.

The first hypothesis specifies the effect of rural to urban migration on urban general fertility. To test this hypothesis, we will calculate the following rates:

1. General fertility rate for urban areas.
2. Rural to urban migration rate for males and females combined.
3. Rural to urban migration rate for males only.
4. Rural to urban migration rate for females only.
5. Literacy rate in urban areas for males and females taken together.
6. Literacy rate in urban areas for males only.
7. Literacy rate in urban areas for females only.
8. Percentage of women ever married in urban areas.
9. Percentage of females in labor force in urban areas.
10. Per capita income in urban areas.

Apart from studying the Product-Moment Correlation coefficients among these variables, we will also examine the partial correlations between urban general fertility and each of the variables 2, 3 and 4, controlling for variables 5 through 10, individually. For example, we will calculate the partial correlation coefficient between urban general fertility rate and rural to urban migration rate for both sexes taken together while controlling for literacy rate for urban areas for both sexes combined. Similarly, we will calculate the partial correlation coefficient between urban general fertility rate and rural to urban migration rate for both sexes taken together while controlling for urban literacy rate for males only, and so on.

The second hypothesis studies the effect of urban to rural migration on the rural general fertility. To test this hypothesis, we will calculate the following rates:

1. General fertility rate for rural areas.
2. Urban to rural migration rate for males and females combined.
3. Urban to rural migration rate for males only.
4. Urban to rural migration rate for females only.
5. Literacy rate in rural areas for males and females taken together.

6. Literacy rate in rural areas for males only.
7. Literacy rate in rural areas for females only.
8. Percentage of women ever married in rural areas.
9. Percentage of females in labor force in rural areas.
10. Per capita income in rural areas.

Apart from studying the Product-Moment Correlation coefficients among these variables, we will also examine the partial correlations between rural general fertility and each of the variables 2, 3, and 4, controlling for variables 5 through 10, individually. For example, we will calculate the partial correlation coefficient between rural general fertility rate and rural to urban migration rate for both sexes taken together while controlling for literacy rate in rural areas for both sexes combined. Similarly, we will calculate the partial correlation coefficient between rural general fertility rate and rural to urban migration rate for both sexes taken together while controlling for rural literacy rate for males only, and so on.

Third hypothesis studies the effect of the combined urban to rural and rural to urban migration on the general fertility of an entire state taking the rural and urban areas together. To test this hypothesis, we will calculate the following rates:

1. General fertility rate for the entire state.

2. Rural to urban and urban to rural combined migration rate for males and females taken together.
3. Rural to urban and urban to rural combined migration rate for males only.
4. Rural to urban and urban to rural combined migration rate for females only.
5. Literacy rate in the entire state for males and females taken together.
6. Literacy rate in the entire state for males only.
7. Literacy rate in the entire state for females only.
8. Percentage of women ever married in the entire state.
9. Percentage of females in labor force in whole state.
10. Per capita income for the whole state.

Apart from studying the Product-Moment Correlation coefficients among these variables, we will also examine the partial correlations between total fertility of a state and each of the variables 2, 3, and 4, controlling for variables 5 through 10, individually. For example, we will calculate the partial correlation coefficient between the general fertility of a state and rural to urban & urban to rural combined migration rate for both sexes taken together while controlling for literacy rate in the state for both sexes combined. Similarly, we will calculate the partial correlation

coefficient between the general fertility rate of a state and rural to urban & urban to rural combined migration rate for both sexes taken together while controlling for general literacy rate in the whole state for males only, and so on.

MEASURE OF FERTILITY:

Since the birth registration system in India is somewhat defective, the measure of fertility used in this study is the Child-Woman ratio, also called the fertility rate. Let us denote this rate by CWR.

CWR is the number of children per 1,000 women of child-bearing age. This rate is obtained by dividing the total number of children who are less than ten years old by the total number of women who are in the age group 15-49 years, and multiplying this quotient by 1,000. CWR is a very useful index whenever vital registration data are lacking or defective. It reflects the fertility performance during the ten year period preceding the census. Another advantage of CWR is that it does not require a special question to be asked in the census questionnaire.

In the calculation of CWR, the age group used for the children is 0-9 years rather than the customary 0-5 years age group. This is done so because in India, generally, there is an under-reporting of children in the

age group 0-4 years and over-reporting in the age group 5-9 years. This bias in reporting will cancel out by considering the age group 0-9 years. We have calculated CWR for urban areas, the rural areas, and the urban and rural areas combined as follows:

Let UCWR denote the child-woman ratio or the fertility rate for urban areas only. UCWR is obtained by dividing the total number of children between the ages 0-9 years in the urban areas by the total number of women between the ages 15-49 years in urban areas and multiplying the quotient by 1,000.

Let RCWR denote the child-woman ratio or the fertility rate for the rural areas. RCWR is obtained by dividing the total number of children in the rural areas between the ages 0-9 years by the total number of women in the rural areas between the ages 15-49 years, and multiplying the quotient by 1,000.

Let SCWR denote the child-woman ratio or the fertility rate for the entire state taking the rural and urban areas together. SCWR is obtained by dividing the total number of children in the entire state between the ages 0-9 years by the total number of women in the entire state between the ages 15-49 years and multiplying the quotient by 1,000.

MEASURE OF MIGRATION:

The migration considered here is the life-time migration based on the place of birth statistics. Any person whose place of birth was different from the place of residence at the time of census enumeration is considered a migrant. The rates of different streams of migration have been worked out for rural, urban, and the rural urban areas combined, separately for males, for females, as well as for both sexes taken together. These rates are calculated as follows:

Total rural to urban migration rate for a state for both sexes combined is given by

$$RUT = (X/Y)(1000)$$

RUT denotes rural to urban migration rate for both sexes taken together; X is the number of those people who, at the time of 1971 census, were living in the urban areas of a state but were born in the rural areas of that state; Y is the total rural population of the state.

Total rural to urban migration rate for the male population of a state is given by

$$RUM = (X/Y)(1000)$$

RUM is rural to urban migration rate for males; X is the number of those males who, at the time of 1971 census, were living in the urban areas but were born in rural areas of a state; Y is the total rural male population

of the state.

Total rural to urban migration rate for female population of a state is given by

$$RUF = (X/Y)(1000)$$

RUF is rural to urban migration rate for females; X is the number of females who, at the time of 1971 census, were living in the urban areas but were born in the rural areas of a state; Y is the total rural female population of the state.

Total urban to rural migration rate for a state for both sexes combined is given by

$$URT = (X/Y)(1000)$$

URT is urban to rural migration rate for both sexes combined; X is the number of people who, at the time of 1971 census, were living in rural areas but were born in the urban areas of a state; Y is the total urban population of the state.

Total urban to rural migration rate for the male population of a state is given by

$$URM = (X/Y)(1000)$$

URM is urban to rural migration rate for males; X is the number of males who, at the time of 1971 census, were living in the rural areas of a state but were born in the urban areas of that state; Y is the total urban male population of the state.

Total urban to rural migration rate for the female population of a state is given by

$$URF = (X/Y)(1000)$$

URF is urban to rural migration rate for females; X is the number of those females who, at the time of 1971 census, were living in rural areas but were born in urban areas of a state; Y is the total urban female population of the state.

Total rural to urban and urban to rural migration rate for a state for both sexes combined is given by

$$RUURT = (X/Y)(1000)$$

RUURT is the rural to urban and urban to rural combined migration rate for both sexes taken together; X is the number of those persons who, at the time of 1971 census, were enumerated at a place different from the place of their birth; Y is the total population of the state.

Total rural to urban and urban to rural migration rate for a state for males only is given by

$$RUURM = (X/Y)(1000)$$

RUURM is rural to urban and urban to rural combined migration rate for males only; X is the number of males who, at the time of 1971 census, were enumerated at a place different from the place of their birth; Y is the total male population of the state.

Total rural to urban and urban to rural migration rate for a state for females is given by

$$RUURF = (X/Y)(1000)$$

RUURF is rural to urban and urban to rural combined migration rate for females only; X is the number of those females who, at the time of 1971 census, were enumerated at a place different from the place of their birth; Y is the total female population of that state.

LITERACY RATES:

Literacy rate gives the number of literate per 1,000 population. We have calculated the literacy rates for males and females separately for the rural areas, urban areas, and the rural and urban areas combined for each state.

The literacy rate for the entire population of a state, for rural and urban areas combined is given by

$$SLRT = (X/Y)(1000)$$

SLRT is the literacy rate for a state for males & females combined and rural & urban areas combined; X is the total number of literate people in a state; Y is the total population of the state.

The literacy rate for the male population of a state for rural and urban areas combined is given by

$$SLRM = (X/Y)(1000)$$

SLRM is the literacy rate in a state for males only for rural & urban areas combined; X is the total number of literate males in a state; Y is the total male population of the state.

The literacy rate for the female population of a state for rural and urban areas combined is given by

$$SLRF = (X/Y)(1000)$$

SLRF is the literacy rate for a state for females only for rural & urban areas combined; X is the total number of literate females in a state; Y is the total female population of the state.

The literacy rate in the urban areas of a state for both males and females taken together is given by

$$ULRT = (X/Y)(1000)$$

ULRT is the literacy rate for urban areas of a state for males & females combined; X is the total number of literate people in the urban areas of a state; Y is the total urban population of the state.

The literacy rate in the urban areas of a state for male population only is given by

$$ULRM = (X/Y)(1000)$$

ULRM is the literacy rate for urban areas of a state for males only; X is the total number of literate males in the urban areas of a state; Y is the total population of males in urban areas of a state.

The literacy rate in the urban areas of a state for female population only is given by

$$ULRF = (X/Y)(1000)$$

ULRF is the literacy rate in the urban areas of a state for females only; X is the total number of literate females in the urban areas of a state; Y is the total population of females in urban areas of a state.

The literacy rate in the rural areas of a state for both sexes combined is given by

$$RLRT = (X/Y)(1000)$$

RLRT is the literacy rate in the rural areas of a state for males and females combined; X is the total number of literate people in the rural areas of a state; Y is the total rural population of the state.

The literacy rate in the rural areas of a state for males only is given by

$$RLRM = (X/Y)(1000)$$

RLRM is the literacy rate in the rural areas of a state for male population only; X is the total number of literate males living in the rural areas of a state; Y is the total rural male population of the state.

The literacy rate in the rural areas of a state for females only is given by

$$RLRF = (X/Y)(1000)$$

RLRF is the literacy rate in the rural areas of a state for females only; X is the total number of literate females living in the rural areas of a state; Y is the total rural female population of the state.

PERCENTAGE OF WOMEN EVER MARRIED:

In the current investigation, we are interested in the incidence of early marriage only. In India, the lowest legal age for marriage for women is 19 years. In a way, it is the recommended age for marriage. But in the villages, many marriages are performed prior to reaching the age of 19 years since there are no penalties for doing so. Therefore, by early marriage we mean the marriage performed in the age group 15-19. We do not need to worry about marriages before the age of 15 since such marriages are rare.

The percentage of women ever married in the age group 15-19 years in a state in the rural and urban areas combined is given by

$$PWEMT = (X/Y)(1000)$$

PWEMT is the percentage of women ever married in the rural and urban areas combined of a state; X is the total number of ever married females in a state who are 15-19 years old; Y is the total female population of the state in the age group 15-19 years.

The percentage of women ever married in the age group 15-19 years in a state in the rural areas of a state is given by

$$PWEMR = (X/Y)(1000)$$

PWEMR is the percentage of women ever married in the rural areas of a state; X is the total number of ever married females in a state who are 15-19 years old and live in the rural areas; Y is the total rural population of females in the age group 15-19 years.

The percentage of women in urban areas of a state in the age group 15-19 years in a state is given by

$$PWEMU = (X/Y)(1000)$$

PWEMU is the percentage of women ever married in the urban areas of a state; X is the total number of ever married females in a state who are 15-19 years old and live in the urban areas; Y is the total urban population of females in the age group 15-19 years.

PERCENTAGE OF FEMALES IN THE LABOR FORCE:

Labor force participation of women offers to them a higher degree of control over their own lives. A woman who can earn her own living is not entirely dependent on others, economically or psychologically. Female labor force participation in the rural areas in India includes participation by female workers in

industries and sectors such as cultivation, agriculture laborers, livestock, forestry, fishing, manufacturing and processing, construction, and other sectors such as working in village health clinics and schools. In the urban areas, females find employment in sectors such as: food, beverage, tobacco, textile, paper and printing, leather, chemical, cottage industries, public administration, medical and health, hotel services, sanitary services, and electricity, water & gas supply.

The percentages of females in the labor force are computed by dividing the total number of females in the labor force (figures available from the 1971 census) by the total number of females in the state and multiplying this ratio by 100.

The percentage of females in labor force in the entire state, that is, for both rural and urban areas combined is given by

$$PFLFT = (X/Y)(1000)$$

PFLFT is the percentage of females in labor force in a state for rural and urban areas combined; X is the total number of females in labor force in a state; Y is the total female population of the state.

The percentage of females in labor force in the rural areas of a state is given by

$$PFLFR = (X/Y)(1000)$$

PFLFR is the percentage of females in labor force in a state in rural areas only; X is the total number of females in a state in labor force who live in rural areas; Y is the total female population in the rural areas of a state.

The percentage of females in labor force in the urban areas of a state is given by

$$PFLFU = (X/Y)(1000)$$

PFLFU is the percentage of females in labor force in a state in urban areas only; X is the total number of females in a state in labor force who live in urban areas; Y is the total female population in the urban areas of a state.

We will make use of the correlation and partial correlation analysis methods in order to draw inferences regarding the association between migration and fertility in the rural, the urban, and the rural and urban areas combined, of a state. We have 16 variables under consideration in our analysis. These variables are as follows:

1a. Child-woman ratio, urban areas.

1b. Child-woman ratio, rural areas.

1c. Child-woman ratio, rural & urban areas combined.

2a. Rural to urban migration rate, males & females combined.

2b. Urban to rural migration rate, males & females combined.

2c. Rural to urban and urban to rural migration rate, males and females combined.

3a. Rural to urban migration rate, males.

3b. Urban to rural migration rate, males.

3c. Rural to urban and urban to rural migration rate, males.

4a. Rural to urban migration rate, females.

4b. Urban to rural migration rate, females.

4c. Rural to urban and urban to rural migration rate, females.

5a. Literacy rate for urban areas, males and females combined.

5b. Literacy rate for rural areas, males and females combined.

5c. Literacy rate for rural & urban areas combined, and both sexes combined.

6a. Literacy rate for urban areas, males.

6b. Literacy rate for rural areas, males.

6c. Literacy rate for rural and urban combined, males.

7a. Literacy rate for urban areas, females.

7b. Literacy rate for rural areas, females.

7c. Literacy rate for rural and urban areas combined,

females.

8a. Percentage of women ever married, urban areas.

8b. Percentage of women ever married, rural areas.

8c. Percentage of women ever married, rural and urban areas combined.

9a. Percentage of females in labor force, urban areas.

9b. Percentage of females in labor force, rural areas.

9c. Percentage of females in labor force, rural and urban areas combined.

10a. Per capita income, urban areas.

10b. Per capita income, rural areas.

10c. Per capita income, rural and urban areas combined.

The dependent variables 1a, 1b, and 1c denote the child-woman ratio for the urban areas, the rural areas, and rural & urban areas combined, respectively. Variables 2a through 4c are the independent variables, and variables 5a through 10c are the control variables. We will first obtain three zero-order correlation matrices, one each for the urban, the rural, and urban & rural areas combined, and examine the intercorrelations, specifically looking at how the child-woman ratio correlates with the rest of the variables. Then, we will

calculate various partial correlations. The partial correlation coefficients are computed as follows:

First, we take variable 1a, the urban general fertility, and correlate it with variable 2a, the rural to urban migration rate for the entire state for urban and rural areas combined and control for the variables which correspond to the urban areas only, namely, 5a, 6a, 7a, 8a, 9a, and 10a, only one at a time. Then we correlate variable 1a with variable 3a, the rural to urban migration rate for the male population of a state, controlling for the same variables, 5a, 6a, 7a, 8a, 9a, and 10a, individually. Similarly, we will correlate variable 1a with the other variables, 2a through 4c, each time separately controlling for variables 5a, 6a, 7a, 8a, 9a, and 10a.

Next, we correlate variable 1b, the child-woman ratio for rural areas of a state, with each of the variables 2a through 4c, by separately holding constant the variables 5b, 6b, 7b, 8b, 9b, and 10b, which correspond to the rural areas only.

Similarly, calculate the partial correlations between variable 1c, the general fertility of entire state and each of the variables 2a through 4c, individually holding constant the variables 5c, 6c, 7c, 8c, 9c, and 10c, corresponding to the rural & urban areas

of a state combined. Controlling for only one variable at a time is necessitated by the relatively small sample size. In the present investigation the unit of analysis is a State and there are 25 states in India. Hence our sample size is 25 which is not large enough for simultaneous control of several variables.

CHAPTER 3

RESULTS AND FINDINGS

As described in Chapter 2, the separate analyses were done for rural areas, urban areas, and rural & urban areas combined. Fertility is measured by the child-woman ratio. Migration is measured by life-time migration based on place of birth statistics. A person whose place of birth was different from the place of his/her residence at the time of enumeration, is considered a migrant.

Tables 1 through 6 on the following pages contain the results of the analysis. These results and findings will be used to examine my hypotheses. Tables 1, 3, and 5 contain three 16 by 16 zero-order correlation matrices. Table 1 corresponds to urban data, table 2 to rural data and table 3 to combined data. Only the upper triangles of the matrices are shown, and the diagonals of 1's have been suppressed. Descriptions of all the variables in each table are given at the end of the table. Tables 2, 4, and 6 contain the partial correlation coefficients corresponding to each of the three hypotheses (urban, rural & combined data, respectively).

As a background to this analysis, however, I want to present first some general descriptive statistics related to the variables used.

DESCRIPTIVE STATISTICS:

Descriptive statistics for various migration rates are given in the following table. For variable labels and descriptions, refer to Table 1:

Variable Name	Mean	Standard Deviation	Minimum	Maximum
RUT	45	23	15	94
RUM	46	19	20	99
RUF	48	24	18	87
URT	76	33	24	150
URM	61	24	23	121
URF	87	33	24	182
RUURT	42	23	18	95
RUURM	37	20	16	84
RUURF	49	26	19	106

The range of each of the migration rates is large, indicating there are considerable interstate variations in the migration rates. Rural to urban migration rate, combined for both sexes (RUT), ranges from a low of 15 migrants per 1,000 rural population to a high of 94 migrants per 1,000 rural population, with a mean of 45 and a standard deviation of 23. Rural to urban migration rate for males only (RUM), ranges from a low of 20 male migrants per 1,000 rural male population to a high of 99 male migrants per 1,000 rural male population, with a mean of 46 and a standard deviation

of 19. Rural to urban migration rate, for females only (RUF), ranges from a low of 18 female migrants per 1,000 rural female population to a high of 87 female migrants per 1,000 rural female population, with a mean of 48 and a standard deviation of 24.

Urban to rural migration rate, combined for both sexes (URT), ranges from a low of 24 migrants per 1,000 urban population to a high of 150 migrants per 1,000 urban population, with a mean of 76 and a standard deviation of 33. Urban to rural migration rate, for males only (URM), ranges from a low of 23 male migrants per 1,000 urban male population to a high of 121 male migrants per 1,000 urban male population, with a mean of 61 and a standard deviation of 24. Urban to rural migration rate, for females only (URF) ranges from a low of 24 female migrants per 1,000 urban female population to a high of 182 female migrants per 1,000 urban female population, with a mean of 87 and an SD of 33.

Rural to urban and urban to rural combined migration rate, for both sexes combined (RUURT), ranges from a low of 18 migrants per 1,000 population of a state to a high of 95 migrants per 1,000 population of the state, with a mean of 42 and a standard deviation of 23. Rural to urban and urban to rural combined migration rate, for males only (RUURM), ranges from a low of 16

male migrants per 1,000 male population of a state to a high of 84 male migrants per 1,000 male population, with a mean of 37 and a standard deviation of 20. Rural to urban and urban to rural combined migration rate, for females only (RUURF) ranges from a low of 19 female migrants per 1,000 female population of a state to a high of 106 female migrants per 1,000 female population, with a mean of 49 and a standard deviation of 26.

It can be seen from above that, while rural to urban migration rates are similar for male and female migrations, in the urban to rural migration, the female rate is higher.

The data about the fertility for rural areas of various states of India show considerable variations in the general fertility rates as represented by child-woman ratios. These fertility rates for rural areas range from 1.08 to 1.71 with a mean of 1.36 and a standard deviation of .16. The corresponding fertility rates for the urban areas of various states, range from 1.02 to 1.41 with a mean of 1.19 and standard deviation of .12.

When urban and rural areas are combined and the entire state is taken as a unit, the general fertility rates range from 1.05 to 1.68 with mean and standard deviation equal to 1.31 and .16 respectively. The interstate variations also exist in the combined rates

for other socio-economic indices.

TESTS OF HYPOTHESES:

The first hypothesis predicts a negative association between overall urban fertility and various migration variables. The zero-order and partial correlations for this purpose are presented in Tables 1 and 2 respectively. We would expect the correlation coefficients between urban fertility rate and various migration rates to be negative and significant.

The correlation coefficients in Table 1 reveal a negative association between urban general fertility rate and the rural to urban migration rate for males, females, as well as for both sexes combined. All the coefficients shown in bold face are significant at least at .05 level of significance. The first entry in row 1 of this table is -.68. This is r_{12} indicating that the correlation between variable 2 (rural to urban migration rate for both sexes combined, RUT) and variable 1 (urban fertility rate, UCWR) is -.68. This correlation coefficient is significant at .001 level of significance. The second entry in row 1 is -.74. This is the correlation r_{13} between variable 3 (rural to urban migration rate for males only, RUM) and variable 1 (urban fertility rate, UCWR) -.74, and this correlation coefficient is significant at .001 level. The last entry

in the first row of Table 1 is -.06. This indicates that the correlation between variable 16 (urban per capita income, PCIU) and variable 1 (urban fertility rate, UCWR) is $r_{1,16}$= -.06, and this is not a significant correlation. Similarly, the very last entry in Table 1 (last entry in column 16) is .32. This indicates that the correlation between variable 16 (urban per capita income, PCIU) and variable 15 (percent of females in labor force in urban areas, PFLFU) is $r_{15,16}$ = .32, and that the higher the percent of females in labor force, higher the per capita income in urban areas. This coefficient is significant at .10 level of significance. A visual inspection of the coefficients in row 1 of Table 1 indicates that the urban fertility rate (UCWR) is significantly related to all, but two, of the variables. Urban fertility rate does not seem to correlate strongly with variables 15 (percent of females in labor force in urban areas, PFLFU) and 16 (per capita income in urban areas, PCIU). Moreover, urban fertility rate (UCWR) correlates negatively with all variables except variable 14, the percent of women ever married in urban areas (PWEMU).

The first-order partial correlation coefficients are shown in Table 2. This table has 9 rows and 6 columns. The first entry in first row of this table is -.55. This means that the partial correlation

coefficient between variable 1 (urban fertility rate, UCWR) and variable 2 (rural to urban migration rate, RUT) controlling for variable 11 (urban literacy rate for both sexes combined, ULRT), is -.55, while the zero-order correlation coefficient between variable 1 (urban fertility rate, UCWR) and variable 2 (rural to urban total migration rate, RUT) was found to be -.68 in Table 1. This partial correlation is significant at .05 level. The second entry in row 1 of table 2 is -.51, indicating that the partial correlation between variable 1 (urban fertility rate, UCWR) and variable 2 (rural to urban migration rate for both sexes combined, RUT) while controlling for variable 12 (urban literacy rate for males only, ULRM) is -.51. This is significant at .05 level . The corresponding zero-order correlation in Table 1 was found to be -.68. Similarly, the last entry in row 1 is -.68, which is the partial correlation between variable 1 (urban fertility rate, UCWR) and variable 2 (rural to urban migration rate for males and females combined, RUT) controlling for variable 16 (per capita income in the urban areas, PCIU), and this is significant at .01 level. The corresponding zero-order correlation coefficient between variables 1 and 2 was found to be -.68. This indicates that the urban per capita income has little or no effect on the relationship between urban

fertility (UCWR) and rural to urban migration (RUT).

The first entry in last row of Table 2 is -.48. This is the partial correlation coefficient between variable 1 (urban fertility rate, UCWR) and variable 10 (rural to urban & urban to rural combined migration rate for females only, RUURF) controlling for variable 11 (urban literacy rate for males and females combined, ULRT). This partial correlation coefficient is significant at .05 level. From Table 1 we notice that the zero-order correlation between variables 1 and 10 (9th entry in row 1) is also -.48 indicating that urban literacy rate does not affect the relationship between urban fertility rate and the rural to urban & urban to rural migration rate for females (RUURF). Similarly, the last entry in last row of Table 2 is -.49 which is the partial correlation coefficient between variable 1 (urban fertility rate, UCWR) and variable 10 (rural to urban & urban to rural migration rate for females, RUURF) while holding variable 16 (urban per capita income, PCIU) constant, compared to the zero-order correlation of -.48 between variables 1 and 10 found in Table 1. The level of significance for this coefficient is .05.

This analysis lends support to our first hypothesis that there is a positive correlation between rural to urban migration and fertility in a state.

TABLE 1: PARTIAL CORRELATION COEFFICIENTS

CORRELATION VARIABLES	ULRT	ULRM	ULRF	PWEMU	PFLFU	PCIU
r(1,2)	-.55	-.51	-.57	-.59	-.71	-.68
r(1,3)	-.62	-.60	-.64	-.69	-.78	-.75
r(1,4)	-.60	-.57	-.61	-.62	-.75	-.72
r(1,5)	-.48	-.44	-.51	-.52	-.55	-.56
r(1,6)	-.55	-.53	-.57	-.59	-.65	-.65
r(1,7)	-.34	-.23	-.39	-.36	-.27	-.28
r(1,8)	-.48	-.35	-.54	-.38	-.50	-.46
r(1,9)	-.48	-.36	-.54	-.40	-.55	-.49
r(1,10)	-.48	-.37	-.53	-.38	-.49	-.49

The variables are defined as follows:

(1) UCWR : child-woman ratio, urban areas.
(2) RUT : rural to urban migration rate, males and females.
(3) RUM : rural to urban migration rate, males.
(4) RUF : rural to urban migration rate, females.
(5) URT : urban to rural migration rate, males and females.
(6) URM : urban to rural migration rate, males.
(7) URF : urban to rural migration rate, females.
(8) RUURT : rural to urban and urban to rural migration, males and females combined.
(9) RUURM : rural to urban & urban to rural migration rate, males.
(10) RUURF : rural-urban and urban-rural migration rate, females.
(11) ULRT : urban literacy rate, males and females combined.
(12) ULRM : urban literacy rate, males.
(13) ULRF : urban literacy rate, females.
(14) PWEMU : percent of women ever married, urban areas.
(15) PFLFU : percent of females in labor force, urban areas.
(16) PCIU : per capita income, urban areas.

TABLE 2: PARTIAL CORRELATION COEFFICIENTS

CORRELATION VARIABLES	ULRT	ULRM	ULRF	PWEMU	PFLFU	PCIU
r(1,2)	-.55	-.51	-.57	-.59	-.71	-.68
r(1,3)	-.62	-.60	-.64	-.69	-.78	-.75
r(1,4)	-.60	-.57	-.61	-.62	-.75	-.72
r(1,5)	-.48	-.44	-.51	-.52	-.55	-.56
r(1,6)	-.55	-.53	-.57	-.59	-.65	-.65
r(1,7)	-.34	-.23	-.39	-.36	-.27	-.28
r(1,8)	-.48	-.35	-.54	-.38	-.50	-.46
r(1,9)	-.48	-.36	-.54	-.40	-.55	-.49
r(1,10)	-.48	-.37	-.53	-.38	-.49	-.49

The variables are defined as follows:

(1) UCWR : child-woman ratio, urban areas.
(2) RUT : rural to urban migration rate, males and females.
(3) RUM : rural to urban migration rate, males.
(4) RUF : rural to urban migration rate, females.
(5) URT : urban to rural migration rate, males and females.
(6) URM : urban to rural migration rate, males.
(7) URF : urban to rural migration rate, females.
(8) RUURT : rural to urban and urban to rural migration, males and females combined.
(9) RUURM : rural to urban & urban to rural migration rate, males.
(10) RUURF : rural-urban and urban-rural migration rate, females.
(11) ULRT : urban literacy rate, males and females combined.
(12) ULRM : urban literacy rate, males.
(13) ULRF : urban literacy rate, females.
(14) PWEMU : percent of women ever married, urban areas.
(15) PFLFU : percent of females in labor force, urban areas.
(16) PCIU : per capita income, urban areas.

The second hypothesis predicts a negative association between overall rural fertility and various migration variables. The zero-order and partial correlations for this purpose are presented in Tables 3 and 4 respectively. We expect the correlation coefficients between rural fertility rate and various migration rates to be negative and significant.

The correlation coefficients in Table 3 reveal a negative association between rural general fertility rate and the urban to rural migration rate for males, females, as well as for both sexes combined. All the correlations which are significant at least at the .05 level are shown in bold face in these tables. The first entry in row 1 of this table is -.32. This is r_{12}, and it indicates that the correlation between variable 2 (rural to urban migration rate for both sexes combined, RUT) and variable 1 (rural fertility rate, RCWR) is -.32. This is significant at .10 level. The second entry in first row is -.49. This is denoted by r_{13}, and it indicates that the zero-order correlation between variable 3 (rural to urban migration rate for males, RUM) and variable 1 (rural fertility rate, RCWR) is -.49 which is significant at .05 level.

Let us look at the effect of urban to rural migration for both sexes combined, URT, on the overall

rural fertility, RCWR. The 4th entry in first row of Table 3 is -.38. This is the correlation coefficient between variable 1 (rural fertility rate, RCWR) and variable 5 (urban to rural migration rate for both sexes combined, URT) and it is significant at .10 level. Similarly, the 5th entry in row 1 of table 3 is -.47 which is the correlation between rural fertility rate and urban to rural migration rate for males (URM). This is significant at .05 level. The last entry in the first row of Table 3 is -.18. This indicates that the correlation between variable 16 (rural per capita income, PCIR) and variable 1 (rural fertility rate, RCWR) is $r_{1,16}$= -.18. This is not significant at .10 level. Similarly, the very last entry in Table 3 (last entry in column 16) is -.13. This indicates that the correlation between variable 16 (rural per capita income, PCIR) and variable 15 (percent of females in labor force in rural areas, PFLFR) is $r_{15,16}$ = -.13. This is also not a significant association at .05 level. A visual inspection of the coefficients in row 1 of Table 3 indicates that the rural fertility rate (RCWR) is moderately significantly related to all, but two, of the variables. Rural fertility rate does not seem to correlate strongly with variables 15 (percent of females in labor force in rural areas, PFLFR) and 16 (per capita income in rural areas, PCIR). Moreover, urban fertility

rate (RCWR) correlates negatively with all variables except variable 14, the percent of women ever married in rural areas (PWEMR).

The first-order partial correlation coefficients are shown in table 4. This table has 9 rows and 6 columns. The first entry in first row of this table is -.13. This means that the partial correlation coefficient between variable 1 (rural fertility rate, RCWR) and variable 2 (rural to urban migration rate, RUT) controlling for variable 11 (rural literacy rate for both sexes combined, RLRT), is -.13, and this coefficient is not significant at .10 level. The zero-order correlation coefficient between variable 1 (rural fertility rate, RCWR) and variable 2 (rural to urban total migration rate, RUT) was found to be -.32 in Table 3. This shows that rural literacy rate significantly affects the association between rural fertility (RCWR) and rural to urban migration rate (RUT). The second entry in row 1 of Table 4 is -.11, which indicates that the partial correlation between variable 1 (rural fertility rate, RCWR) and variable 2 (rural to urban migration rate for both sexes combined, RUT) while controlling for variable 12 (rural literacy rate for males only, RLRM) is -.11, which is not significant at the .10 level. The corresponding zero-order correlation of -.32, indicating

that the literacy rate of males significantly affects the association between rural fertility and the rural to urban migration rate. Similarly, the last entry in row 1 of Table 4 is -.31, which is the partial correlation between variable 1 (rural fertility rate, RCWR) and variable 2 (rural to urban migration rate for males and females combined, RUT) controlling for variable 16 (per capita income in rural areas, PCIR). This coefficient is significant at .10 level. The zero-order correlation coefficient between variables 1 and 2 was found to be -.32. This indicates that the urban per capita income has almost no effect on the relationship between rural fertility (RCWR) and rural to urban migration (RUT).

Now let us examine the partial correlations between rural fertility and urban to rural migration rates. The first entry in row 4 of table 4 is -.26. This partial correlation between variable 1 (rural fertility rate, RCWR) and variable 5 (urban to rural migration rate for males and females combined, URT) controlling for variable 11 (rural literacy rate for both sexes combined, RLRT) is weak and not significant at .10 level. The corresponding zero-order correlation from Table 3 is -.38, suggesting that rural literacy rate does affect the relationship between rural general fertility and urban to rural migration rate. The last entry in row 4 is -.42

indicating that the partial correlation between variable 1 (rural fertility rate, RCWR) and variable 5 (urban to rural total migration rate, URT) holding variable 16 (rural per capita income, PCIR) constant is -.42. This is significant at .10 level. The corresponding zero-order correlation from table 3 is .38 indicating that rural per capita income does not influence the association between rural fertility and urban to rural migration rate.

Similarly, the first coefficient in last row of Table 4 is -.25, and it is not significant at .10 level. This is the partial correlation between variable 1 (rural fertility rate, RCWR) and variable 10 (rural to urban and urban to rural combined migration rate for females only, RUURF) controlling for variable 11 (rural literacy rate for males and females combined, RLRT). From Table 3 we notice that the zero-order correlation between variables 1 and 10 (9th entry in row 1) is -.31 indicating that rural literacy rate does affect the relationship between rural fertility rate and the rural to urban & urban to rural migration rate for females (RUURF). Similarly, the last entry in last row of Table 4 is -.28 which is the partial correlation coefficient between variable 1 (rural fertility rate, RCWR) and variable 10 (rural to urban & urban to rural migration rate for females, RUURF) while holding variable 16 (rural per capita income, PCIR)

constant. This partial correlation coefficient is not significant at .10 level. The zero-order correlation of -.31 between variables 1 and 10 in Table 3 indicates that rural per capita income does not affect the association between rural fertility and rural to urban & urban to rural migration rate for females.

With regards to the effect of urban to rural reverse migration on the rural fertility level, the zero-order correlation coefficients in Table 3 reveal that the urban to rural migration rates for males, females and both sexes combined, are slightly negatively related to overall rural fertility. These correlations remain unchanged after the per capita income is held constant. Therefore, our second hypothesis that 'the higher the rate of urban to rural migration in a state, the lower its overall rural fertility level' gets support from the results of this analysis.

TABLE 4: PARTIAL CORRELATION COEFFICIENTS

CORRELATION VARIABLES	RLRT	RLRM	RLRF	PWEMR	PFLFR	PCIR
r(1,2)	-.13	-.11	-.13	-.17	-.33	-.31
r(1,3)	-.31	-.30	-.29	-.34	-.50	-.49
r(1,4)	-.16	-.15	-.15	-.19	-.37	-.36
r(1,5)	-.26	-.25	-.26	-.41	-.38	-.42
r(1,6)	-.33	-.32	-.31	-.36	-.47	-.49
r(1,7)	-.17	-.16	-.16	-.33	-.25	-.30
r(1,8)	-.33	-.31	-.34	-.33	-.40	-.38
r(1,9)	-.36	-.34	-.37	-.35	-.47	-.42
r(1,10)	-.25	-.23	-.25	-.23	-.30	-.28

The variables are defined as follows:

(1) RCWR : child-woman ratio, rural areas.
(2) RUT : rural to urban migration rate, males & females.
(3) RUM : rural to urban migration rate, males only.
(4) RUF : rural to urban migration rate, females only.
(5) URT : urban to rural migration rate, males and females.
(6) URM : urban to rural migration rate, males only.
(7) URF : urban to rural migration rate, females only.
(8) RUURT: rural to urban and urban to rural migration, males and females combined.
(9) RUURM: rural to urban & urban to rural migration rate, males.
(10) RUURF: rural-urban and urban-rural migration rate, females.
(11) RLRT : rural literacy rate, males and females combined.
(12) RLRM : rural literacy rate, males only.
(13) RLRF : rural literacy rate, females only.
(14) PWEMR: percent of women ever married, in rural areas.
(15) PFLFR: percent of females in labor force, rural areas.
(16) PCIR : per capita income, rural areas.

TABLE 4: PARTIAL CORRELATION COEFFICIENTS

CORRELATION VARIABLES	RLRT	RLRM	RLRF	PWEMR	PFLFR	PCIR
r(1,2)	-.13	-.11	-.13	-.17	-.33	-.31
r(1,3)	-.31	-.30	-.29	-.34	-.50	-.49
r(1,4)	-.16	-.15	-.15	-.19	-.37	-.36
r(1,5)	-.26	-.25	-.26	-.41	-.38	-.42
r(1,6)	-.33	-.32	-.31	-.36	-.47	-.49
r(1,7)	-.17	-.16	-.16	-.33	-.25	-.30
r(1,8)	-.33	-.31	-.34	-.33	-.40	-.38
r(1,9)	-.36	-.34	-.37	-.35	-.47	-.42
r(1,10)	-.25	-.23	-.25	-.23	-.30	-.28

The variables are defined as follows:

(1) RCWR : child-woman ratio, rural areas.
(2) RUT : rural to urban migration rate, males & females.
(3) RUM : rural to urban migration rate, males only.
(4) RUF : rural to urban migration rate, females only.
(5) URT : urban to rural migration rate, males and females.
(6) URM : urban to rural migration rate, males only.
(7) URF : urban to rural migration rate, females only.
(8) RUURT: rural to urban and urban to rural migration, males and females combined.
(9) RUURM: rural to urban & urban to rural migration rate, males.
(10) RUURF: rural-urban and urban-rural migration rate, females.
(11) RLRT : rural literacy rate, males and females combined.
(12) RLRM : rural literacy rate, males only.
(13) RLRF : rural literacy rate, females only.
(14) PWEMR: percent of women ever married, in rural areas.
(15) PFLFR: percent of females in labor force, rural areas.
(16) PCIR : per capita income, rural areas.

The third hypothesis predicts a negative association between overall fertility in a state (rural and urban fertility combined) and various migration variables. The zero-order and partial correlations for this purpose are presented in tables 5 and 6 respectively. We expect the correlation coefficients between general fertility rate of an entire state (rural and urban areas combined) and various migration rates to be negative and significant.

The correlation coefficients in table 5 reveal a negative association between general fertility rate of a state and all the migration variables. The first entry in row 1 of table 5 is -.50. This is r_{12} and it indicates that the correlation between variable 2 (rural to urban migration rate for both sexes combined, RUT) and variable 1 (state fertility rate, SCWR) is -.50. This coefficient is significant at .01 level. The second entry in first row is -.58. This is denoted by r_{13}, and it represents the correlation between variable 3 (rural to urban migration rate for males, RUM) and variable 1 (state fertility rate, SCWR). This is significant at .01 level.

Let us look at the effect of urban to rural migration for both sexes combined, URT, on the overall state fertility, SCWR. The 4th entry in first row of table 5 is -.40. This is the correlation coefficient

between variable 1 (state general fertility rate, SCWR) and variable 5 (urban to rural migration rate for both sexes combined, URT). This is not significant at .05 level. Similarly, the correlation between state fertility rate and urban to rural migration rate for males (URM) is -.51. This is indicated by 5th entry in row 1 of table 5. This coefficient is significant at .01 level. The last entry in the first row of Table 5 is -.30. This indicates that the correlation between variable 16 (state per capita income, PCIT) and variable 1 (state fertility rate, SCWR) is $r_{1,16}$= -.30, which is not significant at .05 level. Similarly, the very last entry in Table 3 (last entry in column 16) is -.47. This indicates that the correlation between variable 16 (state per capita income, PCIT) and variable 15 (percent of females in labor force in the entire state in both rural and urban areas combined, PFLFT) is $r_{15,16}$ = -.47, and this association is significant at .05 level.

The 7th entry in row 1 of table 5, is the correlation coefficient between the state general fertility and rural to urban & urban to rural combined migration for both sexes taken together. This correlation is equal to -.46 and it is significant at .05 level. Similarly, the 9th entry in row 1 is -.47. This is the correlation between state general fertility and rural to

urban & urban to rural combined migration rate for females only and it is significant at .05 level.

A visual inspection of the coefficients in row 1 of Table 5 indicates that the state general fertility rate (SCWR) is very significantly related to all of the variables 2 through 16. Moreover, the state general fertility rate (SCWR) correlates negatively with all the variables except variable 14, the percent of women ever married in the entire state (PWEMT).

The first-order partial correlation coefficients are shown in Table 6. This table has 9 rows and 6 columns. The first entry in first row of this table is -.21. This means that the partial correlation coefficient between variable 1 (state fertility rate, SCWR) and variable 2 (rural to urban migration rate, RUT) controlling for variable 11 (state literacy rate for both sexes combined, and both rural and urban areas combined, SLRT), is -.21, while the zero-order correlation coefficient between variable 1 (state general fertility rate, SCWR) and variable 2 (rural to urban total migration rate, RUT) was found to be -.50 in Table 5. This means that the partial correlation between state general fertility and rural to urban migration rate is not significant and that the state literacy rate significantly affects this association. The second entry

in row 1 of Table 6 is -.18, indicating that the partial correlation between variable 1 (state fertility rate, SCWR) and variable 2 (rural to urban migration rate for both sexes combined, RUT) while controlling for variable 12 (state literacy rate for males only, SLRM) is -.18 and is not significant at .05 level. The corresponding zero-order correlation from table 5 is -.50 indicating that the literacy rate of males in a state significantly affects the association between state fertility and the rural to urban migration rate. Similarly, the last entry in row 1 of Table 6 is -.45, which is the partial correlation between variable 1 (state fertility rate, SCWR) and variable 2 (rural to urban migration rate for males and females combined, RUT) controlling for variable 16 (per capita income in the entire state, PCIT). The zero-order correlation coefficient between variables 1 and 2 was found to be -.50. This indicates that the per capita income of a state has little effect on the relationship between state fertility (SCWR) and rural to urban migration (RUT).

Now let us examine the partial correlations between state general fertility and urban to rural migration rates. The first entry in row 4 is -.28. This is the partial correlation between variable 1 (state general fertility rate, SCWR) and variable 5 (urban to

rural migration rate for males and females combined, URT) controlling for variable 11 (state literacy rate for both sexes combined, and rural & urban areas combined, SLRT). The corresponding zero-order correlation from Table 5 was -.40. The last entry in row 4 is -.45 indicating that the partial correlation between variable 1 (state general fertility rate, SCWR) and variable 5 (urban to rural total migration rate, URT) holding variable 16 (state per capita income, PCIT) constant is -.45 as compared to the zero-order correlation of -.40.

Similarly, the first coefficient in last row of table 6 is -.32. This is the partial correlation between variable 1 (state general fertility rate, SCWR) and variable 10 (rural to urban and urban to rural combined migration rate for females only, RUURF) controlling for variable 11 (state literacy rate for males and females combined, SLRT). From table 5 we notice that the zero-order correlation between variables 1 and 10 (9th entry in row 1) is also -.47 indicating that state literacy rate does affect the relationship between state fertility rate and the rural to urban & urban to rural combined migration rate for females (RUURF). Similarly, the last entry in last row of table 6 is -.40 which is the partial correlation coefficient between variable 1 (state fertility rate, SCWR) and variable 10

(rural to urban & urban to rural combined migration rate for females, RUURF) while holding variable 16 (state per capita income, PCIT) constant, compared to the zero-order correlation of -.47 between variables 1 and 10.

From tables 5 and 6, we notice that the general fertility of a state is significantly correlated with rural to urban migration. This association is significant at 5 percent level of significance. The association between state general fertility rate and the urban to rural migration rate is negative, but weak. The state general fertility is, however, significantly correlated with the combined rural to urban & urban to rural migration rate in the state. This association is found significant at 5 percent level of significance. Similarly, the combined rates of rural to urban and urban to rural migration streams for males is significantly associated with state general fertility. These effects remain significant even after holding the per capita income constant. Therefore, it is asserted that higher the combined rate of rural to urban and urban to rural migration, lower the overall fertility of a state.

TABLE 6: PARTIAL CORRELATION COEFFICIENTS (STATE GENERAL FERTILITY, MIGRATION AND SOCIO-ECONOMIC VARIABLES)

CORRELATION VARIABLES	VARIABLES HELD CONSTANT					
	SLRT (11)	SLRM (12)	SLRF (13)	PWEMT (14)	PFLFT (15)	PCIT (16)
r(1,2)	-.21	-.18	-.21	-.34	-.49	-.45
r(1,3)	-.31	-.28	-.32	-.45	-.58	-.60
r(1,4)	-.22	-.19	-.22	-.35	-.53	-.49
r(1,5)	-.28	-.26	-.29	-.46	-.40	-.45
r(1,6)	-.35	-.33	-.35	-.44	-.53	-.56
r(1,7)	-.13	-.10	-.14	-.28	-.18	-.24
r(1,8)	-.36	-.32	-.37	-.39	-.45	-.42
r(1,9)	-.40	-.36	-.41	-.42	-.47	-.47
r(1,10)	-.32	-.30	-.32	-.39	-.51	-.40

The variables are defined as follows:

(1) SCWR : child-woman ratio, the whole state.
(2) RUT : rural to urban migration rate, males and females.
(3) RUM : rural to urban migration rate, males only.
(4) RUF : rural to urban migration rate, females only.
(5) URT : urban to rural migration rate, males and females.
(6) URM : urban to rural migration rate, males only.
(7) URF : urban to rural migration rate, females only.
(8) RUURT : rural to urban and urban to rural migration, males and females combined.
(9) RUURM : rural to urban & urban to rural migration rate, males.
(10) RUURF : rural-urban and urban-rural migration rate, females.
(11) SLRT : state literacy rate, males and females combined.
(12) SLRM : state literacy rate, males only.
(13) SLRF : state literacy rate, females only.
(14) PWEMT : percent of women ever married, entire state.
(15) PFLFT : percent of females in labor force, entire state.
(16) PCIT : per capita income in the state as a whole.

TABLE 6: PARTIAL CORRELATION COEFFICIENTS (STATE GENERAL FERTILITY, MIGRATION AND SOCIO-ECONOMIC VARIABLES)

CORRELATION VARIABLES	VARIABLES HELD CONSTANT					
	SLRT (11)	SLRM (12)	SLRF (13)	PWEMT (14)	PFLFT (15)	PCIT (16)
r(1,2)	-.21	-.18	-.21	-.34	-.49	-.45
r(1,3)	-.31	-.28	-.32	-.45	-.58	-.60
r(1,4)	-.22	-.19	-.22	-.35	-.53	-.49
r(1,5)	-.28	-.26	-.29	-.46	-.40	-.45
r(1,6)	-.35	-.33	-.35	-.44	-.53	-.56
r(1,7)	-.13	-.10	-.14	-.28	-.18	-.24
r(1,8)	-.36	-.32	-.37	-.39	-.45	-.42
r(1,9)	-.40	-.36	-.41	-.42	-.47	-.47
r(1,10)	-.32	-.30	-.32	-.39	-.51	-.40

The variables are defined as follows:

(1) SCWR : child-woman ratio, the whole state.
(2) RUT : rural to urban migration rate, males and females.
(3) RUM : rural to urban migration rate, males only.
(4) RUF : rural to urban migration rate, females only.
(5) URT : urban to rural migration rate, males and females.
(6) URM : urban to rural migration rate, males only.
(7) URF : urban to rural migration rate, females only.
(8) RUURT : rural to urban and urban to rural migration, males and females combined.
(9) RUURM : rural to urban & urban to rural migration rate, males.
(10) RUURF : rural-urban and urban-rural migration rate, females.
(11) SLRT : state literacy rate, males and females combined.
(12) SLRM : state literacy rate, males only.
(13) SLRF : state literacy rate, females only.
(14) PWEMT : percent of women ever married, entire state.
(15) PFLFT : percent of females in labor force, entire state.
(16) PCIT : per capita income in the state as a whole.

CHAPTER 4

SUMMARY AND DISCUSSION

An attempt has been made in this dissertation to explore the relationship between migration and fertility in India on the basis of data from 1971 Census of India with state as the unit of analysis. Both rural to urban and urban to rural migration were considered as well as migration no matter what the origin or destination.

The first finding coming out this research is that there is an inverse relationship between rural to urban migration rates and the urban fertility levels. However, the impact of migration depends not only on the rate of migration, but also on various characteristics of migrants. The relation is stronger for urban areas where the urban general fertility and various migration rates are all significantly negatively correlated at .01 level of significance.

It is widely assumed that in the developing countries, overcrowding in agriculture and poor living conditions in the rural areas push people out of the

villages towards the cities. Since, these people generally have a higher fertility, their influx to the urban areas inflates the overall urban fertility levels. But, in India, migrants from rural areas are generally the most active, most dynamic and most enterprising and they belong to higher socio-economic and educational groups. The rate of unemployment among the migrants has also been found to be less than the urban natives, and the migrants in the cities are economically better off than the original residents of the city. Thus, rural to urban migration in India is primarily of a "pull" rather than "push" type.

The main indicator of the social status of these migrants at the place of their origin has been their family background, but at the place of destination the social position and prestige are determined by occupational achievement, income, consumption standards, and educational attainment. Since the children are perceived as a disadvantage to their social and economic well being, parents try to restrict the number of children thry produce. Furthermore, the most perceptible effect of migration is the breakdown of joint family which has resulted in freeing the young migrant couples from the traditional family fertility norms. The means

to limit the number of children are more easily and readily available in the urban than in the rural areas. In the face of higher cost and higher standards of living in the cities, the migrants as well as the original residents are more amenable to family planning practice.

Furthermore, rural to urban migration in India is highly selective of young single people. These people try to delay their marriages and those who are married at the time of migration usually leave their families behind. This is evident from the extremely low sex ratios in the urban areas of India. These delayed marriages and husband-wife separations depress the fertility of the migrants. It appears that all these factors tend to lower the fertility of the rural to urban migrants to the levels considerably lower than those of urban natives so as to significantly affect the overall urban fertility.

Our second finding is that rural general fertility is lower in states which have higher rural to urban migration rates and in states which have higher urban to rural migration rates. The former may seem to conflict with common sense. If rural to urban migration in India is highly selective, then common sense reasoning would suggest that the drift of the enlightened people from rural areas should raise rather than lower the

overall rural fertility levels since these people are in the prime period of fertility as they are young, and they are economically more sound and can afford to have more children. But the things are not as simple as they look on the surface.

The migration situation in India is very complex. One of the important features of Indian migration is a very high degree of return migration. The life time migration statistics of the Indian census do not provide the magnitude of return migration, but we can assume that the states which have high rates of rural to urban migration should also have higher return migration rates. These return migrants not only have lower fertility themselves but also spread these norms in the rural areas. They usually return with new ideas, attitudes and values acquired during their stay in the cities and the people at their native place often seek their advice and listen to them and follow their advice with respect. Also, the other migrants who do not permanently return, maintain close kinship ties with their native place and often make visits and bring fresh ideas from the cities. These permanent returnees and temporary visitors prove as catalysts of change, and it is possible that the family welfare workers seek their

help and assistance in moulding the behavioral patterns of the villagers. Furthermore, in contrast to those who in the first instance migrate alone and subsequently take their families, there might be many who would like to raise their children in the villages. These women with comparatively lower fertility contribute to the overall lowering of rural fertility levels.

These are some of the possible explanations for the inverse relationship between both rural to urban and urban to rural migration and rural general fertility. The relationships, however, are not very strong because the number of return migrants, as a proportion of the total rural population, is very small.

The fertility patterns of the Indian population are quite different in rural and urban areas of a state. In general, families in the urban areas desire as well as have a smaller number of children than the ones in the rural areas. Studies in other settings have shown that migrants to urban areas have somewhat higher fertility than natives but lower fertility than rural stayers. In the rural areas, out-migrants and returned-migrants have lower fertility than non-migrants. Moreover, migrants tend to marry at a later age and separation has the effect of lowering their completed family size.

Increasing migration, therefore, is likely to reduce fertility as well as overall rate of population growth in the country. So, the states with high rate of internal migration will exhibit overall lower fertility rate of its residents.

Education, both of males and females, is a strong factor in reducing fertility. From Table 1 we see that literacy is very significantly correlated with fertility rate in the urban areas. The correlation is weaker in rural areas. Therefore, mass education needs to be emphasized with special interest in health and family planning. The increased public investment in education would bring about reduced fertility.

In order to decide the number of children both in the urban and rural areas, parents do pay attention to the advantages and disadvantages of having children. In the urban areas the educational and income opportunities are generally greater, health facilities are better and easily available, and the communication channels are relatively more effective. Therefore, more urban than rural people adopt the patterns of lower fertility. Some researchers have also shown that the act of migration itself causes a decline in fertility and therefore, contributes to the reduction in the over-all

fertility.

Therefore, our analysis suggests that in India, the states with larger population movements have lower fertility as compared to those having smaller movements.

SOME SOCIO-ECONOMIC IMPLICATIONS OF POPULATION MOVEMENTS:

There is a strong possibility that internal migration in India may have undergone a structural change in the context of the development activities of the Five Year Plans, with greater importance than before for urban-to-urban and rural-to-rural migration. This can be related to a shift of the urban labor force from unorganized to organized industries in urban areas and the rural labor force to sites of large scale construction projects in the rural areas. There is a possibility of population movement from smaller to bigger towns without altering the proportion of the population that is urban. However, the available data do not always seem to support this hypothesis (Agarawala, S., 1968).

In order to get a clearer picture of the population situation caused by migration, it is necessary to have some knowledge about the qualitative aspects of internal migration in addition to knowing its quantitative trends. A closer examination of the Indian Census data suggests that there are several ways in which

the internal migration in India can influence the existing social framework. Because of the social framework within which it is occurring, migration has a peculiar significance in India. This has reference to the closer ties which the migrants maintain with their places of origin (Eames, E., 1967). It has encouraged return migration which is quite widespread in India. The economic significance of migration in India is low especially because of the preponderance of women among migrants over short distances. For most of these women marriage is the sole reason for migration. Among men the major reason for migration is a lack of job opportunities in the villages. Thus, obligatory and non-economic reasons cause females to leave the village, while voluntary and economic reasons are prominent in the out-migration of males from villages.

Although the total volume of migration comprises only about 3.5 percent of the population, the absolute number is very substantial. The net inflow of migrants has been largest in the states of West Bengal and Maharastra, followed by Madhya Pradesh and Punjab. These states also have an above average per capita income. But states like Karnataka, Kerala, and Himachal Pradesh also have per capita income quite close to the

national average, while the out-migration rates in these states are not very high. Therefore, there does not appear to be any close relationship between low per capita income and high rate of out migration. It emphasizes the lack of importance of the "push" factor as a cause of internal migration. It is true that in-migrants find better employment opportunities and often reach a higher standard of living in the in-migrating state.

People of Northern India have a greater tendency to move out of their home state than those from other parts of India. This is evidenced by the fact that the proportion of out-migration to total population is very high in Punjab, Rajasthan and Himachal Pradesh. On the other hand, the inhabitants of Eastern India, those of Assam, Orissa, and West Bengal are far less prone to move out of their native places. About South India, the ratio of out-migrants to the total population is higher than the all India figures for Kerala and Karnataka, while that for Andhra and Tamil Nadu is lower. Among the people of Wetsern India, Gujratis are more likely to move out of the home state for better opportunities than people from Maharashtra. Thus, differences in climate, social outlook, and educational level have induced

people to react differently to almost similar economic conditions about leaving their home states in search of better employment and higher income. It may be that the people of North India have a relatively higher achievement motivation than those of the East.

Looking at the per capita income of states (Table 8, Appendix II) it is seen that the five states, namely, Delhi, Maharashtra, West Bengal, Punjab and Gujrat have the highest per capita income and they absorb about 50 percent of the inter-state migrants in India. But five comparatively poor states, namely, Bihar, Rajasthan, Orissa, Madhya Pradesh and Andhra Pradesh received less than 30 percent of the in-migrants. Hence, it might be said that the general tendency of the in-migrants is to move into the relatively prosperous regions of the country. Therefore, as we mentioned before, it is reasonable to hold that the "pull" factor has been more powerful in giving momentum to the internal migration in India. In other words, the economic conditions are primarily responsible for migration.

In general terms, internal migration has an impact on migrants as well as residents. The most important impact on the migrants is the creation of nuclear rather than joint families. This reduces the role

of joint families as economic institutions. Along with this disintegration of the joint family system, family background makes less of a contribution to social status.

From the standpoint of controlling population growth, free internal migration should be encouraged because the policies to reduce rural to urban migration are more likely to increase the rate of population growth for the nation as a whole unless steps will be taken simultaneously to introduce lower fertility norms in the rural areas and to reduce the rural-urban fertility differentials. But since the rural-urban fertility differentials are largely due to the disparities in economic and social development between the two areas, the thrust of population policies ought to be on narrowing these disparities. This can be achieved only if population policies are considered as an essential component of country's overall development strategy.

APPENDICES

APPENDIX I

INDIAN CENSUS: AN OVERVIEW

The Census of India: A Historical Perspective

A population census is an administrative operation organized by a government to count the heads and collect various personal informations of every man, woman, and child in a country with reference to a specified date.

The practice of census-taking dates back to ancient times. The objectives of the early censuses, however, were very limited. But in modern times, the need for reliable data on different characteristics of the population is felt for the purposes of demarcation, policy making, economic planning, health, education, and other fields. Thus, modern census assumed the character of a scientific statistical operation to collect accurate data. India took its first regular modern census in 1872. The next census took place nine years later in 1881 and since then a census has been conducted regularly every ten years. The census of 1971 marked a hundred years of census-taking in India. It needs to be mentioned that the process of tabulating and printing data in India is very very slow and it takes about 10 years from the date of

census-taking before the data become available for further analysis. The 1971 census had for the first time used electronic computer facilities. But a modern computer technology without a matching printing technology has created a situation which has no parallel to it. The census organization has a few computers but no printing press at its command and because of the bureaucratic procedures, the census authorities have to depend almost wholly on government printing presses. Any census report or table, which is printed ten years after the census enumeration, is almost sure to be shelved by the reader in anticipation of the next census.

The Indian census is a fascinating blend of intellectual curiosity, encyclopaedic scholarship, administrative skills, imperial policy and the wit and whim of Indian masses. Today census is taken for granted and very few people would question the need for a census. However, this was not true a hundred years ago when the first systematic census was launched. People were naturally curious to know why the government wanted to collect all kinds of data about each and every person in the country. What they dreaded most was the imposition of taxes. Surprisingly enough, even after hundred years of census-taking in India, it is the experience of field

workers in villages that the most common misgiving about any census or sample survey is the fear of imposition of taxes. From this point of view, it would appear that a span of 100 years has not made much difference in the attitude of the people towards statistical enquiries imposed on them by the government or any other agency. Perhaps it is a manifestation of the stagnation of India's economy and the poverty of the rural masses who live in constant fear of a further deterioration in their depressed level of living. Besides, a deep distrust of the 'outsider' is a persistent phenomenon of Indian rural social life.

MODERN CENSUS: METHODOLOGY

We discussed important issues regarding the methodology in chapter 2. Here, we will further comment on the censuses conducted after India attained independence, that is, censuses of 1951, 1961, and 1971. The 1951 census removed the question on caste from the census questionnaire and limited it to scheduled caste and scheduled tribes because of constitutional requirements. The government of India took this decision of not to collect data because it was feared that collection of such data tended to make people more and more caste conscious. In the absence of data on caste,

the crusaders for caste have been disarmed and this is indeed a happy development.

The 1951 census took an important decision not to cross-tabulate all important tables by religion as was the practice in the British days. There was only one table on religion and it gave just the distribution of population by different religions in India. The question on religion has only heightened religious animosities and has helped certain political parties which keep on harping on the increasing proposition of certain minorities in the total population. Since India's elections are not based on religion, there is no need to collect such data on religion and in a secular State there is no need to collect data on religion of every individual.

The major contribution of the three censuses in Post-Independence India is really in the fields of internal migration, urbanization, and fertility. For the first time in the history of census, the 1951 census gave the rural-urban breakdown in all the tables. In the earlier censuses, there were some detailed tables for a few selected cities in India, but there was no way of getting a complete rural-urban breakdown.

The 1961 census introduced a new sub-question on the place of birth, namely "whether rural or urban". This brought about a tremendous improvement in the analysis of data on internal migration based on the place of birth data. As a result, for the first time in the history of census of India, it was possible to identify the different migration streams, namely, rural to rural, rural to urban, urban to urban, and urban to rural.

The 1971 census has introduced another sub-question which will give direct evidence on migration without referring to the place of birth. The question asked was "place of last residence". There was also a new question on the place of work which will throw light on commutation, especially to the big cities.

Therefore, in the post-independence period, the censuses have emphasized economic data. Today the census is regarded as an essential tool for planning and policy-making, while during the British period, the census emphasized caste, tribe, religion, and language, and the census data, in combination with British diplomacy and imperial strategy, were used to foster disharmony through the policy of "divide and rule".

Conducting a census every ten years in a country like India is a very difficult task. Even with

a sufficiently long period of enumeration (three weeks), counting every man, woman, and child in a vast country is a stupendous task. Thus, Indian census in considered to be one of the greatest administrative operations in the world. A good deal of planning, preparation, and organization is necessary to ensure proper coverage and accuracy in such a huge operation.

The first preparatory step in Indian census is to find out every human habitation whether a village, town or a remote forest or hilly area and then to locate every house in such habitation. For this purpose the census was preceded by a housing census. First, a complete and exhaustive list of all towns and villages and other human settlements is prepared. The villages, towns and settlements are then formed into small areas called blocks covering, on an average, 120 to 150 households. A census worker, often a primary school teacher, called the enumerator is placed incharge of each such block. He goes round his block and prepares a detailed map showing the locations of all the houses in it. He then paints a number on each house on his block.

This procedure which is called house numbering is necessary to avoid any possible omissions of a house in a block. The enumerator then collects some simple

information about each house and household, like material of wall and roof, and number of members in the household. Such housing census is conducted well before the final population count. The housing census is an essential preliminary step towards the final count. It not only gives useful information about the housing conditions of the country, but also provides rough estimates of population before the final census. It is with the help of the maps prepared and the informations gathered in the housing census that the enumerator takes up the more important task of actually counting and collecting personal information on each person. For the 1971 census, this enumeration was done all over India in March-April, 1971. During this phase, the enumerator visited every household and recorded the responses to various questions on each man, woman, and child in a form called Individual Slip. He also recorded the information of the houseless persons. The Individual Slip contained 17 questions which are reproduced below:

(1) Name

(2) Sex

(3) Age

(4) Marital status

(6) For currently married women only:

a. Age at marriage

b. Any child born in the last one year

(7) Birth place:

a. Place of birth

b. Rural/Urban

c. District

d. State/Country

(8) Last residence:

a. Place of last residence

b. Rural/Urban

c. District

d. State/Country

(9) Duration of residence at the village or town of enumeration.

(10) Religion

(11) Scheduled caste or scheduled tribe

(12) Literacy

(13) Educational level

(14) Mother tongue

(15) Other languages

(16) Main activity:

a. Broad category; whether worker or non-worker (with description of type of worker or non-worker)

b. Place of work

c. Name of establishment

d. Nature of industry, trade, profession or service.

e. Description of work

f. Class of worker

(17) Secondary work:

a. Broad category; whether worker or non-worker (with description of type of worker or non-worker).

b. Place of work

c. Name of establishment

d. Nature of industry, trade, profession or service.

e. Description of work

f. Class of worker

Question 6 regarding fertility covers only currently married women and does not cover widows or divorced persons. This has been done keeping in mind the convenience of convassing as to evoke the most reliable responses. The responses to this question when tabulated according to variables such as age of mother, duration of marriage, educational level, and religion, are expected to yield useful data on current fertility.

Questions 7 and 8 relating to migration are expected to yield useful tabulations with reference to place of birth as well as place of last residence. The rural/urban flows are likely to be better reflected with reference to place of birth.

Questions 7, 8 and 9 relate to the birth place, last residence and duration of residence at the village/town of enumeration, respectively. Answer to Question 7 had to be filled with reference to the place of birth of the persons enumerated and the particulars recorded under the four sub-items of this question. Enumerators followed the following instructions:

Question 7 (a): Place of birth

Write 'PL' for a person born in the village or town where he is being enumerated. Where 'PL' is noted against this question, put X against items b, c, & d . For those born outside the village or town of enumeration write the actual name of the place against sub-item (a) and fill the other details against sub-items b,c and d.

Question 7 (b): Rural/Urban

For those born outside the village or town of enumeration ascertain if the place of birth was a village or town at the time of person's birth. To enable a person to determine whether the place was a town or a village

the enumerator may be required to indicate the status of the place of birth in comparison with a known town in the neighborhood of the place of enumeration. You may mention some important urban characteristics to enable the person to make out if the place of his birth was rural or urban.

Question 7 (c): District

For a person born outside the village or town of enumeration but within the district of enumeration, write 'D'. For a person born in another district of the State of enumeration, write the name of the district. If the person cannot name the district, write 'not known'.

Question 8: Last residence

Answer to this question had to be filled in respect of every person if he had another place of normal residence irrespective of his place of birth, before he came to the present place where he is enumerated. Even if a person were born at the place of enumeration, but by the nature of his work or for studies, he had shifted subsequently to another village or town and had come back again to the place of enumeration, he should be deemed to have had another place of residence prior to his residence here. The last previous residence is relevant only if he had been outside the village or town of

enumeration and not simply in another house or locality in the same place.

Question 9: Duration of residence at the place of enumeration

Note here the period of the existing continuous residence, in completed years, in the village or town where the person is being enumerated. This will apply even to a person born at the place of enumeration. If he had left this village or town and had lived elsewhere for sometime, then the duration of residence to be noted against this question is the period of the last continuous residence. But if a person had been away on a temporary visit or tour, that should not be taken as a break in the period of his continuous residence here.

The economic Questions 16 and 17 have made some basic departure from the past. Each person was required to declare what his/her main activity was, that is, how he engaged himself mostly. A person was treated as a worker for his main activity if he participated in any economically productive work by his physical or mental activity. No specific question on unemployment was asked at the 1971 census because the previous experience had shown that unemployment and underemployment required enquiries in depth to get a realistic estimate and this

was not possible in a quick massive operation such as the census.

The correct recording of answers to these questions in the Individual Slip, however, called for an army of trained personnel. All throughout the country the census information was collected uniformly. This required long hours of training for the census workers to learn to ask, explain and record answers to the census questions in a uniform manner throughout the country.

For such a training and supervision a hierarchy of census personnel had to be built up. At the lowest level were the enumerators who were appointed mainly from among the primary school teachers and government office staff. There were nearly half a million enumerators for the final enumeration task. All the enumerators, supervisors, and superintendents were under the overall supervision of the Deputy Commissioner of a district. The head of the census organization for the whole country was the Registrar General of India.

But merely an army of census officials, however well-trained and organised, does not make a census. The cooperation of the millions of people to be enumerated is equally important. It is only when the person enumerated furnishes the answers to the questions

honestly and truthfully the census workers collect correct and accurate data. There is a census law which gives legal powers to the census officials to put the census questions to the people. It also requires all citizens to answer the questions truthfully and prescribes penalties for violations of these legal requirements. The census law also guarantees that the personal information collected in the course of a census will be kept strictly confidential and cannot be used as evidence even in a court of law. Fortunately, Indian census has always owed its success to the willing cooperation of the citizens on the one hand and dedicated services rendered by the vast army of the census workers on the other.

The Indian census is not content with providing merely skeletal statistical picture of the population of the country and its administration units. It presents detailed analytical reports which shed considerable light on the various facets of India's life and economy, and therefore, census is the most fruitful single source of information on the people of the country.

LIMITATIONS OF DATA:

In India the only main source providing migration data is the Census. Census organization in

India has been collecting data on migration since the first systematic census was conducted in 1881. Prior to India's independence, need for memeographic studies was never felt by the government or scholars. Moreover, the internal migration in India was very much limited. There were no large scale developments, the means of transport were limited, and the masses were orthodox and had the belief that "it is better to have bread without butter at home place than to shift to outside normal place of residence for getting bread and butter". The Census Organization, therefore, continued to collect and tabulate the limited data on the place of birth till 1931. In 1951, data were processed for smaller units also, that is, migration within and between districts was also presented. On account of the influx of refugees from Pakistan more detailed data on the displaced persons for the year of migration were also collected and published. Large scale industrial programs throughout the country and specially the introduction of five-year development plans attracted many persons to the places of industrial development for better employment. It was greatly responsible for migration from rural to urban areas. The 1961 census took care of it and recorded rural-urban classification from the place of birth in addition to the

names of place, district and the State for those having born in India but at a place other than the place of enumeration. Though 1971 census was rightly commended for providing the internal migration data, it had the following drawbacks:

For the purpose of Table D-I, a migrant is a person who has been enumerated at a place other than his place of birth. In the remaining tables, the term migrant refers to a person who had his last residence at any place outside the village or town of enumeration. Migration, whether based on place of birth or last residence, includes all types of movements whether temporary, seasonal or long-term, arising from a variety of social and economic causes like employment, education, and marriage. During the 1971 census enumeration, persons who were away from their normal residence throughout the enumeration period were enumerated at places where they were found during the enumeration period. Though small in numbers, such accidental cases were also included among migrants.

In India, due to the cultural reasons, most of the women go to their parents during pregnancy and remain there for about 3-6 weeks after the delivery of the child. On account of the lack of medical facilities a

good number of women from the villages go to the nearby towns having a hospital or maternity health center where they remain for a few days. Information based on the 'Place of birth' of child born in such cases inflates the figures of migration as it is not the real migration.

After retirement or due to some other reasons, most people return to their original home villages/towns which are generally their places of birth even though for a good period of their life they have lived at another place. Migration in such cases is hidden. Those born outside the place of enumeration were asked to state whether the place of birth was rural or urban at the time of their birth.

DEFINITIONS OF WORKERS AND NON-WORKERS: In the 1971 census, a worker was defined as a person whose main activity was participation in any economically productive work through his physical or mental activity. Work involved not only actual work but also the effective supervision and direction of work. In case of regular work in trade, profession, service or business, a person was considered as a worker if he had participated in such regular work on any one of the days during the week preceding the date of enumeration and that work had been returned as his main activity. A person participating in

regular work, but absent from his work during the last week preceding the date of enumeration owing to illness, travel, holiday, strike, or temporary breakdown, was treated as a worker.

In case of work such as cultivation, livestock, plantations, or some type of household industries, a person was treated as a worker after ascertaining whether he had participated in any work at any time during the last one year, even if he was not economically active in the week prior to the enumeration. These were mainly the seasonal workers. Persons under training as apprentices, with or without a stipend, were recorded as workers.

A public or social worker engaged actively in public or social work or a political worker actively engaged in furthering the political aims of a party were also regarded as a workers. Under-trials or persons who were in jail but were not convicted by a court of law were recorded as workers if they were engaged in any of the activities which were considered as work by definition, before they were arrested. Similarly, persons who were admitted to the hospitals or sanatoria were considered as workers if they were engaged in activities which were considered as work before they were admitted.

A person who had secured an employment or was offered a job but had not actually joined duty was not

treated as a worker. A person whose primary duties were the household duties such as cooking for one's own household, or a boy or girl who was primarily a student attending an institution, even if such a person helped in the family's economic activity but not as a full-time worker, was not treated as worker for the main activity.

A person who merely received income such as rent or pension and who did not have to work for receiving that income, was not treated as worker unless he had returned some economic activity and if that activity was returned as the main activity of the individual.

Non-workers are those who are not mainly engaged in any economically productive work. They comprise seven broad groups:

(1) Those basically engaged in unpaid household duties and doing no other work, (2) Full-time students, (3) Retired persons, not employed again in full-time work, (4) All dependents such as infants, children attending schools, and disabled, (5) Beggars, vagrants, (6) Inmates of penal or mental institutions, (7) All non-workers who may not come under any of the above six categories, but are seeking work.

APPENDIX II

DATA FROM 1971 CENSUS OF INDIA

TABLE 1: DATA ON AGE DISTRIBUTION FOR COMPUTING FERTILITY RATES

NAME OF STATE	AGE GROUP	T=TOTAL R=RURAL U=URBAN	TOTAL POPULATION PERSONS	MALES	FEMALES
ANDHRA PRADESH	ALL	T	43502708	22008663	21494045
		R	35100181	17698247	17401934
		U	8402527	4310416	4092111
	0-9	T	12380457	6202403	6178054
		R	10079298	5041212	5038086
		U	2301159	1161191	1139968
	15-49	T	20299394	10255448	10043946
		R	16091067	8059598	8031469
		U	4208327	2195850	2012477
ASSAM	ALL	T	14957542	7885064	7072478
		R	13630561	7126453	6504108
		U	1326981	758611	568370
	0-9	T	5025780	2509087	2516693
		R	4668093	2325849	2342244
		U	357687	183238	174449
	15-49	T	6497882	3503617	2994265
		R	5818693	3088346	2729347
		U	679189	414271	264918
BIHAR	ALL	T	56353369	28846944	27506425
		R	50719403	25728987	24990416
		U	5633966	3117957	2516009
	0-9	T	17117138	8757333	8359805
		R	15540742	7943902	7596840
		U	1576396	813431	762965

	15-49	T	25702320	12918843	12783477
		R	22901858	11315714	11586144
		U	2800462	1603129	1197333
GUJRAT	ALL	T	26697475	13802494	12894981
		R	19200975	9842483	9358492
		U	7496500	3960011	3536489
	0-9	T	7948223	4098030	3850193
		R	5909990	3041878	2868112
		U	2038233	1056152	982081
	15-49	T	12243150	6317190	5925960
		R	8529203	4326000	4203203
		U	3713947	1991190	1722757
HARYANA	ALL	T	10036808	5377258	4659550
		R	8263849	4420225	3843624
		U	1772959	957033	815926
	0-9	T	3176215	1682890	1493325
		R	2685962	1423881	1262081
		U	490253	259009	231244
	15-49	T	4251228	2229962	2021266
		R	3411141	1771669	1639472
		U	840087	458293	381794
HIMACHAL PRADESH	ALL	T	3460434	1766957	1693477
		R	3218544	1628623	1589921
		U	241890	138334	103556
	0-9	T	972792	491130	481662
		R	916146	461868	454278
		U	56646	29262	27384
	15-49	T	1566912	775430	791482
		R	1432789	695893	736896
		U	134123	79537	54586
JAMMU & KASHMIR	ALL	T	4616632	2458315	2158317
		R	3758411	1996864	1761547
		U	858221	461451	396770
	0-9	T	1392309	710919	681390
		R	1152734	586713	566021
		U	239575	124206	115369

	15-49	T	2133353	1137797	995556
		R	1709420	906488	802932
		U	423933	231309	192624
KARNA-	ALL	T	29299014	14971900	14327114
TAKA		R	22176921	11249209	10927712
		U	7122093	3722691	3399402
	0-9	T	8579652	4316084	4263568
		R	6631460	3332568	3298874
		U	1948192	983498	964694
	15-49	T	13350686	6871757	6478929
		R	9822476	4981134	4841342
		U	3528210	1890623	1637870
KERALA	ALL	T	21347375	10587851	10759524
		R	17880926	8852350	9028576
		U	3466449	1735501	1730948
	0-9	T	5731377	2899362	2832015
		R	4853933	2454863	2399070
		U	877444	444499	432945
	15-49	T	10158943	4970165	5188778
		R	8430786	4103986	4326800
		U	1728157	866179	861978
MADHYA	ALL	T	41654119	21455334	20198785
PRADESH		R	34869352	17823411	17045941
		U	6784767	3631923	3152844
	0-9	T	13262380	6718583	6543797
		R	11264276	5690199	5574077
		U	1998104	1028384	969720
	15-49	T	18544224	9600727	8943497
		R	15303410	7819563	7483847
		U	3240814	1781164	1459650
MAHARA-	ALL	T	50412235	26116351	24295884
SHTRA		R	34701024	17482020	17219004
		U	15711211	8634331	7076880
	0-9	T	14656252	7413252	7243000
		R	10638544	5364606	5273938
		U	4017708	2048646	1969062

	15-49	T	23654230	12371231	11282999
		R	15352340	7610083	7742257
		U	8301890	4761148	3540742
MANIPUR	ALL	T	1072753	541675	531078
		R	931261	470231	461030
		U	141492	71444	70048
	0-9	T	313051	157563	155488
		R	274730	138338	136392
		U	38321	19225	19096
	15-49	T	491443	248801	242642
		R	422725	213709	209016
		U	68718	35092	33626
MEGHA-	ALL	T	1011699	520967	490732
LAYA		R	864529	441533	422996
		U	147170	79434	67736
	0-9	T	316200	158796	157404
		R	278478	139947	138531
		U	37722	18849	18873
	15-49	T	472384	244739	227645
		R	394335	200070	194265
		U	78049	44669	33380
NAGALAND	ALL	T	516449	276084	240365
		R	465055	241171	223884
		U	51394	34913	16481
	0-9	T	134652	67914	66738
		R	123025	62119	60906
		U	11627	5795	5832
	15-49	T	258163	141559	116604
		R	224206	115838	108368
		U	33959	25721	8238
ORISSA	ALL	T	21944615	11041083	10903532
		R	20099220	10041023	10058197
		U	1845395	1000060	845335
	0-9	T	6471668	3195612	3276056
		R	5944836	2928696	3016140
		U	526832	266916	259916

	15-49	T	9927163	5011714	4915449
		R	8999116	4485180	4513936
		U	928047	526534	401513
PUNJAB	ALL	T	13551060	7266515	6284545
		R	10334881	5533475	4801406
		U	3216179	1733040	1483139
	0-9	T	3696235	1956833	1739402
		R	2866446	1519421	1347025
		U	829789	437412	392377
	15-49	T	6110876	3229803	2881073
		R	4522158	2373888	2148270
		U	1588718	855915	732803
RAJAS-	ALL	T	25765806	13484383	12281423
THAN		R	21222045	11060995	10161050
		U	4543761	2423388	2120373
	0-9	T	8043472	4179270	3864202
		R	6710458	3483642	3226816
		U	1333014	695628	637386
	15-49	T	11410919	5925182	5485737
		R	9287555	4776995	4510560
		U	2123364	1148187	975177
SIKKIM	ALL	T	209843	112662	97181
		R	190175	100959	89216
		U	19668	11703	7965
	0-9	T	53407	25501	27906
		R	48119	22741	25738
		U	5288	2760	2528
	15-49	T	108164	62516	45648
		R	97477	55704	41773
		U	10687	6812	3875
TAMIL	ALL	T	41199168	20828021	20371147
NADU		R	28734334	14438727	14295607
		U	12464834	6389294	6075540
	0-9	T	10810687	5456933	5353754
		R	7621182	3842388	3778794
		U	3189505	1614545	1574960

	15-49	T	20422475	10270480	10151995
		R	14010007	6954771	7055236
		U	6412468	3315709	3096759
TRIPURA	ALL	T	1556342	801126	755216
		R	1393982	717227	676755
		U	162360	83899	78461
	0-9	T	477620	239942	237678
		R	436805	219398	217407
		U	40815	20544	20271
	15-49	T	678048	349593	328455
		R	598182	307347	290835
		U	79866	42246	37620
UTTAR	ALL	T	88341144	47016421	41324723
PRADESH		R	75952548	40214012	35738536
		U	12388596	6802409	5586187
	0-9	T	26105403	13724165	12381238
		R	22626315	11914955	10711360
		U	3479088	1809210	1669878
	15-49	T	39689644	20768206	18921438
		R	33779057	17444062	16334995
		U	5910587	3324144	2586443
WEST	ALL	T	44312011	23435987	20876024
BENGAL		R	33344978	17173552	16171426
		U	10967033	6262435	4704598
	0-9	T	13210502	6580691	6629811
		R	10718256	5300403	5417853
		U	2492246	1280288	1211958
	15-49	T	20422878	11194319	9228559
		R	14509003	7626226	6882777
		U	5913875	3568093	2345782
ANDAMAN	ALL	T	115133	70027	45106
NICOBAR		R	88915	53195	35720
ISLANDS		U	26218	16832	9386
	0-9	T	32284	16309	15975
		R	26328	13281	13047
		U	5956	3028	2978

	15-49	T	64234	42983	21251
		R	47734	31412	16322
		U	16500	11571	4929
ARUNACHAL PRADESH	ALL	T	467511	251231	216280
		R	450223	239369	210854
		U	17288	11862	5426
	0-9	T	133727	67335	66392
		R	129826	65243	64583
		U	3901	2092	1809
	15-49	T	240201	134289	105912
		R	228712	125759	102953
		U	11489	8530	2959
CHANDI-GARH	ALL	T	257251	147080	110171
		R	24311	14444	9867
		U	232940	132636	100304
	0-9	T	62952	33260	29692
		R	6580	3548	3032
		U	56372	29712	16660
	15-49	T	146937	87077	59860
		R	12498	7749	4749
		U	134439	79328	55111
DELHI	ALL	T	4065698	2257515	1808183
		R	12498	7749	4749
		U	134439	79328	55111
	0-9	T	1066371	559368	507003
		R	131146	70204	60942
		U	935225	489164	446061
	15-49	T	2112916	1204314	908602
		R	188686	103717	84969
		U	1924230	1100597	823633
GOA DAMAN & DIU	ALL	T	857771	431214	426557
		R	630997	310909	320088
		U	226774	120305	106469
	0-9	T	224982	114552	110430
		R	169573	86165	83408
		U	55409	28387	27022

	15-49	T	418434	215023	203411
		R	297372	147743	149629
		U	121062	67280	53782
PONDI-	ALL	T	471707	237112	234595
CHERY		R	273419	137783	135636
		U	198288	99329	98959
	0-9	T	131573	66377	65196
		R	77974	39158	38816
		U	53599	27219	26380
	15-49	T	223946	111257	112686
		R	128218	63517	64701
		U	95728	47740	47988

TABLE 2: DATA FOR COMPUTING RURAL TO URBAN MIGRATION RATES (AREA OF BIRTH = RURAL)

STATE OF BIRTH	ENUMERATED IN URBAN AREAS		
	PERSONS	MALES	FEMALES
ANDHRA PRADESH	2041299	967997	1073302
ASSAM	200253	111777	88476
BIHAR	1268304	625042	643262
GUJRAT	1467511	697425	770086
HARYANA	194870	89294	105576
HIMACHAL PRADESH	61294	38225	23069
JAMMU & KASHMIR	68650	33598	35052
KARNATAKA	1224317	599615	624702
KERALA	513324	216408	296916
MADHYA PRADESH	1133182	526081	607101
MAHARASHTRA	3258664	1752357	1506307
MANIPUR	12223	5512	6711
MEGHALAYA	15278	7143	8135
NAGALAND	9316	5175	4141
ORISSA	515508	264883	250625
PUNJAB	505274	239965	265309
RAJASTHAN	652492	282208	370284
SIKKIM	1743	1013	730
TAMIL NADU	2281196	1081535	1199661
TRIPURA	6135	3083	3054
UTTAR PRADESH	2040150	998643	1041507
WEST BENGAL	690564	336201	354363
ANDAMAN	395	210	185
ARUNACHAL	2605	1488	1117
CHANDIGARH	1196	829	367
DELHI	8546	3675	4871
GOA DAMAN	47166	21159	26007
PONDICHERY	8452	3782	4670

TABLE 3: DATA FOR COMPUTING URBAN TO RURAL MIGRATION RATES. (AREA OF BIRTH = URBAN)

STATE OF BIRTH	ENUMERATED IN RURAL AREAS		
	PERSONS	MALES	FEMALES
ANDHRA PRADESH	768410	282930	485480
ASSAM	97990	44640	53350
BIHAR	371682	80832	290850
GUJRAT	508074	175297	332777
HARYANA	87191	24490	62701
HIMACHAL PRADESH	35591	14329	21262
JAMMU & KASHMIR	47901	18449	29452
KARNATAKA	613246	235168	378078
KERALA	382330	165120	217210
MADHYA PRADESH	508597	189023	319574
MAHARASHTRA	1139960	446273	693687
MANIPUR	11816	4787	7029
MEGHALAYA	8366	5002	3364
NAGALAND	1253	818	435
ORISSA	176840	67391	109449
PUNJAB	163280	52000	111290
RAJASTHAN	343232	94710	248522
SIKKIM	621	426	196
TAMIL NADU	937733	359041	578692
TRIPURA	11388	5663	5725
UTTAR PRADESH	852491	195023	657438
WEST BENGAL	247293	99233	148060
ANDAMAN	1719	910	809
ARUNACHAL	2735	1634	1101
CHANDIGARH	217	131	86
DELHI	12627	4947	7680
GOA DAMAN	33942	14589	19353
PONDICHERY	6551	3042	3509

TABLE 4: DATA FOR COMPUTING URBAN TO RURAL AND RURAL TO URBAN MIGRATION RATES (PLACE OF BIRTH : RURAL OR URBAN)

STATE OF BIRTH	ENUMERATED IN RURAL OR URBAN AREAS		
	PERSONS	MALES	FEMALES
ANDHRA PRADESH	2809709	1250927	1558782
ASSAM	298243	156417	141826
BIHAR	1639986	705874	934112
GUJRAT	1975585	872722	1102863
HARYANA	282061	113784	168277
HIMACHAL PRADESH	96885	52554	44331
JAMMU & KASHMIR	116551	52047	64504
KARNATAKA	1837563	834783	1002780
KERALA	895654	381528	514126
MADHYA PRADESH	1641779	715104	926675
MAHARASHTRA	4398624	2198630	2199994
MANIPUR	24039	10299	13740
MEGHALAYA	23644	12145	22499
NAGALAND	10569	5993	4576
ORISSA	692348	332274	360074
PUNJAB	668564	291965	376599
RAJASTHAN	995724	376918	618806
SIKKIM	2364	1439	925
TAMIL NADU	3218929	1440576	1778353
TRIPURA	17525	8746	8779
UTTAR PRADESH	2892641	1193666	1698945
WEST BENGAL	937857	435434	502423
ANDAMAN	2114	1120	994
ARUNACHAL	5340	3122	2218
CHANDIGARH	1413	960	453
DELHI	21174	8622	12551
GOA DAMAN	81108	35748	45360
PONDICHERY	15003	6824	8179

TABLE 5: DATA FOR COMPUTING LITERACY RATES FOR RURAL AND URBAN AREAS COMBINED

STATE	T=TOTAL M=MALES F=FEMALES	POPULATION	LITERATES
ANDHRA PRADESH	T	37485068	10689665
	M	19003247	7303297
	F	18481821	3386368
ASSAM	T	12413545	4295564
	M	6619005	2932566
	F	5794540	1362998
BIHAR	T	48131372	11237613
	M	24704179	8839395
	F	23427193	2398218
GUJRAT	T	22838394	9555238
	M	11832989	6363748
	F	11005405	3191490
HARYANA	T	8459151	2699179
	M	4556018	2005424
	F	3903133	693755
HIMACHAL PRADESH	T	2964464	1105825
	M	1516749	763192
	F	1447715	342633
JAMMU & KASHMIR	T	3952135	857964
	M	2120546	657660
	F	1831589	200304
KARNATAKA	T	25077251	9235127
	M	12844451	6231363
	F	12232800	3003764
KERALA	T	18491971	12898072
	M	9146093	7054096
	F	9345878	5843976
MADHYA PRADESH	T	34971312	9223084
	M	18100306	7016655
	F	16871006	2206429

MAHARASHTRA	T	43157442	19752608
	M	22443187	13331079
	F	20714155	6421529
MANIPUR	T	917845	353090
	M	464403	249383
	F	453442	103707
MEGHALAYA	T	850833	298312
	M	439603	177772
	F	411230	120540
NAGALAND	T	451806	141518
	M	243836	96681
	F	207970	44837
ORISSA	T	18819069	5745399
	M	9501641	4227806
	F	9317428	1517593
PUNJAB	T	11791168	4562123
	M	6347946	2934281
	F	5443222	1627842
RAJASTHAN	T	21770367	4914293
	M	11440534	3875435
	F	10329833	1038858
SIKKIM	T	184099	37230
	M	100205	28579
	F	83894	8651
TAMIL NADU	T	35809975	16256393
	M	18112317	10783783
	F	17697658	5472610
TRIPURA	T	1331995	482082
	M	687556	322017
	F	644439	160065
UTTAR PRADESH	T	75379871	19173970
	M	40371404	14812311
	F	35008467	4361659
WEST BENGAL	T	37856092	14711739
	M	20239066	10031891
	F	17617026	4679848

ANDAMAN	T	98126	50191
NICOBAR	M	61478	36160
ISLANDS	F	36648	14031
ARUNACHAL	T	398085	52791
	M	217066	44776
	F	181019	8015
CHANDIGARH	T	224849	158371
	M	130037	98495
	F	94812	59876
DELHI	T	3536396	2301605
	M	1982459	1438268
	F	1553937	863337
GOA DAMAN	T	745700	383864
& DIU	M	374023	234178
	F	371677	149686
PONDICHERY	T	406599	217058
	M	204302	135851
	F	202297	81207

TABLE 6: DATA FOR COMPUTING LITERACY RATES FOR URBAN AREAS.

STATE	T=TOTAL M=MALES F=FEMALES	POPULATION (URBAN)	LITERATES (URBAN)
ANDHRA PRADESH	T	7287463	3955667
	M	3746351	2469737
	F	3541112	1485930
ASSAM	T	1162057	778835
	M	674663	489576
	F	487394	289259
BIHAR	T	4883646	2530541
	M	2735655	1728205
	F	2147991	802336
GUJRAT	T	6509627	4115843
	M	3453984	2532672
	F	3055643	1583171
HARYANA	T	1535441	904254
	M	832356	565810
	F	703085	338444
HIMACHAL PRADESH	T	213210	146450
	M	123579	92356
	F	89631	54094
JAMMU & KASHMIR	T	752316	327610
	M	406238	215025
	F	346078	112585
KARNATAKA	T	6173920	3662937
	M	3243884	2248588
	F	2930036	1414349
KERALA	T	3027897	2298663
	M	1514313	1249309
	F	1513584	1049354
MADHYA PRADESH	T	5784024	3361666
	M	3120768	2195840
	F	2663256	1165826

MAHARASHTRA	T	13707516	9123909
	M	7615897	5774697
	F	6091619	3349212
MANIPUR	T	122872	75334
	M	62197	47012
	F	60675	28322
MEGHALAYA	T	128923	95985
	M	70472	55552
	F	58451	40433
NAGALAND	T	45064	31241
	M	31802	23088
	F	13262	8153
ORISSA	T	1585856	904215
	M	869334	599479
	F	716522	304736
PUNJAB	T	2815030	1688220
	M	1523043	1014695
	F	1291987	673525
RAJASTHAN	T	3886800	1974945
	M	2085224	1345562
	F	1801576	629383
SIKKIM	T	17124	9081
	M	10374	6259
	F	6750	2822
TAMIL NADU	T	10880453	7024806
	M	5590416	4265565
	F	5290037	2759241
TRIPURA	T	143467	103933
	M	74393	60756
	F	69074	43177
UTTAR PRADESH	T	10696693	5404708
	M	5932061	3542936
	F	4764632	1861772
WEST BENGAL	T	9853848	6133785
	M	5694663	3783254
	F	4159185	2250531

ANDAMAN	T	23113	16132
NICOBAR	M	15276	11265
ISLANDS	F	7837	4867
ARUNACHAL	T	15068	8724
	M	10757	7032
	F	4311	1692
CHANDIGARH	T	203874	150949
	M	117376	92885
	F	86498	58064
DELHI	T	3185958	2149915
	M	1788751	1325855
	F	1397207	824060
GOA DAMAN	T	198512	127729
& DIU	M	105835	77468
	F	92677	50261
PONDICHERY	T	171921	111505
	M	85910	65386
	F	86011	46119

TABLE 7: DATA FOR COMPUTING LITERACY RATES FOR RURAL AREAS.

STATE	T=TOTAL M=MALES F=FEMALES	POPULATION (RURAL)	LITERATES (RURAL)
ANDHRA	T	30197605	6733998
PRADESH	M	15256896	4833560
	F	14940709	1900438
ASSAM	T	11251488	3516729
	M	5944342	2442990
	F	5307146	1073739
BIHAR	T	43247726	8707072
	M	21968524	7111190
	F	21279202	1595882
GUJRAT	T	16328767	5439395
	M	8379005	3831076
	F	7949762	1608319
HARYANA	T	6923710	1794925
	M	3723662	1439614
	F	3200048	355311
HIMACHAL	T	2751254	959375
PRADESH	M	1393170	670836
	F	1358084	288539
JAMMU &	T	3199819	530354
KASHMIR	M	1714308	442635
	F	1485511	87719
KARNATAKA	T	18903331	5572190
	M	9600567	3982775
	F	9302764	1589415
KERALA	T	15464074	10599409
	M	7631780	5804787
	F	7832294	4794622
MADHYA	T	29187288	5861418
PRADESH	M	14979538	4820815
	F	14207750	1040603

MAHARASHTRA	T	29449926	10628699
	M	14827290	7556382
	F	14622536	3072317
MANIPUR	T	794973	277756
	M	402206	202371
	F	392767	75385
MEGHALAYA	T	721910	202327
	M	369131	122220
	F	352779	80107
NAGALAND	T	406742	110277
	M	212034	73593
	F	194708	36684
ORISSA	T	17233213	4841184
	M	8632307	3628327
	F	8600906	1212857
PUNJAB	T	8976138	2873903
	M	4824903	1919586
	F	4151235	954317
RAJASTHAN	T	17883567	2939348
	M	9355310	2529873
	F	8528257	409475
SIKKIM	T	166975	28149
	M	89831	22320
	F	77144	5829
TAMIL NADU	T	24929522	9231587
	M	12521901	6518218
	F	12407621	2713369
TRIPURA	T	1188528	378149
	M	613163	261261
	F	575365	116888
UTTAR PRADESH	T	64683178	13769262
	M	34439343	11269375
	F	30243835	2499887
WEST BENGAL	T	28002244	8577954
	M	14544403	6248637
	F	13457841	2429317

ANDAMAN	T	75013	34059
NICOBAR	M	46202	24895
ISLANDS	F	28811	9164
ARUNACHAL	T	383017	44067
	M	206309	37744
	F	176708	6323
CHANDIGARH	T	20975	7422
	M	12661	5610
	F	8314	1812
DELHI	T	350438	151690
	M	193708	112413
	F	156730	39277
GOA DAMAN	T	547188	256135
& DIU	M	268188	156710
	F	279000	99425
PONDICHERY	T	234678	105553
	M	118392	70465
	F	116286	35088

TABLE 8: PER CAPITA INCOME (IN RUPEES)

NAME OF STATE	PER CAPITA INCOME		
	COMBINED	RURAL	URBAN
ANDHRA PRADESH	600	542	1407
ASSAM	1000	748	1652
BIHAR	900	490	2726
GUJRAT	1200	736	2121
HARYANA	1500	1117	1903
HIMACHAL PRADESH	674	473	1077
JAMMU & KASHMIR	880	563	1299
KARNATAKA	1100	748	1725
KERALA	1330	1197	1200
MADHYA PRADESH	1185	650	1721
MAHARASHTRA	1573	649	2437
MANIPUR	950	448	1180
MEGHALAYA	759	444	1002
NAGALAND	1000	601	1239
ORISSA	1208	685	1941
PUNJAB	1499	1214	2003
RAJASTHAN	995	517	1786
SIKKIM	801	398	997
TAMIL NADU	1300	792	2044
TRIPURA	609	476	1100
UTTAR PRADESH	1256	765	1820
WEST BENGAL	1204	940	2116
ANDAMAN NICOBAR	777	450	902
ARUNACHAL	1282	314	1290
CHANDIGARH	2538	1243	2902
DELHI	2400	933	2681
GOA,DAMAN, & DIU	1100	989	1459
PONDICHERY	1300	1505	2114

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