

**DIFFERENTIALS IN FERTILITY BY RELIGION: A CASE
STUDY OF DARJEELING DISTRICT**

Thesis submitted for requirements of award of Doctor of
Philosophy in Himalayan Studies (Geography)

by

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To Whom It May Concern

This is to certify that the thesis entitled "DIFFERENTIALS IN FERTILITY BY RELIGION: A CASE STUDY OF DARJEELING DISTRICT" by Abul Kalam Mohammad Anwaruzzaman, Teacher Fellow, Centre for Himalayan Studies, University of North Bengal, under my supervision, is an original research work done by the author. The thesis is based on both primary and secondary data and information procured by the author and no part of this thesis has been submitted anywhere for any degree whatsoever. The thesis may now be placed before the examiners for evaluation.

As far as I know, Mr. Zaman bears a good moral character. I wish him all success in life.


24.03.10

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Dedicated

in loving memory of my father - childhood friend,
philosopher and guide; my most respected and
inspiring teacher (Prof. Aijazuddin Ahmad) - who
is no more in this world to guide me any more and
my mother who still inspires me continuously by
her honesty and hard work

Preface

Fertility in relation to religion is, as it has been for several decades, an important social issue. Apparent differentials in fertility by religion are the core of the dispute. It has attracted demographers, economists, geographers, sociologists, biologists and of course medical scientists. Much later politicians have joined these academicians and professional to 'achieve non-political goal'. Particularly, 'Saffron Demographers' have hyped the issue out of proportion as if it is the only difficulty faced by 'Indian Society' – in her way.

The present study is a modest attempt to resolve the dispute and to arrive at the end to the debate to somewhat. The research work is designed in such a way that we get to answer the following questions:

1. Is there any difference in fertility among the major religious groups i.e. Buddhists, Christians, Hindus and Muslims in Darjeeling district?
2. If there are differentials, then ^{to} what extent ^{those} vary among the religious groups under study?
3. What are possible reasons for such a phenomenon of fertility differentials by religion?

The thesis is divided into seven chapters of different lengths, where contents vary according to the need of the section. Chapter-I, an introductory chapter, is devoted to spelling out the research framework where introduction to the problem, study area, review of existing literature (works already done in the field), objectives of the study, research questions, data sources, sampling and survey process and finally methodology of the research have been

accommodated. While second chapter is devoted to describing demographic profile of the study area, third chapter contains general fertility character of the study area. Chapter-IV and Chapter-V form the core of present research, where the former one is spared to find out fertility differentials in relation to religions in the district and the latter is an attempt to explain the causes (determinants) of such differences. There has been an attempt to find out how the fertility among the religious groups in the rural areas varies from the fertility among those in the urban areas of the district. Finally, chapter-vi deals with major results and findings of the work, and suggests some measure to bridge the gap identified. An index has been included so that the readers feel comfortable to refer, if at all it serves, to their purpose. While bibliography will help the readers to have an idea of further readings, the appendices will obviously help them to have a glance to minute details of the 'Schedule' (Questionnaire) used or 'Master Table' containing unprocessed data collected from the filed.

I have no hesitation to admit that the work could have been improved to a much greater height by the researcher with greater expertise. Unless there were time constraint due to my engagement as a teacher, more importantly, an incessant political upheaval and a milieu of uncertainty in the hills (part of field of this research lies in the hilly tract of Darjeeling district) the study could be of higher quality. In spite of sincere attempts some of the hurdles were found to be irresolvable e.g. religion being a sensitive issue particularly in the charged environment of mutual distrust in the period of post-Godhra pogrom, respondents in a number of cases refused to cooperate. I must not forget to

accept my lack of dexterity. Otherwise, the quality of maps would have been much better. Nevertheless, I would be happy if the research results help anyone to clear the ambience of obscurity in the filed - fertility and religion. The researcher will remain indebted to those who graciously spare some of their invaluable times to suggest the way the work can be improved further.

CHS, NBU (W.B.)
Date: 24.03.2010

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ABSTRACT

Growth of population and replenishment of human society depends on human fertility i.e. biological replacement and therefore, plays a positive role in the population dynamics. Human fertility has been traditionally dealt with in two separate disciplines: Biology and Social Sciences. Till recently this study was an exclusive field for demographers and medical/bio-scientists. But in the recent years 'Saffron Demographers' who have utilized 'demographic data to achieve non-demographic objectives' by 'Politicization of fertility' aims at pressurizing policy makers to interfere with the way of life of a particular community. "Saffron Demographers" have thus succeeded in misleading the common folks lacking in proper understanding of dynamics of fertility.

Though fertility is considered to be a key attribute of demography of any region, religious differentials exist in the study area. It may be determined by several socio-economic, cultural, demographic and biological factors such as literacy, work participation ratio, female work participation ratio, female literacy, tertiary sex ratio and age at marriage etc. and religion may not have any direct role to control the same. Since the above attributes are not uniform across the religious groups, the differentials exist between the communities.

In the present study 600 respondents i.e. married female in the age group of 15-49 years have been taken up following scientific sampling technique. The sample respondents have been drawn out of the universe

primarily following multi-stage random sampling. But at the first stage six blocks (out of 12 blocks) and Siliguri Municipal Corporation (only corporation within the study area) have been selected using clustered random sampling. At the second stage a number of mouzas (revenue village) and wards (Municipal area) have been selected using random sampling with the help of random table out of the list of villages/mouzas/wards. At the third stage, the list of households with married female in the age group of 15-49 years have been collected from Integrated Child Development Scheme (ICDS) Centres i.e. Anganwari Centres and also from the ASHA workers. Using random table, the respondents were selected at random. Replacement was allowed only when the respondent was not available even on the subsequent day. The replacement was essentially the next available eligible woman in the list.

A survey schedule (questionnaire) was framed and finalized following a pilot survey in the field. The primary data thus collected from the field are supplemented by secondary data. The data have been statistically analysed using various statistical tools (average, mean, median, mode, standard deviation, coefficient of variation, correlation coefficient and regression analysis etc.) and presented diagrammatically using various cartographic techniques (choropleth, bar diagram, compound bar diagram, pie-graph and scatter diagram etc.).

The research work is primarily designed with a view to answering the following questions:

1. Is there any difference in fertility among the major religious groups i.e. Buddhists, Christians, Hindus and Muslims in Darjeeling district?

2. If there are differentials, then to what extent those vary among the religious groups under study?
3. What are possible reasons for such a phenomenon of fertility differentials by religion?

In order to fulfill the objectives of the study a set of research questions has been framed to be answered in terms of findings. The research outcome has accorded the questionnaire to the point. The proffered questions that have been answered during the course of the study are:

1. What is the influence of religion on fertility in the study area?
2. Whether TFR and CBR for a group of people with the similar socio-economic background but belonging to different religion are same or different?
3. Whether a group of population belonging to the same religion but having varied educational attainment, income and occupation has equal fertility?
4. How much variation in fertility is observed when income enhancement takes place?
5. To what extent occupation of husband and wife influences the fertility rate?
6. What happens to fertility rate when educational attainment level of the couple is enhanced?
7. Is there any relationship between age at marriage and fertility rate?

Two different measures of fertility have been approached in this study, namely Crude Birth Rate (CBR) and Total Fertility Rate (TFR). The average

CBR and TFR for all the groups under the study taken together is 39.56 and 3.58 respectively. Religion-wise fertility estimation shows that in respect of Crude Birth Rate, the Muslims top the list with 51.02 and the Buddhists remain at the bottom with 26.25. The Christians (47.72) and the Hindus (33.26) hold the second and the third position respectively in respect of Crude Birth Rate. Moving to a meticulous measure of fertility i.e. Total Fertility Rate, it has been found that the Christians have the highest level of fertility i.e. 4.98 against the lowest level of fertility estimated for the Buddhists. The Muslims (3.99) and the Hindus (2.98) hold the second and the third rank respectively in respect of Total Fertility Rate.

When Fertility is related to Educational Attainment we get the following results:

1. Buddhists are educationally better off; so far the respondent's education and that of their husbands and parents are concerned, while the Christians are lagging behind the rest.
2. Educational attainment has negative impact on fertility but the extent of influence varies from one religious community to other as their socio-economic conditions vary.
3. Among other communities the impact of educational attainment of the respondents is much more effective (strong) than their husbands and the parents'.

Relation of **Fertility to Occupation** yields the following findings:

1. There is no definite trend of relationship between fertility and sector of economic activities in which the respondents are engaged.
2. Working females have less number of children compared to the housewives but the difference is not significant.
3. There is no significant difference in fertility across religious groups in the same sector of occupation (respondents engaged in occupation in the same sector).
4. Even among the employed respondents, a very few are gainfully employed and therefore, nothing remarkable impact of occupation is observed on fertility behaviour.

The results coming out the section where **Fertility is related to Income** are as follows:

1. There exists a negative relationship between fertility (number of births) and income (per capita monthly income).
2. The income has strongest negative relation to fertility among the Christians and weak among the Muslims.
3. The correlation coefficient calculated between the variable fertility (number of births) and income (per capita monthly income) varies between -0.0495 and -0.3236 for different religious groups.

On examining **Fertility and Age at Marriage** we attain the following findings:

1. There exists negative relationship between fertility and age at marriage.

2. This relationship also holds good in case of pregnancy to age at marriage and birth to age at marriage.
3. The relation between fertility and age at marriage is negative in terms of religions but the magnitude differs across the religious groups.
4. The strongest relationship between the variables is found among the Buddhists and the weakest relationship exists among the Hindus among all the religious groups studied.

In spite of sincere attempts some of the hurdles were found to be irresolvable e.g. religion being a sensitive issue particularly in the charged environment of mutual distrust in the period of post-Godhra pogrom, respondents, in a number of cases, refused to cooperate. The prevailing political upheaval owing to Gorkhaland agitation and a so called 'Bengali-Gorkha divide' created a major hurdle during field survey in the hilly region in particular.

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Chapter - I

INTRODUCTION

Introduction

The study of population is an important theme in the field of social science research. Human fertility as a dynamic branch of study in demography therefore, pre eminently occupies an important position in population research. Fertility "refers to the actual reproductive performance whether applied to an individual or a group" (U. N. Multilingual Demographic Dictionary, 1958). The measurement of fertility may be of different kinds of which Total Fertility Rate (henceforth TFR) and Gross Reproduction Rate (henceforth GRR) are considered to be good for comparison between different groups, where as Crude Birth Rate (henceforth CBR) is considered effective as well as easy to calculate and comprehend.

Growth of population and replenishment of human society depends largely on human fertility i.e. biological replacement and therefore, plays a positive role in the population dynamics. Human fertility has been traditionally investigated in two separate disciplines: Biology and Social Sciences. In Social Science, the study of human fertility is considered as one of the most important aspects of investigation.

In the population dynamics fertility plays both positive and negative roles. Very low fertility, particularly below the replacement level may threaten the society by extinction as question raised by Morgan (2003) "Is low fertility a

twenty-first century demographic crisis?" (Morgan, 2003, p. 589). On the other hand high fertility may create several economic, social and political problems of varied nature. This replacement is a very delicate at the same time complicated process. "Within the biological limits of human fertility, several social, cultural, psychological, as well as economic and political factors are found to operate, and these are responsible for determining the level of differentials of fertility" (Bhende and Kanitkar, 2003, p. 241).

The dynamic character of fertility was realized after the 'Great Depression' of the early 1930s. The 'Baby Boom' of North America and Canada following the economic recovery resulted in "never-to-be-forgotten embarrassment" to the demographers as all the estimation and anticipation were proved to be wrong due to declining birth rates. Checking population growth by arresting fertility requires thorough knowledge of cultural, social, economic, political and anthropologic setting. Under the above circumstances the "Social scientists involved in other fields – such as economics, psychology, sociology and anthropology - as well as biologists started taking a great deal of interest in the field of human fertility. Policy-makers, administrators, medical doctors and newspaper reporters have also started taking an interest in the study of fertility, mainly from the point of view of application of such knowledge to the family planning programmes, and they have also contributed to the research in the field" (Bhende and Kanitkar, 2003, p. 243).

Among several other reasons of growing interest in the field of fertility study, Bhende and Kanitkar (2003) have identified "One of these is that the age structure of any population is primarily determined by fertility and that the bulges and gaps in this age structure can have serious repercussion with social, economic and political overtones" (Bhende and Kanitkar, 2003, p. 243).

Conceptual Framework

In population science, normally three basic demographic events are encountered such as births, deaths and migration, which largely affect the population size of an area. Births and deaths are technically known as fertility and mortality respectively. The balance between these two thus lead to a natural increase in population and sometimes decrease in population size too. Births are, therefore, crucial for biological replacement of human population and also for the survival of the human society as a whole. Fertility in this context occupies a centrally important place while studying the demographic pattern of an area.

The term 'fertility' is generally used to "connote the actual reproductive performance of a woman or the number of children a woman has or the average number of children for a group of women" (Srinivasan, 1998, p. 61).

Even though child bearing is basically a biological phenomenon, it is generally argued that variations in the level of fertility are not primarily due to the difference in physiological capacity but are more often produced by

responses of individuals and couples to the social system in which they live. Biological and behavioral factors which directly influence fertility, and through which social, economic and other factors come in to influence the child bearing are called 'proximate Determinants' or 'Intermediate Fertility Variables' (Bongaarts and Potter, 1983).

Rapid growth of population due to higher rate of fertility is generally viewed as a retarding factor for economic development. As a matter of fact, population and development are intertwined. According to Patnaik (1984) "Controlling fertility is an essential pre-requisite for economic development" (Patnaik, 1984, p. 5). Some researchers are of view that changes in socio-economic set up are essential in order to achieve a deliberate reduction in fertility status. The author considered socio-economic development as the most important pre-requisite.

Total Fertility Rate (TFR) which is considered to be a good measure of reproductive performance could be defined as "the total number of children that would ever be born to a (hypothetical) group of women, if the group passed through its reproductive span of life with these rates in each year" (Communication Action Research Centre, ISI, Calcutta, p. 34). Similarly, Gross Reproductive Rate (GRR) is defined as "the number of daughters a cohort of women is expected to produce if there is no attrition in the cohort due to mortality" (Bhende and Kanitkar, 1997, p. 271). On the other hand, Crude Birth Rate (henceforth CBR) is one of the most common; the most easily calculated and most easily understood measures of fertility rates. "The

crude birth rate is the ratio the total registered live births in some specified year in a particular area to the total mid-year population of that area multiplied by 1,000" (Bhende and Kanitkar, 2003, p. 266).

Some researchers are further of view that lowering of fertility could also lead to demographic crisis. Morgan (2003) has shown that "nearly half of the world population in 2000 lived in countries with fertility rates at or below replacement level, and nearly all countries will reach low fertility levels in the next two decades" (Morgan, 2003, p. 589).

United Nations Population Division (2002) shows that there are 64 countries in the world with fertility at replacement level or lower. As many as twenty three countries have recently passed through a transition to low level of fertility. In this respect only 16 countries with merely 3 percent of global population do not exhibit any clear evidence of a fertility transition.

India having a major proportion of world population is observed to be experiencing an early stage of fertility transition. Hence, with 20 percent of decadal growth rate and population figure reaching almost 110 crores, India is probably heading towards a demographic crisis. Quite high growth rate of population with considerable differentials between different religious groups has also created a situation leading to mutual distrust among communities in the country. On the other hand politicization of fertility in recent times has created a lot of social upheavals. In this context it is, therefore, high time that scientific analysis of the determinants of fertility is felt quite imperative and,

therefore, the whole situation concerning fertility warrants a thorough scientific probe in a wider perspective.

Statement of the Problem

Differentials in fertility by religion are a much-debated issue in the present day context. As far as various religious and ethnic communities are concerned, there might be variation in fertility rate. But how significant is this variation is a matter of serious research and investigation. The area under the present study comprises Darjeeling hills and the areas of Sub-Himalayan parts of Darjeeling district. As far as the area under study is concerned, there exists much diversity in terms of ethnicity, culture, social customs, and occupational status of different ethnic communities in the area. However, major religious communities inhabiting the area are Hindus, Muslims, Christian and Buddhists.

The district of Darjeeling with a population of 16,09,172 is really a multi-ethnic region. With relatively high population density of 511 persons per square kilometer (2001) and a quite high growth rate of 23.79 percent, much above the national average, is bound to have high fertility. The region has population belonging to all leading religious groups of India. With 72.92 percent and 11.02 percent of total population, Hindus and Buddhists are leading two religious groups in the district with significant presence of Christians & Muslims.

Table 1.1: Religious Break-up of Population in Darjeeling District (2001)

Sl. No.	Religious Community	Population (2001)	Percent to total population (2001)
1.	Hindu	1237714	76.92
2.	Buddhist	177327	11.02
3.	Christian	99232	6.17
4.	Muslim	85378	5.31
5.	Sikh	2229	0.14
6.	Jain	1078	0.07
7.	Others	5507	0.34
8.	Non believer	707	0.03
Total		1609172	100

Source: Final Population Totals (W.B.), Census of India, 2001.

Differentials in fertility have been studied by many researchers. In this context the works done by S. Philip Morgan (2003), Rehana Siddiqui (1996), Bongaarts and Potter (1980) as well as Davis and Blake (1956) require special mention. United Nation's population division is one of the most important agencies working on fertility.

In India, International Institute of Population Science (IIPS, Mumbai), is engaged in the study of various demographic characteristics of population in the country. Basu (1997) and Alagarajan (2003) are some of the leading researchers who have extensively studied different aspects of fertility in India.

A number of researchers in India have also tried to examine the religious differentials in fertility. While doing so what they probably missed is that they have considered population of a religious group as homogeneous in terms of socio-economic condition. Because of this factor perhaps no researcher has ever tried to examine the fertility behaviour among population of different religion belonging to the same socio-economic strata.

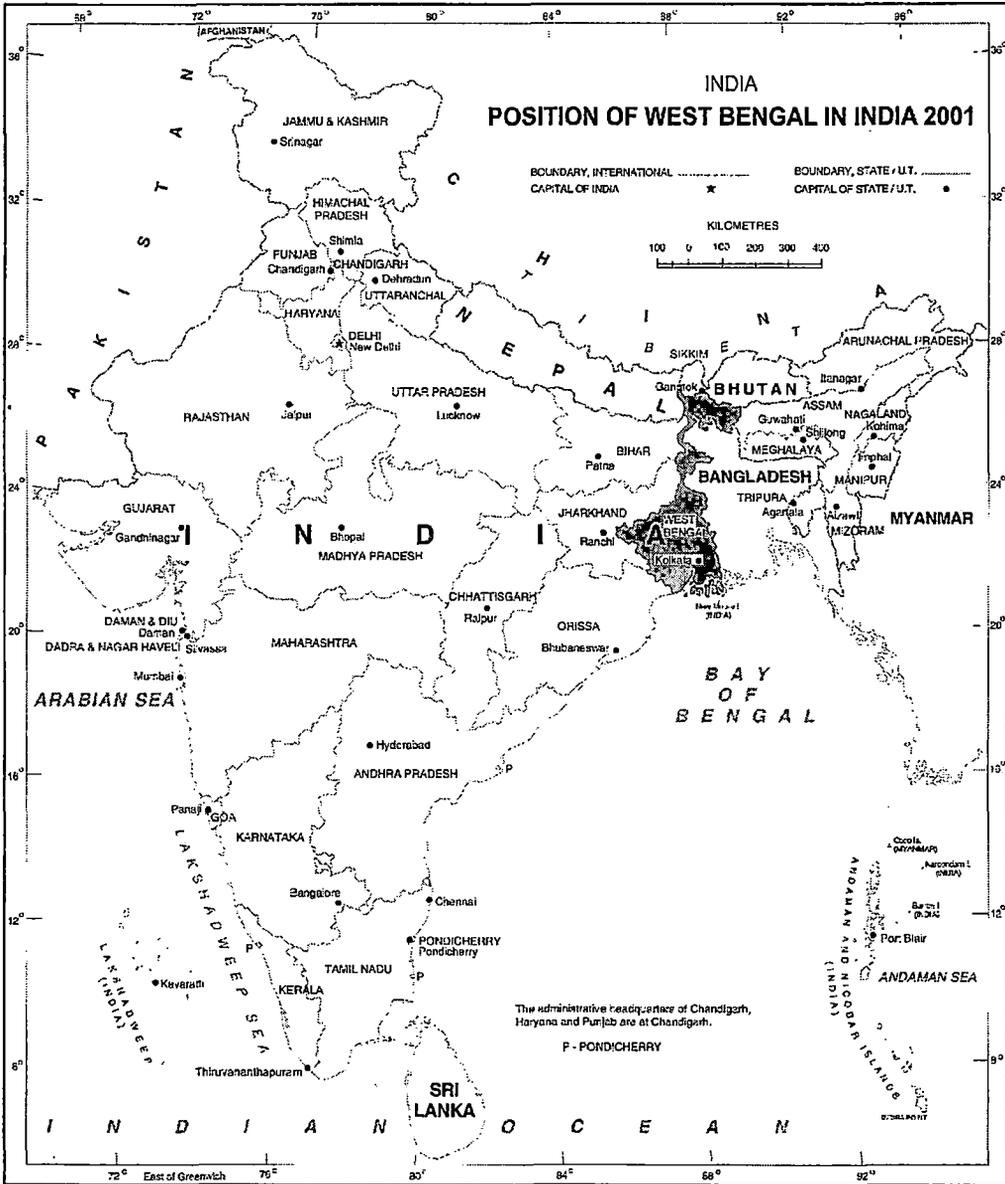
Variation in fertility could depend on a number of socio-economic and cultural factors among others. Among socio-economic determinants, occupation, educational attainment of the couple, income of the family and age at marriage of a woman are expected to be associated strongly. Therefore, the explanatory variables (independent variables) as mentioned above carry greater significance and have, therefore, been analyzed to see how fertility behaviour changes with changing socio-economic conditions of a couple in the area under study.

Study Area:

The present study area comprises the entire district i.e. Darjeeling hills and the adjoining sub-Himalayan areas of Darjeeling district. The district has four sub-divisions, 17 Police Stations and 12 Community Development Blocks (administrative unit lower than sub-division but higher than Panchayat, henceforth referred as C. D. Block) out of which 4 C. D. Blocks are in the Sub-Himalayan region of Darjeeling district and rest eight blocks are rural.

The area under investigation is by and large multi-ethnic and multi-lingual. The major religious groups residing in the area are Hindus, Muslims, Christians and Buddhists. The area is moderately populated in which the hilly part of the District is relatively sparsely populated. However, the plain portion of the district, mainly Siliguri sub-division of Darjeeling, is moderate to densely populated. The whole region has experienced an influx of refugees from Bangladesh, Bhutan and Tibet in the recent past and more recently the Bhupalese from Bhutan.

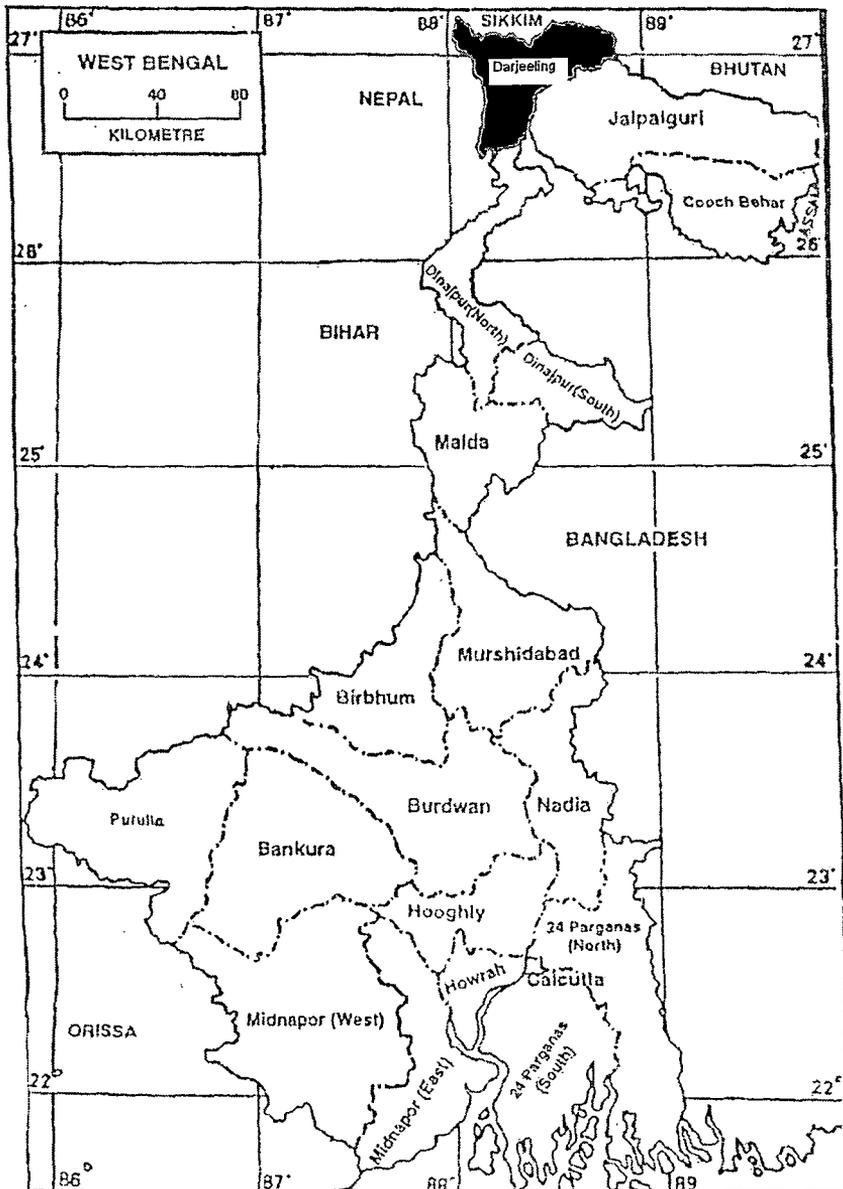
A short demographic profile of the district is presented in the table-1.2. The table shows that the region has a moderate density of population, certainly below the state average. Sex ratio, in favour of females in the district, is well above the state as well national average. The decadal growth rate is slightly higher than national average. Similarly, the rate of urbanization is slightly higher than state as well as national average. The higher rate of urban growth is owing to the fact that Siliguri is one of the fastest growing cities in India. High concentration of urban population has caused a slightly higher urban growth in the district.



Map 1.1

Location of West Bengal in India

Source: Census of India



Map 1.2 Location of Darjeeling District in West Bengal

Table 1.2: Demographic Profile of Darjeeling District, 2001

Sl. No.	Demographic Attributes	Data (2001)
1.	Total Population	16,09,172
2.	Area (Sq. Km)	3,149
3.	Population Density (Arithmetic)	511
4.	Sex Ratio	943
5.	Decadal Growth Rate (Percent) for the Decade 1991-2001	23.79
6.	Percent of S. C. to Total Population	16.09
7.	Percent of S. T. to Total Population	12.69
8.	Percent of Urban Population to Total Population	32.34
9.	Work Participation Ration (%)	35.39
10.	Proportion (%) of Main Workers to Total Workers	84.09

Sources: 1. Primary Census Abstract, Total Population Table A-5, Census of India, 2001.

2. Figures at a Glance, Provisional Population Totals (W.B.), Census of India, 2001.

Survey of Literatures:

Human fertility has been a very interesting issue of discussion and research among the demographers in particular and social scientists in general. Among the western researchers Kingsley Davis, Judith Blake, John Bongaarts and Robert Potter are some of the brightest stars in the galaxy of contemporary researchers in the field of demography. From the studies conducted by the different scholars, it is clear that fertility primarily depends

on some physiological factors such as (i) adolescent sterility, (ii) Post-partum sterility and average interval between successive births, (iii) Primary and secondary sterility, (iv) Reproductive wastage as well as some social and cultural factors termed by Davis and Blake as intermediate variables (Bhende and Kanitkar, 2003, pp. 249-254).

Davis and Blake (1959) had convincingly deliberated that socio-economic variables could not have a direct effect on fertility, and they have to operate through other variables which they termed 'intermediate variables'.

One of the pioneering works 'Techniques of Population Analysis' in the field of fertility is done by Barclay (1985). Here the author discussed different approaches to measure fertility. He has further discussed the peculiarities involved in birth statistics and thereby fertility measurement too. Barclay (1985, 168-169) opines that the problem of measuring fertility evolves due to the followings:

- a) Among the people who are "exposed to risk" of child birth, parenthood is an event that can occur more than once.
- b) A birth involves two parents, but birth rates must be restricted to one or the other.
- c) Parenthood is limited to a portion of a population.
- d) A small proportion of births, perhaps in the range of one to two percent, produce more than one child (twin cases) and thereby creating confusion into fertility rates.

e) Personal choice and preference have a wide variety of influence on fertility.

Along with different types of measurements and projection of fertility Spiegelmann (1955) discussed the need for birth statistics and fertility measurement. In his own words "Birth statistics and measures of fertility are also essential to a community in planning its programs of infant and maternal care, child care, and also school development" (Spiegelmann, 1955, p. 153).

Cain's (1985) study of 'Relationship between Landholding and Fertility' throws light on the basis of analyzing "The Land-Security Hypothesis" and "The Land-Labour Demand Hypothesis" in the context of Bangladesh. His study could not conclusively establish the relationship between the two. "Our discussion of the relationship between landholding and fertility, and the pertinence of the land-security and land-labour demand hypothesis, illustrates the potentially high cost of abstracting from the institutional context of individual and household behaviour" (Cain, 1985, p.15).

Bongaarts and Potter (1983) in their pioneering work on 'Fertility, Biology and Behaviour: An Analysis of Proximate Determinants' identified independent variables of fertility which they called 'Proximate Determinants'. To put in their words, "the biological and behavioral dimensions of human fertility are linked through a set of 'Proximate Determinants' or 'intermediate fertility variables'. Age at the first marriage, the use of contraception, and the breast feeding duration and pattern are some of the Proximate Determinants"

(Bongaarts and Potter, 1983, p. ix). Socio-economic factors and health and nutrition are the determinants of proximate variables but "...health and nutrition are, in general, relatively unimportant determinants of fertility. Socio-economic factors must therefore be the principal causes of fertility trends and differentials" (Bongaarts and Potter, 1983, p. 14).

Influence of religion on fertility behaviour has been studied by McQuillan (2004) at length. In his study "When Does Religion Influence Fertility?" Fertility' pointed out that religion may have influence on fertility only when following pre-conditions are fulfilled.

- a) The religion in question must articulate behavioral norms that have linkages to fertility out-come.
- b) A religious group must possess the means to communicate its teaching to its members and to enforce compliance.
- c) Religious groups are more likely influence the demographic choices of their followers when members feel strong sense of attachment to the religious community.

He further observes "When these three attributes are present, it is very likely that religion will influence demographic behaviour. Nevertheless, the consequences of the religious influence are not uniform. For example, there is a general sense that religions tend to be pronatalist and thus encourages higher fertility. While this is true in most cases, it need not be so all the times. The case of Iran is an instructive current illustration of a situation in which a highly institutionalized religion has played an important role in the spread of

family planning and, ultimately in reducing rates of fertility (MaQuillan, 2004, p. 51)

Reddy (2000), using National Family Health Survey (henceforth NFHS) - I and NFHS – II data, has shown that growth rate of Muslims is higher than Hindus. To quote Reddy “the foregoing data and analysis convincingly demonstrate that the Muslim population is growing at a faster rate than that of Hindu population, the fertility of Muslims is higher than that of Hindus.....” (Reddy, 2000, p.?).

Moulasha and Rama Rao (1999) tried to find out relation between religion and fertility to depict a picture “..... fertility rate among Muslim women is significantly higher than Hindu women”. But while discussing about findings of Rama Rao and Moulasha, Jeffery and Jeffery (2000) observed that “the recent contribution by Moulasha and Rama Rao (1999) to the debate on relationship between religion, fertility and family planning, uses National Family Health Survey data in a misleading way” (Jeffery and Jeffery, 2000, p.?).

Among other Indian researchers, studying fertility differentials, Abusaleh Shariff and R. B. Bhagat are two pioneering scholars who have a number of very distinguished works to their credit. Bhagat has worked extensively on fertility differentials particularly after 2001 census. The author (2001) in his study “Census and the Construction of Communalism in India” tries to see illdesign in creating confusion by presenting data on births in a

misleading manner. "Census in independent India until 1991 hides more than it reveals. It is now obvious that the census of 2001 is more conscious of this fact and intends to publish the socio-economic data along with demographic data on religion" (Bhagat, 2001, p. 4356). Bhagat (2004) analyse the data on birth rates, decline in fertility and acceptance in the wake of saffron demographers claiming that Hindus are going to become a dying race due to higher fertility among Muslims and at the same time infiltration (Muslim) from neighbouring Bangladesh. He further emphasizes that "Those who abuse demography for communal ends do not recognize the facts; in recent years rate of acceptance of family planning practices has been rising faster among Muslims than among Hindus and fertility has been falling more rapidly among the Muslims" (Bhagat, 2004, p. ? accessed from EPW website).

Hindu-Muslim fertility differentials has been studied by Bhagat and Praharaj (2005) where they find that the population growth rate of Muslim is relatively higher as compared to Hindus and prevalence of family planning measures are little less among the Muslim while comparing with Hindus. They find sex selective abortion is one of the reasons of higher fertility as compared to Hindus as it is clear from the child sex ratio of 950 among Muslims as against 925 among Hindus. Socio-economic and educational backwardness of Muslim is found to be very influential factor. However, Bhagat and Praharaj (2005) are optimistic about declining fertility rates among Muslims and they continue "It is true that a Hindu-Muslim differential in fertility persists in India's demographic reality, but it is no more than one child. It is not too large to swamp India's Hindu majority in the foreseeable future. Nor is the gap likely to



persist for a very long time as we find that the fertility level among Muslims declines with increasing level of education and standard of living. The faster increase in family planning among Muslims supports this conjecture” (Bhagat and Praharaj, 2005, p. 417).

Basu (1997) in her work on “The ‘Politicization’ of Fertility to Achieve Non-Demographic Objectives” argues that it is the hidden agenda of the hard line Hindu communalists and their cohort so called ‘expert demographer’ who take shelter to demographic argument to initiate intervention in Muslim life through pressurizing government and policy makers. She adds further “They do not even extend the demographic argument to consider other concomitants of religion-fertility relationship in the country, poverty and education in particular. If they did, the policy would be for increased resource into the socio-economic development of the Muslim minority. Instead the entire emphasis is on interventions in Muslim life which have at best a tenuous relationship with fertility” (Basu, 1997, p. 6).

Jeffery and Jeffery (2000), on the other hand, tried to analyze the regional variation of fertility which has a great impact on over all fertility of Muslims. They opined “part of the explanation for high Muslim fertility in India as a whole, merely reflects the fact that Muslims are a larger proportion of the population in North India (where the fertility rates are relatively high) than they are in the rest of India (where fertility rates are relatively low)”. They further found that “Hindu fertility rates in much of North India are higher than many Muslim fertility rates in South India”.

One of the pioneering works in the field of fertility differentials in India is done by Shariff (1995) in the form "Socio-economic and Demographic Differentials between Hindus and Muslims in India". He finds that with respect to all indicators of socio-economic development, the Muslims are lagging behind the Hindus including work participation, employment and education causing higher fertility among Muslims as compared to Hindus. He further finds some explanation for higher fertility among Muslims as he adds "But child mortality among both the urban and rural Muslims is comparatively low. A combination of a positive growth of population and low child mortality seems to have enabled a marginally higher growth of Muslim population in India. A simulation exercise reproduced in this paper suggests that the Muslim population will not overtake the Hindu population in India during foreseeable future" (Shariff, 1995, p. 2953).

Mehta (2005) in his writing published in Economic and Political Weekly points out "...shows that fertility in Muslims displays a consistent pattern of decline with socio-economic development, in general and educational development in particular. Thus the population growth difference between Hindus and Muslims will ultimately narrow down. A more realistic assumption would, therefore, be to assume that population of both Hindus and Muslims decline at an accelerated pace so as to approach a stationary state by the mid-21st century" (Mehta, 2005, p. 160).

McClamroch (1996) of University of Michigan in her study 'Total Fertility Rates, Women's Education and Women's Work: What are the Relationships?' tries to identify the role of women's education and work participation ratio on reducing Total Fertility Rates. According to Ruth Dixon Mueller (1993), education of women can indirectly decrease fertility in three ways. Increasing the number of years that women are in school, delays marriage and reduces the time duration that women are exposed to the possibility of conception. Education creates aspiration for higher standard of living, thereby decreasing the desired number of children in a family. Education exposes women to knowledge, attitudes and practices favourable to birth control that would enable women to have their desired number of children (Dixon-Mueller, 1993, pp. 121-123).

Das (1975) found that higher infant mortality rate results in a higher fertility. Singha (1975) bolstered this point in his study 'Infant Mortality and the Level of Fertility in India: A Review', (Demography India, 1975, Vol. 2, pp. 457-473). He observed "The prevailing high infant mortality fosters a feeling of insecurity of life at early age in which more births are favoured to make up loss".

Siddiqui (1996) of Pakistan Institute of Development Economics, Islamabad, used over 15 explanatory variables to find out 'The Impact of Socio-economic Factors on Fertility Behavior: A Cross Country Analysis'. She infers that with a little variation, in case of different countries, most of the variables actually explained fertility in the expected way. She further observed

“The Impact of Infant Mortality is, as expected positive and statistically significant in most cases”. She further added “female literacy has a negative and statistically significant impact on fertility”.

From the survey of literatures, it is clear that fertility differentials and their causes have been studied but what is significantly missing is an overall combination of religion and socio-economic determinants. How fertility is being controlled by socio-economic conditions across religious groups, remains unanswered. Educational attainment of couple along with their parents may have significant bearing on fertility. The influence of occupation of both spouse is another area which is relatively unexplored. Population belonging to same socio-economic strata may have same fertility, irrespective of religious affiliation. This aspect has perhaps not yet been investigated satisfactorily.

Objectives:

The present study primarily aims at identifying the determinants of differentials in fertility in the study area. However, the extent to which these determinants control fertility is a basic question which needs to be investigated further in this direction. The objectives of the present study could, therefore, be outlined as follows:

1. To evaluate the extent of differentials in fertility by religions in the study area.
2. To evaluate the impact of educational attainment of husband and wife on fertility.

3. To measure the extent to which occupation of the couple (husband and wife) influences fertility.
4. To estimate the impact of family income on fertility.
5. To evaluate the influence of age at marriage of women on fertility rate.

Research Questions

The following research questions will be tested during the course of the study:

1. What is the influence of religion on fertility in the study area?
2. Whether TFR and CBR for a group of people with the similar socio-economic background but belonging to different religion are same or different?
3. Whether a group of people belonging to the same religion but having varied educational attainment, income and occupation has equal fertility?
4. How much variation in fertility is observed when income enhancement takes place?
5. To what extent occupation of husband and wife influences the fertility rate?
6. What happens to fertility rate when educational attainment level of the couple is high?
7. Is there any relationship between age at marriage and fertility rate?

Database:

Two types of data will be used in the study –

- A. Primary data,
- B. Secondary data.

A. Primary Data:

Primary data have been collected from the study area through interview of the couples with pre-designed schedules. A pilot survey was conducted at few places in the study area before finalization of the schedule.

B. Secondary Data:

Secondary data have been collected from the published sources such as –

- (a) Fertility tables and other publication of Census of India, Registrar General of India, Ministry of Home, Government of India.
- (b) Sample Registration System, Registrar General of India, Ministry of Home.
- (c) National Sample Survey (NSS) rounds by CMIE, Mumbai and Pune.
- (d) National Family Health Survey Reports by IIPS, Mumbai.
- (e) Statistical Handbook of Darjeeling, Bureau of Applied Economic and Statistics, Government of West Bengal.
- (f) Office of Bureau of Applied Economic and Statistics of Darjeeling District (Government of West Bengal), Darjeeling.

Sampling and Survey Process

Sample respondents in this study are married female in the age group of 15-49 years which have been considered as childbearing age group. The sample respondents have been selected/drawn out of the universe primarily following multi-stage random sampling. But at the first stage six blocks and Siliguri Municipal Corporation have been selected (table-1.3) using clustered random sampling. At the second stage a number of mouzas (revenue village) and wards (Municipal area) have been selected using random sampling with the help of random table from out of the list of villages/mouzas/wards available in the census publication of C. D. Block-wise list of villages and wards from the village and town directory of Census of India.

Table 1.3: Distribution of sample C. D. Blocks for sample villages

C. D. Blocks	Sample C. D. Blocks	Remark
Darjeeling Pulbazar	Selected	Both Rural and Urban
Rangli Rangliot		
Kalimpong - I		
Kalimpong - II	Selected	Both Rural and Urban
Gorubathan		
Jorebunglow Sukiapokhri		
Mirik	Selected	Both Rural and Urban
Kurseong		
Matigara		
Naxalbari	Selected	Only Rural
Phansidewa	Selected	Only Rural
Kharibari	Selected	Only Rural
Siliguri (Municipal Corporation)	Selected	Only Urban

Source: Prepared by the researcher for the purpose of this study.

At the third stage the list of households with married female in the age group of 15-49 years have been collected from Integrated Child Development Scheme (ICDS) Centres i.e. Anganwari Centres and also from the ASHA workers. Using random table the respondents were selected randomly. Replacement was allowed only when the respondent was not available even on the subsequent day too. The replacement was essentially the next available lady in the list.

Following the sampling method a good number of respondents were selected from the major religious group i.e. Buddhists, Christian, Hindus and Muslims. Keeping in view the religious composition of the district of Darjeeling, i.e. the study area, the state of West Bengal and the country as a whole sample size have been decided upon. It was estimated that 100 Buddhists, 100 Christians, 200 Hindus and 200 Muslims would be satisfactorily representative of the religions in the district. The sample families have been interviewed with a pre-designed schedule. Before finalization of the schedule a pilot survey was carried out in the field. The respondents have been interviewed directly by the researcher

Methodology

TFR and CBR have been calculated from the data collected from different primary and secondary sources. Mean, Standard Deviation (SD) and coefficient of variation (CV) of TFR and CBR have been calculated to examine the variation in fertility between different religious groups. Mean, S. D., and C. V. for one religious group with different socio-economic background and also

mean and C.V. for the same socio-economic strata of a population group with different religious background have been calculated to examine the difference of fertility.

In order to reach into the depth of the problem number of births and number of pregnancies too have been included to depict fertility and subsequently statistical analysis has been conducted.

Correlation coefficient (Karl Pearson's) has been calculated between different income levels (per capita income) and fertility. Similarly, different educational attainment levels of the respondents, their parents and also husbands have been correlated with fertility level in order to find out correlation coefficient. Student's T-Test has been conducted to examine the level of significance of the relation. Age at marriage is taken as one of the important determinant of fertility and hence it has been correlated with the fertility level.

Linear Regression (Least Square Method) analysis taking fertility (number of pregnancies) as dependent variable and per capita income, level of per capita expenditure, age at marriage, level of educational attainment of respondents, parents as well as their husband and also occupation as independent variables have been done to estimate the extent of influence of each explanatory variable on fertility.

Selection of Variables

A. Independent Variables

There might be many variables on which fertility depends. Amongst the variables, religion, annual income of the family, educational attainment of the parents of the respondents and their husbands as well, occupation of the couple are considered to be important. Age at marriage of the respondents has been taken as explanatory variable. The above mentioned variables could be assumed to be having a stronger impact on the fertility of the group of people.

B. Dependent Variable:

Total Fertility Rate and Crude Birth Rate are two dependent variables. For further statistical analysis, number of births and number of pregnancies have also been taken as dependent variables.

Scheme of Chapterization:

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- a) Comparison between Overall Fertility in Rural and Urban Areas
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Chapter VII: Conclusion

- c) Findings
- d) How to bridge the gap in Fertility between the Religions?
- e) Recommendations
- f) Limitation of the Study
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Chapter - II

DEMOGRAPHIC PROFILE OF THE STUDY AREA

Demarcating the Study Area

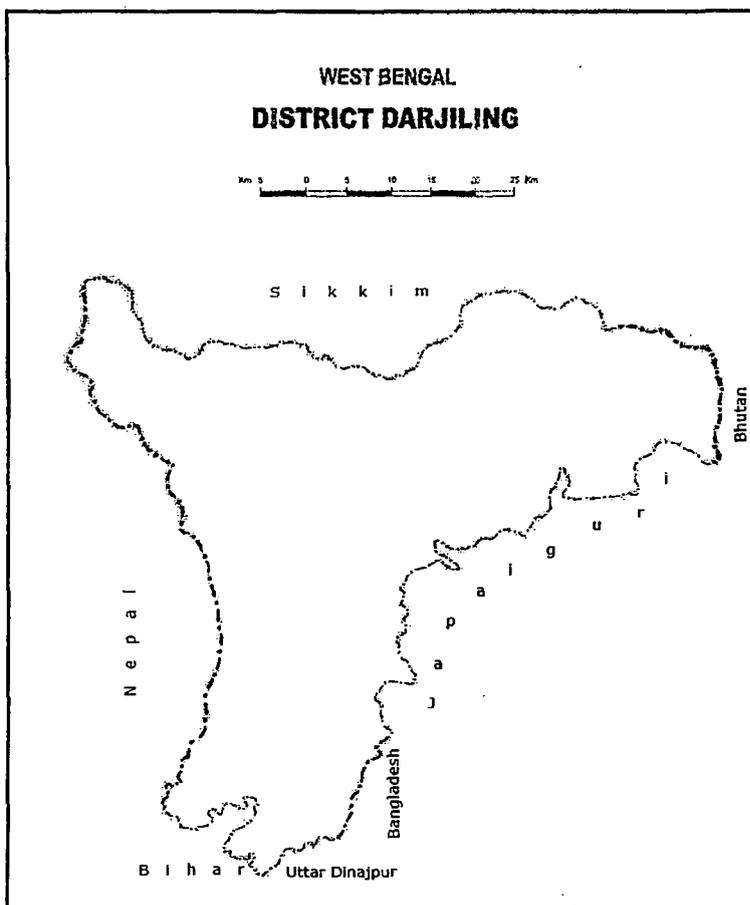
Darjeeling is one of the 19 districts of West Bengal. It is the northern most districts and the only district that is partially located in the Mountainous Himalayas. As per the latest official record, the district is spread over 3149 square kilometres. The extension of the district is from 26°27' N latitude to 271°03' N latitudes. Its East-West extension is from 87°59' E longitude to 88°53' E longitudes.

The district is bordered by Sikkim and Bhutan in the North, by Uttar Dinajpur district and Bihar in the South, Nepal and Bihar in the West and Bangladesh, Jalpaiguri and also Bhutan in the East. The district shares following stretches of international and inter-state boundaries apart from about 100 km of Darjeeling – Jalpaiguri and approximately 15 km of Darjeeling – Uttar Dinajpur inter-district borders.

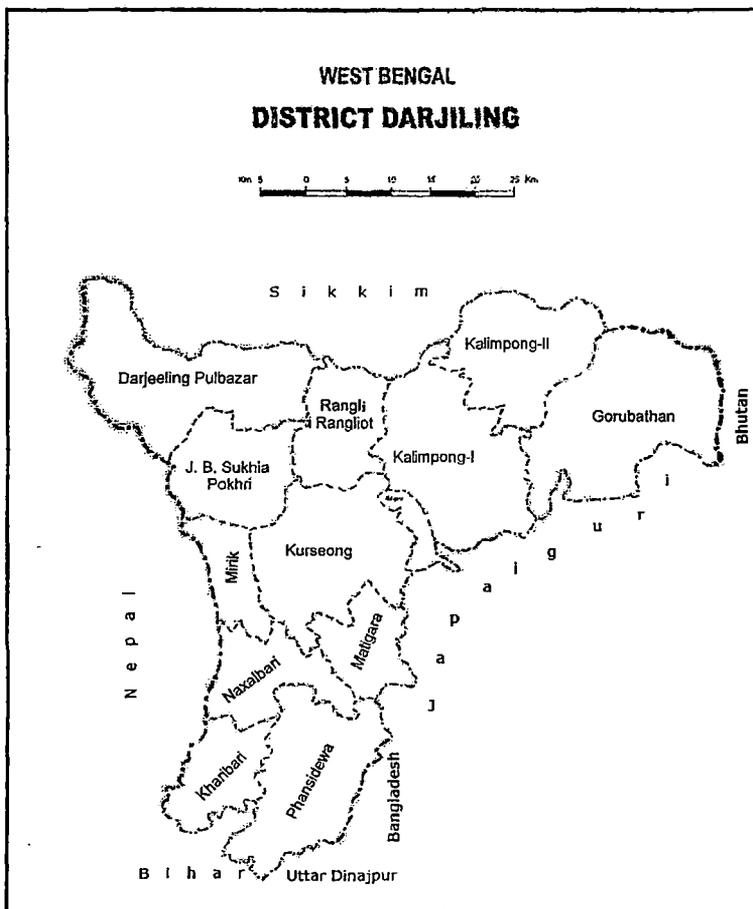
Table 2.1: Length of International & State Borders, 2007.

Border Sector	Length (km)
Darjeeling – Nepal	101.02
Darjeeling – Bhutan	30.18
Darjeeling – Bangladesh	19.18
Darjeeling – Sikkim	54.33
Darjeeling – Bihar	48.30
Total length	253.01

Source: Official Website of Darjeeling district, retrieved on 15th December, 2007.



Map 2.1
Darjeeling and its Neighbours



Map 2.2
Darjeeling and its Administrative Divisions
(C. D. Blocks)

The district of Darjeeling is divided into four subdivisions namely, Darjeeling Sadar, Kurseong, Kalimpong and Siliguri. The district is also divided into 17 Police stations. The number of C. D. Blocks in the district is 12. The district has 134 Gram Panchayats, 1390 Gram Sansads, 708 Mouzas and also 640 inhabited villages of 31873 households. Moreover, the district has got 75.23 km² of area as urban out of the total geographical area of 3149.00 km². Rest of 3073.77 km² area is rural in the district.

The district has 9 urban centres. Of the nine urban centres, Siliguri is having a municipal corporation; Kurseong, Kalimpong and Darjeeling have municipality, where as Mirik is fast developing as an urban centre with development works carried out by its Notified Area Committee (NAC); Pattabong Tea Garden, Cart Road, Uttar Bagdogra as well as Bairatisal are examples of Census Towns.

Physical Setup

Physiographically the district has two well distinguished units such as the Himalayan Hilly and Mountainous region and the Terai – Dooars region. The mountain region comprises Darjeeling, Kalimpong and Kurseong subdivisions. The Terai and Dooars or the foot hills of Himalaya in this part include the Siliguri sub-division. The mountain part of the district is part of Eastern Himalayas. The altitude varies roughly from 200 m at the foot hills to as much as 3630 m at Sandakphu which is said to be not only highest point in the district but also in the entire state. The region is drained by great rivers

such as Tista, Mahananda, and Mechi & Balason etc. Most of the region is either devoted to Tea Estates or different types of Pine forests.

The foothills of the district, also known as 'Dooars', comprise of the entire Siliguri sub-division. Khoribari, Naxalbari, Phansidewa, Matigara and Siliguri Police stations are incorporated in this region.

The region drained by Tista, Mahananda, The Great Rangit, The Little Rangit, Rangpoo, Ramman, Jaldhaka, Mechi, and Balason gently slope towards south. The region is famous for Tea Plantation. Ananas is another important plantation crop of the region. Where as in the plains region Jute is an important cash crop cultivated in the region.

Climate

The climate of the district varies from hot and humid in the foot hills to alpine in the higher altitudes. The summer temperature in the Dooars goes upto 35 ° C in the month of May. The winter temperature in the month of January goes down to even 5 ° C. Darjeeling experiences sever winter when temperature slides down to even -5 ° C on 12 February 1905. Annual Mean Maximum temperature at Darjeeling is 14.9 ° C where as Annual Mean Minimum temperature is 8.9 ° C. Snow fall is common in higher reaches of the mountain. Even Darjeeling proper experiences snow fall frequently during December-January.

Table 2.2: Monthly Temperature and Precipitation for the Year, 2002**Station: Darjeeling****Altitude: 7002 feet**

Month	Mean Monthly Temperature (° C)			Monthly Total Precipitation (mm)
	Maximum	Minimum	Mean	
January	17	01	16	32
February	19	01	18	00
March	19	03	16	42
April	21	04	17	99
May	20	09	11	159
June	21	11	10	513
July	23	13	10	1195
August	23	11	12	310
September	20	09	11	221
October	21	07	14	65
November	18	05	13	00
December	17	01	16	00
Annual/Average	23	01	22	2636

Source: Meteorological Table, Indian Meteorological Deptt. Government of India.

The region experiences high incidence of precipitation and receives an amount which is as much as 3092 mm. Most of the rain, in the area, occurs in the months of June to September. The district has on an average 126 rainy days. Siliguri receives relatively higher amount of rainfall which is around

3620 mm in 113 rainy days. High amount of rain fall coupled with snow fall triggers landslide in the mountain region.

The amount of rainfall plays a very important role in causing instability of slopes. A very high intensity of rainfall within a short span of time is not uncommon in Darjeeling hill areas. It is found in the old records; that this natural phenomenon has occurred about 42 times during the period from 1891 to 1975 (Chatterjee, 1982).

The Isohyet maps prepared on the basis of average annual rainfall during last 25 years in 3 sub-divisions in Darjeeling hill areas, show that the value increases from west to east, a maximum concentration of landslides fall between 210 cm and 410 cm of Isohyets.

Besides seasonality, another climatic feature in the Darjeeling hills is created by orographic factor; causing the vertical zonation of temperature and decline of precipitation. Thus the mountain front is exposed to heavy rainfall, especially the middle parts of the southern hills. The mean annual temperature fluctuates from 24° C in the plains and drops below 12° C on the ridge. During summer months the temperature reaches 16^o-17° C on the ridge and during winter drops at 5° C-6° C.

There is no distinct relation between total rainfall and altitude. The southern slopes of the ridge get much higher (4000-5000 mm) precipitation than the leeward sides (2000-2500 mm). The next main ridge with Tiger Hill

gets 3000 mm while to the north, the Great Rangit Valley receives about 2000 mm of rainfall. The annual total rainfall in Darjeeling town fluctuates between 1870-3690 mm.

In respect of landslide hazards, the duration of rainfall is very important. Long duration along with heavy down pour may cause deeper infiltration and overland flow, which ultimately may result into the occurrence of landslides on weaker slopes. The records show some of the long continued down pours. Amongst them the most remembered ones are in 1787, 1789, 1827 (493 mm in one day) and in June 1950 (965 mm). The last such rainfall recorded during 1968 (2nd and 5th October about 1780 mm). Thereafter, 358 mm in October 1973, 382 mm in June 1983, 457 mm in September 1986 and 350 mm in 1990 were recorded.

The People

So far as the people of the district are concerned, the district has been a melting pot for people coming from different parts of the world. The region is rightly described "Babel of tribes and nations". Most of the inhabitants of the district are of Mongoloid race who actually dominate the area. There are certain ethnic groups who are originally residents of the region. There are people who are recent immigrants from Bangladesh (Bangladeshi refugee), Bhupalees (people of Nepali origin settled in Bhutan) and also Tibetan immigrants from Autonomous Region of Tibet, presently under control of China. Inflow of Nepalis is a very well known fact which is slow but steady.

There are several thousand Biharis coming from different parts of Bihar and settled in this region.

The original inhabitants of the Darjeeling Hills were Lepchas or Rongpa (the ravine folks) as they prefer themselves to be known as. Though their origin is obscure, they are decidedly Mongolian in feature. The Khampas, another branch of the Lepchas, are warrior-like and more dashing than their docile cousins. The khampas are recent immigrants from Tibet. Bhutias and Tibetan are of somewhat later addition. The greater chunk of the people in the Hills is Gorkhas. They are industrious and enterprising as a race and speak various dialects. The short Mongolian type Nepaleese, the Gorkhas, renowned for their military prowess the world over, and the first to be decorated with the coveted Victoria Cross, finds jobs and security both in the British and Indian armies. They carry the traditional weapon, the Khukri-a curved ornamental knife. Among the population are also the Newars or best known, the world over as the Sherpas. Other groups of Nepalese are known as Murmis, Limbus, Khas, Mangars and Chettirs. They are well known for their courage, stamina and surefootedness and for their immeasurable contributions to Mountaineering. Also much in evidence in the Hills is the Bhutias who are divided into Tibetan, Bhutan, Dharma and Sikkimese Bhutias. A greater chunk of Bengali population from Siliguri subdivision is immigrants from erstwhile East Pakistan (presently Bangladesh) and from Assam.

Demography

The demography of the district is of great interest. As per the Census of India report the total population of the district is 1609,172 of which 830,644 are male and 778,528 are female. During the last decade the district has recorded a population growth rate of 23.79 percent which is much above the state average of 17.77 percent as well as national average of 22.66 percent.

So far as the growth of population in the district is concerned, it has recorded a constantly high growth rate. Apart from the natural growth of population, the region has been a perennial nucleus of immigration from Nepal, Bhutan, Tibet, and Bangladesh as well as neighboring Bihar. The population of the district was estimated to be only 10,000 which increased to 22,000 in 1869 and 94712 in the year 1971-72. During 1871-1881 the district recorded an unprecedented growth of 63 percent and reached to 155,179 in 1881 and subsequently to 223,314 in 1891. It is interesting to note that though 1911-21 decade experienced a negative growth of population for whole India, the district under consideration experienced a positive growth rate of 5.31 percent. The high growth rate of population may be attributed to the migration in the region. The region has witnessed several waves of migration from different directions. At least seven streams of migration waves can be well identified.

First stream of migration arrived in this region during the later half of 19th century. Establishment of Tea Garden, mining of Calcite and Dolomite etc. and also building of Bengal-Duars Railway and subsequently Bengal-Assam Railway attracted lot of labours from the Chotanagpur region.

Second stream of migration arrived in this region from erstwhile East Pakistan (present Bangladesh). During partition of India there was huge exodus of refugees from Bangladesh.

Third stream of migration took place during Chinese aggression in Tibet in 1956. Incursion of China in Tibet triggered a massive influx of Tibetan refugees in the hilly part as well as foothills and Dooars parts of this district.

Fourth stream of immigrants came from Bangladesh. The war of independence of Bangladesh and subsequent development in that country led to a situation where a lot of refugees came to this region in search of their destiny.

Table 2.3: Decadal Growth of Population, 1901 – 2001.

Year	Population	Decadal growth rate (%)	Decadal Growth rate (%)	
			Urban	Rural
1901	265780	--	--	--
1911	279899	5.31	14.89	4.47
1921	294237	5.12	16.78	4.00
1931	332061	12.85	51.48	8.68
1941	390899	17.72	33.77	15.30
1951	459617	17.58	62.44	9.74
1961	624640	35.90	53.09	31.46
1971	781777	25.16	24.60	25.33
1981	1024629	31.02	56.57	23.36
1991	1299919	26.91	40.37	21.79
2001	1609172	23.79	31.51	20.04

Source: Final Population Totals, Table –1 Census of India, 2001.

Apart from these major streams of migration many Punjabi traders, Bihari labourers, Marwari merchants, Hindustani mechanics and Chinese carpenters found this area to make their destiny.

Fifth stream of migration arrived from Assam. The infamous Tripartite Assam Accord signed between All Assam Students' Union (ASSU), Assam state and Indian dominion on 15th August, 1985 forced many Bengali-speaking people to move out of Assam.

Sixth stream of migration was comparatively quiet, slow and steady from Nepal. Nepal always shared a friendly relation with India and it is truer after the treaty was signed between India and Nepal in 1950. The Indo-Nepal Treaty of Peace and Friendship was signed on 31st July 1950.

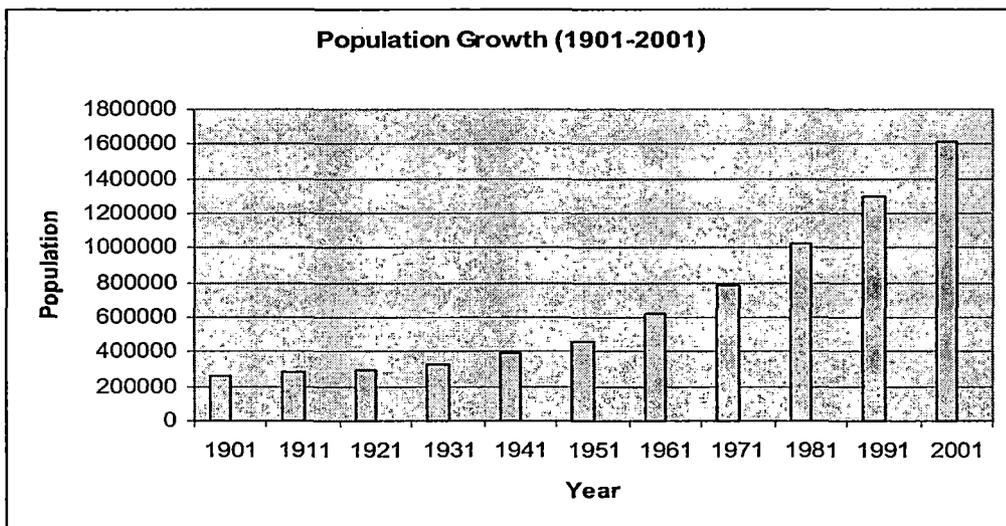


Fig. 2.1

Seventh stream of migrants in this region are Bhupaleese, Nepali origin people of Bhutan. There was ethnic tension in Bhutan between people of Nepali origin and ethnic Bhutanese.

Table-2.3 and diagram (fig.2.1) show that the growth of population in the region has got a Philip in the period of independent India. Particularly after 1951 trend of growth is remarkable. This trend in growth of population conform the migration streams that arrived in the region apart from high natural growth.

Sex Ratio

Sex ratio is one of the important aspects of demography of any region. Though the trend of sex ratio for the nation is not very encouraging the district is continuously improving in this front with a few exceptions. The tribal and semi-tribal ethos of the region probably has contributed a lot in this regard. Generally speaking, tribal culture provides relatively better treatment to fair sex and hence better sex ratio can be expected. Though there were some fluctuations up to 1941 but afterwards it has improved continuously.

Table 2.4: Sex Ratio in Darjeeling District, 1901 – 2001.

Year	Sex Ratio	Year	Sex Ratio
1901	876	1961	864
1911	871	1971	882
1921	898	1981	888
1931	881	1991	914
1941	884	2001	943
1951	863		

Sources: 1) District Census Handbook, 1961, 71, 81, 91, Census of India.

2) Primary Census Abstract, Census of India, 2001.

The remarkable improvement in the sex ratio could be observed in the year 2001. Male selective out-migration from the area could be one of the reasons of such a phenomenon which is common all over the Himalayan regions.

Table 2.5: C. D. Block-wise Sex Ratio over Decades, 1981-2001

C. D. Block	Sex Ratio (Females per 1000 males)		
	1981	1991	2001
Darjeeling	924	945	950
Pulbazar			
Rangli Rangliot	970	958	992
J. B. Sukia Pokhri	976	989	1022
Kalimpong I	946	950	953
Kalimpong II	907	911	925
Gorubathan	884	916	969
Mirik	986	930	997
Kurseong	840	938	975
Matigara	811	903	902
Naxalbari	868	907	911
Phansidewa	890	910	950
Kharibari	891	918	941
Darjeeling District	888	914	937
West Bengal	911	917	934
India	934	927	933

Source: Compiled by the researcher from the Census of India Reports 1991 and 2001 and DCH of Darjeeling, 1981, Census of India.

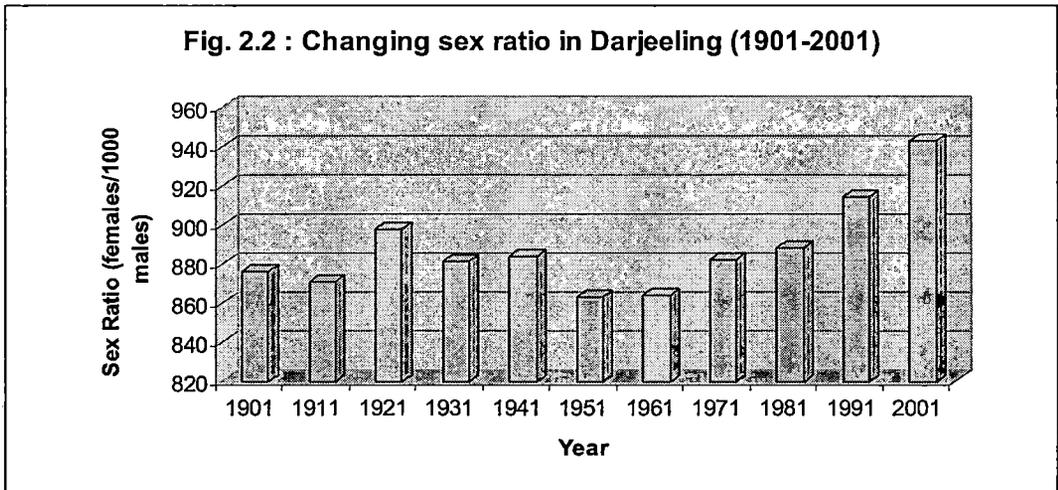


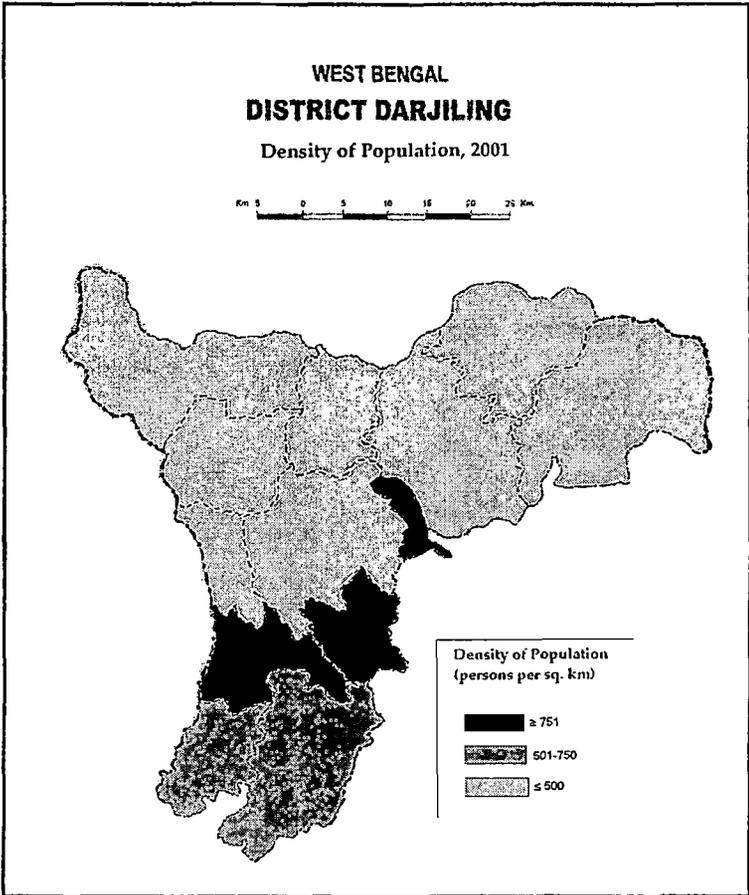
Fig. 2.2

The district has a moderate density of population i.e. 511 persons per sq. km which is below the state average of 903 and more than the national average of 336. Among the C.D. Blocks Darjeeling Pulbazar has got the highest density of 951 persons per sq. km and Gorubathan has got the lowest density of 123 persons per sq. km. Darjeeling Pulbazar has got the concentration of urban population in Darjeeling municipality area and hence the density is quite high. On the other hand Gorubathan has got forested area in the large tract of land; therefore, the population density is quite low.

Table 2.6: C. D. Block-wise Density of Population, 2001

C. D. Blocks	Density (Persons/ km ²)	C. D. Blocks	Density (Persons/km ²)
Darjeeling Pulbazar	278	Mirik	354
Rangli Rangliot	236	Kurseong	231
Kalimpong I	188	Matigara	904
Kalimpong II	250	Naxalbari	797
J.B. Sukhia Pokhri	453	Phansidewa	549
Gorubathan	123	Kharibari	609

Source: Final Population Tables, Table –1, Census of India, 2001.



Map 2.3

Some of the basic facts of the demographic aspects of the district as per the latest census are given below. Of course the demographic characteristics of the region have undergone changes during past few years but we are helpless as the next census is slated only in the year 2011.

Table 2.7: Demographic Attributes of Darjeeling District, 1991 – 2001

Attributes	Total	Rural	Urban
1. Area (sq. km)	3149.00	3073.77	75.23
2. Population (1991)			
a) Total	1299919	903859	396060
b) Male	679323	467324	211999
c) Female	620596	436535	184061
3. Population (2001)			
a) Total	1609172	1088740	520432
b) Male	830644	556633	274011
c) Female	778528	532107	246421
4. Decadal Growth Rate (1991-2001)	23.79	20.45	31.40
5. Density (2001) [Persons/sq. km]	511	354	6918
6. Sex Ratio			
1991	914	934	868
2001	937	956	899

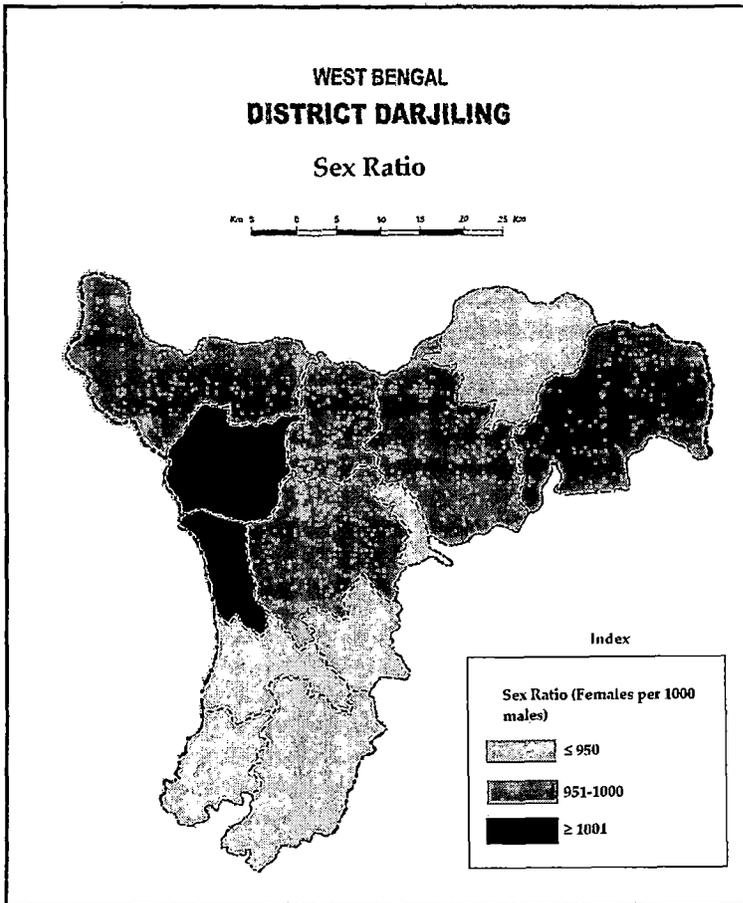
Source: Final Population Totals, Table – 1, Census of India, 2001.

It has been noticed from the table-2.8 that all C. D. blocks in the hilly part of the district witnessed either negative growth rate or a very meager growth during 1991-2001. But on the other hand, the blocks in the Dooars-Terai region have witnessed a quite high positive growth rate ranging from 22.47 percent to 54.61 percent. The density of population varies from a low of 123 persons per km² in Gorubathan to moderately high i.e. 904 persons per km² in Matigara.

Table 2.8: C. D. Block-wise Demographic Attributes (2001)

C.D. Block	Area (km ²)	Population			Decadal Growth (%)	Density (Persons/ Km ²)	Sex Ratio Female/ 1000males
		P	M	F			
Darjeeling Pulbazar	416.00	115837	58407	57430	-1.16	278	983
Rangli Rangliot	272.99	64349	32304	32045	-1.52	236	992
Kalimpong-I	360.46	67680	34382	33298	26.17	188	968
Kalimpong-II	241.26	60263	31309	28954	17.22	250	925
Gorubathan	442.72	54279	27572	26707	17.03	123	969
J. B. Sukhia Pokhri	222.12	100724	49816	50908	9.11	453	1022
Mirik	119.18	42237	21112	21125	-1.33	354	1001
Kurseong	372.30	85867	43330	42537	6.68	231	982
Matigara	143.00	129326	68004	61322	43.81	904	902
Naxalbari	181.88	144915	75831	69084	54.61	797	911
Phansidewa	312.15	171508	87945	83563	22.47	549	950
Kharibari	144.88	88230	45449	4781	37.83	609	941

Source: Final Population Tables, West Bengal, Census of India. 2001.



Map 2.4

Religious Break-up of Population

Hindus being the predominant religious group constitute as high as 76.92 percent of the total population followed by Buddhists (11.02 percent). The Christians is the 3rd largest religious group followed by the Muslims. It is interesting to note that percentage of Muslims and Christians, both follower of universal religion, have increased during the last decade where as the largest and second largest religious group i.e. Hindus and Buddhists proportion to total population have decreased, though may not be significantly.

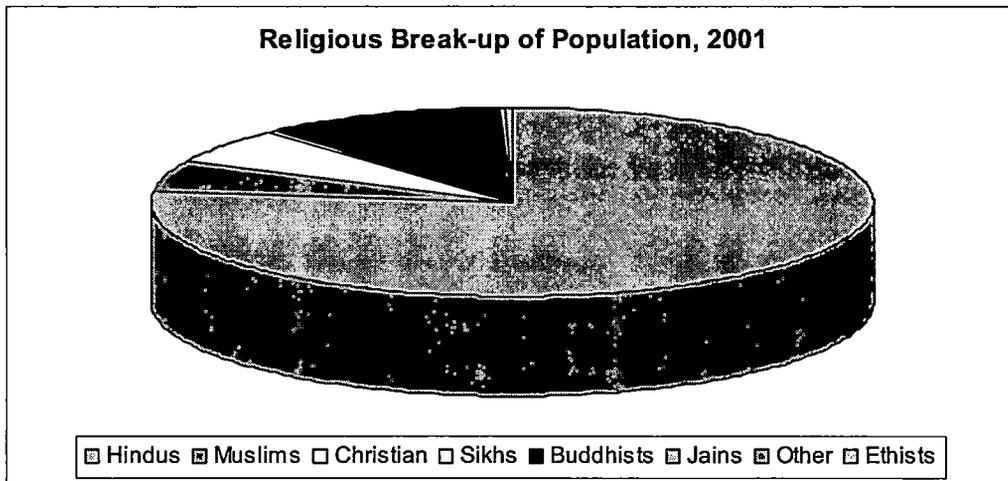


Fig. 2.3

Other religious groups form a very meager proportion of population of the district. Numerically these religious groups are very insignificant. Sikhs, Jains taken together form as low as 0.21 percent of the total population of the district. Other religious groups of which Parsis and Zoroastrians form a part, have a very low representation in the population in the district at the tune of 0.34 percent. The district has, though a very small proportion, 0.04 percent of its population reported themselves as atheist i.e. non-believer.

Table 2.9: Population by Religion, Darjeeling District, 1991 – 2001.

Religion	1991		2001	
	Population	Percent	Population	Percent
1. Hindus	1013310	77.95	1237714	76.92
2. Muslims	59140	4.55	85378	5.31
3. Christian	65605	5.05	99232	6.17
4. Sikhs	1251	0.10	2229	0.14
5. Buddhists	155295	11.95	177327	11.02
6. Jains	802	0.06	1078	0.07
7. Other	4516	0.34	5507	0.34
8. Atheists	--	--	707	0.04
Total	1299919	100.00	1609172	100.00

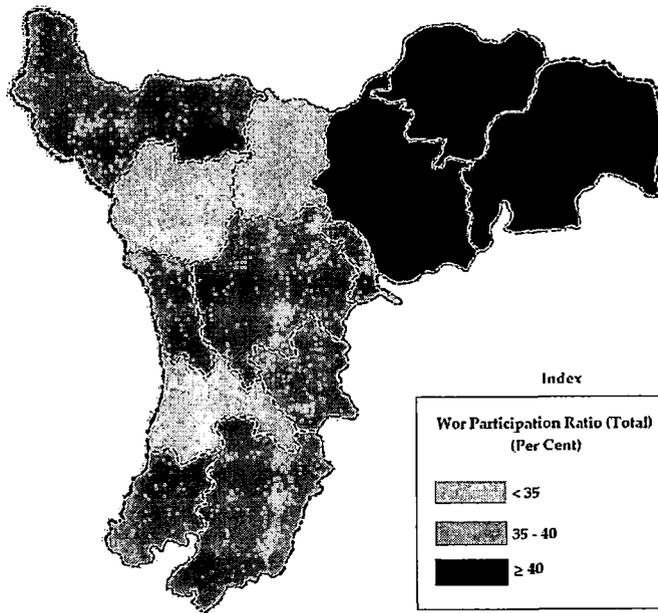
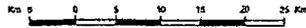
Source: Statistical Handbook of Darjeeling District, BAES, WB, 2004.

Occupational Structure

It is clear from the rural-urban distribution that of the total 1609172 population, over whelming majority i.e. 67.65 percent live in the rural area and hence most of the people are engaged in primary sector activities. Of the total population only 35.4 percent were reported to be engaged in different economic activities.

Out of the total population 29.8 percent reported themselves as main workers i.e. finding work for at least 183 days in a year where as 5.6 percent of the total population did not get work for at least 183 days in a year and thus treated as marginal workers. As per census of India definition (2001) "all the

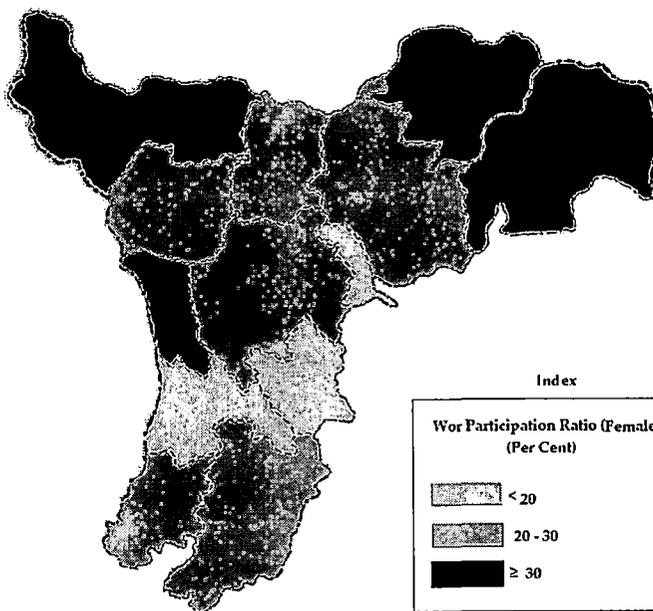
WEST BENGAL
DISTRICT DARJILING
Work Participation Ratio (Total), 2001



Map 2.5

WEST BENGAL
DISTRICT DARJILING
Work Participation Ratio (Female), 2001

Km 0 5 10 15 20 25 Km



Map 2.6

persons who are economically active (gainfully employed) but not getting work for at least 183 days in a year are treated as marginal workers”.

Table 2.10: Population According to Different Categories of Workers & Non-workers, Darjeeling District, 2001

Category	Number	Percent
1. Total workers	569442	35.4
a) Cultivators	88194	15.5
b) Agricultural labours	58350	10.2
c) Household Industry	15852	2.8
d) Other workers	407046	71.5
Sub Total	569442	100.00
2. Main Workers	478851	29.8
Sub Total	478851	29.8
3. Marginal Workers	90591	5.6
Sub Total	90591	5.6
4. Non – Workers	1039730	64.6
Total Population	1609172	100.00

Sources: 1) Final Population Totals, Census of India, 2001.

2) PCA, West Bengal, Census of India, 2001.

It's a matter of great concern that as high as 64.6 percent of the total population are not engaged in any economic activity. Large scale unemployment in the region is serious cause of social tension between the so called 'sons of the soil' and 'outsiders'. Inter-community relations are becoming stressed in the recent years. Large scale male selective out migration in the search of job is a well known phenomenon.

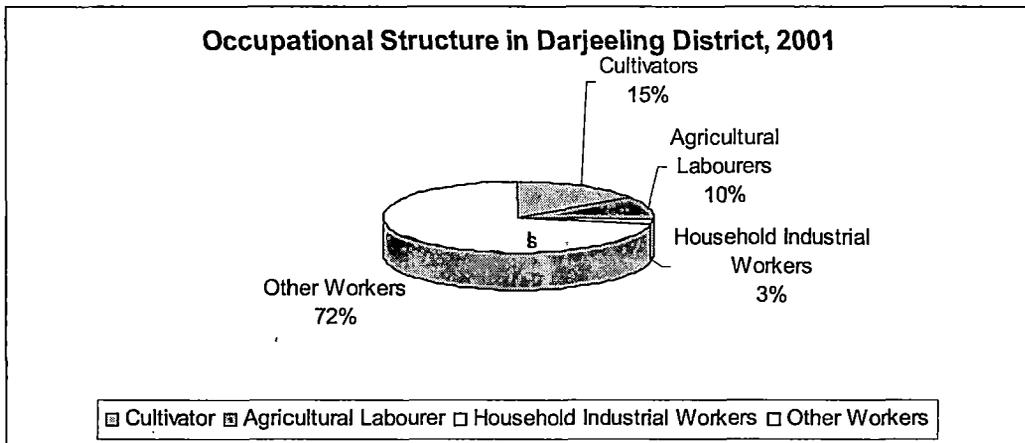


Fig. 2.4

Close observation of the above table-2.11 reveals that the hilly blocks are having high work participation ratio of 35 percent and above on the one hand, and below 33 percent e.g. Rangli Rangliot on the other. But in the blocks of foothills and Dooars the rate is moderate varying from 33.7 percent (Naxalbari) to 38.7 percent in Kharibari.

Table 2.11: C. D. Block-wise Work Participation Rate, 2001

SL	C. D. Block	Work Participation Rate (Main+Marginal)		
		Total	Male	Female
1	Darjeeling Pulbazar	39.4	46.1	32.6
2	Rangli Rangliot	32.2	40.6	23.8
3	Kalimpong-I	40.1	50.7	29.0
4	Kalimpong-II	40.0	48.5	30.8
5	Gorubathan	42.1	49.1	34.9
6	J. B. Sukhia Pokhri	33.7	39.1	28.3
7	Mirik	38.1	43.3	30.0
8	Kurseong	35.7	43.6	27.6
9	Matigara	36.4	52.5	18.6
10	Naxalbari	33.7	50.3	15.4
11	Phansidewa	36.3	49.4	22.4
12	Kharibari	38.7	52.7	23.8
District		35.4	48.5	21.4

Source: Calculated from the data collected from Primary Census Abstract, Vol. 7 (CD ROM), Census of India, 2001

Highest male work participation rate is found in the block of Kharibari 5.7 percent (Kharibari) and lowest is 39.1 percent found in Jore Bunglow Sukhia Pokhri. The female work participation rate depicts a different picture where highest participation being in Gorubathan block (34.9 percent) and lowest in Naxalbari block (15.4 percent).

Literacy

Literacy rate in Darjeeling district is satisfactory as it happens to be little above the state average. As per 2001 census the literacy rate in the district is 71.80 percent which has increased from 57.95 percent in 1991. Among the sub-divisions Darjeeling sadar sub-division tops the list with 78.70 percent in terms of literacy rate where as Siliguri has the lowest literacy of 66.50 percent. As a C.D. Block, Jorebunglow Sukhia Pokri has the highest literacy rate of 76.70 percent and Phansidewa has got the lowest rate of 50.30 percent. Among the urban areas Darjeeling municipality is credited with highest literacy rate of 89.80 percent and Siliguri Municipal Corporation is discredited of having lowest literacy of 79.30 percent. The growth of literacy in the district i.e. from 57.95 percent (1991) to 71.80 percent in 2001 has been primarily because of the phenomenal improvement in the literacy in the rural area. This is evident from the fact that the increase is 16.83 percent in rural areas during 1991-2001 which is only 6.48 percent in urban areas during the same period.

**Table 2.12: Literacy by Sex in Rural & Urban Area, Darjeeling
District, 1991 & 2001**

Year	Rural			Urban			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
2001	76.10	55.40	66.00	87.7	78.5	83.3	80.1	62.9	71.8
1991	59.96	37.53	49.17	81.80	70.98	76.82	67.07	47.84	57.9
									5

Source: Final Population Totals, Census of India, 2001 & 1991.

If one closely observes the literacy rates, one can easily find that there is a wide gender gap with respect to literacy. Though the gap has reduced slightly, still a gap of around 20.00 percent is alarmingly high. Even in 2001 the gender gap with respect to literacy in rural area was around 21.00 percent (table 2.12) which is slightly better in urban area which is 9.00 percent.

It is interesting to note that half of the blocks are having literacy rate higher than that of the district average. The highest male literacy is found to be 86.90 percent in Jore Bunglow Sukhia Pokhri and the lowest in this group is Phansidewa (62.20 percent). On the other hand the highest female literacy is in Jore Bunglow Sukhia Pokhri i.e. 66.80 percent and that the lowest is in Phansidewa 37.70 percent. Therefore, over all highest literacy is found in Jore Bunglow Sukhia Pokhri (76.70 percent) and lowest is in Phansidewa (50.3 Percent).

Table 2.13: C. D. Block-wise Literacy by Sex, 2001

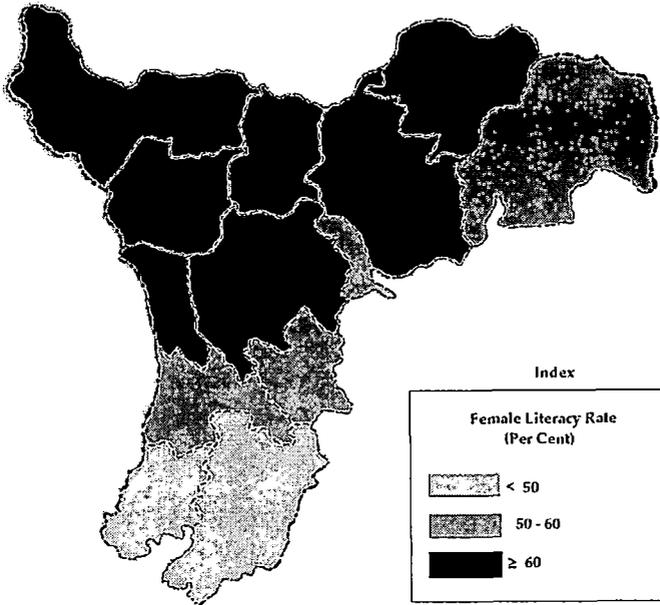
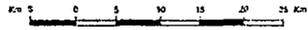
C. D. Blocks	Population			Literates			Literacy (%)		
	P	M	F	P	M	F	P	M	F
Darjeeling Pulbazar	115837	58407	57430	74905	42703	32202	72.9	82.2	63.2
Rangli Rangliot	64349	32304	32045	41958	23658	18300	72.8	82.1	63.4
Kalimpong-I	67680	34382	33298	43741	24400	19341	74.1	81.5	66.6
Kalimpong-II	60263	31309	28954	37012	21432	15580	69.6	77.3	61.2
Gorubathan	54279	27572	26707	31491	18321	13170	69.9	76.2	57.2
J. B. Sukhia Pokhri	100724	49816	50908	69600	38929	30671	76.7	86.9	66.8
Mirik	42237	21112	21125	26843	15305	11538	72.0	82.4	61.7
Kurseong	85867	43330	42537	56524	32197	24327	74.4	84.1	64.6
Matigara	129326	68004	61322	71006	43505	27501	64.8	75.0	53.3
Naxalbari	144915	75831	69084	82261	49877	32384	66.9	77.3	55.4
Phansidewa	171508	87945	83563	70004	44539	25465	50.3	62.2	37.7
Kharibari	88230	45449	42781	39996	25197	14799	54.9	67.0	41.9
District	1125215	575461	549754	645341	380063	265278	71.8	80.1	62.9

Source: Calculated from the data collected from Primary Census Abstract,

Vol. 7 (CD ROM), Census of India, 2001

Note: Only those people are considered literate who can read and write in any language with understanding and the age is essentially 7 years or more i.e. even if a child is already in school and picked up reading writing etc. and may be even at second standard may be considered as illiterate and therefore, not counted as literate.

WEST BENGAL
DISTRICT DARJILING
Female Literacy Rate, 2001



Map 2.7

The gender gap with respect to literacy is remarkable in the district. This gap is found to be as high as 21.2 percent. The hilly block of Kalimpong-I has recorded the lowest gender gap of 15 percent in literacy which shows the long tradition of development of modern education initiated during British rule in this part of the state. The highest gender gap with respect to literacy rate is found in Kharibari block (25.10 percent). General socio-economic backwardness of the region seems to be the main reason for this huge gender gap in literacy rate.

Caste Structure

The district has a number of Scheduled Castes and Scheduled Tribe populations. Some of the scheduled castes residing in the district include Kamis, Damai and Sarki belong to ethnic Nepali community. Rajbanshi, Bagdi, Duley, Chamar (Cobbler) Namashudra, Kaibarta, Lohar, Jalia (Fishermen), Mehtors (Sweeper) Doshad (Dushad), Paliya, and Darhi are some of the scheduled castes inhabiting this region. The district has a number of Scheduled Tribes too. Some of the tribes who are numerically noteworthy are Sherpa, Toto, Dukpa, Kagatay, Tibetan and Yolmo among the Bhutia community. Apart from them other scheduled tribes are Lepcha, Lodha, Kheria, Kharia, Mahali, Mal Pahari, Munda, Nagesia, Oraon, Santhal, and others.

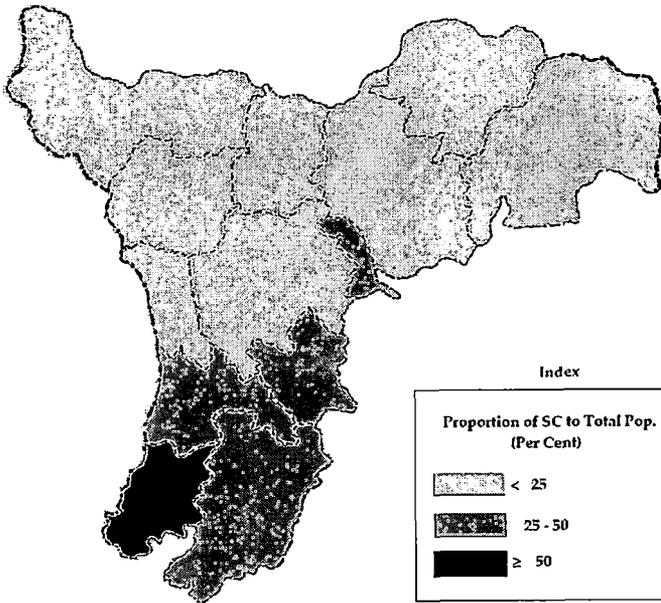
Table 2.14: C. D. Block-wise S. C. and S. T. Population, 2001

C .D. Block	Population	Scheduled Caste (SC)	Scheduled Tribe (ST)	SC as % to Total	ST as % of Total
Darjeeling	115837	4829	8973	4.17	7.75
Pulbazar					
Rangli	64349	2508	5028	3.90	7.81
Rangliot					
Kalimpong -I	67680	4806	11878	7.10	17.55
Kalimpong- II	60263	1805	14835	3.00	24.62
Gorubathan	54279	3082	5880	5.68	10.83
Jore Bunglow	100724	5991	6945	5.95	6.90
Sukhia Pokhri					
Mirik	42237	3074	3136	7.28	7.42
Kurseong	85867	6783	7597	7.90	8.85
Matigara	129326	44999	18411	34.80	14.24
Naxalbari	144915	36851	27076	25.43	18.68
Phansidewa	171508	53372	53654	31.12	31.28
Kharibari	88230	44863	17099	50.85	19.38
District	1125215	212963	180512	18.93	16.04

Source: Primary Census Abstract, Vol. 7 (CD ROM), Census of India, 2001.

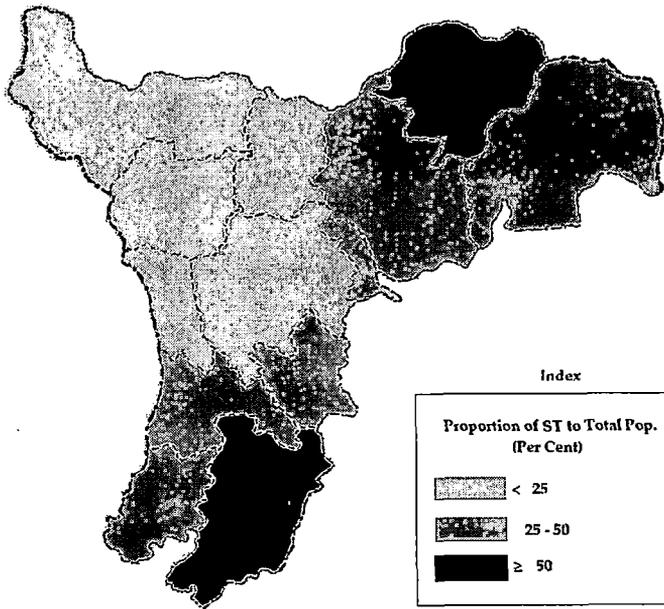
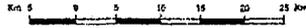
WEST BENGAL
DISTRICT DARJILING
Proportion of Scheduled Caste to Total Population, 2001

Km 5 0 5 10 15 20 25 Km



Map 2.8

WEST BENGAL
DISTRICT DARJILING
Proportion of Scheduled Tribe to Total Population, 2001



Map 2.9

The district has a moderately high proportion of Scheduled Caste (18.93 percent) and Scheduled Tribe (16.04 percent) population to total population. C. D. Blocks of Dooars-Terai region are having high proportion of their population belonging to Scheduled Castes. Kharibari being the highest with 50.85 percent of its population belonging to the scheduled castes belongs to Dooars-Terai region. Kalimpong – II C. D. Block is having the lowest proportion of its population belonging to scheduled caste (3.00 percent). The district is having as high as 16.04 percent of its population belonging to Schedule Tribe category. Among the C. D. Blocks the Phansidewa block is having highest proportion of its population belonging to this group where as Jore Bungalow Sukhhia Pokhri has the least proportion of its population belonging to the scheduled tribes.

Urbanization

The rate of urbanization in the district shows a lopsided scenario. Siliguri, the only Municipal Corporation which is not only in the district but also in entire North Bengal. Therefore, Siliguri is considered as 'Primate City' in the region with quite high degree of primacy. The region as a whole has 32.34 percent of its population living in the urban areas which is slightly above the state average (27.97 percent) as well as national average (27.82 percent). The district has a number of Municipalities e.g. Kalimpong, Darjeeling and Kurseong, apart from Siliguri Municipal Corporation. The only Notified Area is located in Mirik C. D. Block. Apart from these statutory urban centres, there are three Census Towns that are also known as Non-Statutory Towns.

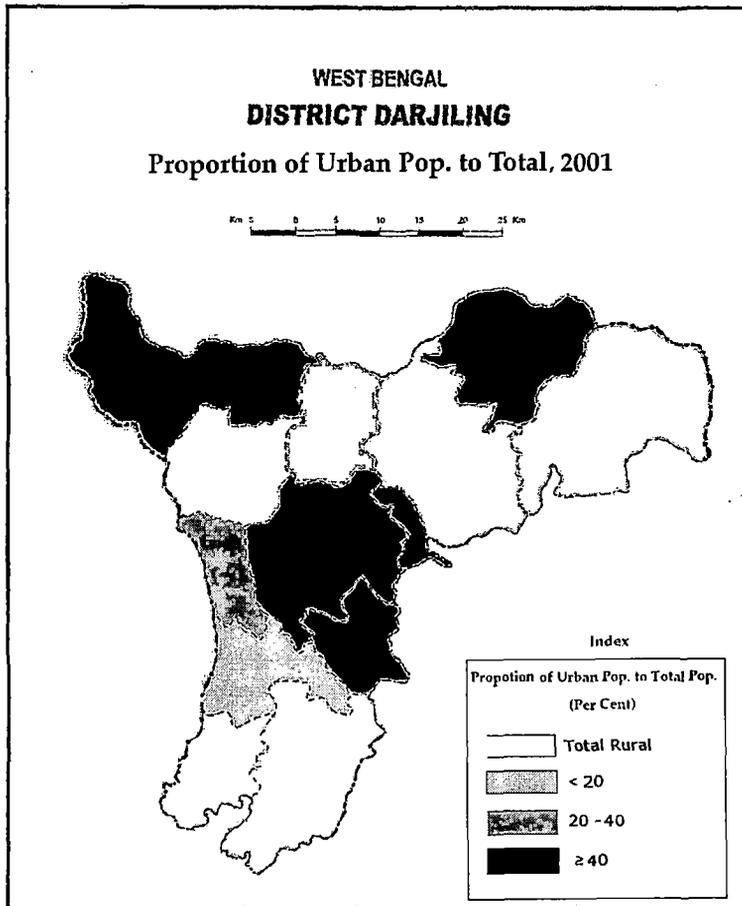
Table 2.15: C. D. Block-wise Percent of Urban Population to Total Population

SL	C. D. Block	Rural Population	Urban Pop.	Total Pop.	Percent of Urban to Total
1	Darjeeling Pulbazar	114204	108830	223034	48.79
2	Rangli Rangliot	64349	0	64349	0
3	J. B. Sukhia Pokhri	100724	0	100724	0
4	Kalimpong-I	67680	0	67680	0
5	Kalimpong-II	60263	42998	103261	41.64
6	Gorubathan	54279	0	54279	0
7	Kurseong	72204	53682	125886	42.64
8	Mirik	42237	9141	51378	17.80
9	Matigara	123921	290007	413928	70.06
10	Naxalbari	129141	15774	144915	10.89
11	Kharibari	88230	0	88230	0
12	Phansidewa	171508	0	171508	0
	District	1088740	520432	1609172	32.34

Source: Primary Census Abstract, Vol. 7 (CD ROM), Census of India, 2001.

The C. D. Block-wise rate of urbanization presented in the map-2.10 shows that high degree of urbanization is found in the C. D. blocks Darjeeling-Pulbazar, Kalimpong, Kurseong and Matigara. As a matter of fact these C. D. Blocks are the hosts of Municipalities and Municipal Corporations.

The map-2.10 clearly presents four regions in terms of degree of urbanization. The region one is without any record of urbanization so far. Pansidewa, Kharibari, Jore Bungalow Sukhia Pokhri, Rangli Rangliot, Kalinpong-I and Gorubathan are included in this category. The second groups of C. D. Blocks have urbanization but it is below 20.00 percent e.g. Naxalbari (10.89 percent). Mirik with its lone urban centre i.e. Mirik Notified Area belongs to third group where degree of urbanization is between 20.00 to 40.00 percent.



Map 2.10

The fourth group with urbanization of 40.00 percent and above has four C. D. Blocks in its fold such as Matigara (70.06), Darjeeling Pulbazar (48.79), Kalimpong (41.64) and Kurseong (42.64). From the data on urbanization and map depicting the degree of urbanization it is clear that the urbanization in the district is asymmetric. The hilly region is comparatively more urbanized than plain region of the district.

Chapter – III

FERTILITY CHARACTER BY RELIGIOUS GROUPS

General Characteristics

Fertility character is an important aspect of demography of any place or region. As population replenishment depends on fertility of a group of persons, it always holds an important place in policy making of a country or region. While discussing general character of fertility in Darjeeling district, it will be worth while first to gather an idea of prevailing systems of fertility survey and measurement in general. Here, in this study primary data have been collected through field work. Secondary data have also been collected from different sources on the general fertility behaviour of the region.

Fertility analysis is a more complex task as compared to mortality for several reasons. First, human fertility essentially involve two individuals but the information is always exclusively with the mother as she is the host of the baby. Now all women are not fecund i.e. capacity of a woman to participate in reproduction of a live child. Even a fecund woman may experience some temporary infecundity. Some women may be 'sterile' which refers to man's or woman's permanent inability to conceive under any circumstances. According to Preston and others (2001) "Lifetime sterility is usually called 'primary sterility' while sterility that develops during reproductive years is termed 'secondary sterility'" (Preston, Heuveline and Guilot, 2001, p. 92).

Among fecund individuals, the risk of giving births depends on their sexual behaviour. The fact is that sexuality is socially regulated and thus the sexual behaviour is constrained by social norms and customs. In some settings, marriage delineates the members of the society at the risk of giving birth and in these cases only the behaviour of married women needs to be considered for studies that are under consideration. Preston, Heuveline and Guilot (2001) are further of view that “even if there is some out-of-wedlock childbearing, the fertility rates of married women typically differ so that fertility analysis is usually made more precise by considering separately in-wedlock and out-of-wedlock births” (Preston, Heuveline and Guilot, 2001, p. 92).

“Fertility rates also depend on whether sexual partners attempt to influence the likelihood that their sexual activity will result in a live birth. Behaviour intended to decrease the chance of conception is referred to as contraceptive, where as behaviours intended to increase the chance are sometimes referred to as proceptive. A conception may not produce a birth but may instead be terminated by an abortion. Abortions may be spontaneous or may be induced in order to prevent a birth” (Preston, Heuveline and Guilot, 2001, p. 92).

There are several types of measures of fertility. The first type of measure may be termed as “Period” measures, for they are related to a particular period and are based on data referring to that period, say one year.

The second type of measures of fertility refers to the reproductive performance of women up to a certain point of time, say 45 or 49 years i.e. the productive age. The question on “the number of children ever born” is asked during a census and in the course of sample survey. During the present survey two questions on children born were asked, the first question was on “how many children, including still births, are born to the lady”. Second question was on whether the lady had given birth to any bay, including still birth, during last 12 months. The answer to the second question was particularly helpful to find out Age-specific Fertility Rates and Total Fertility Rates for all the religious groups.

The third type of measures of fertility attempts to measure fertility indirectly on the basis of age and sex distribution of the population as obtained from census (reports) conducted at an interval of 10 years.

Basis of measure of fertility may be as follows:

(i) Measures based on performance such as –

- (a) The Crude Birth Rate,
- (b) The General Fertility Rate,
- (c) Age-Specific Fertility Rate,
- (d) Total Fertility Rate,
- (e) Total Marital Fertility Rate,
- (f) Gross Reproduction Rate,
- (g) Sex-age Adjusted Birth Rate.

(ii) Measures based on census age distribution.

(iii) Measures based on number of children ever born.

The above measure of fertility i.e. number of births taken to a married woman has been adopted in the present study. Information on the number of children ever born is collected from ever-married and currently married women through fertility survey. The present age of the mother has been ascertained either by asking the mother or by collecting information from some other sources available with the respondent. Average number of children ever born per married women has been calculated from this information.

The growth rate of population of a region is an indication of fertility. The district has a little higher decadal growth rate of population of (i.e. 23.79 percent) as compared to national average of 22.66 percent during 1991-2001 which means the region has a higher fertility as compared to national average, even though the effect of cross border migration can not be ruled out. During the field survey of 600 families it was found that the average family size was 4.79 which is very close to national average.

The finding of survey of 600 respondents covering all four major religious groups reveals that on an average the respondents have 2.60 pregnancies out of which 2.35 (table-3.1) births including still births took place. On the whole, some 149 pregnancies were 'terminated' i.e. 'aborted' either intentionally or automatically. Abortion which is a sensitive issue was

not freely answered as to 'whether the termination was engineered or not'. Hence, the data so collected was found to be unreliable and were thus ignored. Out of total 1409 births 58 (4.12 percent) were still births from the 600 respondents. The survey result shows a total of 1351 live births from the given number (600) of respondent females. The average number of live births to the respondents is 2.25. Out of 1351 live births 1332 were found to be surviving at the time of enumeration. As many as 19 children lost their lives after their successful live births.

Table 3.1: Fertility in the Sample Respondents in the District of Darjeeling, 2007- 08

SL	Fertility Attributes	Average Magnitude
1	No. of pregnancies ever occurred	2.60
2	No. of births including still births ever took place	2.35
3	No. of live births (ever born)	2.25
4	No. of still births	0.10
5	No. of children during enumeration	2.22
6	No. of live births during last one year	0.12
7	Crude Birth Rates	40.96
8	Children Ever Born	2.22
9	Total Fertility Rates	3.58
10	Family size	4.79

Source: Calculated by the researcher on the basis of Field Survey (2007-08) data.

The average CBR and TFR are found to be 40.96 and 3.58 per 1000 (table-3.1). Average CBR and TFR for all the religious groups of the district are found to be slightly higher as compared to state or national average. Concentrations of tribal population, populations belonging to lower castes and Muslims who are educationally backward and economically poor have exhibited high fertility in the district.

Table 3.2: Fertility Estimates for all Religions, 2001

Country/State/District	CBR	TFR
India	25.9	3.2
W. Bengal	22.5	2.6
Darjeeling	19.6 (40.96)	2.1(3.58)

Source: Fertility Tables, Census of India 2001 (adopted from EPW, January 29, 2006, pp. 437 – 446).

Note: Figures within parenthesis are arrived on the basis of data collected from the field.

Spatial Variation in Fertility

Table-3.3 showing block-wise CBR and female literacy reveals that in the hilly region of the district CBR is considerably lower i.e. 17.39 (2005-06), estimated by the Deptt. Of health, Government of W. B. compared to the district average of 40.96 (2007-08), an estimation in the present study. It is interesting to note that particularly in the hilly region the female fertility is not inversely related e.g. Jore Bunglow-Sukhia Pokhri with female literacy of 66.00 percent, one of the highest rate, has CBR of 19.26 which is much higher than regional average of 17.39.

Table 3.3: Block-wise Crude Birth Rate in Darjeeling District, 2005-06

Name of C. D. Blocks	Estimated CBR	Female literacy (%)
Darjeeling Pulbazar	16.87	63.20
Rangli Rangliot	15.57	63.40
Kalimpong - I	19.26	66.60
Kalimpong - II	17.60	61.20
Gorubathan	19.97	57.20
Jorebunglow Sukiapokhri	14.83	66.80
Mirik	17.66	61.70
Kurseong	17.35	64.60
Total	17.39	63.09

Source: Health on the March, Deptt. Of Health and Family Welfare, Govt. of W. B. 2005-06.

Religious Differentials

Many demographers have studied the different aspects of fertility. Differentials in fertility between different religions, ethnic, socio-cultural and linguistic groups have been studied by a number of scholars. There are several arguments propounded by different scholars while relating religion to fertility. 'Particularized theology' says that it is the very essence of religion that influences fertility, irrespective of any socio-economic or demographic factors. On the other hand, many others argue that the fertility differentials are the outcome of the differences in the socio-economic characteristics of the members of different religious groups. Thus, Chamie, (1977) argues that it is not religion per se, but the characteristics of the religious groups that are important influencing factor of fertility levels.

While studying fertility differentials of religious groups, one aspect is often overlooked i.e. Muslims or for that matter any religious group is not homogeneous but differ widely in terms of their socio-economic and demographic behaviour in different regions of the country. Dyson & Moore (1983) opined that regional factors outweigh that of religion as Hindus and Muslims show more similarities with each other within regional demographic regimes, than they do with co-religionists elsewhere in the sub-continent. Thus, according to Jeffery & Jeffery (2000, 2002), Muslims are closer to Hindus in their socio-economic and demographic behaviour within each region in the country.

National Family Health Survey (NFHS) data show that fertility has declined among Hindus and Muslims in almost at the same pace since the mid 1980s. While the tempo of decline among Hindus got accelerated from a level of 4.5 in 1984, the declining trend among the Muslims set off from a relatively higher level of 5.6. The pattern of decline is nearly similar since then. The fertility differentials between Hindus and Muslims have begun to narrow down during the 1990s. In fact, after 1992-93, the declining trend in TFR among the Muslims is sharper as compared to the Hindus. The trend, therefore, points to the fact that fertility decline among the Muslims is well in progress in India, though with a lag, and might eventually attain a replacement level closely following the Hindus (James and Nair, 2005, p. 377).

A simple way of thinking of fertility and religion will leave one no where. The fertility rate among the Muslims in Southern Indian states is observed to be comparatively low, where in the overall fertility is also found to be low.

There are some Union Territories such as Pondichery & Daman-Diu where fertility rate among Muslims is even lower than Hindus. But the concentration of Muslims in South India is much lower than that of North India or the so called 'Hindi Heart Land'. Since the over all fertility is higher in the north Indian states, therefore, the fertility rate among the Muslims seems to be higher (Jeffery and Jeffery, 2000, p. 3254).

Apart from the regional aspect of distribution of Muslim population, there are other factors too. Estimate of Infant Mortality Rate (henceforth IMR) and Child Mortality Rate (henceforth CMR) among Hindus & Muslims is an eye opener.

Table 3.4: Estimates of IMR & CMR of Hindus & Muslims in India

Source	IMR		CMR	
	Hindus	Muslims	Hindus	Muslims
Census (1991)	74	68	97	91
NFHS-1 (1992-93)	90	77	124	106
NFHS-2 (1998-99)	77	59	107	83

Source: Irudaya Rajan & Mohana Chandran (2000): IIPS (1995), IIPS (2000).

Table 3.4 reveals that the difference in IMR & CMR between Hindus and Muslims has certainly greater impact on the population growth rates. Since Muslims have lower IMR & CMR they have higher growth rate of population. Greater chances of survival guaranteed by lower level of IMR and CMR might results in higher growth rate of Muslims.

The regional dimension of population growth taking both Hindu and Muslim into consideration is very important. Census of India data shows that growth rate of population among Muslim has fallen at a sharper rate as compared to Hindus in southern Indian states. Since most of the Muslims are concentrated in the north Indian states and these states have higher fertility in general. The question to disparity as to which community has higher fertility rate is a matter of further investigation in the region.

Table 3.5: Growth Rates of Hindus and Muslims by Regions (1951-2001)

Region	1951-61	1961-71	1971-81	1981-91	1991-2001
Hindus					
South	1.52	1.94	1.97	1.77	1.22
N. E.	3.22	3.20	2.12	1.78	1.30
East	2.09	2.02	1.98	1.95	1.71
West	1.89	2.62	2.25	2.23	2.00
N. W.	1.87	1.01	2.43	2.23	2.32
India	1.87	1.93	2.16	2.04	1.82
Muslims					
South	1.66	2.93	2.51	2.37	1.66
N. E.	3.39	2.21	3.29	2.53	2.63
East	2.95	2.68	2.61	2.90	2.67
West	2.12	3.58	2.99	2.64	2.86
N. W.	3.71	2.24	2.67	3.24	2.86
India	2.82	2.69	2.70	2.84	2.57

Source: Census of India, Religion Tables, 1951-2001.

Even the same level of consciousness or educational attainment has different meaning in different regions. It is clear from the study of Bhat & Irudaya Rajan (1990) that illiterate women in Kerala have fewer children compared to illiterate women in Madhya Pradesh or else where in India. This phenomenon attains greater significance in the context of Muslims. The states which have gone through rapid fertility transition, the fertility and reproductive behaviour of Muslim women of the same are very different from other states. Mallapuram in Kerala is a classic case of this experience where 69.00 percent of the population is Muslims as compared to 25.00 percent for the state as a whole. Muslims in Mallapuram experienced a spectacular fertility decline during the last 20 years. The decline was 2.0 children (4.4 children to 2.4 children) in Mallapuram as compared to just 1.2 children the state.

It could be said that fertility differentials between Hindus and Muslims are less determined by their religious affiliation than the socio-economic condition in which they live. Zacharia (1995) in his writing 'Transition in the determinants of fertility decline in India' says, "The principal factors mentioned as affecting fertility were the basic socio-economic variables such as urbanization, social mobility, status of women, family organization, level of living and cost of rearing children, decline of religious interest, women's employment, occupation and education etc."

Freedman (1979) observed "I now believe there is a case for the thesis that once motivation is present, both the concept of and the means for family

limitation can have independent casual effects in determining both the timing of onset and the rapidity of the fertility decline" (Freedman, 1979, pp. 1-17).

Roy and Parasuraman (1996) while discussing about the demographic history of India opine, "The demographic transition in India began in the third decade of this century. The earlier expanding stage of transition, with solitary decline in mortality lasted for almost five decades. The late expanding stage of transition, whether both fertility and mortality start declining, occurred around 1970. However, the pace of fertility decline in India has been much slower than that of mortality decline. During 1970-1993, the birth rate in India has declined by 23 percent, compared with 41 percent decline in the death rate. The slower pace of fertility decline kept the population growth rate at the stable level above two percent per annum. There are indications, however, that the fertility decline has been accelerating in recent years. According to the Sample Registration System, the growth (natural) rate of population came down below two percent for the first time in 1991. It appears that the country is entering the last phase of the transitional stage which is characterised by faster decline in fertility than that in mortality" (Roy and Parasuraman, 1996, p. 43).

As per Ray & Parasuraman (1996), the fertility levels are determined by the following factors:

- i) Women's literacy,
- ii) Standard of living (Electricity use, Tap and Hand pump within residence, Pucca house, Television etc),
- iii) Infant Mortality Rate,

- iv) Index of exposure to Media (TV, Radio & News Paper),
- v) Program strength-
 - a) Percent of women receiving antenatal care services,
 - b) Percent of births in last 4 years preceding survey in health centres,
 - c) Percent of children in the age group of 12-23 months who received all vaccines,
 - d) Percent of women who have knowledge of all three methods of IUD, Condoms and Oral Pills,
- vi) Ideal family size ,
- vii) Index of son preference,
- viii) Median age at marriage for families.
- ix) Contraceptive prevalence rate,
- x) Effective contraceptive prevalence rate,
- xi) Quality of contraceptive use,
- xii) Median duration of Post Partum Non-susceptible period in months, and
- xiii) Percentage of married women in Menopause.

Mutharayappa & others (1997) using NFHS data studied the 'son preference and its effect on fertility'. They identified and enlisted the following reasons of son preference.

- 1) Economic utility of son – it supplies family labour in all aspects of economy, earning and support in the old age.
- 2) Brings daughter – in – law into the family (help and dowry).
- 3) Socio – cultural utility: patrilineal society maintaining family lineage.

4) Utility of son from religious point of view. The religious functions that son only can play i.e. kindle the funeral Pyre of their deceased parents and to help in the salvation of their soul.

Dyson & Moore (1983) on demographic situation of the country says, "Female social status probably the single most important element in comprehending India's demographic situation".

Sample Registration System as well as NFHS data show that so far Total Fertility Rate is concerned; decline in Fertility among Muslim is much higher as compared to Hindus both in the state and national level. Table-3.5 portrays a picture of comparative declining rates of Muslims and Hindus in the state and country as whole. It is interesting to note that though the fertility rates among Muslims is higher, yet the faster declining rates among the community may bring both communities closer in near future. As a result, by the year 2091 Muslim population will be stabilized at 18.8 percent to total population of the country with some 32 million people. Therefore, the apprehension of the saffron demographers that the country is going to be a Muslim majority is a utopian idea based on other than facts.

A glance to table-3.6, it is observed that TFR among Hindus and Muslims is in declining trend. From 1984 to 1998-99 the TFR for Hindus has declined from 3.5 to 2.02 i.e. the decline is 1.48 for the state of west Bengal. The TFR decline for the same period for Muslims is as high as 2.21. The national scenario is also somewhat similar. The decline is again higher in case of

Muslims as compared to Hindus. The TFR decline during 1984 to 1998-99 is 2.01 for Muslims and is only 1.72 in case of Hindus.

Table 3.6: Total Fertility Rate among Hindus and Muslims in West Bengal

State/Country	Hindus			Muslims		
	1984	1992-93	1998-99	1984	1992-93	1998-99
West Bengal	3.5	2.52	2.02	5.5	4.59	3.29
India	4.5	2.30	2.78	5.6	4.41	3.59

Sources: 1) Sample Registration System, Registrar General of India, 1998-99.

2) NFHS – 2, IIPS, Mumbai, 1998 – 1999.

Crude Birth Rate (CBR) and Total Fertility Rate (TFR) of Darjeeling district for Hindus & Muslims presented in the table-3.6 shows that TFR and CBR both are considerably higher among Muslims as compared to that of the Hindus.

Table 3.7: Fertility Estimates for Hindus & Muslims, 2001

India/WB/Darjeeling	Total		Hindus		Muslims	
	CBR	TFR	CBR	TFR	CBR	TFR
India	25.9	3.2	24.9	3.1	30.8	4.1
W. Bengal	22.5	2.6	19.7	2.2	30.9	4.1
Darjeeling	19.6	2.1	19.5	2.2	34.8	4.7

Source: Fertility Tables, Census of India 2001 (adopted from EPW, January 29, 2006, pp. 437 – 446).

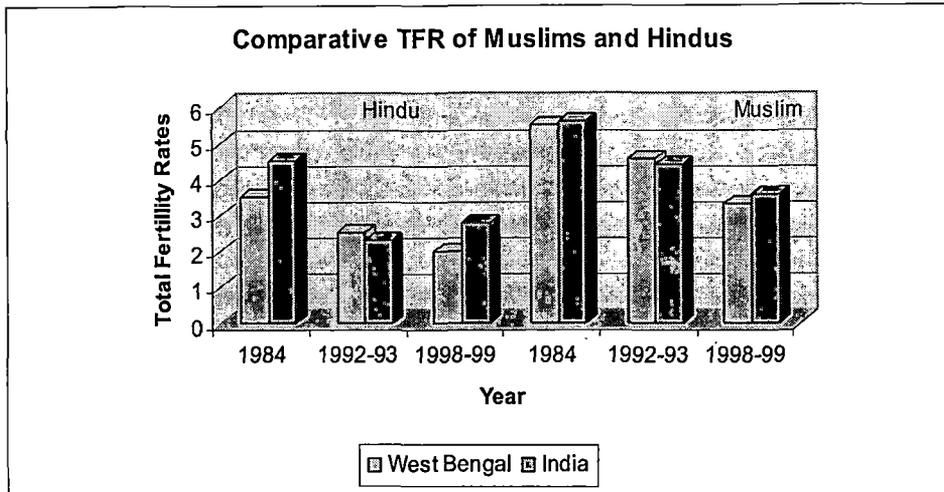


Fig. 3.1

During field work a total of 600 married women in the age group (child bearing) of 15-49 years have been interviewed taking a pre-decided number of respondents incase of each religious group such as Muslims 200, Hindus 2000, Buddhists 100 and Christians 100. Keeping the religious composition of population of the district as well as the state of West Bengal and the country in view, the number of respondents from different religious groups has been chosen. The scientific method of selection of samples has been discussed in the chapter-I (page-24).

The respondents were interviewed with an exhaustive pre-designed survey schedule (questionnaire). However, a pilot survey was conducted before finalization of the survey schedule (questionnaire). A brief result of survey is presented in the table-3.8 depicting different angles of fertility. One can observe that both CBR and TFR for the entire group of respondents are higher as compared to that of state average. Above two estimates are found to be 40.96 and 3.58 per thousand respectively. However, according to Rajan

(2005, p. 444) the same stand at 22.5 and 2.60 per thousand respectively for the state.

Table 3.8: Attributes of Fertility of Four Religious Groups, 2007- 08

SL	Attributes	Buddhist	Christian	Hindu	Muslim	Total	Average
1	No. of respondents	100	100	200	200	600	—
2	No. of pregnancy (ever occurred)	167	256	530	605	1558	2.60 [#]
3	No. of births including still births	159	228	466	556	1409	2.35 [#]
4	No. still births	2	8	15	33	58	0.10 [#]
5	No. live births (ever born) CEB	157	220	451		1351	2.25 [#]
6	No. of live births during (2007-08)	11	23	30	50	114	0.12 [#]
7	Children during enumeration	155	216	448	513	1332	2.22 [#]
8	Crude Birth Rates	26.25	47.72	33.26	51.02	—	40.96 ^{\$}
9	Total Fertility Rates	2.44	4.89	2.98	3.99	—	3.58 ^{\$}
10	Population	430	505	601	1030	2897	—
11	Family size	4.30	5.05	4.66	5.15	—	4.82 ^{\$}

Source: Calculated by the researcher from the data collected from field work, 2007-2008.

\$ Calculated by taking cumulative number of live births of all the religions together, not simple averaging of calculated figures have been considered for calculation of overall CBR, TFR, and family size.

Simple arithmetic average calculated for 600 respondents.

The survey result on fertility i.e. Children Ever Born (CEB) and number of children during enumeration per married woman is presented in the table-

3.9. It is observed from the table that the Muslims have higher fertility as compared to Hindus, Buddhists and Christians. The relation of fertility to the factors that control fertility will be analysed in the subsequent chapters. It will be difficult to infer the causes until and unless one observes fertility of a religious group visa-vis their social, economic and educational status.

Table 3.9: Children Ever Born, Pregnancy and No. of children During Enumeration by Religion, Darjeeling District, 2007- 08

Religion	No. of times pregnancy occurred	Children Ever Born	No. of children at the time of enumeration
Buddhist	1.67	1.57	1.55
Christian	2.56	2.20	2.16
Hindu	2.65	2.25	2.24
Muslim	3.03	2.62	2.57
Total/Average	2.60	2.25	2.22

Source: Field survey by the researcher during 2007-2008.

From the above table it is clear that the Muslims have slightly higher fertility measured by number of children ever born to a married woman. Number of pregnancies as well as number of children, at the time of enumeration, both is higher in case of Muslims as compared to Hindus. An attempt would be made to find out the reason for differentials in fertility in the subsequent chapter. But it is mostly the educational attainment which is probably the important controlling factor of fertility.

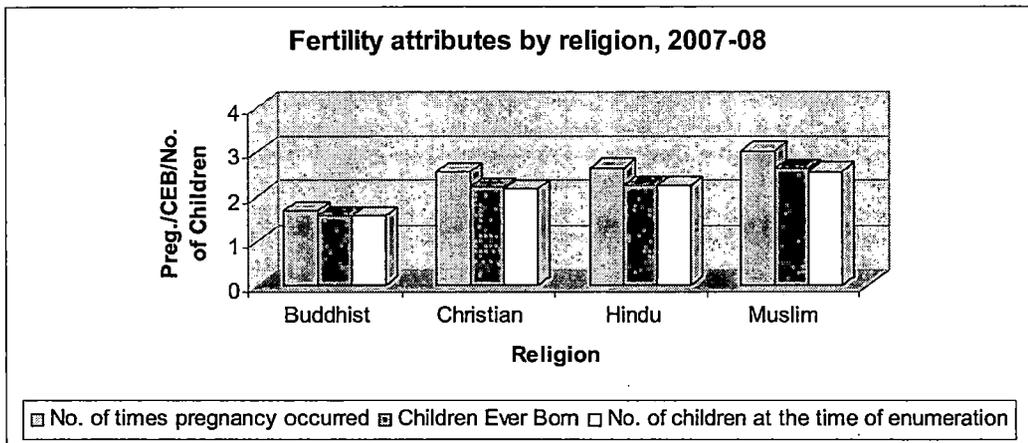


Fig. 3.2

Here, an attempt has been made to understand the differentials in fertility by observing differences in certain factors that were presumed to be influencing fertility behaviour of a respondent and thereby the religious group in which she belongs. During field survey, level of educational attainment of the respondents has been asked. Simultaneously, educational achievement of their parents as well as husband has also been asked. The data on this aspect is presented in the table-3.10. It was presumed that occupation of respondents and their husbands will have greater influence on fertility and hence the information on their occupation has also been collected. Glancing through the table-3.10 shows that on average Muslim parents, husbands and respondents are lesser educated as compared to others. They are found to be below average of all four religious groups.

Table 3.10: Educational and Economic status by religion, 2007-08

Religious groups	No. years of schooling				Proportion in service [#]	Monthly Finance (per capita)		
	Self	Father	Mother	Husband		Income	Expenditure	Savings
Buddhists	9.73	5.99	3.86	10.82	68.00	3077	1703	1374
Christians	5.28	3.74	0.72	7.12	34.00	1200	614	586
Hindus	5.84	5.12	2.21	7.31	18.50	1416	903	513
Muslims	4.56	4.59	1.73	6.24	11.00	1413	931	482
Total	25.5	19.44	8.52	31.49	131.50	7106	4151	2955
Average ^{\$}	6.35	4.86	2.13	7.87	32.88	1777	1038	739

Source: Calculated by the researcher from the data collected from field work, 2007-2008.

Data relevant to the husbands of the respondents (percent).

\$ Averages are arithmetic mean.

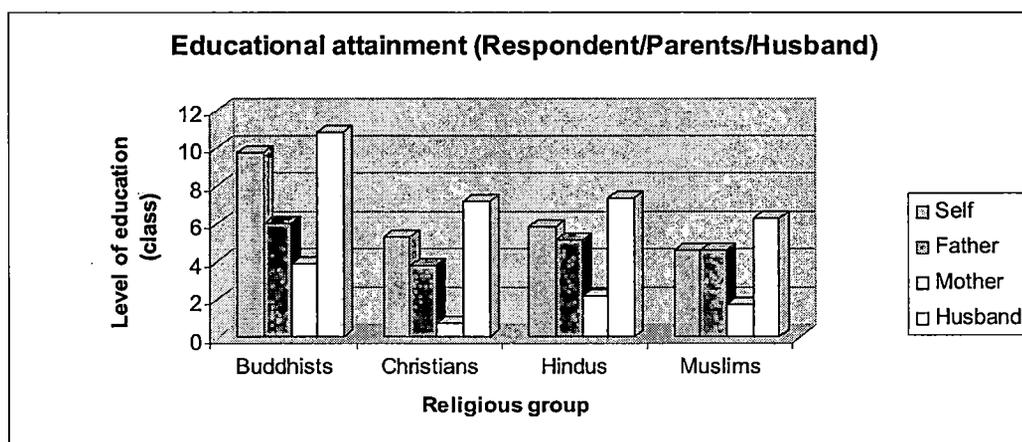


Fig. 3.3

Similarly, the occupational pattern of the respondents, parents and husbands of the respondents have been collected that will be presented in

detail in the next chapters. Here we have considered only the occupation of the husband of the respondents as it is considered to be the most influential factor. It was found that on the whole about 32.88 percent husbands of the respondents were reported to be in regular service which is just one third in case Muslims (11.00 percent). Highest proportion of service holders are found among the Buddhists at the tune of 68.00 percent followed by Christian 34.00 percent. The income and expenditure as well as savings are other sets of determinants of fertility. The information on income, expenditure, and savings has been collected for the households. The analysis of the data related to this aspect again reveals an interesting picture. The Muslims hold the bottom position with respect to income and savings. In the view of the fact that the community earns less hence the savings is also less. The major share of the earning is spent on purchasing food items and other essentials and life supporting articles to feed the family members.

Chapter – IV

FERTILITY AMONG RELIGIOUS GROUPS

Introduction

The present chapter is devoted to discuss religion and fertility. Religion-wise TFR and CBR have been presented in this chapter. There has been an attempt to rank the groups on the basis of these measures of fertility i.e. TFR and CBR. ASFR has been calculated for all the religious groups. Comparative study of ASFR of the religions under consideration has been done in the present chapter.

Apart from the basic measurements of fertility i.e. TFR, CBR and ASFR, there has been an attempt to find out trend of fertility through analysis of numbering of pregnancies by religion, number of births (including still births) and number of children during enumeration.

Overall Fertility

Demographic data of the district reveals that Darjeeling district has experienced a moderate to high population growth rate of 23.79 percent in the last decade i.e. 1991-2001 which is above the national and state average of 22.66 percent and 17.77 percent respectively. This high growth rate of population is partially explained by immigration from neighbouring countries as well as different states of India. However, higher fertility level in the region is a case in point and warrants further investigation. Though Crude Birth Rate (CBR) and Total Fertility Rate (TFR) for Darjeeling are slightly lower than the

state and national average, yet the figures are quite high. The fact which attracts the attention of the researchers is that in spite of lower CBR & TFR, the growth rate of population is substantially high which means there could be greater influence of migration than higher fertility rate in the region.

During the last decade i.e. 1991-2001, the CBR and TFR for the Hindus were 19.50 percent and 2.20 percent respectively where as for the Muslims the same were 34.80 percent and 4.70 percent respectively thereby indicating a differential in CBR & TFR. As such the CBR and TFR for the district are higher than both state and national average. The multi-ethnic society with great diversity of religion, caste, culture and language etc. along with general backwardness in terms of socio-economic and educational development in the study area are the probable causes of higher fertility in the district.

Though it has been mentioned in the introductory chapter that the differentials of fertility by religion would be measured in terms of CBR, TFR, yet number of pregnancies, number of children ever born including still births may also indicate fertility apart from children ever born (live) and number of live births during last year etc. Where as number of pregnancies may be termed as primary fertility, number of births, including still births may be termed as secondary fertility, fertility calculated on the basis of number of live births during the last year may be termed as tertiary fertility or simply fertility as it is widely used. The number of children (live) ever born may also be taken as an indication of fertility and could be termed as quinary fertility. For the

purpose of this study all four measured will be applied with special emphasis on CBR and TFR.

On the whole 600 respondents i.e. married female in the age group of 15 years to 49 years have been interviewed. Among the total respondents 100 sample respondents were drawn from Buddhists community, 100 from Christian community, 200 from Hindu community and 200 from Muslim community. The number of respondents has been so decided as to comply / maintain the parity in the general religious composition of the state and of the country too.

Table 4.1: Age Specific Fertility Rates of Four Religions Together, 2007-08

Age group (years)	No. of live births during last one year (2007-08)	No. of females in the age group (2007-08)	Age Specific Fertility Rates
(1)	(2)	(3)	[(2)÷(3)]×1000=(4)
15-19	11	221	49.77
20-24	52	195	266.67
25-29	24	174	137.93
30-34	13	117	111.11
35-39	8	109	73.39
40-44	4	108	37.04
≥45	2	49	40.82
All ages /Total	114	973	716.73
TFR = (716.73×5)÷1000 = 3.58			

Source: Calculated by the researcher from the data collected from field work,

2007-2008.

The survey result of 600 respondents gives an average CBR of 40.96 per thousand per year. The TFR calculated for the district is 3.58. There is large variation in fertility among the religions. The age specific fertility rates of all the religions taken together are given in the table 4.1.

Age specific fertility rates calculated for the area is found to be highest among the females in the age group of 20-24 years followed by 25-29 years and 30-34 years. A sharp decline is also recorded after the attainment of age group of 30-34 years.

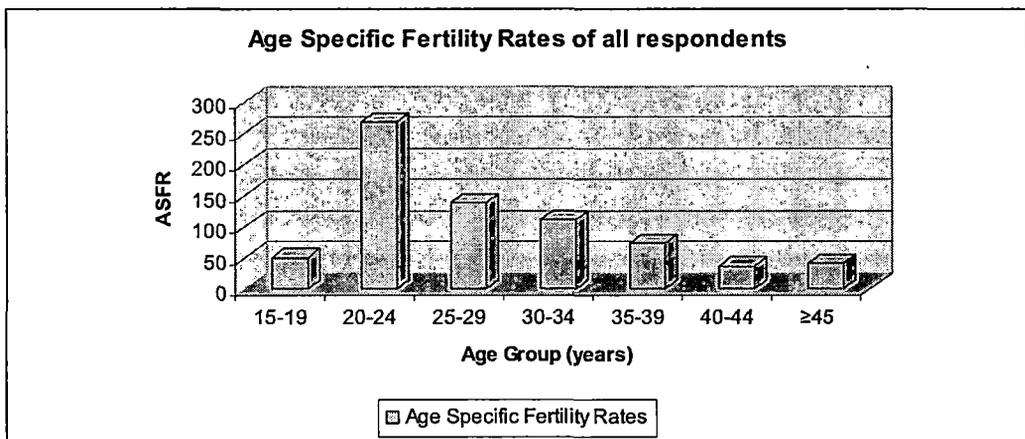


Fig. 4.1

The analysis of TFR and CBR among all the four religious groups reveals that both CBR and TFR are highest among the Muslims followed by Christian, Hindus and Buddhists (table 4.2 & 4.3). For all the communities, both CBR in Darjeeling district is found to be higher than all India average, but the gap is higher in case of Muslims (20.22 percent) and lower for Hindus (8.16 percent). So far TFR is concerned, it is found to be slightly lower in Darjeeling district compared to national average for all the communities but

the difference is marginally higher in case of the Hindus (0.12) and lower for the Muslim (0.11).

Table 4.2: Total Fertility Rates by Religious Groups, 2007-08

Religious groups	Total Fertility Rates (2007-08)
Buddhist	2.44
Christian	4.89
Hindu	2.98
Muslim	3.99
Average of all four religions	3.57 [#] (3.58) ^{\$}
Standard Deviation	0.9045
Coefficient of variation	27.34
Variance	0.8180

Source: Calculated by the researcher from the data collected from field work, 2007-2008.

Simple average of TFR of four religious groups.

\$ calculated by taking number of live births in a year to females of specific age group and number of females in a specific age group of four religious groups taken together.

It is interesting to note that all the indicators of fertility such as number of pregnancies, number of births including still births and number of children during enumeration for the district is moderately high. Of the average (for all the communities) 2.48 pregnancies, $2.48 - 2.25 = 0.23$ have lost due to induced abortion or natural termination of pregnancy. Even after average 2.25 births,

2.25-2.23 = 0.02 has disappeared during enumeration due to the fact that a number of still births have taken place and a number of infants and babies died at different stages of life may be due to health problems and also malnutrition.

Table 4.3: Crude Birth Rates (CBR) by Religious Groups, 2007- 08

Religion	No. of live births during 2007-08	Population (2007-08) during enumeration	Mid-year population (2007-08)	Crude Birth Rates (CBR)
Buddhist	11	430	419	26.25
Christian	23	505	482	47.72
Hindu	30	932	902	33.26
Muslim	50	1030	980	51.02
Total/Average	114	2897	2783	39.56
Over all for all the religions	CBR = $(114 \div 2783) \times 1000 = 40.96$			

Source: Calculated by the researcher from the data collected from field work, 2007-2008.

It is observed from the table 4.3 that there exists wide variation in the crude birth rates as prevailed in the region among the religious groups. With a modest figure of 33.26 Hindus are closest to the average of all the religious groups where as the Muslims top the list with a moderately high figure of 51.02. Buddhists (26.25) once again hold the bottom position in the list of crude birth rates and Christians (47.72) lie very close to Muslims and

therefore, have a quite high CBR. The causes of such variation will be dealt in the subsequent chapter.

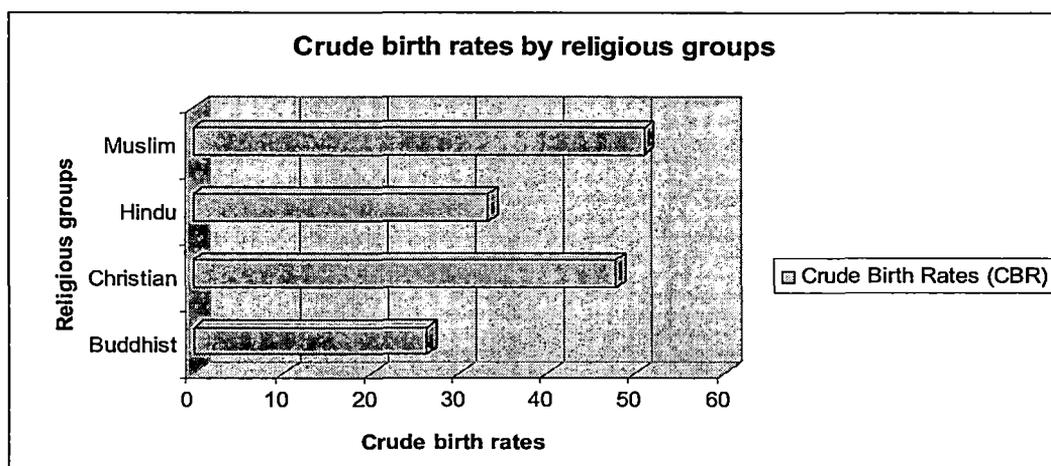


Fig. 4.2

Table 4.4: Average Measures of Fertility Indicators by Religion, 2007- 08

Religious groups	Buddhist	Christian	Hindu	Muslim	Total/ Average
No. of pregnancies	1.67	2.56	2.65	3.03	2.48
No. of births including still births	1.59	2.28	2.33	2.78	2.25
No. of children during enumeration	1.55	2.16	2.24	2.56	2.23

Source: Calculated by the researcher on the basis of data collected from the field during 2007-2008.

Close observation of the table-4.4 further reveals a definite pattern of fertility indicators. These indicators are found to be highest among the

Muslims and lowest among the Buddhists. As a matter of fact if one arranges the religious groups under consideration alphabetically. It will be seen that fertility indicators keep increasing as one moves from the initial alphabet to the next. An effort will be made to understand the reason for such a difference in fertility by religion in the subsequent chapters.

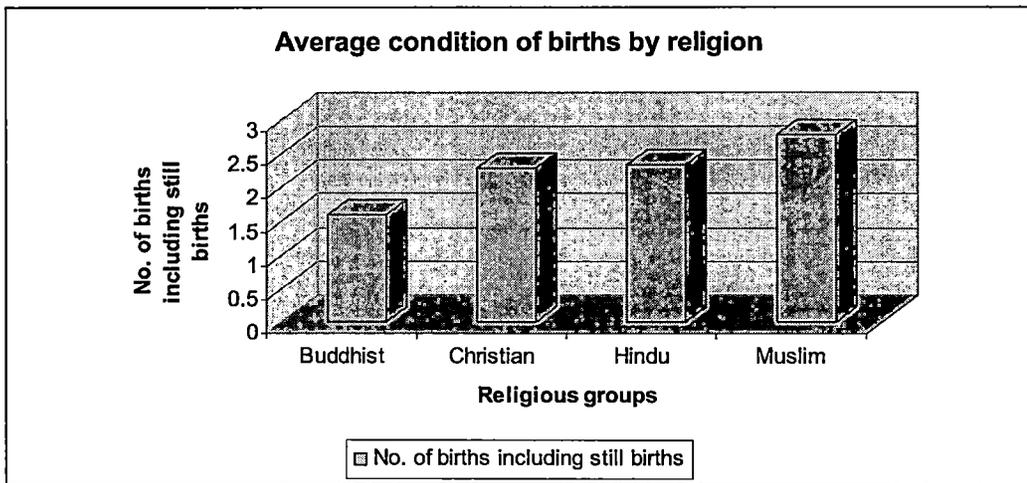


Fig. 4.3

There is a marked difference in the distribution of respondents by number of births including still births among the religious groups. It has been revealed during the survey that number of respondents having given no births (including still births) is the highest among the Buddhist which is 17 percent followed by the Christian (14 percent) and Hindu (5.50 percent). The lowest percentage of respondents having no births including still births happens to be among Muslims which is estimated to be 4.5 percent. The lowest proportion of respondents with no births is found among the Muslims (4.50 percent).

On the other hand, as high as 29 percent of the Muslim respondents are having four or more than four births which is only one percent among the

Buddhists, 4.50 percent among the Christians and 15.00 percent among the Hindu respondents.

Table 4.5: Distribution of Respondents by Number of Births including Still Births and by Religion

Religion	Number of children					
	No child (0)	1	2-3	4-5	≥5	Total
Buddhist ^{\$}	17	21	60	2	0	100
Christian ^{\$}	14	10	67	5	4	100
Hindu [#]	11	51	108	27	3	200
Muslim [#]	9	52	81	48	10	200
Total	51 (8.50)	134 (22.33)	316 (52.67)	82 (13.67)	17 (2.83)	600 (100.00)

Source: Calculated by the researcher on the basis of data collected from the field during 2007-2008.

^{\$} Figures are out of 100 sample respondents.

[#] Figures are out of 200 sample respondents.

Note: Figures in parenthesis indicate percentages to total.

It is very interesting to note that number of pregnancies, number of births as well as number of children are fairly high in case of Christian, Hindus and Muslims. All the above mentioned religious groups have recorded higher indicators of fertility as compared to the average situation prevailed in the region. It is, therefore, obvious that the Buddhists have very low fertility indicators and therefore, low fertility too.

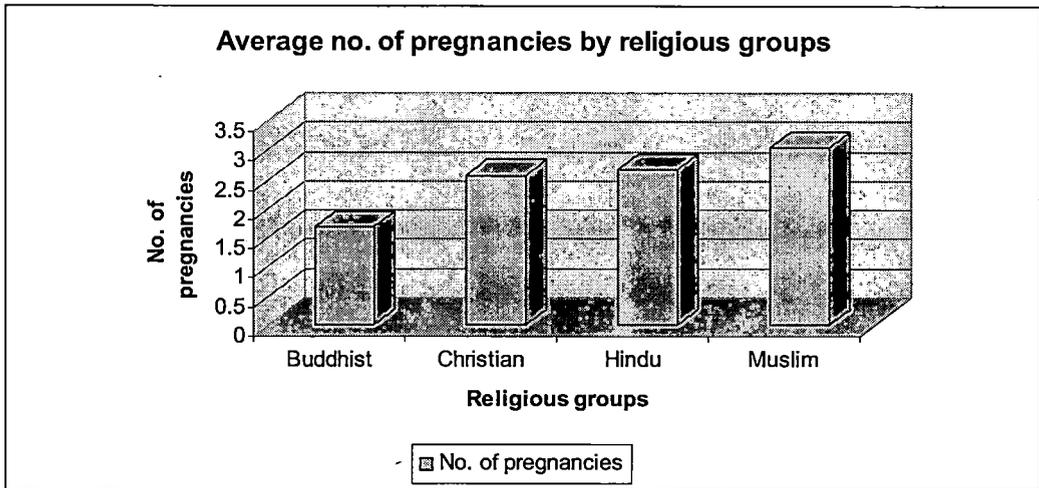


Fig. 4.4

It is clear from the diagram-4.4 that most of the respondents irrespective of their religious affiliation have on an average around 2.5 children that was found during enumeration. There are only 9 respondents out of total 200 Muslim respondents who reported having no child during enumeration. Similarly, 11 respondents from among 200 Hindu respondents did not have any child during enumeration.

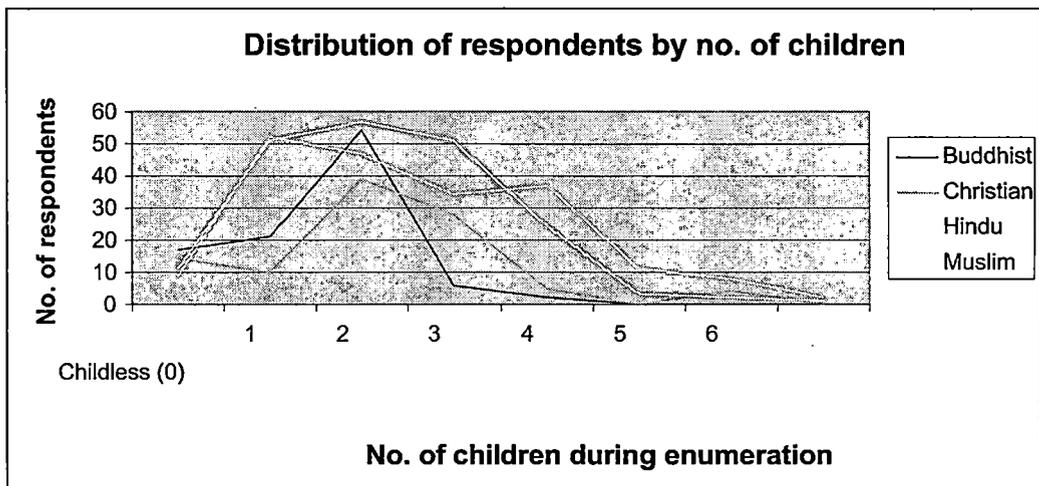


Fig. 4.5

Buddhists and Christians are better as compared to their counter parts of Muslims and Hindus from the point of view of number of children. While 14 out of total 100 Christian respondents registered themselves with any child, 17 Buddhist respondents among total 100 respondents also did not report any child during enumeration.

Table 4.6: Distribution of Respondents by Number of Children

No. of children,	Buddhist		Christian		Hindu		Muslim	
	R	C	R	C	R	C	R	C
Childless (0)	17	0	14	0	11	0	9	0
1	21	21	10	10	51	51	52	52
2	54	108	39	78	57	114	47	94
3	6	18	28	84	51	153	34	102
4	2	8	5	20	24	96	37	148
5	--	--	--	--	3	15	11	55
6	--	--	4	24	2	12	8	48
≥7	--	--	--	--	1	7	2	14
Total	100	155	100	216	200	448	200	513

Source: Calculated by the researcher on the basis of data collected from the field during 2007-2008.

Note: 'R' stands for number of respondents and 'C' stands for number of children.

It is a fact that number of children found during enumeration depends on several factors such as rate of termination of pregnancy, both natural and induced, infant mortality rate, child mortality rate, juvenile mortality as well as adult mortality rate. These factors in turn depend on overall health, socio-economic condition, condition of nutrition and also discrimination against girl child etc.

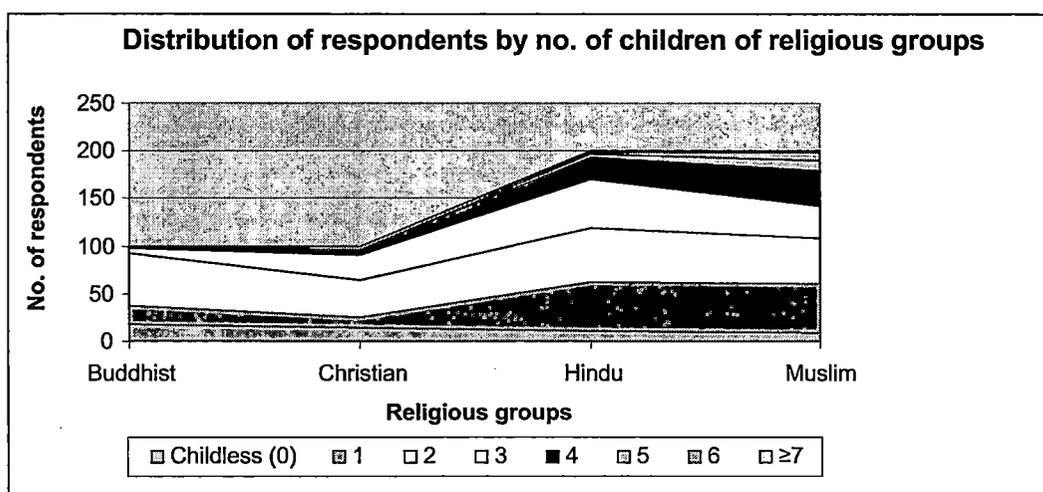


Fig. 4.6

The gap in the number of children during enumeration between religious groups is remarkable. It will be seen in the table-4.6 that as high as 92 percent of the Buddhist respondents are found to be having only two or less than two children, 63 percent of the Christian respondents have two or less than two children. All most equal proportion of Muslims and Hindus are having up to two children. The figure is only 54 percent in case of Muslims and 59.50 percent in case of Hindus.

Only 8 percent of the Buddhist respondents have reported of having three to five children which is 33 percent in case of Christian. The same figure for Hindus is 39 percent and 41 percent for Muslim respondents. In case of

respondents having children six or more than six, their number is relatively less irrespective of religious affiliation. Only five percent of all the Muslims respondents have reported of having children six or more. It is interesting to note that no respondent belonging to Buddhist religious community is found to be having six or more children.

Fertility among Buddhists

It has been mentioned earlier that Buddhist community has got lowest fertility among all four religious communities under consideration. It is evident from the study that the said community holds the lowest position, so far, with a TFR of 2.44. The field study conducted during 2007-08 also indicates that Buddhist community has the least crude birth rates among all the religious groups studied so far in the district of Darjeeling.

Table 4.7: Age Specific Fertility Rates among Buddhists, 2007- 08.

Age group (years) (1)	No. of live births during last one year (2007-08) (2)	No. of females in the specific age group (2007-08) (3)	Age Specific Fertility Rates [(2)÷(3)]×1000 =(4)
15-19	1	17	0.06
20-24	3	18	166.67
25-29	2	23	86.96
30-34	2	15	133.33
35-39	2	28	71.43
40-44	1	33	30.30
≥45	0	12	0.00
All ages /Total	11	146	488.75
TFR = (488.75×5)÷1000 = 2.44			

Source: Calculated by the researcher from the data collected from field work, 2007-2008.

The age specific fertility rates for Buddhists present some of the very interesting features. ASFR for the age group of 45-49 years is found to be nil among Buddhists (table-4.7). At the same time even the age group of 15-19 does have a very meager ASFR which is 0.06 per 1000. Most of the births have been restricted to the mothers in the age group of 20-39 producing an ASFR of 71.43 to 166.67 per 1000.

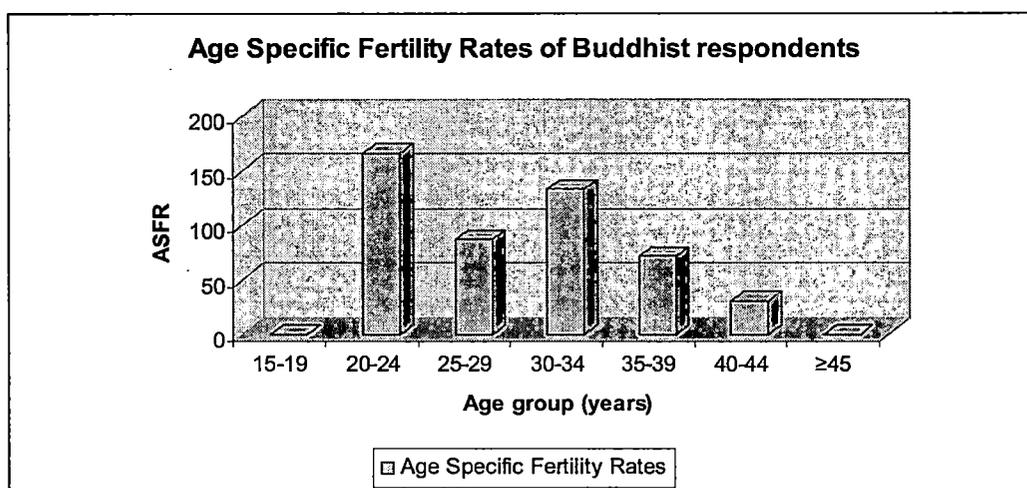


Fig. 4.7

Table 4.8: No. of Times Pregnancy Occurred to Buddhist Respondents

No. of pregnancies	No. of respondents	Percent to total
No pregnancy (0)	15	15.00
1	21	21.00
2	50	50.00
3	10	10.00
4	4	4.00
≥5	--	0.00
Total	100	100.00

Source: Calculated by the researcher on the basis of data collected from the field during 2007-2008.

From the earlier discussion one comes to know that Buddhists have relatively low fertility as compared to other religious groups. In order to proceed further into the understanding of fertility, it is imperative that an analysis of frequency or occurrence of pregnancy is taken into consideration. The respondents have been classified into six groups with no pregnancy, respondents who had pregnancy once, twice, thrice, four times and also five times and more than five times forming a group. When one observes the table-4.8, one can see that 50 percent of the Buddhist respondents had pregnancy twice and rest 50 of the respondents had either more than two or less than that. It is encouraging that as high as 36.00 percent of the respondents of the same community had pregnancy either once or no pregnancy at all. It is encouraging that as high as 36.00 percent of the respondents of the same community had pregnancy either once or no pregnancy at all.

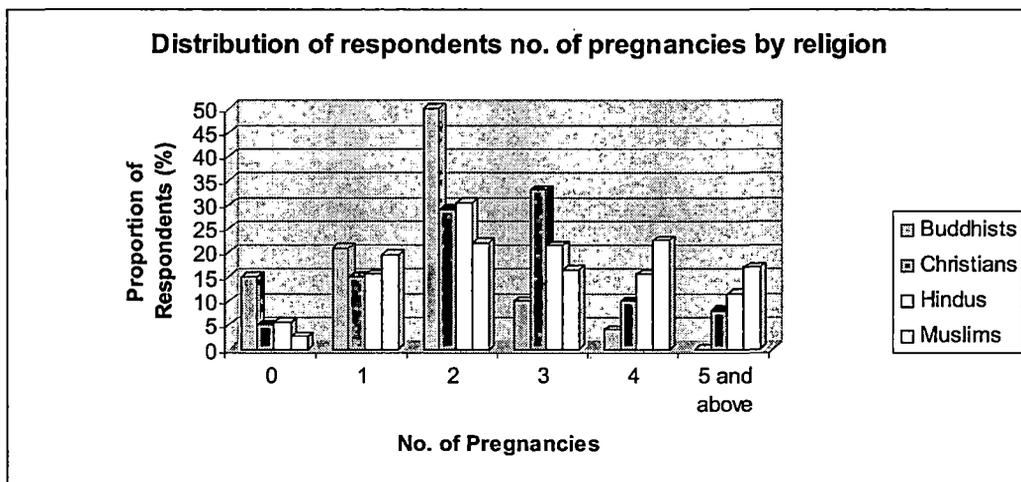


Fig. 4.8

So far as the number of pregnancies by religion is concerned it is found that vast majority of the respondents belonging to Buddhist community have had twice or less than two pregnancies till the date of filed survey. On the other hand over 55.00 percent of the Muslim respondents have recorded

pregnancies twice or more with Christians and Hindus maintaining moderate position.

Table 4.9: Break-up of Buddhist Respondents by Number of Births including Still Births, 2007- 2008

No. of births including still births	No. of respondents	Percent to total
0	17	17.00
1	21	21.00
2	50	50.00
3	10	10.00
4	2	2.00
5	--	0.00
≥6	--	0.00
Total	100	100.00

Source: Calculated by the researcher on the basis of data collected from the field during 2007-2008.

While dealing with number of births to a respondent, the still births were also taken into account. The distribution of Buddhists respondents by number of birth including still births is presented in the table-4.9. It is found from the table that as high as 17 percent of the respondents didn't give birth at all. So far as the number of respondents giving birth to at least once in their fertile period is concerned, it is 21 percent. Again the moderately high i.e. 50 percent of the respondents have witnessed two births till enumeration.

The number of children during enumeration is not a very effective measure depicting fertility of a community. As a matter of fact there is large scale attrition due to several reasons such as termination of pregnancy both natural and man induced or medically supervised termination of pregnancy. Even after successful live births there is attrition due to infant mortality, child mortality and finally adult mortality. All of the above reflects overall socio-economic, health and educational consciousness of the people.

Table 4.10: Break up of Buddhist respondents by number of children during enumeration

No. of children	No. of respondents	Percent to total
0	17	17.00
1	21	21.00
2	54	54.00
3	6	6.00
4	2	2.00
5	--	--
≥6	--	--
Total	100	100.00

Source: Calculated by the researcher on the basis of data collected from the field during 2007-2008.

The distribution of respondents by number of children (during enumeration) exhibits that as high as 17 percent of the respondents have no child at all. At the same time 21 percent of the respondents had only one child till the day of enumeration. It is quite interesting to note that as high 54

percent of the respondents have reported to have only 2 children during enumeration. There are only 8 respondents who have reported having 3-4 children.

Fertility among Christians

It has been observed earlier that fertility among Christians in the district is higher than that of Buddhist. The TFR of 4.98 calculated for the year with the help of data collected from the field work is considered to be quite high by any standard. The TFR of nearly 5 for the community is far above the over all TFR i.e. 3.58 for all the religious groups under consideration.

Table 4.11: Age Specific Fertility Rates among Christians, 2007-08.

Age group (years)	No. of live births during last one year (2007-08)	No. of female in the age group (2007-08)	Age Specific Fertility Rates
(1)	(2)	(3)	[(2)÷(3)]×1000=(4)
15-19	3	31	96.77
20-24	5	32	156.25
25-29	8	38	210.53
30-34	3	24	125.00
35-39	2	21	95.24
40-44	1	22	45.45
≥45	1	4	250.00
All ages /Total	23	172	979.25
TFR = (979.25÷5) = 4.89			

Source: Calculated by the researcher from the data collected from field work, 2007-2008.

It is important to note that highest ASFR is found in the age group of 45 years and above at the rate of 250.00 and lowest in the age group of 40-45

years i.e. 45.45 (table 4.11). Since the number of females in the age group of 45 years and above is low (4) hence a lone child has resulted a very high ASFR. It is also found that the largest number of children is produced by the females in the age group of 20-29 years thereby tending towards a very high ASFR (table 4.11).

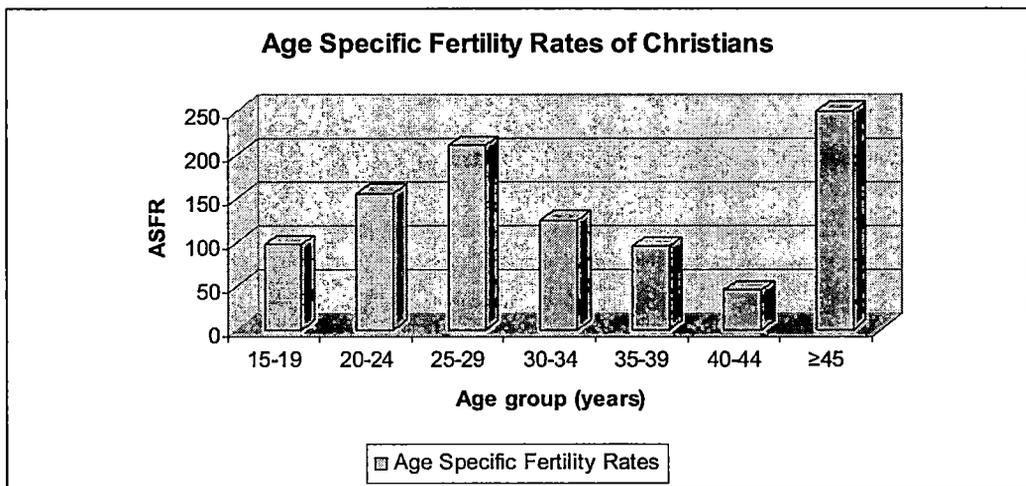


Fig. 4.9

The close observation of the table-4.12 that shows distribution of Christian respondents reveal that as high 59.00 percent of the respondents have recorded pregnancies twice or less than two times till the day of enumeration. Rest of the respondents i.e. 41.00 percent has recorded pregnancies either thrice or more. On the other hand, as much as 8.00 percent of the Christian respondents witnessed pregnancy five times or more.

Table 4.12: No. of Times Pregnancy Occurred to Christian Respondents

No. of pregnancies	No. of respondents	Percent to total
No pregnancy (0)	05	5.00
1	15	15.00
2	29	29.00
3	33	33.00
4	10	10.00
≥5	08	8.00
Total	100	100.00

Source: Calculated by the researcher on the basis of data collected from the field during 2007-2008.

Table-4.13 depicts the number of births including still births recorded by the Christian respondent. The table shows that most of them (54.00 percent) have given birth once to thrice. There are only nine percent respondents having recorded four and more than four births, of course, including still births. It is important to note that a considerable proportion of respondents recorded no births till the day of enumeration. However, the termination of pregnancy, both naturally and medically administered, can not be ruled out. These incidents occur often that might have affected the extent of birth considerably.

Table 4.13: Break-up of Christian Respondents by Number of Births, including Still Births

No. of births including still births	No. of respondents	Percent to total
0	10	10.00
1	12	12.00
2	39	39.00
3	30	30.00
4	3	3.00
5	2	2.00
≥6	4	4.00
Total	100	100.00

Source: Calculated by the researcher on the basis of data collected from the field during 2007-2008.

Number of children during the time of enumeration is further improvement to pregnancy and births. The attrition due to infant mortality, child mortality and juvenile as well as adult mortality have certainly reduced the number of children with a mother (respondent). Table 4.14 presents the distribution of respondents by number of children at the time of enumeration. It is interesting to note that 14 percent of the respondents do not have any child. Correspondingly we have 10 percent of the respondents having no birth that means 4 percent of the respondents have given birth to child but unfortunately they are not surviving till the day of survey.

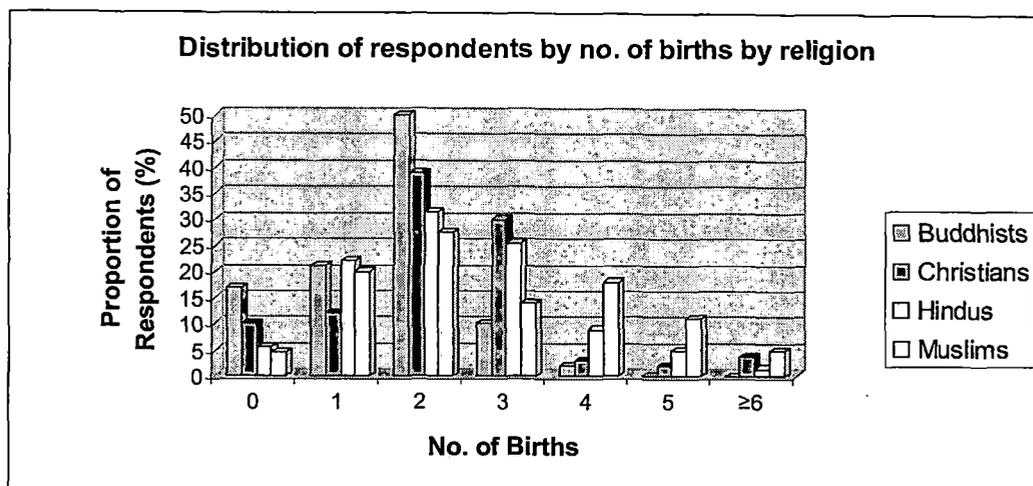


Fig. 4.10

Table 4.14: Break-up of Christian Respondents by Number of Children during Enumeration

No. of children	No. of respondents	Percent to total
0	14	14.00
1	10	10.00
2	39	39.00
3	28	28.00
4	5	5.00
5	--	0.00
≥6	4	4.00
Total	100	100.00

Source: Calculated by the researcher on the basis of data collected from the field during 2007-2008.

Now the respondents who are presently having children, nearly half (49 percent) of them are having either one child or two children. Of the total, 33

percent of the respondents are having 3-4 children and rest 9 percent of the them are having 5 or more children with them.

Fertility among Hindus

Extent of fertility that is found from the study among the Hindu respondents is moderately high. The TFR of 2.98 is higher than that of the Buddhists (2.44) but lower than that of the Christians (4.98), and the Muslims (3.99) (table-4.2). At the same time CBR among Hindu (33.26) is again higher than Buddhist (26.25) and lower than Christian (47.72) and Muslim (51.02).

Coming to the ASFR, the prevailing rates among the Hindus has been depicted in the table-4.15. It reveals that the ASFR among the respondents in the same category in the age group of 20-24 years and 25-29 years is quite high which is 271.19 and 125.00 respectively. Age group of 15-19 has a considerably low ASFR of 23.81. In the relatively upper age group of 30-34 years onwards, there is a trend of having low ASFR ranging from 45.45 to 76.92.

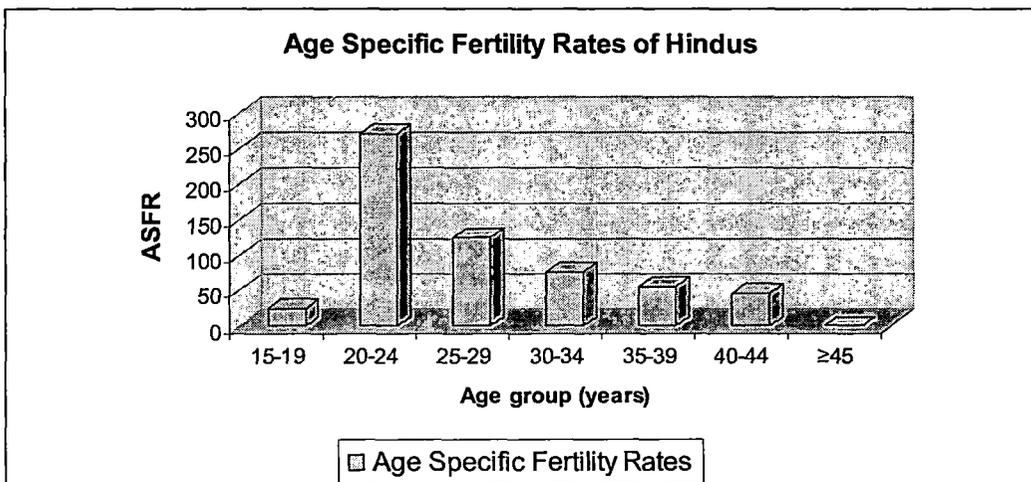


Fig. 4.11

Table 4.15: Age Specific Fertility Rates among Hindus, 2007- 08.

Age group (years)	No. of live births during last one year (2007-08)	No. of female in the age group (2007- 08)	Age Specific Fertility Rates
(1)	(2)	(3)	$[(2) \div (3)] \times 1000 = (4)$
15-19	2	84	23.81
20-24	16	59	271.19
25-29	6	48	125.00
30-34	3	39	76.92
35-39	2	36	55.56
40-44	1	22	45.45
≥45	0	13	0.00
All ages /Total	30	301	597.93
TFR = $(597.93 \times 5) \div 1000 = 2.98$			

Source: Calculated by the researcher from the data collected from field work, 2007-2008.

Distribution of respondents belonging to Hindu community by number of pregnancies occurred is depicted in the table 4.16 which reveals that a meager 5.50 percent of them did not have any conception till the day of enumeration. Nearly half (46 percent) of them had pregnancy between once to twice. The other half (48.50 percent) had pregnancy thrice or more than three times. Though mere occurrence of pregnancy may not effect population growth but certainly it reflects fertility condition in a group of population. When

we compare these figures, say proportion of respondents who did not report any pregnancy we find that Hindu respondents are in a better condition as compared to their counter parts among Muslims and worse than that of Buddhists and Christians.

Table 4.16: No. of Times Pregnancy Occurred to Hindu Respondents

No. of pregnancies	No. of respondents	Percent to total
No pregnancy (0)	11	5.50
1	31	15.50
2	61	30.50
3	43	21.50
4	31	15.50
≥5	23	11.50
Total	200	100.00

Source: Calculated by the researcher on the basis of data collected from the field during 2007-2008.

The following table-4.17 depicts the distribution of Hindu respondents by the number of births including still births occurred to them till the day of enumeration. The same table reveals that nearly ¼ of the respondents (27.50 percent) reported having given birth to one or no child. As high as 57 percent of the respondents have given birth to 2-3 children and the rest, which is nearly 1/6 i.e. 15.50 percent of the respondents have given birth to 4 or more than 4 children, including still births. This extent of birth certainly affects the population growth of the area as well as the community. But due to the

attrition owing to infant mortality, child mortality, juvenile and adult mortality resulted by poor health and hygiene, food and nutrition etc. result in large extent attrition in the population.

Table 4.17: Break-up of Hindu Respondents by Number of Births including Still Births

No. of births including still births	No. of respondents	Percent to total
0	11	5.50
1	44	22.00
2	63	31.50
3	51	25.50
4	18	9.00
5	10	5.00
≥6	3	1.50
Total	200	100.00

Source: Calculated by the researcher on the basis of data collected from the field during 2007-2008.

As it has been found in the case of birth, only 5.50 percent of the respondents (table-4.17) belonging to the Hindu community did not have record any birth, similarly equal proportion of the respondents reported that they do not have any child (table-4.18) at the time of enumeration. This does not mean that same group of females with no report of having children did not have given birth to any child. The case may be such that birth of a child has taken place but due to some illness etc. the child has expired and hence not

enumerated during the survey. The relevant table shows that ¼ of the respondents (25.5 percent) of the Hindus have one child and at the same time 91.50 percent of them reported having children two to four which is higher compared to all the religious groups under consideration including Muslims (65.00 percent). As a result, a meager three percent of the respondents had children 5 or more than 5. The reason of such large number of children will be explored in the next chapter where fertility will be related to socio-economic and educational factors.

Table 4.18: Break-up of Hindu Respondents by Number of Children during Enumeration

No. of children	No. of respondents	Percent to total
0	11	5.50
1	51	25.50
2	57	28.50
3	51	25.50
4	24	12.00
5	3	1.50
≥6	3	1.50
Total	200	100.00

Source: Calculated by the researcher on the basis of data collected from the field during 2007-2008.

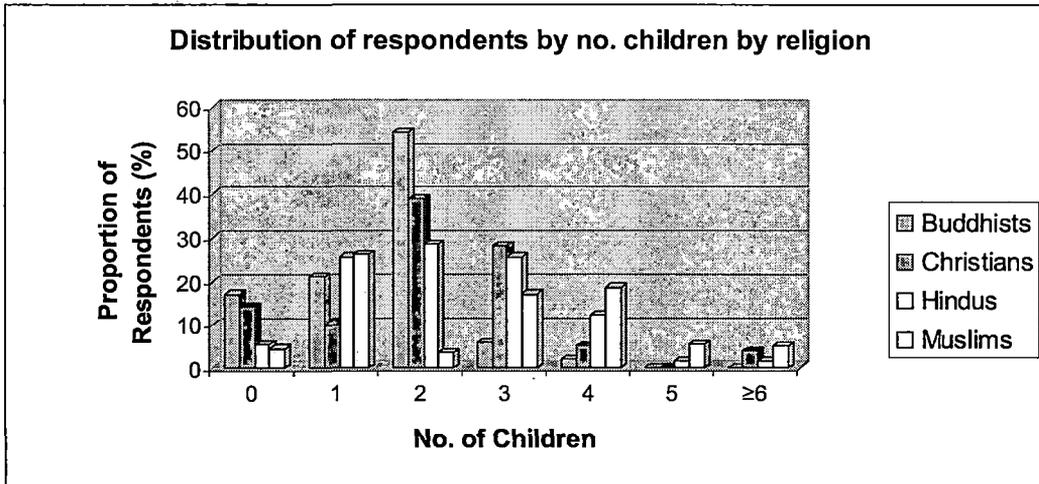


Fig. 4.12

Fertility among Muslims

It is popularly believed in the Indian society that Muslims do have higher fertility as compared to other religious groups. This belief is generally not supported by either logic nor does any body try to analyse the reason of such religious differentials. This study makes an effort in the next chapter to explain why this difference in fertility lies across the religious groups.

It is evident from the study that TFR among Muslims is second highest i.e. 3.99 and CBR (51.02) is the highest among all the religious groups. Among the Muslim respondents, the highest ASFR is found to be in the age group of 20-24 years which is again highest among all the religious groups. In the age group of 25-29 years and 30-34 years, the ASFR is found to be moderately high with figures crossing the mark of 100. The females in the upper age group i.e. 40-44 years and ≥ 45 years have relatively low fertility (ASFR) of 32.26 and 50.00 respectively.

Table 4.19: Age Specific Fertility Rates among Muslims, 2007- 08.

Age group (years)	No. of live births during last one year (2007-08)	No. of female in the age group (2007-08)	Age Specific Fertility Rates [(2)÷(3)]×1000=(4)
(1)	(2)	(3)	(4)
15-19	5	89	56.18
20-24	28	86	325.58
25-29	8	65	123.08
30-34	5	39	128.21
35-39	2	24	83.33
40-44	1	31	32.26
≥45	1	20	50.00
All ages/Total	50	354	798.63
TFR = (798.63×5)÷1000 = 3.99			

Source: Calculated by the researcher from the data collected from field work, 2007-2008.

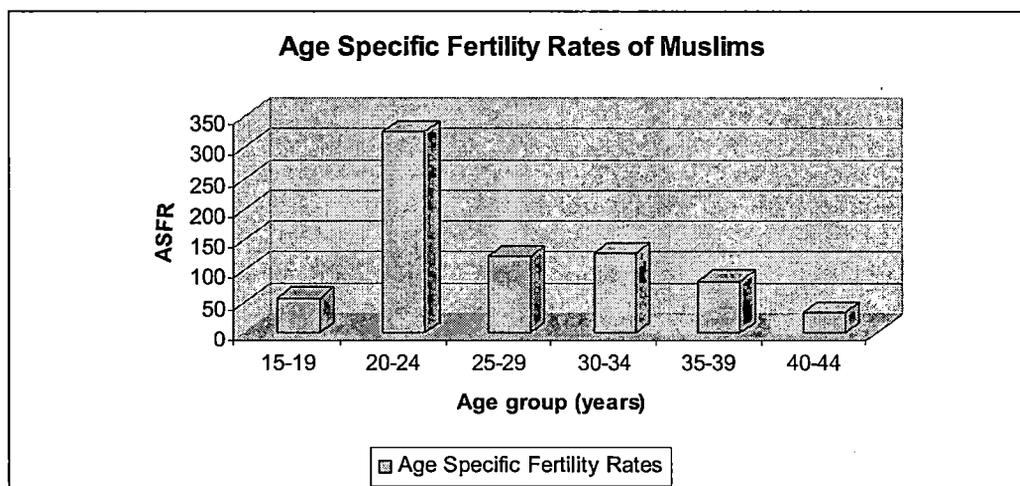


Fig. 4.13

The distribution of Muslim respondents by number of pregnancy is presented in the table-4.20. The table shows that only 2.50 percent of the respondents had no pregnancy at the time of enumeration where as 58 percent of the respondents have pregnancy ranging from one to three. Proportion of respondents in the category of 4 and ≥ 5 pregnancies are well distributed with 22.50 percent and 17.00 percent of them belonging to those categories. Apart from the category of respondents having no pregnancy, respondents in all other groups are well distributed.

Table 4.20: No. of times pregnancy occurred to Muslim respondents

No. of pregnancies	No. of respondents	Percent to total
No pregnancy (0)	5	2.50
1	39	19.50
2	44	22.00
3	33	16.50
4	45	22.50
≥ 5	34	17.00
Total	200	100.00

Source: Calculated by the researcher on the basis of data collected from the field during 2007-2008.

Number of births including still births to the Muslim respondents is depicted in the table-4.21. It reveals that only 4.50 percent of the respondents did not have recorded of giving birth to any baby, dead or alive. At the same time as high as 47.50 percent of the respondents have reported to have given

birth to 1-2 babies (both live and still). A considerably high percentage of respondents (32.00 percent) have given birth to three to four babies, 11.00 percent respondents to five babies and rest only 5.00 percent of the Muslim respondents have given birth to 6 or more than six babies.

Table 4.21: Break-up of Muslim Respondents by Number of Births including Still Births

No. of births including still births	No. of respondents	Percent to total
0	9	4.50
1	40	20.00
2	55	27.50
3	28	14.00
4	36	18.00
5	22	11.00
≥6	10	5.00
Total	200	100.00

Source: Calculated by the researcher on the basis of data collected from the field during 2007-2008.

It is interesting to note that among the Muslim respondents over 4 percent (4.50 percent) have recorded having no children at the time of enumeration. It is not necessarily true because that these ladies have not given birth to any child but what has happened in a number of cases that the child has died due some serious health problems, malnutrition and negligence.

It can be further observed that around 1/4th of the respondents among the Muslims have only one child. Of the ladies having multiple children, 10 percent of them are having 5 or more than 5 children at the time of enumeration. Rest of the respondents is having children between two to four. Though the Muslims are having quite high fertility rates still number of children is not that high because the babies after taking birth have disappeared due to death at infant, child or juvenile stage.

Table 4.22: Break-up of Muslim Respondents by Number of Children during Enumeration

No. of children	No. of respondents	Percent to total
0	9	4.50
1	52	26.00
2	47	3.50
3	34	17.00
4	37	18.50
5	11	5.50
≥6	10	5.00
Total	200	100.00

Source: Calculated by the researcher on the basis of data collected from the field during 2007-2008.

When one examines the table relevant to pregnancy, births and children during enumeration, one finds that it is the Buddhists who have got

no respondents having recorded these attributes five or more than five. Christians have recorded having these attributes more than five but it is only mere four to five percent of the total respondents belonging to this religious group. Hindus recorded a very interesting picture where as high as 23 of the respondents out of 200 recorded pregnancy five times or even more than five times, but when it comes to giving birth to babies it is only 13 of the respondents. It is a very clear indication that the rest 10 respondents either aborted their fetus or automatic termination of pregnancy has taken place. It is further to note that when it comes to number of children at the time of enumeration, it is only 6 respondents who have recorded having those many children – an indication of severe attrition due to infant mortality and also child mortality.

Chapter – V

FERTILITY AND SOCIO-ECONOMIC DETERMINANTS – AN ANALYSIS

Introduction

Several studies have been conducted in various countries by scholars to find out the relationship of fertility with socio-economic factors. Among the important works in this direction, McClamroch's (1996) work on "Total Fertility Rates, Women's Education, and Women's Work: What are the Relationships?" is significant in this context. The author has selected the following determinants to explain fertility:

- a) Average number of years of education for women,
- b) Percentage contraceptive uses,
- c) Percentage of females in labour force,
- d) Per capita Gross National Product,
- e) Percentage of females in 15-19 married,
- f) Female life expectancy at birth, and
- g) Percentage of calories available.

The above study shows that apart from percentage of married female in the age group of 15-19 years, which is positively related, all other variables are negatively related to Total Fertility Rates (TFR). "It has shown that the percentage of married couples using contraceptives and the percentage of

women in the labour force are the most critical variables related to TFR, according to the model studies,” (McClamroch’s, 1996, p. 185).

Krishnaji and James (2005) while trying to understand the religious differentials in fertility point out that understanding of mortality would clear the obscurity to a certain extent. “The only acknowledgement of the role of mortality is in the observation that the Muslims were apparently less affected by Influenza between 1911 and 1921. (One explanation for this could be that the areas of Muslim concentration – such as Bengal and the Punjab – were less affected by the epidemic than other parts of the country, this needs further study and analysis)” (Krishnaji and James, 2005, p.455). They further added while explaining fertility differentials “why was that so? We do not yet have an adequate understanding of the difference in ‘natural’ fertility. But plausible explanations that have been offered include the role of cultural practices like women spending long periods at the homes of parents, spells of sexual abstinence which vary from community to community, difference in nutrition intake, breast feeding norms etc.” (Krishnaji and James, 2005, p. 456).

Researchers have found many more socio-economic factors responsible for differentials of fertility. Rajan (2004) finds that infant mortality and child mortality rates are lesser among Muslims as compared to Hindus. This finding holds good in many studies through 1991 census to NFHS-I and NFHS-II conducted by IIPS, Mumbai.

Age at marriage is found to be having a strong bearing on fertility. Premi (2005) observes “Data on mean age at marriage of currently married males and females by religion and rural urban residence at the all India level show that the same is highest among Christians, followed by Jains among males and Sikhs among females. Age at marriage among Muslims is only slightly higher in total and rural populations compared to Hindus but lower in urban areas where Muslims form a majority,” (Premi, 2005, p. 210).

Basu (1997) points out in her study that in contrast to the popular belief that fertility is related to income, it may not be necessarily true. “As regards to the truth of the poverty-fertility relationship, there is once again no clear answer. While the usual macro-understanding of the situation is that the poor breed fastest, this is not at all empirically well established. The confusion is especially great when it is ‘wanted fertility’ that is referred to – excess or ‘unwanted’ fertility may be higher among the poor because of the great costs to them of fertility control. Several contemporary data sets suggest that the relationship between income (or one of its several proxies) and fertility is often an inverted-U, with the left half of the curve being much shorter than the right. While part of this may be voluntary it need not always be so” (Basu, 1997, pp. 14-15).

Mehta (2005) analysed education, age at marriage and work participation ratio to examine the influence of these determinants. The author concludes “... that fertility in Muslims displays a consistent pattern of decline with socio-

economic development, in general and educational development in particular. Thus the population growth difference between Hindus and Muslims will ultimately narrow down. A more realistic assumption would, therefore, be to assume that population of both Hindus and Muslim decline at an accelerated pace so as to approach a stationary state by the mid-21st century” (Mehta, 2005, p. 160).

McQuillan (2004) observes that religion among socio-cultural aspects may influence fertility when the following conditions are fulfilled.

- a) The religion in question must articulate behavioral norms that have linkages to fertility out-come.
- b) A religious group must possess the means to communicate its teaching to its members and to enforce compliance.
- c) Religious groups more likely influence the demographic choices of their followers when members feel strong sense of attachment to the religious community.

“When these three attributes are present, it is likely that religion will influence demographic behaviour. Nevertheless, the consequences of the religious influence are not uniform” (McQuillan, 2004, p. 50).

Shariff (1995) examines demographic differentials between Hindus and Muslims taking sectoral structure of occupation, occupation and work

participation ratio, ownership of land, relative levels of living, and relative levels of education. The author observes “On the whole the Muslims are socio-economically worse off in all parts of the country. The levels of fertility as measured by General Marital Fertility Rates (GMFR) and Total Marital Fertility Rates (TMFR) are higher for Muslims in both rural and urban areas. But the child mortality among both urban and rural Muslims is comparatively low. A combination of a positive growth of population and child mortality seems to have enabled a marginally higher growth of Muslim population in India,” (Shariff, 1995, pp. 2952-2953).

With a view to observe the relationship of socio-economic factors controlling fertility, two types of determinants: a) quantifiable variables and b) non-quantifiable variables or qualitative variables are usually taken into consideration.

Quantifiable Variables

1. Age at marriage of the respondent,
2. Duration of breast feeding,
3. Number of years of schooling of the respondent,
4. Number of years of schooling of husband of the respondent,
5. Number of years of schooling of mother of the respondent,
6. Number of years of schooling of father of the respondent,
7. Occupation of the respondent,

8. Occupation of husband of the respondent,
9. Family's average monthly income,
10. Family's average monthly savings, and
11. Percentage of respondents using modern contraceptives.

Non-quantifiable Variables

1. Religious faith and adherence,
2. Women's status,
3. Women's empowerment,
4. Attitude towards girl child,
5. Attitude towards education of girl child,
6. Engagement of girl child as domestic help,
7. Prevalence and frequency of domestic violence against women, and
8. Prevalence of dowry.

Since it has been assumed that the socio-economic condition in general and education and income of the respondents in particular will have a great bearing on the fertility behaviour of the respondents, and hence the above aspects will be discussed in detail. Table 5.1 presents the condition of educational attainment of the respondents as well as their parents and also their husbands. It will be seen from the table-5.1 monthly per capita income, expenditure and savings. The same will help us to understand the influence of these determinants on the fertility pattern of the respondents. Occupation is another important aspect that

requires special attention. Proportion of husbands of the respondents engaged in service sector has been calculated and presented in the table number 5.1 with an expectation that the higher ratio will indicate lower fertility

Table 5.1: Educational and Economic Status by Religion, 2007-2008

Religion	No. of years of schooling				Proportion (percent) in service [#]	Monthly Finance (Per Capita)		
	Self	Father	Mother	Husband		Income (Rs.)	Expenditure (Rs.)	Savings (Rs.)
Buddhists	9.73	5.99	3.86	10.82	68.00	3077	1703	1374
Christians	5.28	3.74	0.72	7.12	34.00	1200	614	586
Hindus	5.84	5.12	2.21	7.31	18.50	1416	903	513
Muslims	4.56	4.59	1.73	6.24	11.00	1413	931	482
Average	6.35	4.86	2.13	7.87	32.88	1777	1038	739

Source: Calculated by the researcher from the data collected from field work, 2007-2008.

Data are relevant to the husbands of the respondents

The respondents belonging to Muslim community exhibit the poorest condition in education. Be it the educational attainment of the respondent or their parents or even husband, record shows that the condition is poorer than the average condition prevailing among all the religious groups. The employment scenario is very poor among the Muslims. The survey result reveals that only 11.00 percent of the respondents responded that their husbands are in any kind of service which is only one third of the average condition. Income, expenditure

and savings records also portray a dismal picture of Muslim respondents. Their condition is found to be below average which is one of the worst conditions prevailing in the region.

Fertility and Education

Education has been considered as one of the most important determinants of fertility. It is not only the educational attainment of the respondents but also the educational attainment of the husbands and the parents has also been considered. It has been presumed that the higher educational attainment will have a negative impact on fertility that will be examined in the later sections in the present chapter itself.

While collecting data on educational attainment, information has been on the 'number of years spent in school' and the 'class up to which the respondent, her husband and her parents have studied'. For the purpose of this exercise, 'number of years spent in school' has been taken in to account to analyse fertility rate.

Among the respondents, it has been found that they have spent 5 years 11 months and 18 days in school on an average. About one fourth (26.00 percent) of the respondents i.e. 156 out of 600 were illiterate. 53.17 percent of the respondents had education between 5th standard to 10th standard. Only 61 respondents out of 600 i.e. 10.17 percent of total respondents have continued

even after 10th standard. A large number of the respondents wanted to continue their education but for the following causes forbid them to continue.

Causes of discontinuance of study have been found as follows:

- i) Distance of School causing inconvenience (2.67 percent),
- ii) Financial constraints creating hurdles(9.33 percent),
- iii) Marriage & disinterest on the part of in-laws (social pressure) (34.67 percent),
- iv) Death & illness of mother (domestic pressure to run the family) (4.00 percent),
- v) Domestic help (to supplement the elders effort) (7.17 percent),
- vi) Not interested in study (not having joyful learning) (8.83 percent),
- vii) Unsuccessful in the last examination (detention and discourage) (2.83 percent),
- viii) Health problem (ill-health acted as deterrent) (1.67 percent), and
- ix) None of the above is applicable (never attended school) (28.83 percent).

Table 5.2 presents fertility, both TFR and CBR, and average number of years spent in school. It will be seen from the table that the educational scenario is very poor. Among all the respondents only Buddhists have completed nearly 10 years of education. All other respondents belonging of different religious groups have completed only about five and half years of education. As a matter

of fact the lowest fertility is observed among the Buddhists. It is not only the educational achievement of the respondents which is relatively higher in case of Buddhists but also the education of husbands as well as education of thier parents too.

Table 5.2: Fertility and Schooling by Religion

Religious groups	Fertility Rates		No. of years of schooling [@]			
	TFR	CBR	Respondent's	Husband's	Father's	Mother's
Buddhist	2.44	26.25	9.73	10.82	5.99	3.86
Christian	4.89	47.72	5.28	7.12	3.74	0.72
Hindu	2.98	33.26	5.84	7.31	5.12	2.21
Muslim	3.99	51.02	5.56	6.24	4.59	1.73
Average/ Over all	3.57	39.56	6.35	7.87	4.86	2.13

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

@ No. of years of schooling including the years for which the students were detained in the same class for consecutive two or more than two years.

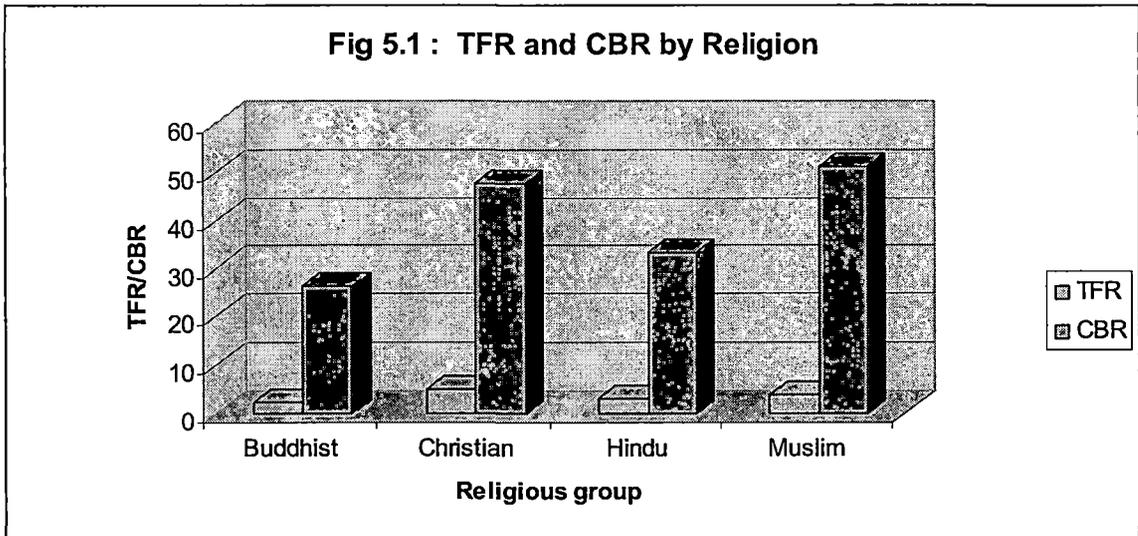


Fig. 5.1

It will be worthy to explain terms such as illiterate, literate, primary educated, secondary level, senior secondary level and higher education. For the purpose of the present study 'illiterates' are those respondents who can not fulfill the criteria laid down by the Census of India for the purpose. All those respondents having formal education between 1st and 2nd standard are considered as literates. Respondents having no formal education but can fulfill the criteria laid down by the census of India i.e. "A person who can read and write with understanding in any language with age over six years is a literate" have also been included in the literate category. Similarly, all respondents who had 3-4 years schooling have been categorized in the 'primary' group. 'Secondary' group included all those respondents having schooling 5th to 10th class. Respondents with number of years in formal education 11-12 years have been grouped in the 'Senior Secondary' group. Similarly, respondents who have continued their education after passing 12th (+2) up to any higher educational attainment have been classified in the group 'Higher Education'.

Fig 5.2 : Schooling by religion

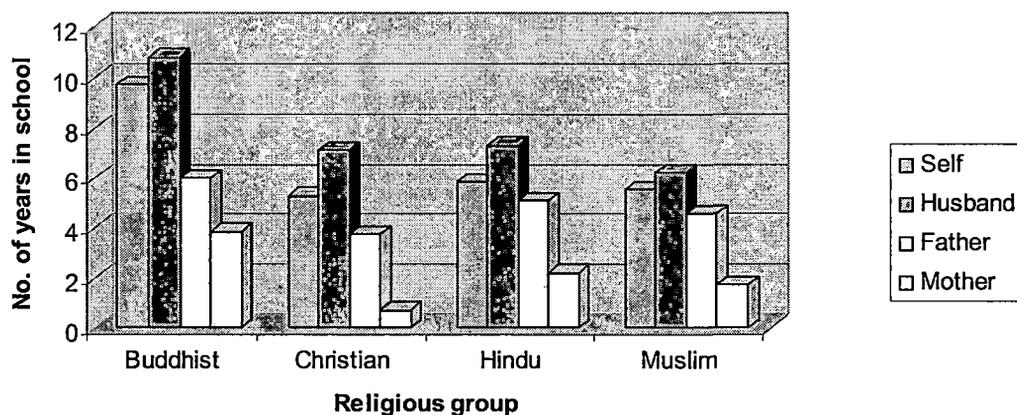


Fig. 5.2

Table 5.3: Distribution of Respondents by Educational Attainment

Educational attainment (class studied)	Number of respondents	Percentage to total
Illiterate (0)	156	26.00
Literate (1-2)	25	4.17
Primary (3-4)	39	6.50
Secondary (5-10)	319	53.17
Senior Secondary (11-12)	29	4.83
Higher Education (≥ 13)	32	5.33
All categories	600	100.00

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

Fig 5.3: Distribution of Respondents by Level of Schooling

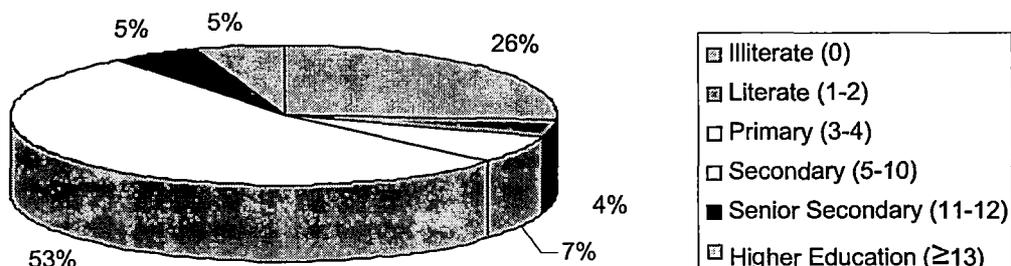


Fig. 5.3

So far as the educational attainment of the respondents is concerned, it is found from the data collected from the field survey that as high as approximately 1/4th (26.00 percent) of the total respondents are illiterate. Approximately, 11 percent of the respondents are either literate or educated up to primary level. It is quite encouraging to note that as high as 53.17 percent of the respondents are found to be having secondary level education. A meager 10 percent of the respondents have achieved higher education as evident from the data.

Table 5.4: Distribution of Respondents by Number of Births to Them by Educational Attainment

Educational attainment (class studied)	Number of births including still births						Total	Percent
	0	1	2	3	4	≥5		
Illiterate (0)	2	9	40	52	26	27	156	26.00
Literate (1-2)	2	3	2	7	9	2	25	4.17
Primary (3-4)	7	4	5	12	9	2	39	6.50
Secondary (5-10)	19	80	140	46	15	19	319	53.17
Senior Secondary (11-12)	10	10	7	2	--	--	29	4.83
Higher Education (≥13)	6	13	13	--	--	--	32	5.33
All (percent)	46 (7.67%)	119 (19.83%)	207 (34.50%)	119 (19.83%)	59 (9.83%)	50 (8.34%)	600 (100.00%)	100.00

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

While examining the relationship of education to fertility, as revealed by the table-5.4, it is found that there exists a negative relationship between the variables. This phenomenon can be observed from the table-5.4 where the distribution of the respondents with number of births by educational attainment has been presented. The table reveals that as high as 92.95 percent of the illiterate respondents have given births twice or more. As the level of educational attainment moves up, one finds that it reaches to a situation where as low as 40.63 percent respondents with higher educational back ground (≥ 13 years) have given birth to two or more than two children.

An effort has been made here to examine the relationship of education with fertility across religions to ascertain whether the relationship is uniform or it differs across the religious groups. Tables 5.5-5.8 present the distribution of respondents, with their educational background, by number of times they have given births to babies. It is obvious from the tables that the relationship is not uniform. While only 22.86 percent of the illiterate Christian respondents have given birth to four or more than four babies, the same is 25.00 percent for the Buddhists, 30.77 percent for the Hindus and 44.26 percent for the Muslims.

Table 5.5: Distribution of Respondents by Number of Births to Them by Educational Attainment (Buddhists)

Educational attainment (class studied)	Number of births including still births						Total	Percent to total
	0	1	2	3	4	≥5		
Illiterate (0)	--	--	4	2	2	--	8	8.00
Literate (1-2)	--	--	--	--	--	--	0	0.00
Primary (3-4)	--	--	2	--	--	--	2	2.00
Secondary (5-10)	9	8	32	6	--	--	55	55.00
Senior Secondary (11-12)	2	6	7	2	--	--	17	17.00
Higher Education (≥13)	6	7	5	--	--	--	18	18.00
All	17	21	50	10	2	--	100	100.00

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

Table 5.6: Distribution of respondents by Number of Births to Them by Educational Attainment (Christians)

Educational attainment (class studied)	Number of births including still births						Total	Percent to total
	0	1	2	3	4	≥5		
Illiterate (0)	--	2	12	13	2	6	35	35.00
Literate (1-2)	2	--	--	--	--	--	2	2.00
Primary (3-4)	--	1	--	2	--	--	3	3.00
Secondary (5-10)	4	9	27	15	1	--	56	56.00
Senior Secondary (11-12)	4	--	--	--	--	--	4	4.00
Higher Education (≥13)	--	--	--	--	--	--	0	0.00
All	10	12	39	30	3	6	100	100.00

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

In order to ascertain further the extent of association of fertility to educational attainment, statistical tools have been employed. The correlation analysis (Karl Pearson's) shows that negative correlation exists between the variables and it are true in case of all the religious groups. However, the degree of correlation differs to a great extent as far as the different religious groups are concerned. As for example, the correlation coefficient between education and number of pregnancies to respondents is the highest (i.e. -0.4972) in case of the Buddhists and the lowest i.e. -0.3153 in case of the Muslims (tables: 5.37-5.41). When we take the case of number of births and education it is found that the highest coefficient (i.e. -0.0474) is found among the Hindus and lowest (i.e. -0.331) among the Muslims.

It is true that it is not only the educational attainment of the respondents that is important but also the educational back ground of the Husband with whom the fate of the respondent is firmly tied up. Apparently husband is the most influencing person in the life of a prospecting mother. Her decisions are immensely influenced by the views of their husbands. Moreover, in Indian society, particularly rural areas of Darjeeling district, it is almost unimaginable that the wife is free to take vital decisions such as child bearing. Thus husbands' educational back ground has also been taken into consideration. It has been found during the field survey that only the Buddhist husbands have schooling over 10 years and for all other communities it is between 6-7 years.

Table 5.7: Distribution of Respondents by Number of Births to Them by Educational Attainment (Hindus)

Educational attainment (class studied)	Number of births including still births						Total	Percent
	0	1	2	3	4	≥5		
Illiterate (0)	2	2	6	26	7	9	52	26.00
Literate (1-2)	--	1	--	5	3	--	9	4.50
Primary (3-4)	5	1	3	6	3	--	18	9.00
Secondary (5-10)	2	36	46	14	5	3	106	53.00
Senior Secondary (11-12)	1	2	--	--	--	--	3	1.50
Higher Education (≥13)	--	4	8	--	--	--	12	6.00
All (percent)	10 (5.00%)	46 (23.00%)	63 (31.50%)	51 (25.50%)	18 (9.00%)	12 (6.00%)	200 (100.00%)	100.00

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

The influence of husband's educational background has been ascertained by correlating the same with the number of births. The coefficients of correlation were calculated and presented in the tables (tables: 5.37-5.41). The tabulated results show that husband's educational attainment is negatively correlated with fertility in all the religious groups. However, the relationship is found to be relatively stronger in case of Christians with coefficient being -0.2047. Buddhists show a weak negative correlation (-0.1349) between the variables (fertility and husband's educational attainment). Among the Hindus the correlation coefficient is calculated to be -0.184. As far as Muslims are concerned, the correlation coefficient is calculated to be -0.168.

Nobody can deny the fact that parents are one of the most influential individuals in the life of the daughters. Particularly prospecting mothers are emotionally attached to the parents. Mother is the 'friend, philosopher and guide' to an aspirant mother. Psychologically parents are of greatest help to the prospecting mothers in the moment of complexity relating to child bearing and rearing and therefore, the child bearing decision is also greatly influenced by the parents. The parents' educational backgrounds mould the view of their daughter to a large extent. It is in this context that the analysis of educational back ground of the parents of the respondents is of great importance.

Table 5.8: Distribution of Respondents by Number of Births to Them by Educational Attainment (Muslims)

Educational attainment (class studied)	Number of births including still births						Total	Percent
	0	1	2	3	4	≥5		
Illiterate (0)	--	5	18	11	15	12	61	30.50
Literate (1-2)	--	2	2	2	6	2	14	7.00
Primary (3-4)	2	2	--	4	6	2	16	8.00
Secondary (5-10)	4	27	35	11	9	16	102	51.00
Senior Secondary (11-12)	3	2	--	--	--	--	5	2.50
Higher Education (≥13)	--	2	--	--	--	--	2	1.00
All (percent)	9 (4.50%)	40 (20.00%)	55 (27.50%)	28 (14.00%)	36 (18.00%)	32 (16.00%)	200 (100.00%)	100.00

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

From the survey data it is found that the level of educational attainment of the parents is poor. When the average number of years of schooling of all the fathers is only 4.86 years, the same is poorer in case of mothers which is only 2.13 years. On an average, the Buddhist fathers are relatively better of with an average schooling (6 years) which is the highest among all the religious groups. The average number of years of schooling is 3.74 years in case of the Christians which is the lowest. From the table-5.2, it is clear that the Buddhist mothers have relatively better educational back ground with the highest average number of years of schooling i.e. 3.86 years. The lowest duration of schooling of the mothers of the respondents are found to be among Christians at the tune of only 0.72 years. The tribal background of the Christian community may be one of the reasons of such a lower level of schooling. Tribalism itself doesn't encourage modern education among the members of the community. In the tribal tradition each member is responsible to earn for his or her survival, so far the member is physically capable of doing so. The tendency of going for extra income and savings among the tribal people is very weak. All the above stated tradition is having influence on fertility. However, in order to ascertain actual reason of low educational attainment of these parents a separate probe is required.

An effort has also been made to find out the influence of mother's educational background on her daughter's fertility. It's clear that there exists a negative relationship between the two. But the extent of influence is not uniform across the religious groups. The highest correlation coefficient is found among

the Buddhists with a coefficient of -0.1961 and the lowest is among the Muslims i.e. 0.964. The above analysis shows that Muslim mothers are given lesser importance when the question of child bearing decision of the daughter is arises. This further shows that patriarchal societal behaviour is more prominent among the Muslims as compared to the other co-religionists.

The educational background of the father may have less influence on the child bearing decision of the daughter but the influence is there. As a matter of fact in many cases father is truly the “friend-philosopher-guide” for a daughter. The influence in this regard certainly works indirectly. In order to find the influence of educational attainment of a father on the fertility of the daughter a suitable statistical tool has been applied. The Karl Pearson’s correlation coefficient is therefore, of great significance in this context. The correlation coefficient is negative for all the religious groups which mean daughters of educated father are less susceptible to high fertility. After analyzing the data it has been found that the influence does not seem to be consistent for all the religious groups. It is thus found that the correlation coefficient is the highest among the Muslims i.e. -0.2415 and the lowest among the Buddhists i.e. -0.1041.

From the above discussion one can summarize the section by high lighting the followings:

1. Buddhists are educationally better off; so far the respondent's education and education of their husbands and parents are concerned, the Christians are lagging behind others in this front.
2. Educational attainment has negative impact on fertility but the extent of influence varies from one religious community to other as their socio-economic conditions vary.
3. Among others the impact of educational attainment of the respondents is much more effective (strong) than the husbands and the parents.

Fertility and Occupation

It will be worthy to examine whether the fertility and the occupation are related to each other or not. It is therefore, quite likely that occupation influences fertility. If prospecting mother is employed then there is lesser likelihood that she will afford to have many children. Moreover, the government has framed different policies and provisions that are ante-natal. As for example, four months' maternity leave is applicable to employed women in case of first two babies only. Bringing up of many children for a working mother is therefore, quite difficult. Over all expenditure involved in bringing up of children, particularly in their education and health care, etc. also will be under consideration while deciding on number of children desired. Therefore, occupation has also been taken as one of the controlling factors of fertility in the present study.

Table 5.9: Average Number of Children Born to Married Women by Occupation, 1991

Occupation	Urban			Rural		
	Percent	TFR (All)	TFR (40-44 years)	Percent	TFR (All)	TFR (40-44 years)
All women	100	2.90	3.64	100	3.13	4.13
Main workers	12.6	2.65	3.15	29.1	2.96	3.87
Cultivators	0.7	3.21	3.96	11.6	3.13	4.09
Agr. Labour	2.1	2.88	3.59	14.1	2.84	3.75
Other	9.8	2.56	3.02	3.4	2.84	3.63
Manual	5.3	2.87	3.49	2.6	2.90	3.82
Non-manual	4.5	2.18	2.55	0.8	2.62	3.16
Marginal worker	1.7	3.14	4.11	12.8	3.21	4.31
Non-workers	85.7	2.93	3.73	58.1	3.20	4.25

Source: Mehta, B. C., (2005): Religion & Fertility: Buttressing the Case, EPW 08/01/2005, pp. 157-160.

It is always believed that the working women will have lesser number of children as compared to non-working women. According to Mehta (2005), "It is generally hypothesized that non-working women, as well as those are self employed in cultivation or working nearer the house with irregular employment, have higher fertility than those working in organized non-agricultural sectors." It

may be noted therefore that 85.70 percent in the urban areas and 58.00 percent in the rural areas are non-working women.

On the contrary, it is not only the occupation of the respondent that is important but the occupation of the husband is also important in this context and hence, the same has been taken into consideration for analysis. If husband is also employed along with the wife then bringing up of a child is more difficult and therefore, employment of both husband and wife will definitely influence the fertility behaviour.

The question is whether one of the spouses, more importantly fair sex, or both are employed or not, it is also important where (how much is the distance) and how long is the duty that is being performed. Along with duration and nature of work, the income of the family that is more relevant to females, too depends on occupation and will thus have an important bearing on fertility.

For the purpose of this study the occupation of the respondents has been classified in to four classes namely, a) Domestic works (housewife), b) Primary sector occupation, c) Secondary sector occupation and d) Tertiary sector occupation. The husbands' occupation has been classified into three groups namely a) Primary sector occupation, b) Secondary sector occupation and c) Tertiary sector occupation. In order to identify an activity for a particular class, the criteria of Census of India have been followed. The domestic work of women is

however an extra class which has been introduced in the present study. This class is not present in the nine folds classification of workers presented by Census of India in 1991.

Table 5.10: Sector-wise distribution respondents by occupation & by religion

Occupation	Religion				Total	Percent to total
	Buddhist	Christian	Hindu	Muslim		
Domestic (Housewife)	88	66	157	181	492	82.00
Primary sector	--	3	--	--	3	0.50
Secondary Sector	2	9	10	2	23	3.83
Tertiary Sector	10	22	33	17	82	13.67
Total (percent)	100 (16.67%)	100 (16.67%)	200 (33.33%)	200 (33.33%)	600 (100.00%)	100.00

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

Table-5.10 shows a gloomy picture so far as the occupation of the respondents is concerned. An overwhelming majority i.e. 82.00 percent of the respondents of all religious background of the present study are housewives engaged themselves in purely domestic works. This environment secludes the

respondents from the out side world and thus deprived of taste of modern life. Under these circumstances families are encouraged to have more children, particularly by the elderly members of the families. A meager 13.67 percent are engaged in tertiary sector employment is not going to help the condition owing to the fact that even this sector of employment is not that remunerative. The ICDS workers, ASHA workers and petty trade and business etc. are classed in the tertiary sector and, therefore, is of no help. Gainful employment in the tertiary sector would have influenced fertility negatively which has not happened here.

Table 5.11: Fertility and Occupation by Religion

Religious group	Fertility Rates		Occupation (percent in service sector)	
	TFR	CBR	Respondents	Husbands
Buddhist	2.44	26.25	10.00	68.00
Christian	4.89	47.72	22.00	34.00
Hindu	2.98	33.26	16.50	18.50
Muslim	3.99	51.02	8.50	11.00
Average/ Over all	3.57	39.56	14.30	32.88

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

Table 5.11 reveals that that the highest proportion of respondents engaged in tertiary sector is among Christian (22.00 percent) followed by Hindu

(16.50 percent), Buddhist (10.00 percent) and Muslim (8.50 percent). Similarly, the proportion of husbands of respondents in tertiary sector (shown in the table-5.11) depicts that a majority of them employed in this sector (68.00 percent) found only among the Buddhists followed by Christians (34.00 percent), Hindus (18.50 percent) and Muslims (11.00 percent).

It is interesting to note that there exists a positive correlation between the proportions of husbands employed in the tertiary sector activities with fertility. So far as CBR is concerned there exists a direct and positive relation between them. As for instance, the husbands of the Buddhist respondents constitute the highest percent engaged in tertiary sector (68.00 percent) and at the same time lowest CBR is found among the Buddhists i.e. 26.25. Similarly, the Muslim representation in the tertiary sector is found to be the lowest (11.00 percent) and the CBR is also found to the highest among Muslims (51.02).

Table 5.12: Distribution of Respondents by Occupation (Sector of Employment)

Sector of employment	Number of respondents	Proportion to total (percent)
Domestic works	492	82.00
Primary sector	3	0.50
Secondary sector	23	3.83
Tertiary sector	82	13.67
All	600	100.00

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

Fig 5.4: Sectoral Composition of Respondents by Occupation

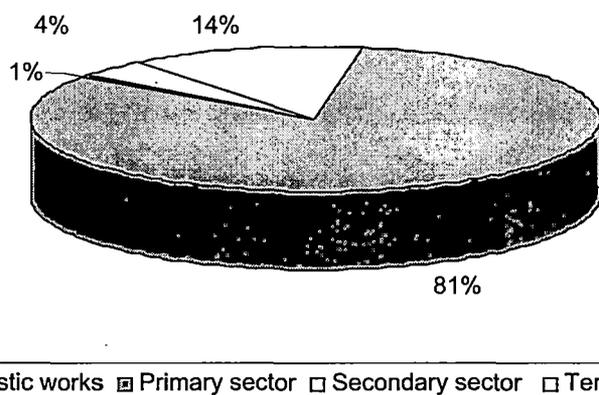


Fig. 5.4

Table 5.13: Distribution of Respondents by Number of Pregnancies and by Occupation (Sector of Employment)

Sector of employment	Number of pregnancies						Total	Percent
	0	1	2	3	4	≥5		
Domestic works	32	88	149	90	75	58	492	82.00
Primary sector	--	--	1	--	--	2	3	0.50
Secondary sector	--	1	13	5	2	2	23	3.83
Tertiary sector	4	17	21	24	13	3	82	13.67
All (percent)	36 (6.00%)	106 (17.67%)	184 (30.67%)	119 (19.83%)	90 (15.00%)	65 (10.83%)	600 (100.00%)	100.00

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

Among the Buddhists it has been found that 88.00 percent of them are engaged in domestic works and another 10.00 percent (table-5.14) are found engaged in tertiary sector activities. Among the Buddhists engaged in domestic works, as high as 15.90 percent had pregnancies thrice or more.

Table 5.14: Distribution of Respondents by Number of Pregnancies and by Occupation (Sector of Employment) of Buddhist Respondents

Sector of employment	Number of pregnancies						Total	Percent
	0	1	2	3	4	≥5		
Domestic works	14	21	39	10	4	--	88	88.00
Primary sector	--	--	--	--	--	--	0	0.00
Secondary sector	--	--	2	--	--	--	2	2.00
Tertiary sector	1	--	9	--	--	--	10	10.00
All	15	21	50	10	4	00	100	100.00

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

Switching over to the Christians, it is observed that the proportion of the respondents having pregnancies thrice or more is found to be substantially high

i.e. 51.15 percent of the total respondents engaged in domestic works. As many as 22.22 percent of the respondents engaged in secondary activities are found to be recorded thrice or more than thrice pregnancies. Similarly, 59.09 percent of Christian respondents in tertiary activities do have pregnancies thrice or more.

Table 5.15: Distribution of Respondents by Number of Pregnancies and by Occupation (Sector of Employment) of Christian Respondents

Sector of employment	Number of pregnancies						Total	Percent
	0	1	2	3	4	≥5		
Domestic works	4	12	16	23	8	3	66	66.00
Primary sector	--	--	1	--	--	2	3	3.00
Secondary sector	--	1	6	--	--	2	9	9.00
Tertiary sector	1	2	6	10	2	1	22	22.00
All	5	15	29	33	10	8	100	100.00

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

Tables 5.15 and 5.16 show distribution of respondents by number of pregnancies and sector in which the respondents are engaged. The tables reveal that 45.85 percent of the respondents of the Hindus and 51.51 percent of the respondents of the Muslims had pregnancies thrice or more. The primary and secondary sectors are almost missing in both the cases, primarily because of our peculiarity of definition. The secondary activities are almost non-existent in the region except 'Tea Processing and allied Activities'. Though Primary activities are there in the region but the same are dominated by their male counterparts.

Table 5.16: Distribution of Respondents by Number of Pregnancies and by Occupation (Sector of Employment) of Hindu Respondents

Sector of employment	Number of pregnancies						Total	Percent
	0	1	2	3	4	≥5		
Domestic works	10	23	52	27	22	23	157	78.50
Primary sector	--	--	--	--	--	--	00	0.00
Secondary sector	--	--	3	5	2	--	10	5.00
Tertiary sector	1	8	6	11	7	--	33	16.50
All (percent)	11 (5.50%)	31 (15.50%)	61 (30.50%)	43 (21.50%)	31 (15.50%)	23 (11.50%)	200 (100.00%)	100.00

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

Since the economic activities in the region are gradually becoming diversified there is a promising Tertiary Sector activity which has potentiality to engage people in different activities. It has been found that 16.50 percent of the Hindu respondents and 8.50 of the Muslim respondents are engaged in tertiary activities. Of the total Hindu respondents, who are engaged in the tertiary sector, 51.51 percent have reported pregnancies thrice and above. As high as 52.94 percent of the Muslim respondents engaged in tertiary sector are found to have recorded pregnancies thrice or above.

Table 5.17: Distribution of Respondents by Number of Pregnancies and by Occupation (Sector of Employment) of Muslim Respondents

Sector of employment	Number of pregnancies						Total	Percent
	0	1	2	3	4	≥5		
Domestic works	4	32	42	30	41	32	181	90.50
Primary sector	--	--	--	--	--	--	00	0.00
Secondary sector	--	--	2	--	--	--	2	1.00
Tertiary sector	1	7	--	3	4	2	17	8.50
All (percent)	5 (2.50%)	39 (19.50%)	44 (22.00%)	33 (16.50%)	45 (22.50%)	34 (17.00%)	200 (100.00%)	100.00

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

As has been stated earlier, the statistics on births has been taken as fertility indicator and termed as 'secondary fertility' in this study. According to the field data presented in table 5.18, it will be seen that as high as 38.17 percent of the respondents belonging to all religions have given birth to three or more than three babies. Conforming 'Hum Do Hamara Do" slogan, 34.50 percent of the respondents have given births to two children. A little over 1/4th of the respondents (27.33 percent) have record of having given birth to either one child or have not given birth to any child.

Table 5.18: Distribution of Respondents by Number of Births and by Occupation (Sector of Employment)

Sector of employment	Number of births						Total	Percent
	0	1	2	3	4	≥5		
Domestic works	43	90	176	84	54	45	492	82.00
Primary sector	--	--	1	--	--	2	3	0.50
Secondary sector	--	6	8	7	--	2	23	3.83
Tertiary sector	4	21	22	28	5	2	82	13.67
All (percent)	47 (7.83%)	117 (19.50%)	207 (34.50%)	119 (19.83%)	59 (9.83%)	51 (8.50%)	600 (100.00%)	100.00

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

It is clear from the study that the respondents engaged in the domestic works have given birth to relatively larger number of children. It is found from the data collected from the field that as high as 37.19 percent of the respondents engaged in domestic works as house wives have given births to three or more than three children till the date of survey. At the same time, it should be noted that of all the respondents, 82.00 percent have reported themselves being engaged in domestic works only.

Table 5.19: Distribution of Respondents by Number of Births and by Occupation (Sector of Employment) of Buddhist Respondents

Sector of employment	Number of births						Total	Percent
	0	1	2	3	4	≥5		
Domestic works	16	21	39	10	2	--	88	88.00
Primary sector	--	--	--	--	--	--	0	0.00
Secondary sector	--	--	2	--	--	--	2	2.00
Tertiary sector	1	--	9	--	--	--	10	10.00
All	17	21	50	10	2	00	100	100.00

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

The field survey result shows that an overwhelming majority of the respondents is found to be engaged in the domestic chores cutting across religious back ground. The highest proportion (90.50 percent) of the respondents reporting themselves as domestic workers are found among the Muslims and the lowest proportion of (66.00 percent) respondents in the domestic work is found among the Christians followed by the Buddhists (88.00 percent) and the Hindus (78.50 percent).

Table 5.20: Distribution of Respondents by Number of Births and by Occupation (Sector of Employment) of Christian Respondents

Sector of employment	Number of births						Total	Percent
	0	1	2	3	4	≥5		
Domestic works	9	9	26	18	2	2	66	66.00
Primary sector	--	--	1	--	--	2	3	3.00
Secondary sector	--	1	6	--	--	2	9	9.00
Tertiary sector	1	2	6	12	1	--	22	22.00
All	10	12	39	30	3	6	100	100.00

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

A comparative picture of distribution of the respondents by number of births and their sector-wise employment gives an interesting insight into the subject. It is found from the analysis that while 50.00 percent of the respondents belonging to Buddhist religious community have given birth to two babies, only 12.00 percent of them are found to have given birth to more than two babies. The figure is 39.00 percent for the Christians.

Table 5.21: Distribution of Respondents by Number of Births and by Occupation (Sector of Employment) of Hindu Respondents

Sector of employment	Number of births						Total	Percent
	0	1	2	3	4	≥5		
Domestic works	10	30	56	30	18	13	157	78.50
Primary sector	--	--	--	--	--	--	00	0.00
Secondary sector	--	3	--	7	--	--	10	5.00
Tertiary sector	1	11	7	14	--	--	33	16.50
All (percent)	11 (5.50%)	44 (22.00%)	63 (31.50%)	51 (25.50%)	18 (9.50%)	13 (6.50%)	200 (100.00%)	100.00

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

Among the Hindu respondents 31.50 percent have reported to have given birth to two babies which constitute 27.50 percent in case of Muslims. As it comes to the proportion of respondents having given birth more than twice, the same is found to be 41.00 percent among the Hindus and 48.00 percent among the Muslims. It is interesting to note that only a small proportion of respondents engaged in the secondary and tertiary activities have given birth to more than two children, and it does hold good for both Hindus and Muslims.

Table 5.22: Distribution of Respondents by Number of Births and by Occupation (Sector of Employment) of Muslim Respondents

Sector of employment	Number of births						Total	Percent
	0	1	2	3	4	≥5		
Domestic works	8	30	55	26	32	30	181	90.50
Primary sector	--	--	--	--	--	--	00	0.00
Secondary sector	--	2	--	--	--	--	2	1.00
Tertiary sector	1	8	--	2	4	2	17	8.50
All (percent)	9 (4.50%)	40 (20.00%)	55 (27.50%)	28 (14.00%)	36 (18.00%)	32 (16.00%)	200 (100.00%)	100.00

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

From the discussion on occupation and fertility the following broad observations may be made.

1. There is no definite trend of relationship between fertility and sector of economic activities in which the respondents are engaged.
2. Working females have relatively less number of children as compared to the housewives but the difference is not significant.
3. There is no significant difference in fertility across religious groups in the same sector of occupation (respondents engaged in occupation in the same sector).
4. Even among the employed respondents, only a few are gainfully employed and therefore, nothing remarkable is observed on fertility behaviour.

Fertility and Income

It will be pertinent to examine the impact of income of the spouses on the fertility behaviour. In the present study, the estimation of income has been done on the basis of information provided by the respondents and the material evidence observed by the investigator during the survey. However, a certain degree of inaccuracy in estimation may not be ruled out. While taking the data on income, total income of the house hold has been calculated taking all sources into consideration. Possible cares have been taken to collect accurate data on income.

Table 5.23: Fertility and Per Capita Monthly Income & Savings by Religion

Religious groups	Fertility Rates		Per capita monthly income and savings (Rs.)	
	TFR	CBR	Income (Rs.)	Savings (Rs.)
Buddhist	2.44	26.25	3077.00	1374.00
Christian	4.89	47.72	1200.00	586.00
Hindu	2.98	33.26	1416.00	513.00
Muslim	3.99	51.02	1413.00	482.00
Average/ Over all	3.57	39.56	1776.50	738.75

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

Per capita income is calculated taking the total income of all the members of the household together divided by the total number of members in the household including earning as well as dependent members. The data on income shows that on an average the per capita income of the families is estimated to be rupees 1776.50. The same is found to be the highest among the Buddhists (Rs. 3077.00) and the lowest among the Christians (Rs. 1200.00). On the other hand, the per capita income of the Muslims and Hindu households are found to be marginally different with Rs. 1413.00 and Rs. 1416.00 (table-5.23) respectively. However, it is interesting to note that when it comes to the question of savings, the average figure does not exceed even thousand rupees mark (Rs. 738.75). It

is the lowest among the Muslims (Rs. 513.00) with the highest savings rate is again in favour of the Buddhists (Rs. 1374.00).

On close observation of distribution of number of respondents by income category (table-5.24) one finds that nearly half (46.34 percent) of the respondents reported that per capita monthly income of their families is below Rs. 1000.00. Nearly 1/4th (27.50 percent) have per capita monthly income varying between Rs. 1000.00 to Rs. 2000.00. The other 1/4th has per capita monthly income of Rs. 2000.00 and above. It is clear from the data that the respondents are at their subsistence level of living as evident from the data relating to per capita income. The reason could be attributed to the low level of savings, the average per capita savings being only Rs. 738.75. The highest monthly per capita income is found to be among the Buddhists (Rs. 1374.00) followed by Christians (Rs. 586.00), Hindus (Rs. 513.00) and Muslims (Rs. 482.00). It is important to note that it is again the Muslims who have the lowest per capita income and are in the lowest rung of the ladder.

When per capita income is compared with the fertility rates it is found that there is a strong negative relationship between the two. With increasing income there is tendency of reducing fertility rates. The observation of table 5.23 reveals that the communities with higher income have low fertility and vice-versa. The lowest level of TFR of 2.44 is found among the Buddhists who have the highest

per capita monthly income of Rs. 3077.00. In contrast the lowest per capita monthly income of the Christians i.e. Rs. 1200.00 and the community has the highest TFR of 4.98. Hindus and Muslims are in the same ranks in terms of income and fertility rates (table-5.23).

Table 5.24: Distribution of Respondents by Per Capita Monthly Income

Income groups (monthly per capita income in rupees)	Number of respondents	Proportion to total (percent)
<500	112	18.67
500-1000	166	27.67
1000-2000	165	27.50
2000-5000	128	21.33
≥5000	29	4.83
All	600	100.00

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

Fig 5.5: Distribution of Respondents by Per Capita Income

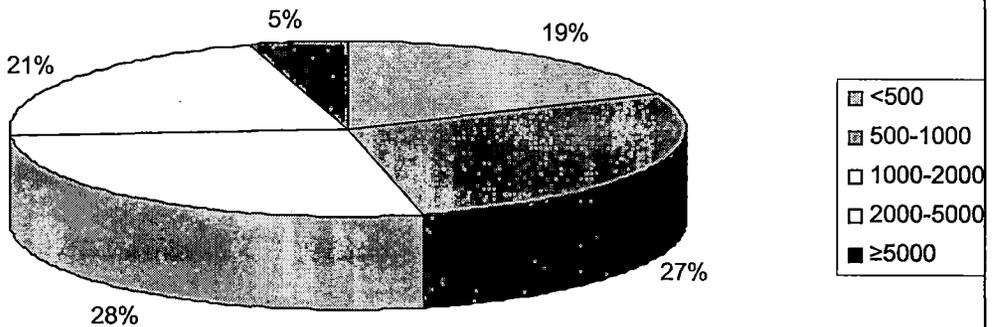


Fig. 5.5

In order to find out the relationship of fertility with income, Pearson's Correlation Coefficient has been calculated separately for the four religious groups under consideration. The result presented in the tables 5.37-5.41 show that there exist a negative relation between income and fertility. The correlation coefficients vary between the variables range between -0.0495 to -0.3236. It is interesting to note that the strongest negative relationship exists between the two variables among the Christians (-0.3236) and the weakest relationship is observed between the variables among the Muslims. The Hindus and Buddhists, lying in between, have correlation coefficient of -0.171 to -0.3036 respectively. This points to the fact that despite even with increasing income Muslims are prone to higher fertility rates. From the correlation between income and fertility, it can be said that the increase in income has weaker impact on fertility among the Muslims. This may be because of the fact that even the meager amount of income that the Muslims are earning are spent to fulfill the bare necessities of life

such as 'food, shelter and clothing' and thus the higher needs of life such education, health care etc. are neglected. The income, expenditure and savings etc. all are found to be the lowest among the Muslims. Overall consciousness among the Muslims is considerably low which causes relatively higher fertility.

Table 5.25: Distribution of Respondents by Number of Births by Monthly Per Capita Income

Income groups (monthly per capita income in rupees)	Number of births						Total	Percent
	0	1	2	3	4	≥5		
<500	2	5	34	33	13	25	112	18.67
500-1000	5	33	57	37	21	13	166	27.67
1000-2000	13	29	66	33	13	11	165	27.50
2000-5000	19	47	36	15	9	2	128	21.33
≥5000	8	3	14	1	3	--	29	4.83
All	47	117	207	119	59	51	600	100.00
(percent)	(7.83%)	(19.50%)	(34.50%)	(19.83%)	(9.83%)	(8.50%)	(100.00%)	

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

The distribution of the respondents by income and the number of births revealed by the respondents till the day of interview shows that as high as 58.44 percent of the respondents giving births to three or more than three children do have monthly per capita income of only up to Rs. 1000.00 (table-5.24), where as only 18.10 percent of the respondents have monthly per capita income of Rs. 2000.00 and above. About 1/4th (23.46 percent) of the respondents having children three or above three do have monthly per capita income that varies between Rs. 1000.00 and Rs. 2000.00. This conforms to the fact that higher income groups exhibit lower fertility rate.

Table 5.26: Distribution of Respondents by Number of Births and by Monthly Per Capita Income (Buddhists)

Income groups (monthly per capita income in rupees)	Number of births						Total	Percent
	0	1	2	3	4	≥5		
<500	--	--	--	--	--	--	0	0.00
500-1000	--	--	6	2	--	--	8	8.00
1000-2000	1	3	17	4	2	--	27	27.00
2000-5000	10	16	18	4	--	--	48	48.00
≥5000	6	2	9	--	--	--	17	17.00
All	17	21	50	10	2	--	100	100.00

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

Number of births and income among the Buddhists show interesting trend which seems to be different from the overall condition prevailed in the region. It has been seen that only 12 percent of the respondents belonging to Buddhists religions background have given birth to three or more than three babies. Of the total respondents belonging to the above category as many as 83.33 percent have monthly per capita income of Rs. 1000.00 to Rs. 2000.00. Similarly, of the total respondents 50 percent have given birth to 2 (two) children. Out of total 50 respondents in this category as high as 35 respondents have monthly per capita income of Rs. 1000.00 to Rs. 5000.00. Similarly, nine respondents have monthly per capita income of Rs. 5000.00 and above.

Table 5.27: Distribution of Respondents by Number of Births and by Monthly Per Capita Income (Christians)

Income groups (monthly per capita income in rupees)	Number of births						Total	Percent
	0	1	2	3	4	≥5		
<500	2	--	6	9	2	4	23	23.00
500-1000	--	7	13	7	1	2	30	30.00
1000-2000	3	3	14	12	--	--	32	32.00
2000-5000	3	2	6	2	--	--	13	13.00
≥5000	2	--	--	--	--	--	2	2.00
All	10	12	39	30	3	6	100	100.00

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

As has been mentioned earlier, it is in the case of Christians that the relation of fertility to the income is found to be the strongest. As a result, it could be seen that out of 39 respondents having given birth to three and more than three children, of which as high as 25 respondents have their per capita income below Rs. 1000.00 only. It is only two percent of the respondents who have high per capita monthly income of Rs. 2000.00 and above and have given birth to three or more than three children.

When it comes to the question of Hindu respondents, it was found from the data that as high as 41 percent of the respondents have given birth to three or more than three children where as only 22.00 percent of the respondents have 2 children till the day of enumeration. Of the total 82 Hindu respondents in this group, 50 respondents i.e. 60.98 percent have income up to Rs. 1000.00. Thus, the distribution of the Hindu respondents also conforms to have had negative relationship between fertility and income. It is clear that as income goes up fertility declines among the Hindus.

The distribution of Muslim respondents by number of births and income shows that as high as 16.00 percent of the total respondents have given birth to five or more than five children. Of the total 96 respondents in the category of greater than equal to 3 children, as high as 65 respondents i.e. 67.71 percent have income up to Rs. 1000.00. On the other hand, only 15 out of 96 i.e. 15.63 percent respondents in this category have per capita income of Rs. 2000.00 and

above. It is interesting to note that only 4.50 percent of the Muslim respondents with per capita income of Rs. 2000.00 and above have given birth to three or more than three children.

Table 5.28: Distribution of Respondents by Number of Births and by Monthly Per Capita Income (Hindus)

Income groups (monthly per capita income in rupees)	Number of births						Total	Percent
	0	1	2	3	4	≥5		
<500	--	1	10	16	4	8	39	19.50
500-1000	2	11	18	12	8	2	53	26.50
1000-2000	7	15	26	17	3	3	71	35.50
2000-5000	2	16	6	5	3	--	32	16.00
≥5000	--	1	3	1	--	--	5	2.50
All	11	44	63	51	18	13	200	100.00
(percent)	(5.50%)	(22.00%)	(22.00%)	(25.50%)	(9.00%)	(6.50%)	100.00(%)	

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

Table 5.29: Distribution of Respondents by Number of Births by Monthly Per Capita Income (Muslims)

Income groups (monthly per capita income in rupees)	Number of births						Total	Percent
	0	1	2	3	4	≥5		
<500	--	4	18	8	7	13	50	25.00
500-1000	3	15	20	16	12	9	75	37.50
1000-2000	2	8	9	--	8	8	35	17.50
2000-5000	4	13	6	4	6	2	35	17.50
≥5000	--	--	2	--	3	--	5	2.50
All (percent)	9 (4.50%)	40 (20.00%)	55 (27.50%)	28 (14.00%)	36 (18.00%)	32 (16.00%)	200 (100.00%)	100.00

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

The major high lights of the section on 'Fertility and Income' are as follows:

1. There exists a negative relationship between fertility (number of births) and income (per capita monthly income).
2. The income has strongest negative relation with fertility among the Christians and weakest among the Muslims.
3. The correlation coefficient calculated between the variables fertility (number of births) and income (per capita monthly income) varies between -0.0495 and -0.3236.

Fertility and Age at Marriage

Age at marriage for the purpose of this study is essentially 'Age at First Marriage'. While choosing this indicator it was expected that the age at marriage will have influence on fertility. As duration of conjugal life as well as duration fertile period (child bearing) also increase fertility may increase with increasing age at marriage. An early marriage means longer duration of both conjugal life and fertile period and hence there is a possibility of higher fertility.

Recording of correct age as well as date of marriage and thus estimation of age at marriage and subsequently duration of conjugal life were found to be too difficult. It is true particularly for rural areas and for illiterate and uneducated people. Whenever there is an absence of documentary evidence, statement by person concerned, parents statement as well as statement of the elderly neighbour etc. have been given due consideration. A very high degree of precaution has been taken to cross check and verify the age as well as age at marriage of the respondents. When all the above cited methods have failed, the eye estimation along with statement of the respondents was the final basis of entering age as well as age at marriage.

While planning and formulating the study it was expected that the age at marriage will have negative impact on fertility. While observing data on fertility and average age at marriage it is found that average age at marriage is the lowest among the Muslim respondents (16.54 years) and the highest age at

marriage is found among the Buddhists (20.99 years). The average age at marriage for all the religions is 18.38 years (table 5.30). It is inferred from the data that the lowest fertility i.e. TFR is found among the Buddhists and the highest fertility rates is found among the Muslims. It will be difficult to draw a simple conclusion in this regard. But when one examines the extent of CBR it is found that there is a strong relationship of fertility with the age at marriage. The Buddhists have highest age at marriage (20.99 years) and lowest CBR (26.25) and the Muslims similarly, have lowest age at marriage (16.54 years) with highest CBR i.e. 51.02 among all the religious groups under consideration.

Table 5.30: Fertility and Age at Marriage by Religion

Religious group	Fertility Rates		Average age at marriage (years)
	TFR	CBR	
Buddhist	2.44	26.25	20.99
Christian	4.89	47.72	19.03
Hindu	2.98	33.26	16.94
Muslim	3.99	51.02	16.54
Average/ Over all	3.57	39.56	18.38

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

The distribution of respondents by age at marriage shows that as high as 50.00 percent of the respondents of all religious affiliation got married before the completion of 18 years i.e. the legal age of marriage. It is not only interesting to note but a matter of great concern that half of the respondents got married before attaining legal age of married i.e. 18 years. It is thus only 27.33 percent of the all the respondents who got married at the age of 20 years and above.

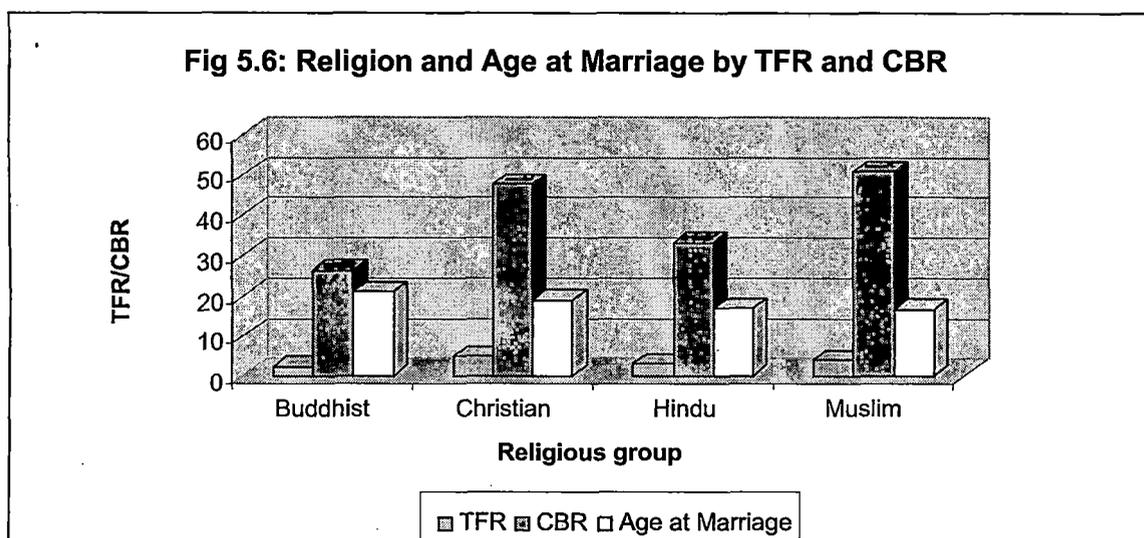


Fig. 5.6

Table 5.31: Distribution of Respondents by Age at Marriage

Age at marriage (years)	Number of respondents	Proportion to total (percent)
<18	300	50.00
18-20	136	22.67
20-22	63	10.50
≥22	101	16.83
All ages	600	100.00

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

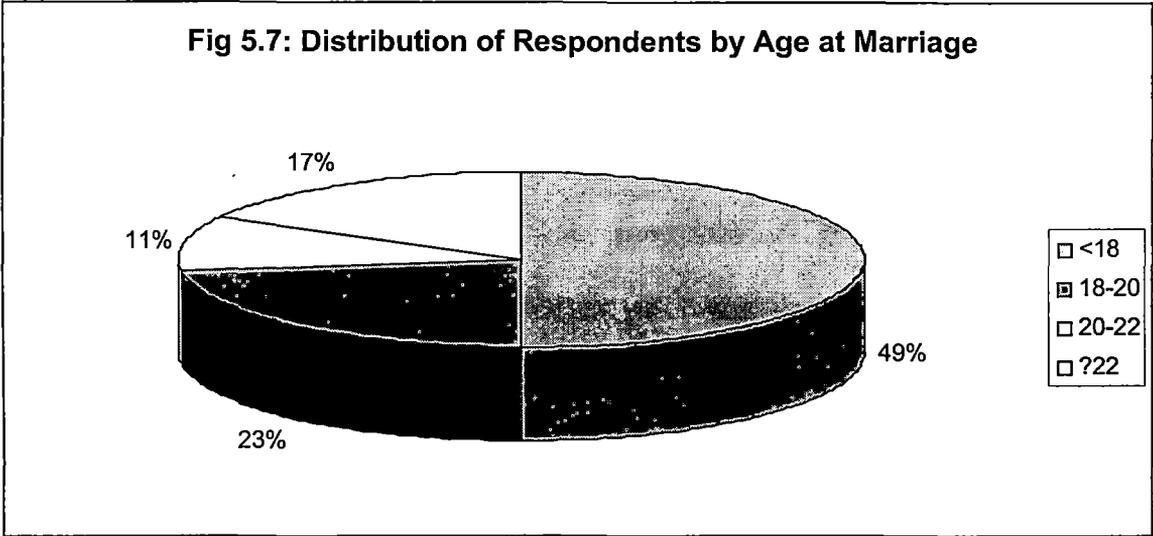


Fig. 5.7

It is interesting to note that while 38.16 percent of all the respondents have given birth to three or more than three children, as high as 53.33 percent of the respondents getting married below the age of 18 years have given birth to three or more than three children. As one moves up in the ladder of age at marriage, it is observed that lesser proportion of the respondents have given birth to multiple children (≥ 3 children). Table 5.32 reveals that only 19.50 percent of the respondents who got married at the age of 20 years and above have given birth to three or more than three children. It is further observed that only 34.50 percent of the respondents have given birth to two children followed by 38.16 percent to three or more than three and remaining 46.90 percent to one or no child till the day of enumeration.

Table 5.32: Distribution of Respondents by Number of Births and by Age at Marriage

Age at marriage (years)	Number of births						Total	Percent
	0	1	2	3	4	≥5		
<18	12	32	96	83	47	30	300	50.00
18-20	11	42	53	8	10	12	136	22.67
20-22	2	15	24	11	2	9	63	10.50
≥22	22	28	34	17	--	--	101	16.83
All ages (percent)	47 (7.83%)	117 (19.50%)	207 (34.50%)	119 (19.83%)	59 (9.83%)	51 (8.50%)	600 (100.00%)	100.00

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

It is true that the age at marriage is related to fertility and valid for all the respondents irrespective of their religious allegiance. In order to ascertain this relation and its effect across the religious groups, correlation coefficients have been calculated taken number of births including still births i.e. 'secondary fertility' and 'age at marriage' into consideration. The result shows that age at marriage is negatively related to fertility when it is calculated for all the religious groups, but it is to be noted that the extent at which fertility varies with varying ages at marriage is not same for all the religious groups.

Table 5.33: Distribution of Respondents by Number of Births and by Age at Marriage (Buddhists)

Age at marriage (years)	Number of births						Total	Percent
	0	1	2	3	4	≥5		
<18	--	--	12	2	--	--	14	14.00
18-20	5	4	11	2	--	--	22	22.00
20-22	-	6	12	2	2	--	22	22.00
≥22	12	11	15	4	--	--	42	42.00
All ages	17	21	50	10	2	--	100	100.00

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

From the correlation analysis it is inferred that the strongest relationship between fertility (birth) and age at marriage found among the Buddhists where the correlation coefficient being -0.2783 and the weakest relationship between the variables is found among the Hindus where the coefficient is only -0.2370. The other religious groups i.e. Christians and Muslims have coefficients value varying between -0.2725 and -0.2529 respectively. When one examines correlation coefficient between fertility (number of pregnancies) and age at marriage it is found that the strongest negative relationship exists among the Buddhists (-0.3213) and the weakest relationship exist among Muslims (-0.2113). That means increase in age at marriage is a cause of relatively low fertility

among the Buddhists, where as the phenomenon has no significant influence on Muslim fertility.

Table 5.34: Distribution of Respondents by number of Births and by Age at Marriage (Christians)

Age at marriage (years)	Number of births						Total	Percent
	0	1	2	3	4	≥5		
<18	--	1	16	17	1	2	37	37.00
18-20	1	5	11	4	2	2	25	25.00
20-22	--	--	3	3	--	2	8	8.00
≥22	9	6	9	6	--	--	30	30.00
All ages	10	12	39	30	3	6	100	100.00

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

Distribution of respondents by age at marriage and religion shows that half of the Buddhist respondents have given birth to two children which is the highest among all the religious groups. At the same time, a low proportion of respondents that i.e. 27.50 percent of the total respondents among Muslims have given birth to two children. The other two groups i.e. Christians and Hindus have 30.00 percent and 31.50 percent of the respondents giving birth to two babies each respectively.

Table 5.35: Distribution of Respondents by Number of Births and by Age at Marriage (Hindus)

Age at marriage (years)	Number of births						Total	Percent
	0	1	2	3	4	≥5		
<18	9	13	32	38	15	9	116	58.00
18-20	1	17	15	2	3	2	40	20.00
20-22	--	7	8	6	--	2	23	11.50
≥22	1	7	8	5	--	--	21	10.50
All ages (percent)	11 (5.50%)	44 (22.00%)	63 (31.50%)	51 (25.50%)	18 (9.00%)	13 (6.50%)	200 (100.00%)	100.00

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

There is a larger variation in the proportion of respondents having given birth to three or more children among different religious groups under study. The Muslims lead the list with 44.16 percent of the respondents belonging to this religious group have giving birth to three children or more. With respect to the same indicator Buddhists hold the bottom position in the list. Only 12.00 percent of the respondents of the Buddhists reported that they have given birth to three or more than three children. The Christians and Hindus are observed to have maintained moderate level with respect to births.

Table 5.36: Distribution of Respondents by Number of Births and by Age at Marriage (Muslims)

Age at marriage (years)	Number of births						Total	Percent
	0	1	2	3	4	≥5		
<18	3	18	36	26	31	19	133	66.50
18-20	4	16	15	--	5	8	48	24.00
20-22	2	2	2	--	--	5	11	5.50
≥22	--	4	2	2	--	--	8	4.00
All ages (percent)	9 (4.50%)	40 (20.00%)	55 (27.50%)	28 (26.00%)	36 (18.00%)	32 (16.00%)	200 (100.00%)	100.00

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

A glance at the tables 5.33-5.36 reveals that the highest proportion of the respondents (19.00 percent) of the Christians with age at marriage 18 years and above have given birth to three or more than three children followed by the other three religious groups percentage being 10.00 each.

The major high lights of the section Fertility and Age at Marriage are as follows:

1. There exists a negative relationship between fertility and age at marriage.
2. The relationship also holds good in case of pregnancy and births.

3. The relation between fertility and age at marriage is negative for all the religions but the magnitude differs across the religious groups.
4. The strongest relationship between the variables is found among the Buddhists and the weakest relationship exists among the Hindus of all the religious groups studied.

Quantitative Analysis of Fertility with Respect to Socio-economic Variables

In this section, an effort has been made to go in for quantitative analysis of variables. The section is devoted to understand the effect of selected variables on fertility. For calculation of correlation coefficients, the variables such as number of births including still births and number of pregnancies occurred to a respondent has been taken into account. Pearson's correlation coefficients have been calculated, between number of births (also number of pregnancies occurred) and the socio-economic indicators as given below:

- Educational attainment (number of years of schooling),
- Father's education (number of years of schooling),
- Mother's education (number of years of schooling),
- Husband's education (number of years of schooling),
- Age at marriage (years), and
- Per capita monthly income (Rupees).

The value of correlation coefficient (r) shows how strong the relation between the variables is. The 'r' value varies between +1 and -1 which means the range is $1 \geq r \geq -1$. A value of +ve1 indicates the highest possible positive relation and -ve1 indicates the highest possible negative relationship between the variables. Between these two extreme values the coefficient may vary. When $r = 0$ it indicates there exists absolutely no relationship between the variables. The results of correlation analysis are presented in tables (5.37-5.41).

In order to measure the effect of one explanatory variable on the other explained variable, linear regression analysis has been adopted. As part of this exercise both the slope (a) and the intercept (b) of the best fit line has been calculated as per the equation (i) and the result has been presented in the tables 5.40-5.43.

$$y = ax + b \text{ ----- (i)}$$

Where, y = dependent variable (fertility/birth)

x = independent variable (income etc.)

Slope (a) it returns the slope of the linear regression line through the given data points (table 5.42-5.45).

Intercept (b) is the point at which a line will intersect the y-axis using a best fit regression line plotted through the known x-values and y-values (table 5.42-5.45).

The regression lines have been drawn (figures 5.9 – 5.20) as per the equation no. (i) for all four religious groups and also for different explanatory variables in the following sections.

- Figures 5.9-5.12 present regression line of income on fertility,
- Figures 5.13-5.16 present regression line of age at marriage on fertility, and
- Figures 5.17-5.20 present regression line of education of respondents on fertility.

For regression analysis, the number of births has been taken as dependent variable and the independent variables are as follows-

- Educational attainment (class passed),
- Monthly Income (Rupees),
- Monthly Expenditure (Rupees),
- Per capita monthly income (Rupees),
- Per capita monthly expenditure (Rupees),
- Age at marriage (years), and
- Duration of conjugal life (years).

The results of regression analysis have been presented in the tables (5.42-5.45). The following section will be dealing with the results of regression analysis. The results have been interpreted in the light of the objectives set in the study.

Table 5.37: Correlation of Fertility with Socio-economic Variables (Buddhists)

Socio-economic variables	Correlation coefficient with	
	Births including still birth	Pregnancy
Educational attainment	-0.44552	-0.497154
Father's education	-0.104136	-0.086415
Mother's education	-0.19612	-0.235968
Husband's education	-0.134971	-0.120614
Age at marriage	-0.278314	-0.321328
Per capita monthly income	-0.303649	-0.314117

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

- Among the educational variables, the strongest relation of fertility is found with respondent's education ($r = 0.44552$) among the Buddhists.
- Among the educational variables, the weakest relation of fertility is found with father's education ($r = 0.104136$) among the Buddhists.

Table 5.38: Correlation of Fertility with Socio-economic Variables (Christians)

Socio-economic variables	Correlation coefficient with	
	Births including still birth	Pregnancy
Educational attainment	-0.45699	-0.4352
Father's education	-0.12202	-0.06479
Mother's education	-0.19367	-0.07563
Husband education	-0.2047	-0.22762
Age at marriage	-0.27246	-0.22897
Per capita monthly income	-0.32355	-0.31141

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

- Among the educational variables, the strongest relation of fertility is found with respondent's education ($r = -0.45699$) among the Christians.
- Among the educational variables, the weakest relation of fertility is found with father's education ($r = -0.12202$) among the Christians.

Table 5.39: Correlation of Fertility with Socio-economic Variables (Hindus)

Socio-economic variables	Correlation coefficient with	
	Births including still birth	Pregnancy
Educational attainment	-0.474	-0.425492
Father's education	-0.222	-0.208524
Mother's education	-0.170	-0.205433
Husband education	-0.184	-0.184421
Age at marriage	-0.237	-0.271921
Per capita monthly income	-0.171	-0.165224

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

- Among the educational variables, the strongest relation of fertility is found with respondent's education ($r = -0.474$) among the Hindus.
- Among the educational variables, the weakest relation of fertility is found with mother's education ($r = -0.170$) among the Hindus.

Table 5.40: Correlation of Fertility with Socio-economic Variables (Muslims)

Socio-economic variables	Correlation coefficient with	
	Births including still birth	Pregnancy
Educational attainment	-0.37725381	-0.31526591
Father's education	-0.24152723	-0.22820004
Mother's education	-0.09645681	-0.08916365
Husband education	-0.16816827	-0.12600011
Age at marriage	-0.25296931	-0.21133164
Per capita monthly income	-0.04957086	-0.05883836

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

- Among the educational variables, the strongest relation of fertility is found with respondent's education ($r = -0.37725$) among the Muslims.
- Among the educational variables, the weakest relation of fertility is found with father's education ($r = -0.04957$) among the Muslims.

Table 5.41: Correlation Coefficient of Birth with Selected Variables by Religion

Variables	Correlation Coefficient of Birth to selected variables with respect to the religious group			
	Buddhists	Christian	Hindu	Muslims
Educational attainment (Self)	-0.44552	-0.45699	-0.474	-0.37725381
Father's education	-0.104136	-0.12202	-0.222	-0.24152723
Mother's education	-0.19612	-0.19367	-0.170	-0.09645681
Husband education	-0.134971	-0.2047	-0.184	-0.16816827
Age at marriage	-0.278314	-0.27246	-0.237	-0.25296931
Per capita monthly income	-0.303649	-0.32355	-0.171	-0.04957086

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

How the individual determinant influences and how they are related to fertility in different religious group have been presented in a summarized form.

- **Education of the respondents:** the strongest relation is found among the Hindus ($r = -0.474$) and weakest among the Muslims ($r = -0.377$).
- **Education of the respondents' father:** the strongest relation is found among the Muslims ($r = -0.242$) and the weakest among the Buddhists ($r = -0.104$).
- **Education of the respondents' mother:** the strongest relation is found among the Buddhists ($r = -0.196$) and the weakest among the Muslims ($r = -0.096$).
- **Education of the respondents' Husband:** the strongest relation is found among the Christians ($r = -0.205$) and the weakest among the Buddhists ($r = -0.135$).
- **Age at marriage of the respondents:** the strongest relation is found among the Buddhists ($r = -0.278$) and the weakest among the Hindus ($r = -0.237$).
- **Per Capita Monthly Income:** the strongest relation is found among the Christians ($r = -0.324$) and weakest among the Muslims ($r = -0.049$).

Fig 5.8 : Correlation of Birth to Selected Socio-economic Variables

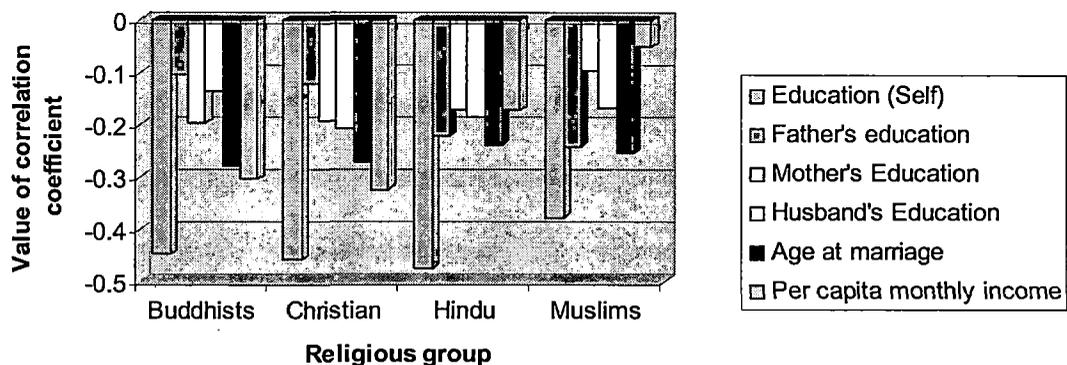


Fig. 5.8

Table 5.42: Regression Analysis of Fertility with Socio-economic Variables (Buddhists)

Socio-economic variables i.e. explanatory variables (x)	Result of Regression Analysis	
	slope (a)	Intercept (b)
Monthly Income (Rs)	-1.978×10^{-5}	1.920095
Monthly Expenditure (Rs)	-2.335×10^{-5}	1.835397
Age at marriage (years)	-0.089	3.540965
Duration of conjugal life (years)	0.093	0.285071
Per capita monthly income (Rs)	-0.131×10^{-5}	2.071823
Per capita monthly expenditure (Rs)	-0.190×10^{-5}	1.994416
Education (class passed)	-0.10526023	2.614182

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

From the table 5.42, related to the Buddhists, it is revealed that barring 'duration of conjugal life' all other variables are negatively related to fertility with varying degree of impact. While the highest negative coefficient is observed between 'age at marriage' and fertility, the same is the lowest incase of 'per capita monthly income' and fertility. Per unit change in the independent variables the impact on the dependent variable is as given below.

- One unit (Re. one) increase in monthly income will lead to reduction of fertility (birth) at the rate of -1.978×10^{-5} .
- One unit (Re. one) increase in monthly expenditure will lead to reduction of fertility (birth) at the rate of -2.335×10^{-5} .
- One unit (one year) increase in age at marriage will lead to reduction of fertility (birth) at the rate of -0.089.
- One unit (one year) increase in duration of conjugal life will lead to increase in fertility (birth) at the rate of 0.093.
- One unit (Re. one) increase in per capita monthly income will lead to reduction of fertility (birth) at the rate of -0.131×10^{-5} .
- One unit (Re. one) increase in per capita monthly expenditure will lead to reduction of fertility (birth) at the rate of -0.190×10^{-5} .
- One unit of education (one year of schooling) will lead to reduction of fertility (birth) at the rate of -0.10526.

Table 5.43: Regression Analysis of Fertility with Socio-economic Variable (Christians)

Socio-economic variables i.e. explanatory variables (x)	Result of Regression Analysis	
	slope (a)	Intercept (b)
Monthly Income (Rs)	-7.069×10^{-5}	2.936427
Monthly Expenditure (Rs)	8.182×10^{-5}	2.325354
Age at marriage (years)	-0.058	3.670622
Duration of conjugal life	0.092	1.387122
Per capita monthly income (Rs)	-0.324×10^{-3}	2.949486
Per capita monthly expenditure (Rs)	-0.258×10^{-3}	2.71846
Education (class passed)	-0.146794076	3.055073

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

From the table 5.43, related to the Christians, it is revealed that barring 'duration of conjugal life' and 'monthly expenditure' all other variables are negatively related to fertility with varying degree of impact. While the highest negative coefficient is observed between 'educational attainment' and fertility, the same is the lowest incase of 'monthly income' and fertility. Per unit change in the independent variables the impact on the dependent variable is as given below.

- One unit (Re. one) increase in monthly income will lead to reduction of fertility (birth) at the rate of -7.069×10^{-5} .
- One unit (Re. one) increase in monthly expenditure will lead to increase in fertility (birth) at the rate of 8.182×10^{-5} .
- One unit (one year) increase in age at marriage will lead to reduction of fertility (birth) at the rate of -0.058 .
- One unit (one year) increase in duration of conjugal life will lead to increase in fertility (birth) at the rate of 0.092 .
- One unit (Re. one) increase in per capita monthly income will lead to reduction of fertility (birth) at the rate of -0.324×10^{-3} .
- One unit (Re. one) increase in per capita monthly expenditure will lead to reduction of fertility (birth) at the rate of -0.258×10^{-3} .
- One unit of education (one year of schooling) will lead to reduction of fertility (birth) at the rate of -0.1468 .

Table 5.44: Regression Analysis of Fertility with Socio-economic Variable (Hindus)

Socio-economic variables i.e. explanatory variables (x)	Result of Regression Analysis	
	slope (a)	Intercept (b)
Monthly Income (Rs)	-4.999×10^{-6}	2.6807
Monthly Expenditure (Rs)	8.926×10^{-6}	2.6143
Age at marriage (years)	-0.115	4.5919
Duration of conjugal life	0.128	0.9516
Per capita monthly income (Rs)	-0.152×10^{-3}	2.865
Per capita monthly expenditure (Rs)	-0.239×10^{-3}	2.866
Education (class passed)	-0.141193566	3.15457

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

From the table 5.44, related to the Hindus, it is revealed that barring 'duration of conjugal life' and 'monthly expenditure' all other variables are negatively related to fertility with varying degree of impact. While the highest negative coefficient is observed between 'educational attainment' and fertility, the same is the lowest incase of 'monthly income' and fertility. Per unit change in the independent variables the impact on the dependent variable is as given below.

- One unit (Re. one) increase in monthly income will lead to reduction of fertility (birth) at the rate of -4.999×10^{-6} .
- One unit (Re. one) increase in monthly expenditure will lead to increase in fertility (birth) at the rate of 8.926×10^{-6} .
- One unit (one year) increase in age at marriage will lead to reduction of fertility (birth) at the rate of -0.115 .
- One unit (one year) increase in duration of conjugal life will lead to increase in fertility (birth) at the rate of 0.128 .
- One unit (Re. one) increase in per capita monthly income will lead to reduction of fertility (birth) at the rate of -0.125×10^{-3} .
- One unit (Re. one) increase in per capita monthly expenditure will lead to reduction of fertility (birth) at the rate of -0.239×10^{-3} .
- One unit increase of education (one year of schooling) will lead to reduction of fertility (birth) at the rate of -0.1412 .

Table 5.45: Regression Analysis of Fertility with Socio-economic Variable (Muslims)

Socio-economic variables i.e. explanatory variables (x)	Result of Regression Analysis	
	slope (a)	Intercept (b)
Monthly Income (Rs)	9.916×10^{-6}	2.9557
Monthly Expenditure (Rs)	1.325×10^{-5}	2.9623
Age at marriage (years)	-0.143	5.3823
Duration of conjugal life	0.161	1.1353
Per capita monthly income (Rs)	-5.040×10^{-5}	3.0962
Per capita monthly expenditure (Rs)	-1.538×10^{-5}	3.0393
Education (class passed)	-0.161237793	3.514438

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

From the table 5.45, related to the Muslims, it is revealed that barring 'duration of duration of conjugal life', 'monthly income' and also 'monthly expenditure' all other variables are negatively related to fertility with varying degree of impact. While the highest positive coefficient is observed between 'duration of conjugal

life' and fertility, the same is the lowest increase of 'monthly income' and fertility. At the same time, the highest negative coefficient is observed between 'educational attainment' and fertility, the same is the lowest increase of 'per capita monthly expenditure' and fertility. Per unit change in the independent variables the impact on the dependent variable is as given below.

- One unit (Re. one) increase in monthly income will lead to increase in fertility (birth) at the rate of 9.916×10^{-6} .
- One unit (Re. one) increase in monthly expenditure will lead to increase in fertility (birth) at the rate of 1.325×10^{-5} .
- One unit (one year) increase in age at marriage will lead to reduction of fertility (birth) at the rate of -0.143.
- One unit (one year) increase in duration of conjugal life will lead to increase in fertility (birth) at the rate of 0.161.
- One unit (Re. one) increase in per capita monthly income will lead to reduction of fertility (birth) at the rate of -5.040×10^{-5} .
- One unit (Re. one) increase in per capita monthly expenditure will lead to reduction of fertility (birth) at the rate of -1.538×10^{-5} .
- One unit of education (one year of schooling) will lead to reduction of fertility (birth) at the rate of -0.1612.

Fig. 5.9 : Trend line between income and fertility (Buddhist)

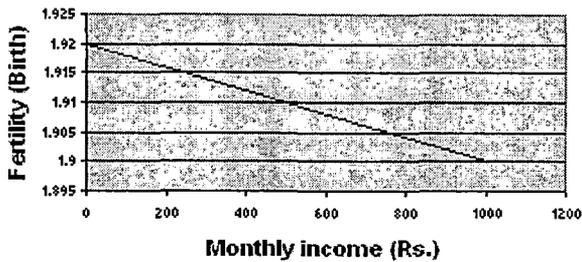


Fig. 5.10 : Trend line between income and fertility (Christian)

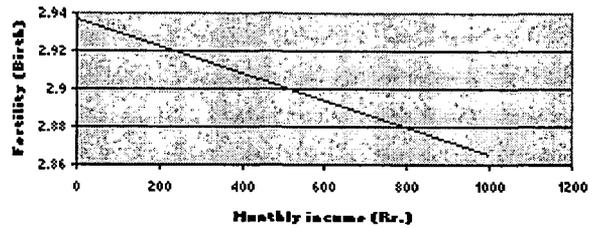


Fig. 5.11 : Trend line between income and fertility (Hindu)

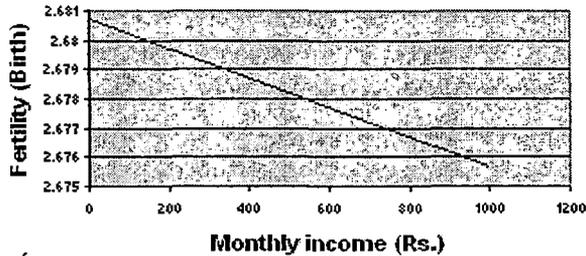
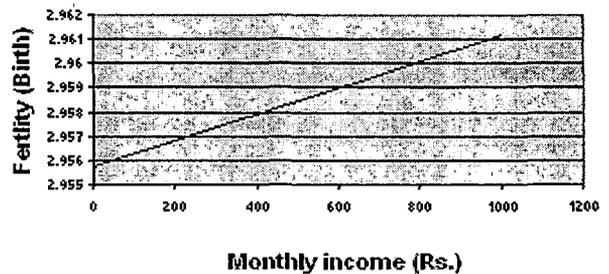


Fig. 5.12 : Trend line between income and fertility (Muslim)



Regression line given by the equation:

$$y = ax + b$$

Where, y = dependent variable (fertility/birth)

x = independent variable (income)

a = slope of the line

b = intercept of the line

Note:

Slope (a) it returns the slope of the of the linear regression line through the given data points (table 5.40-5.43).

Intercept (b) is the point at which a line will intersect the y-axis using a best fit regression line plotted through the known x-values and y-values (table 5.42-5.45).

Fig. 5.13 : Trend line between age at marriage- birth (Buddhist)

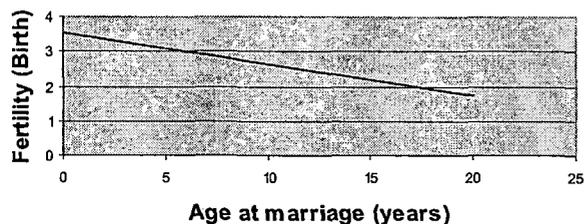


Fig. 5.14 : Trend line between age at marriage-fertility (Christian)

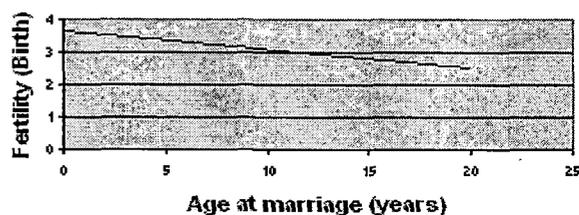


Fig. 5.15 : Trend line between fertility and age at marriage (Hindu)

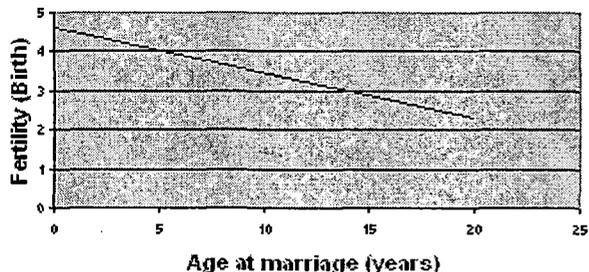
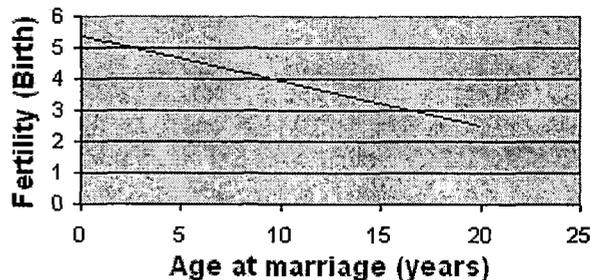


Fig. 5.16: Trend line between fertility-age at marriage (Muslim)



Regression line given by the equation: $y = ax + b$

Where, y = dependent variable (fertility/birth)

x = independent variable (age at marriage in years)

a = slope of the line

b = intercept of the line

Note:

Slope (a) it returns the slope of the of the linear regression line through the given data points (table 5.40-5.43).

Intercept (b) is the point at which a line will intersect the y-axis using a best fit regression line plotted through the known x-values and y-values (table 5.42-5.45).

Fig. 5.17 :Trend line between education and fertility (Buddhist)

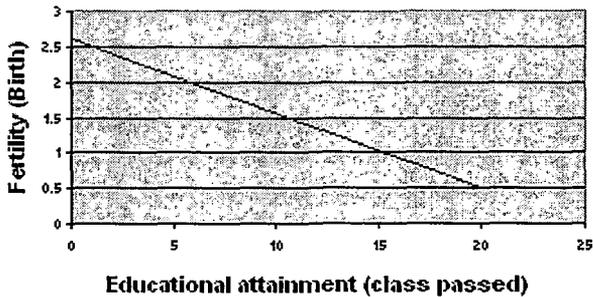


Fig. 5.18 : Trend line between education and fertility (Christian)

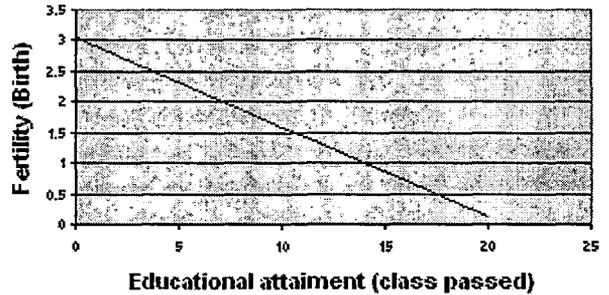


Fig. 5.19 : Trend line between education and fertility (Hindu)

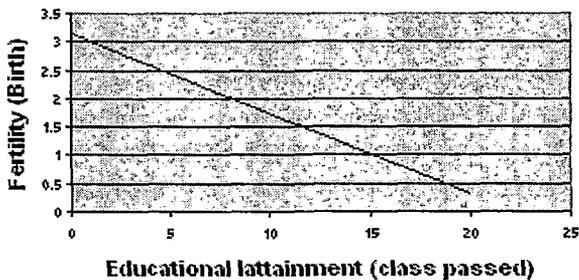
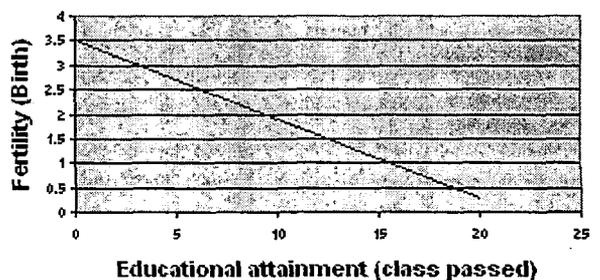


Fig. 5.20 : Trend line between education and fertility (Muslim)



Regression line given by the equation: $y = ax + b$

Where, y = dependent variable (fertility/birth)

x = independent variable (education in terms of class passed)

a = slope of the line

b = intercept of the line

Note:

Slope (a) it returns the slope of the of the linear regression line through the given data points (table 5.40-5.43).

Intercept (b) is the point at which a line will intersect the y-axis using a best fit regression line plotted through the known x-values and y-values (table 5.42-5.45).

Figures 5.9 to 5.12 show the regression line between income and fertility. Close observation of the figures (5.9 to 5.12) reveals that regression lines for all the religions barring Muslims slope down ward. But the amount of slope differs to a certain degree indicating differential impact of income on fertility. Where as maximum degree of down ward slope is found incase of Christians. The minimum is found in case of Buddhists. In case of Muslims the slope is up ward that indicates an increase in fertility with increasing income. It is interesting to note that incase of Muslims the increments in income has been influencing the fertility rate positively. It is probably because of the fact that even with increasing income, the educational development and thereby overall development is not taking place, at least at desired level. The Buddhists, Hindus and Christians have developed their educational and other social consciousness with increasing level of income.

Fertility and Age at Marriage for all the religions have been depicted in the figures 5.13 to 5.16. The relationship between fertility and age at marriage is negative which is indicated by the downward slope of the regression lines for all the religious groups. Though the magnitude varies, yet the trend is similar. The slope of the regression line produced in case of Muslim is the maximum indicating maximum impact on fertility in the community and lowest incase of Christian indicating minimum impact in the community. The above analysis indicates that the increasing age at marriage works more effectively among the

Muslims compared to the others as it is evident from the maximum gradient of the regression line in case of the Muslims.

Impact of educational attainment of the respondents have been analysed by constructing regression lines between educational attainment and fertility for all the religious groups. The result of the regression analysis (figures 5.17-5.20) reveals that the impact of education on fertility is maximum among the Muslims and minimum among the Buddhists. Though the slope of the regression lines is negative for all the religions, yet the magnitude varies. The highest gradient (downward) of the regression line is found in case of Muslims and the same is the minimum in case of Buddhists, though the trend is negative for all the religious groups. It interesting to note that the impact of development of education on fertility is more effective in case of the Muslims compared to others, as it is evident from the maximum downward slope of the regression lines drawn for all the religious groups under study. Hence, one may conclude to a certain degree of confidence that the way to reduce the fertility among the Muslims is to take a policy decision to improve education among the community.

Chapter – VI

FERTILITY STATUS IN RURAL AND URBAN AREAS: A COMPARATIVE ANALYSIS

Comparison between Overall Fertility in Rural and Urban Areas

The present chapter is an attempt to examine the rural-urban differentials in fertility in the district. As an integral part of the study, the religious differentials in fertility by residence i.e. differences among the religious groups in rural and urban areas has been analysed. In order to differentiate urban from rural areas the standard definition given by Census of India has been followed. Therefore, all urban areas with Municipal Board, Municipal Corporation and Notified Area Committee, barring Census Town, have been taken into consideration for the study. Therefore, all other areas barring the areas as above mentioned are rural. Number of pregnancies, births (including still birth) and number of children enumerated during field survey has been calculated for all the religious groups under study separately for rural and urban areas.

Table 6.1: Number of Pregnancies, Births and Children Enumerated During Survey

Religion	Number of sample respondents			Fertility indicators (number of)		
	Total	Rural	Urban	Pregnancies	Births	Children during enumeration
Buddhist	100	70	30	50	47	44
Christian	100	70	30	59	50	47
Hindu	200	140	60	127	107	106
Muslim	200	140	60	158	133	125
Total	600	420	180	394	337	322

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

So far as the rural-urban differentials in fertility as revealed by number of pregnancies occurred to the respondents is concerned, it is found from the table 6.2 that it is only among Buddhist respondents that there is no difference by residence. However, difference exists in the over all pregnancy rate for rural and urban areas. The same also holds good for all other remaining religious groups i.e. Christian, Hindu and Muslim. The difference is more prominent among Christians and Hindus than the Muslims and Buddhists. It is interesting to note that the least difference in the pregnancy rate among rural and urban dwellers is found among the Muslims. Overall higher pregnancy rates as compared to other religious groups, might be the reason for such a phenomenon among the Muslims.

Table 6.2: Number of Pregnancies, Births and Children During Enumeration

Religion	Residence (Rural/Urban)	Average number of pregnancies	Average number of births	Average number of children during enumeration
Buddhist	Total	1.67	1.59	1.55
	Rural	1.67	1.60	1.59
	Urban	1.67	1.57	1.47
Christian	Total	2.56	2.28	2.16
	Rural	2.81	2.54	2.41
	Urban	1.97	1.67	1.57
Hindu	Total	2.56	2.33	2.24
	Rural	2.88	2.56	2.44
	Urban	2.12	1.78	1.77
Muslim	Total	3.03	2.78	2.57
	Rural	3.19	3.02	2.77
	Urban	2.63	2.27	2.08
Total/Average	Total	2.59	2.35	2.22
	Rural	2.77	2.55	2.40
	Urban	2.19	1.87	1.79

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

Information relating to number of births including still births as provided by the respondents has been again taken as an indicator of fertility and thus average number of births for all four religious groups has been calculated

separately for rural and urban areas. The scanning of the table-6.2 shows that it is the Buddhist community among which the rural-urban difference in birth is the least (0.03 only). The Muslims again remain in the lower side so far as the rural-urban differentials in birth are concerned. Christians have held the top position in the list with differentials where the extent is 0.87.

It is interesting to note that when it comes to the number of children during enumeration the position of Hindus and Muslims inter changes. The rural urban gap with respect to number of children during enumeration is the lowest among the Hindus (0.67). Christians again top the list with a gap of 0.84 and Buddhists hold the bottom position with a gap of 0.12.

It is clear from the study that the Buddhist community in rural area is not very different from that of the urban in the district and thus the difference is the lowest or no difference exists. The Christian community in the district has dualistic characteristics and hence the rural-urban difference is the maximum with a moderate difference among the Hindus and the Muslims. The Muslims are generally found to be economically poor and educationally backward. From the overall socio-economic conditions of the community it is understood that the people are extremely poor. Long time attachment to agriculture, deprivation in the gainful employment, particularly in the government sectors and public sector units has led to the situation of an overall backwardness among the Muslim community which has resulted in the higher fertility as well as higher rural-urban gap in fertility. Sacchar Committee Report on the status of minorities in India subscribes and clearly states that

the Muslims are in a worst state of affair so far as the situation of employment and education is concerned.

Table 6.3: Distribution of Urban Respondents by Religion and Number of Pregnancies

Religion	Number of respondents with pregnancies						Total
	0	1	2	3	4	≥5	
Buddhist	3	8	16	2	1	--	30
Christian	3	8	10	6	2	1	30
Hindu	1	18	22	11	8	--	60
Muslim	1	17	13	11	12	6	60
Total	8	51	61	30	23	7	180

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008

The distribution of urban respondents by number of pregnancies occurred to them shows a very interesting picture where only 4.44 percent of the respondents have reported of having no pregnancy at all till the date of enumeration. Where as 62.2 percent of the respondents of all religious allegiance have reported having pregnancy only once or twice, rest 33.34 percent of the respondents have reported having pregnancy more than twice till the date of enumeration. Among the urban Muslim respondents as high as 50.00 percent have reported having pregnancy once or twice. The same figures are 66.67 percent, 60.00 percent and 80.00 percent for Hindus, Christians and Buddhists respectively.

While comparing tables 6.3 and 6.4 one finds that relatively higher proportion (6.67 percent) of the rural respondents have reported having no pregnancy till the date of enumeration. At the same time relatively lower proportion i.e. 42.38 percent of the respondents of rural areas have reported having pregnancy either once or twice as compared to 62.20 percent in urban areas.

Table 6.4: Distribution of Rural Respondents by Religion and Number of Pregnancies

Religion	Number of respondents with pregnancies						Total
	0	1	2	3	4	≥5	
Buddhist	12	13	34	8	3	--	60
Christian	2	7	19	27	8	7	60
Hindu	10	13	39	32	23	23	140
Muslim	4	22	31	22	33	28	140
Total	28	55	123	89	67	58	420

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

Cross examination of the table-6.4 to analyse the religious differential shows that as high as 59.29 percent of the Muslim respondents from rural areas reported having pregnancy more than twice. The figure is 55.71 percent, 70.00 percent and 18.33 percent respectively for Hindu, Christian and Buddhist respondents.

Table 6.5: Distribution of Urban Respondents by Religion and Number of Births

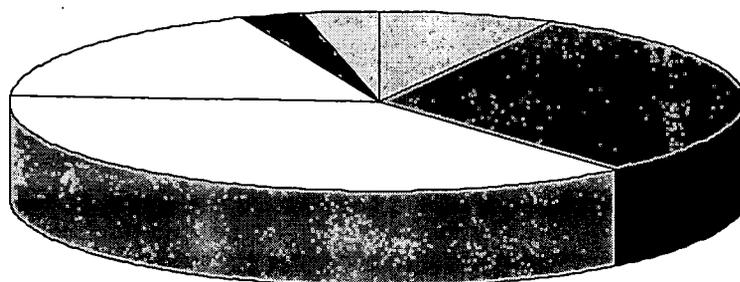
Religion	Number of respondents with births						Total
	0	1	2	3	4	≥5	
Buddhists	3	9	16	2	--	--	30
Christian	6	6	11	6	1	--	30
Hindu	1	24	22	13	--	--	60
Muslim	4	17	18	11	4	6	60
Total	14	56	67	32	5	6	180

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

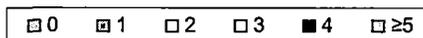
Tables 6.5 and 6.6 show the result of religion-wise distribution of respondents by number of births including still births to them for rural and urban areas. As has been mentioned earlier that the number of births indicates fertility of a group of population, hence a comparative analysis of the groups can be attempted with the help of birth records.

Table 6.5 pertaining to distribution of urban respondents by religion and number of births shows that 7.78 percent of the urban respondents have not given birth to any baby till the date of enumeration. It is thus interesting to note that as high as 68.33 percent of the same category of respondents has reported to have given birth to one or two children. At the same time 23.89 percent of the respondents of urban background have given birth to three or more than three children.

Fig. 6.1: Distribution of Urban Respondents by Number of Births



No. of births



The inter-religion percentage distribution of respondents of urban residence having different religious backgrounds shows that the number of births of babies i.e. three or more than three to them is the highest among the Muslims (35.00 percent) followed by the Christians (23.33 percent), the Hindus (21.67 percent) and the Buddhists (6.67 percent).

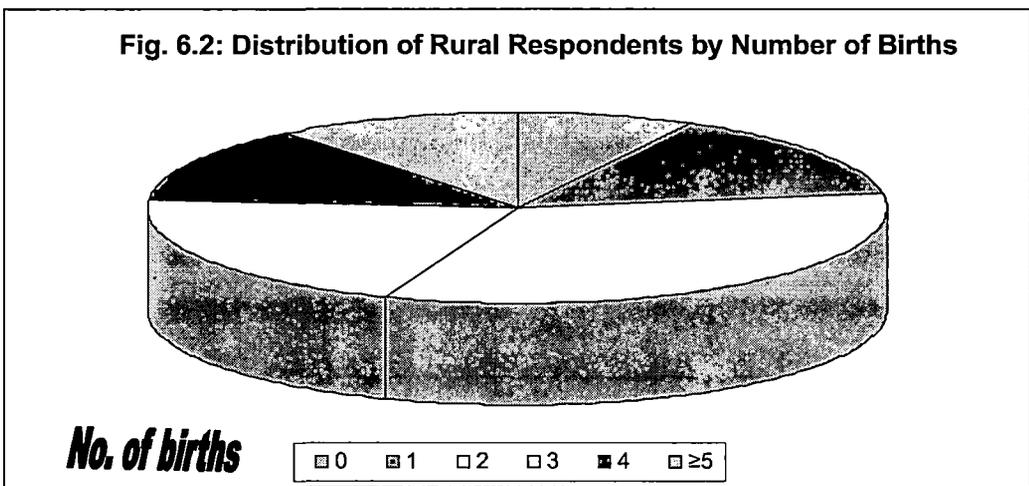
Table 6.6: Distribution of Rural Respondents by Religion and Number of Births

Religion	Number of respondents with pregnancies						Total
	0	1	2	3	4	≥5	
Buddhists	14	12	34	8	2	--	60
Christian	4	6	28	24	2	6	60
Hindu	10	20	41	38	18	13	140
Muslim	5	23	37	17	32	26	140
Total	33	61	140	87	54	45	420

Source: Calculated by the researcher on the basis of the data collected from the field during 2007-2008.

While comparison is made between respondents of rural and urban background with respect to the number of births to them one finds that there exists a difference. The proportion of rural respondents without having given birth to any child is 7.86 percent as against 7.78 percent in case of urban respondents. Similarly, only 47.86 percent of the rural respondents have given birth to one or two babies against 68.33 percent of the same category of respondents in the urban areas. Astonishingly high proportion (44.28 percent) of respondents of rural background has given birth to three or more than three children as against 33.34 percent in urban areas.

Fig. 6.2: Distribution of Rural Respondents by Number of Births



Among the rural respondents it was found that highest proportion i.e. 53.57 percent of Muslim respondents reported themselves having given birth to more than two children. The proportion of Christian respondents belonging to same category is almost identical Muslims i.e. 53.33 percent followed by Hindus 49.29 percent and Buddhists 6.67 percent.

Fertility in a Few Selected Urban Centers

The district of Darjeeling has nine urban centres on the whole of which there is one corporation i.e. Siliguri Municipal Corporation; three Municipalities Darjeeling, Kalimpong and Kurseong; and a lone Notified Area i.e. Mirik. Apart from the above mentioned urban centres, there are four Census Towns namely, Pattabong Tea Garden, Cart Road, Uttar Bagdogra and Bairatisal. For the purpose of this study, Census Towns have been taken as part of rural area. Since part of Siliguri Municipal Corporation is extended in Jalpaiguri district, hence it can not be taken for detailed study.

Table 6.7: Urban Centres and their Growth in Darjeeling District

SL	Urban Centres	Status	Decadal Growth Rate (percent)	Remark
1	Pattabong Tea Garden	CT	0.00	Part of Darjeeling Urban Agglomeration
2	Darjeeling	M	4.67	Municipal Town
3	Kalimpong	M	1.07	Municipal Town
4	Mirik	M	3.02	Municipal Town
5	Kurseong	M	4.96	Municipal Town
6	Cart Road	CT	0.07	Non-Municipal Town
7	Uttar Bagdogra	CT	3.08	Non-Municipal Town
8	Bairatisal	CT	1.49	Non-Municipal Town
9	Siliguri	M (Corp.)	3.12	Municipal Corporation

Source: PCA, Vol. 7 (CD ROM), Census of India, 2001.

Table-6.7 shows a very high growth rate of population i.e. annual growth rate of 4.67 percent, 4.96 percent and 3.12 percent in Darjeeling, Kurseong and Siliguri respectively. This phenomenon can not be explained as natural growth. Large scale migration from Nepal and Bangladesh etc. is partly responsible for this phenomenon. This apart, the change of boundary and inclusion of new areas into the fold of municipalities and Municipal Corporation, is another cause of high growth rate of population. In order to explain this phenomenon of high growth rate, records of natural growth rate, for a few municipalities have been analysed.

Table 6.8: Nepali Migration in India (1901-1991)

Year	No. of in-migrants
1901	239127
1911	274251
1921	260220
1931	303139
1941	N.A.
1951	278972
1961	498836
1971	526526
1981	501292
1991	478694

Source: Collected from Dutta, P. (2002): "Nepali Migration in India", p.18
retrieved from <http://www.iussp.org/Bangkok/2002/511Datta.Pdf>

Cross border migration (table-6.8) is one of the most important reasons of high growth rate of population in the urban areas of the region. Though table-6.9 is not particularly applicable to Darjeeling district alone, yet it is well known fact that the Nepali immigrants mostly get settled in the Darjeeling district. It is in this context that the organization such as Amra Bangali and Bangla Bhasha O Banla Bachao Committiee demanding scraping of Indo-Nepal Friendship Treaty. They also opposed tripartite talk on Gorkland as they consider many of the Gorkhas are aliens coming from Nepal.

Birth and death records of individual urban centres and estimated figures for their natural growth for the period 1997-2006 show that in Kurseong Municipality alone, the figures vary from as high as 1139 to as low as 718 and thus a natural growth leads to an addition of population to existing population varying between 503 to 818. Similarly, the Kalimpong Municipality recorded births ranging from 1671 to 2628 and also a natural growth of population to the tune of 1302 to 2095.

Table 6.9: Vital Statistics of a Few Selected Urban Centres, 1997-2006

Year	Kurseong Municipality			Kalimpong Municipality			Mirik Notified Area (Urban)			Darjeeling Municipality		
	Birth	Death	Natural Growth	Birth	Death	Natural Growth	Birth	Death	Natural Growth	Birth	Death	Natural Growth
1997	930	253	677	1671	369	1302	197	38	159	1495	564	931
1998	718	177	541	2176	234	1942	211	23	188	1775	480	1295
1999	964	169	795	1969	423	1546	187	48	139	1560	431	1129
2000	918	265	653	1961	430	1531	72	44	28	1608	410	1198
2001	822	319	503	1847	395	1452	304	37	267	1982	544	1438
2002	935	307	628	1835	468	1367	384	30	354	2536	413	2123
2003	1139	321	818	2520	484	2036	303	39	264	2553	517	2036
2004	965	354	611	2332	530	1802	216	47	169	3788	563	3225
2005	957	342	615	2628	533	2095	166	27	139	2541	558	1983
2006	1003	301	702	2534	479	2055	286	30	256	2626	509	2117

Source: Municipal records births and deaths of concerned municipalities (1997-2006)

The scenario in the Mirik Notified Area is not very different from the other urban centres. The only remarkable difference is that the total population of Mirik being low, birth, death and natural addition to existing population is also low. It is observed from the table 6.9 that Mirik has recorded births ranging from 72 to 384 during 1997-2006 and thus a natural growth record is 28 to 354. Darjeeling Municipality on the other hand, has recorded births ranging from 1495 to 3788 during the above mentioned period. During the same period natural growth of population in the urban centre is between 931 and 3225. Thus the higher growth rate of population in the region, discussed in the earlier section, is justified.

Chapter – VII

CONCLUSION

The present study is a modest attempt to find out fertility differentials by religion and to identify the determinants of such differentials in fertility in the district of Darjeeling.

Findings

The major findings related to the population characteristics of the district are as follows:

1. The district has a population density of 511 persons per km² which is found to be less than the state average i.e. 903 persons per km² but more than national average i.e. 336 persons per km².
2. The district has a decadal (1991-2001) growth rate of 23.79 percent which is higher than both the state as well as the national average.
3. Hindu is the predominant religious group with 76.92 percent population and Muslims are the 4th largest group with only 5.31 percent population.
4. The district has a sex ratio which is favourable to female i.e. 943 females for 1000 of males as compared to state or national average.
5. Of the total workers, around 60 percent are engaged in agricultural sector.
6. Overall literacy of 71.8 percent is well above state and also national overage.

7. Female literacy of 62.9 percent stands quite satisfactory and is higher than the state average of 59.61 percent and also the national average of 53.67.

The general characteristics of fertility and an analysis of socio-economic conditions of the respective religious groups under study have been presented in chapter-iii. The major findings in the chapter are as follows:

1. It is observed that a maximum of 31 percent of the Christian respondents are found to be working. However, in case of Muslims, as much as 9.5 percent of the respondents are found to be workers.
2. Among all the four religious groups, Buddhist respondents have a maximum (68 percent) of their husbands engaged in service sector, both in government and private sectors. The same is the minimum in case of Muslims which is a meager 11 percent.
3. The Buddhists have the highest per capita monthly income of Rs. 3077 where as the Muslims have the lowest monthly per capita income of Rs. 1413.
4. So far as the monthly amount of savings is concerned, Buddhists have got the highest per capita savings of Rs. 1374 and the Muslims have the lowest i.e. Rs. 482 only.
5. The study further reveals that the average number of years of schooling of respondents is 6.35 years. The same varies between as low as 4.56 to 9.73 for Muslims and Buddhists respectively.
6. It is seen that the average number of years of schooling of fathers of the respondents is 4.86 years, the highest being among the Buddhists (5.99) and the lowest among the Christians (3.74).

7. The Buddhist mothers of the respondents have relatively longer duration of schooling i.e. 3.86 years as compared to an average of 2.13 years, for all the religious groups taken together. On the other hand the shortest length of schooling is found to be among the Christian mothers i.e. (0.72 years).
8. The study highlights that Buddhist husbands are found to be the most educated among the religious groups with an average of 10.82 years of education. The Muslim husbands are among the lowest educated in the religious groups under study with 6.24 years of education. The average number of years of education for all the four religious communities is 7.87 years.
9. It is observed that the average number of pregnancies for all the respondents is 2.60.
10. Similarly, the average number of births including still births is found to be 2.35.
11. It is also found that the average number of live births took place to the respondents is 2.25.
12. Consequently, the average number of still births to the respondents of all the religious groups taken together is 0.12.
13. The study shows that the average number of children for all the respondents during enumeration is 2.22.
14. Similarly, the Crude Birth Rate and the Total Fertility Rate calculated for all the religious groups are 40.96 and 3.58 respectively.

15. The average size of the family, taking all the religious group together is 4.82 in the study area.

As has been said earlier, while discussing fertility and religion in the study area, the CBR and the TFR for all the religious groups taken together are 40.96 and 3.58 respectively. However, the religious groups have differential fertility rates. Some of the major findings on number of pregnancies, number of births and also fertility in general are as follows:

1. It is seen that on an average, maximum number pregnancies occurred among Muslims (3.03) and minimum among the Buddhists (1.67).
2. The maximum number of children ever born is found among Muslims (2.62). As far as the Buddhists are concerned the figure is (1.57), which is the lowest among all.
3. On an average, it is seen that maximum number of surviving children till the day of filed work is found among Muslims (2.62) and minimum among the Buddhists (1.57).
4. The study reveals that the CBR is found to be the highest among Christians (51.02) and the lowest figure is calculated to be (26.25) among the Buddhists.
5. The highest TFR is found among Christians (4.89). Similarly, Buddhists have the lowest TFR which is 2.44.
6. It is observed that percentage of respondents to have given birth up to two children is the maximum among the Buddhists (88) and Minimum among the Muslims (51). As a matter of fact a maximum percentage of the Muslims (48) are observed to have given birth to more than two

babies. In case of Buddhist respondents it is seen that as little as 12 percent of them have given birth to more than two children.

The fertility and religion in the study have been discussed and analysed in the light of the variables such as educational attainment, income level, occupation, and age at marriage. The results of Correlation and Regression analysis of fertility, in the light of the above variables are as follows:

1. Educational attainment has negative impact on fertility but the extent of influence varies from one religious community to the other as their socio-economic conditions vary.
2. It is observed that the impact of educational attainment of the respondents, among others, seems to be much more effective (strong) than the husbands and the parents as is clear from the correlation coefficients (table-5.41).
3. There is no definite trend of relationship between fertility and different sectors of economic activities in which the respondents are engaged.
4. Working females have relatively less number of children as compared to the housewives but the difference is not significant.
5. There is no significant difference in fertility across religious groups in the same sector of occupation (respondents engaged in occupation in the same sector).
6. Even among the employed respondents, only a few are gainfully employed and therefore, no significant impact of occupation on fertility is observed. Very low income generated from the employment has not

contributed significantly in enhancing the social status of the respondents.

7. There exists a negative relationship between fertility (number of births) and income (per capita monthly income). Income generated has been invested for education, health and nutrition which probably influenced fertility behaviour of the respondents.
8. The income has strong negative relation with fertility among the Christians and weak among the Muslims.
9. The correlation coefficient calculated between the variables fertility (number of births) and income (per capita monthly income) varies between -0.0495 and -0.3236 for different communities.
10. There exists a negative relationship between fertility and age at marriage.
11. The above relationship also holds good in case of pregnancy and births. Enhanced age at marriage means a number of fecund females are out of child producing system, thus it influences fertility negatively.
12. The relation between fertility and age at marriage is negative for all the religions but the magnitude differs across the religious groups.
13. A strongest relationship between the above variables is found among the Buddhists and a weak relationship exists among the Hindus, keeping in view all the religious groups studied.

The following picture emerges from the fertility status in the rural as well as urban areas in the district:

1. The rural-urban difference in birth is the least i.e. 0.03 only among the Buddhist community. The lower level of rural-urban differentials in birth is found among the Muslims. Christians have the highest differentials of 0.87.
2. It is interesting to note that when it comes to the number of children during enumeration the position of Hindus and Muslims inter changes. The rural-urban gap with respect to number of children during enumeration is the lowest among the Hindus (0.67). The Christians are on the top the list with a gap of 0.84, while Buddhists are on the bottom with a gap of 0.12.
3. The study shows that as high as 59.29 percent of the Muslim respondents from rural areas reported having pregnancy more than twice. The figures stand at 55.71 percent, 70.00 percent and 18.33 percent respectively for Hindu, Christian and Buddhist respondents.
4. Among the rural respondents it has been found that the highest proportion i.e. 53.57 percent of Muslim respondents reported themselves having given birth to more than two children. The proportion of Christian respondents belonging to same category is almost identical with that of Muslims i.e. 53.33 percent followed by Hindus 49.29 percent and Buddhists 6.67 percent.
5. The study reveals that Muslims of urban residence have the highest proportion of their respondents having given birth to three or more than three children followed by the Christians (23.33 percent), the Hindus (21.67 percent) and the Buddhists (6.67 percent).

How to Bridge the Gap of Fertility between the Communities?

The present study shows that the socio-economic under development of Muslims is an important reason of having higher fertility among them. Particularly, education and that is female education has strong influence on fertility behaviour and plays an important role in controlling the fertility among religious groups. Therefore, overall socio-economic development of Muslims may be an effective way of tackling high fertility with greater emphasis on education. Along with all round development, policy makers are needed to take appropriate measures to remove the fear psychosis among Muslim minorities that will help adopting family planning services available through government agencies

It has been observed that when the neighbours of one community accept contraceptives, others also follow the same. As a result it is thus found that the region where fertility is low, all the communities have low fertility and vice-versa. As is clear from the study of Jeffery and Jeffery (2000) in Bijnor, Uttar Pradesh, the impact of religion is always overshadowed when there is good delivery system of family limitation services. The good quality and acceptable alternative is also required to be introduced for better result among Muslims. The stereotype preference of sterilization by the health worker has to be done away with which is not acceptable to many Muslims, though they do not mind adopting non-terminal family limiting methods.

Health workers often make sterilization almost synonymous with family planning that may not be acceptable to a particular community, say Muslims.

As has been authenticated by Jeffery and Jeffery (2000), it is found in their study in Bijnor , Uttar Pradesh that “The impact of Islam on the demand for family limitation – if it applies at all – is through resistance to some forms of contraception – specially, sterilization – and is by no means as consistently opposed to family planning as sometimes suggested. But until recently, in much of north India, family planning and sterilization were regarded as synonymous. Through out our research in Bijnor, beginning in 1982, we have confronted by women – Hindu and Muslim alike – asking for alternative methods, and denying that the government family planning staff had anything other than sterilization to offer. In fact some women had Copper-T inserted, and the contraceptive pill was available in some health centres in Bijnor. But family planning workers often refused to provide anything but sterilization to women who expressed an interest in family limitation” (Jeffery and Jeffery, 2000, p. 3257).

Bhat and Zavier (2005:385-402) have projected population for India. They concluded the differences in fertility between Hindus and Muslims will start diminishing from 2021 and by 2096-2100 the fertility will exactly be equal. As per their population projection, proportion of Muslims to total population would be 18.80 percent by 2101. Hence the fear psychosis created by 'saffron demographers' and their cohort politicians may not continue to exist.

Recommendations

The following suggestion will go a long way in bridging the gap in fertility by religion.

- i) It is essential that health services become more responsible and acceptable to local groups so that the local population is benefited.
- ii) Local and community leaders have to be involved in the family planning programme who can easily win the trust of the village folks to convince them to adopt the family limitation measures.
- iii) Places of community affairs and mass gathering such as Masjid, Mandir, Church, Monastery and also site and occasions of fairs and festivals may effectively be utilized for awareness campaign aimed at reducing fertility rate.
- iv) Panchayat has to take lead role in sensitizing the mass about the drawbacks of large family. Through the Gram Samsad, panchayat may organize awareness camps etc. to sensitize the common mass, particularly rural folks.
- v) Health services, particularly, related to family welfare has to be more users' friendly. The staff should be trained to deal with the rural and illiterate mothers to make them understand the utility of family limitation and usefulness and advantages of smaller family.
- vi) There is a need to build well equipped health centres particularly, in the rural areas and more so in the areas dominated by minorities and other backward communities so that there is an easy access to the family planning services. Improvement of existing health centres will be beneficial towards reducing fertility.

- vii) Educational infrastructure is needed to be improved considerably to cater to the need of target group of children. The quality of education, as it has been seen from the present study would help to reduce fertility among the communities having relatively higher level of fertility.
- viii) Making school more attractive so that families are encouraged to send their wards to school which will pressurize them to keep their families smaller.
- ix) School curriculum must include a syllabus on the causes and consequences of high fertility leading to high growth rate and finally heading towards 'population explosion'.
- x) Employment opportunity has to be broadened so that more and more women are employed. This phenomenon will enhance the income level of the family on one hand and force to opt for smaller family on the other, as we have seen in our study that the working women have less number of children.
- xi) NREGS has to be implemented so that the unemployed persons get at least 100 days of work in a year which will certainly have negative impact on fertility.
- xii) Sense of insecurity has to be removed from both majority and minority communities. In order to do away with this, a balanced police force comprising all religious and linguistic groups should be formed to win the confidence of all sections of the society.
- xiii) Communal harmony is a must to build confidence among the minorities.

- xiv) Age at marriage has to be increased considerably in order to achieve reduced level of fertility. Stringent implementation of rule pertaining to minimum marriageable age is to be ensured. This in turn will control fertility to a desired level.
- xv) Govt. policy should be designed in such a manner as to be ante-natal that may control fertility with a greater degree of efficiency. The spouses having given birth to third child may be deprived of maternity leave. Public arrangement for educational and health services may be limited to only first two children. Couple having more than two children may be barred from contesting election at any level and thus becoming peoples' representatives and executives.
- xvi) Along the above line government may frame policy of incentives to those couples who have restricted themselves to not more than two children. Particularly, providing certain financial support/benefit to first two children with a couple may limit fertility to a certain degree.

Limitation of the Study

Time constraint has always been a great handicap for raising the standard of work to an expected level. More importantly political situation and an environment of uncertainty in the hills (part of field of this research is in the hilly tract of Darjeeling district) proved to be quite expensive for the researcher. 'Bengali-Gorkha' divide also put a serious challenge in the way of completion of this study. Had there been a normal peaceful environment in the hills the work would have been more in depth and the quality of work would have gone up accordingly.

While drawing the sample respondents, the religious groups under study have been considered homogenous which is not the fact prevailing in the field. As for example, among the Muslims, the Bhatias, the Biharis and the local Muslims are very different, so far as their socio-economic condition, social customs and religious practices are concerned.

Scope for Further Study

Though a sincere effort has been made to understand and explain the differentials in fertility by religion in Darjeeling district, yet there have been many weaknesses which need thorough investigation. The effect of income on fertility of Muslims was found to be positive which needs a serious probe as it contradicts established thesis. The study is required be more broad based with larger number of samples drawn from all the religious groups, in the society covering all blocks of the district. Therefore, it may be said that there is a wide scope for further study of fertility with respect to religion in the district.

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Appendix-I

Differentials in Fertility by Religion in the District of Darjeeling Survey Schedule

Date of interview:

Respondent No:

Whereabouts of the respondent:

Village:

Mouza:

G. P:

CD Block:

P. S :

Dist:

Particulars of the respondent:

Name:

Age:

Sex:

Religion:

SC/ST/OBC/Gen:

Jati/Caste (if Hindu):

Primary language:

Educational background:

Literate/Illiterate:

If literate, educational attainment (class passed):

Duration (years) of schooling:

Cause of abandoning education:

Continuation of education after marriage: Y/N

If yes, period in years:

Parents'/Spouse's educational attainment (class passed):

Father:

Mother:

Husband:

Occupational status:

Housewife/Employed/selfemployed:

Main/Marginal worker:

Sector of employment: Primary/Secondary/Tertiary

Father's occupation:

Mother's occupation:

Husband's occupation:

Father-in-law's occupation:

Mother-in-law's occupation:

Age at marriage and conjugal life:

Present marital status: Married/Separated/Divorcee/Abandoned

Your age at first marriage:

Age at present marriage:

Your husband's age at marriage:

Duration of conjugal life:

Duration of gap period if any:

Children of the respondent:

No. of live births:

No. of still births:

No. times pregnancy terminated naturally:

No. of times pregnancy terminated intentionally:

Total number of pregnancies:

Details of children:

SL	Name	Age (years)	Sex	Schooling (years)	Qualification (class passed)	Remark

Details of the other resident members of the family:

SL	Name	Age (years)	sex	occupation	Qualification (class passed)	Remark

Wealth and Asset with the family:

Amount of agricultural land (bigha/acre) owned:

Operational holding (bigha/acre)

Livestock etc:

No. of bullocks/cows:

Goats/sheeps:

Pigs:

Poultry:

Monthly earnings:

Monthly earning from Agriculture:

Livestock:

Poultry:

Trade & business:

Services:

Others:

Total:

Monthly expenditure:

Break-up of expenditure

Health:

Education:

Food:

Other:

Total:

Family structure and decision making:

Head of the household:

Principal decision maker about schooling:

Principal decision maker about allotment of housework:

Principal decision maker about economic earning:

Principal decision maker about spending of the earning:

Daughters help in cooking and other household works etc: Y/N

Your opinion about your daughter:

Age at which you will marry your daughter:

Continuation of your daughter's education after attaining the age of puberty:

Y/N

Continuation of your daughter's schooling/education after marriage: Y/N

If you have to withdraw your son or daughter your option: Son/Daughter

Economic value of children:

Duration of your daughter's daily engagement in domestic work/earning:

Distance of source of drinking water:

Method of collecting drinking water: Head/hand load/tap

Family members who collect drinking water:

Time spent in collecting water:

Fuel used in the household activities:

Time spent in collecting firewood:

Your preference of living with when you are above 60 years of age:

Son/daughter

Reproductive preference:

Your option of having another child: Yes/no/ not sure/ don't know

If yes, your preference: son/daughter

Reason of such a preference:

News of birth of a boy as compared to a girl to you: better/same/worse

Your husband's choice of having another child: Y/N/not sure/ don't know

Your planning about number and gapping of children exists: Yes/No

Your preferred number of children: one/two/more than two

Your opinion of large family while comparing with small family: better/not sure/don't know/worse

Your practice of breast-feeding: Yes/No

Duration of breast-feeding:

Contraceptive use and Reproductive health

Discussion about contraception with husband: Y/N

Birth control measure ever used: Y/N

If yes, type/method:

If no, reason for not using: Religious/social/family choice/voluntarily

Birth control measure is a decision taken by: you/husband/both/thrust upon by elderly

Discussion partner about family planning: husband/health advisor/relatives and friends

Frequency of visiting health center/officials for advice regarding family planning:

Access to contraceptives: Easy/difficult/inaccessible

Separate bedroom for the couple: Y/N

Permission of your religion about use of contraceptives: Y/N

Permission of your religion for abortion: Y/N

Your view about the stand of your religion on use of contraceptives:

Your view about the stand of your religion on abortion:

Nature of birth control measures: Permanent/Temporary

If temporary,

Method of birth control that you use: Traditional/Modern

If traditional: Rhythm/withdrawn

If modern: IUD/Pill/Condom/Sperm killer medicine

If permanent, Vasectomy/ Tubal Ligation

Religion and Women's status (*rate in the scale of 1-5 where 1 represents lowest and 5 highest*)

Your knowledge of provisions of your religion on family size and birth control:

Your faithfulness towards religious practices:

Extent to which you bother about what your local priest/moulavi etc think of you:

Frequency of your visit to mosque/temple/cathedral/gompa:

Your interaction with your neighbours belonging to other religious group:

Religious faithfulness of your children:

Frequency of their visit to places of worship:

Level of your satisfaction concerning your children's religious practices:

Women's Status (*strong 1, moderate 2, weak 3, Negligible 4 and absent 5*)

Representation of women in panchayat/municipality:

Representation as lawmakers in state assembly and parliament:

Importance of representation in panchayat etc. :

Female voices are given due importance: Y/N

Females are free to decide their own affair: Y/N

Female child get equal right as compared to male child:

Your observation about the following aspects during last five years:

Your economic condition: better/same/worsened

Women's empowerment: improved/unchanged/worsened

Position of women in the society: improved/unchanged/worsened

Violence against women: Increased/reduced/remain unchanged

Tendency of dowry: Exists/wiped out/never existed/increased

Appendix-II

Main Results of Population Projection by Religion, All India

Year	Population in billion		Percent of Muslims to total pop.	Pop. growth rates (percent)		
	Hindus	Muslims		Hindus	Muslims	Difference
1991	0.69	0.11	12.6	--	--	NA
2001	0.83	0.14	13.5	1.81	2.60	0.79
2011	0.95	0.17	14.4	1.41	2.22	0.81
2021	1.06	0.21	15.4	1.04	1.80	0.76
2031	1.14	0.24	16.1	0.76	1.33	0.58
2041	1.21	0.26	16.7	0.56	0.97	0.41
2051	1.25	0.28	17.3	0.34	0.78	0.44
2061	1.27	0.30	17.8	0.19	0.53	0.34
2071	1.28	0.31	18.2	0.06	0.35	0.29
2081	1.27	0.31	18.6	-0.03	0.20	0.23
2091	1.27	0.32	18.8	-0.04	0.10	0.14
2101	1.27	0.32	18.8	-0.01	0.04	0.05

Source: Bhat and Xavier, "Role of religion in fertility decline: The case of

Indian Muslims", adopted from EPW, January 29, 2005, p. 399.

Appendix-III

Major Demographic Attributes of Darjeeling District

SL No.	Demographic aspects	Male	Female	Total
01	Population	1609172		
02	Number households	318737		
03	Household size	5.0		
04	Proportion of urban population	32.3		
05	Sex Ratio (females per 1000 males)	937		
06	Sex Ratio (0-6 years)	962		
07	Sex Ratio (SC)	949		
08	Sex Ratio (ST)	996		
09	Proportion of SC population (percent)	15.0	16.2	15.1
10	Proportion of ST population (percent)	12.3	13.1	12.7
11	Literacy Rate (percent)	80.1	62.9	71.8
12	Illiteracy Rate (percent)	34.3	51.9	42.8
13	Work participation Rate (percent)	48.5	21.4	35.4
14	Proportion of Main Workers (percent)	43.2	15.4	9.8
15	Proportion of Marginal Workers (percent)	5.3	6.0	5.6
16	Proportion of Non-workers (percent)	51.5	78.6	64.6
17	Proportion of cultivators to total workers (percent)	14.4	18.2	15.5
18	Proportion of agricultural labourers to total workers (percent)	8.9	13.4	10.2
18	Proportion of workers in household industries to total workers (percent)	2.5	3.6	2.8
19	Proportion of other workers to total workers (percent)	74.3	84.8	71.5

Source: Primary Census Abstract, Vol. 7 (CD ROM), Census of India, 2001.

Appendix-IV

Comparative Growth of Hindus and Muslims, Present, Past and Future (1961-2001)

Year	Population (billion)		Percent to total		Growth rate of population (%)		
	Hindu	Muslim	Hindu	Muslim	Hindu	Muslim	Difference
1961	0.37	0.05	83.45	10.7	2.07	3.25	1.18
1971	0.45	0.06	82.73	11.2	2.37	3.09	0.72
1981	0.56	0.08	82.30	11.7	2.44	3.09	0.65
1991	0.69	0.11	81.53	12.6	2.28*	3.28*	1.00*
2001	0.83	0.14	80.46	13.5	1.81	2.60	0.79
2011 ^{\$}	0.95	0.17	80.47	14.4	1.41	2.22	0.81
2021	1.06	0.21	77.73	15.4	1.04	1.80	0.76
2031	1.14	0.24	76.76	16.1	0.76	1.33	0.58
2041	1.21	0.26	77.72	16.7	0.56	0.97	0.41
2051	1.25	0.28	72.23	17.3	0.34	0.78	0.44
2061	1.27	0.30	75.35	17.8	0.19	0.53	0.34
2071	1.28	0.31	75.19	18.2	0.06	0.35	0.29
2081	1.27	0.31	76.20	18.6	-0.03	0.20	0.23
2091	1.27	0.32	74.61	18.8	-0.04	0.10	0.14
2101	1.27	0.32	74.61	18.8	-0.01	0.04	0.05

Source: 1. Kulkarni and Alagarajan (2005), EPW, 29th January, 2009, p. 404,

2. Bhat and Zavier (2005), EPW, 29th January, 2009, p. 399,

3. Reddy (2003), EPW, 16th August, 2003, p. 3501

* Excludes figures of Assam and Jammu and Kashmir.

\$ 2011-2101 figures are projected.

Appendix-V

Fertility Estimates for Hindus and Muslims and Difference in Female Literacy, India, 2001

States	Hindu		Muslim		Muslim TFR-Hindu TFR	Muslim female literacy-Hindu literacy
	CBR	TFR	CBR	TFR		
Jammu& Kashmir	22.1	2.6	24.7	3.1	0.5	-24.1
Himachal Pradesh	19.7	2.2	28.3	3.7	1.5	-21.1
Punjab	21.5	2.5	28.6	3.7	1.2	-24.1
Chandigarh	23.6	2.9	35.3	4.8	1.9	-17.9
Uttaranchal	23.7	2.9	37.2	5.1	2.2	-21.4
Haryana	25.4	3.2	45.0	6.4	3.2	-35.6
Delhi	24.1	3.0	34.1	4.6	1.6	-16.3
Rajasthan	31.1	4.1	35.5	4.8	0.7	-2.4
Uttar Pradesh	31.4	4.1	35.5	4.8	0.7	-5.7
Bihar	33.6	4.5	37.4	5.1	0.6	-1.9
Sikkim	24.3	3.0	35.0	4.7	1.7	-8.5
Arunachal Pradesh	31.9	4.2	41.2	5.8	1.6	-7.5
Nagaland	26.6	3.4	42.9	6.0	2.6	-32.3
Manipur (excl. 3 sub-div)	20.1	2.3	32.3	4.3	2.0	-23.1
Mizoram	27.9	3.6	39.5	5.5	1.9	-23.8
Tripura	19.9	2.3	30.5	4.0	1.7	-15.9
Meghalaya	24.0	.9	37.1	5.1	2.2	-25.1
Assam	2.9	2.8	37.2	5.1	2.3	-20.9
West Bengal	19.7	2.2	30.9	4.1	1.9	-13.3
Jharkhand	9.3	3.8	35.8	4.9	1.1	3.5
Orissa	22.1	2.6	26.3	3.3	0.7	11.7
Chattisgarh	26.9	3.4	24.5	3.0	-0.4	23.2
Madhya Pradesh	29.6	3.9	29.2	3.8	-0.1	11.1
Gujarat	23.6	2.9	25.0	3.1	0.2	6.8
Daman & Diu	24.5	3.0	20.8	2.4	-0.6	8.0
Dadra & Nagar Haveli	32.9	4.4	31.3	4.1	-0.3	34.2
Maharashtra	21.9	2.6	26.8	3.4	0.8	4.9
Andhra Pradesh	20.0	2.3	23.1	2.8	0.5	9.9
Karnataka	20.3	2.3	25.4	3.2	0.9	7.7
Goa	16.8	1.8	25.1	3.1	1.3	-4.2
Lakshadweep	13.1	1.2	23.7	2.9	1.7	-16.0
Kerala	15.4	1.5	21.8	2.6	1.1	-1.2
Tamil Nadu	17.2	1.8	19.1	2.1	0.3	13.8
Pondichery	18.0	2.0	18.6	2.1	0.1	10.1
Andama & Nicobar Island	21.1	2.5	18.1	2.0	-0.5	11.7
India	24.9	3.1	30.8	4.1	0.5	

Source: Rajan (2005): EPW, 29th January, p. 438 {original calculation done by Rajan and James (2004) for Centre for Development Studies, Trivandrum, Kerala}.

Appendix-VI

Percentage Distribution of Persons by General Education, Sex and Religion, India, 1987-88

Educational Level	Rural				Urban			
	Hindus		Muslims		Hindus		Muslims	
	Male	Female	Male	Female	Male	Female	Male	Female
Not literate	51.3	75.0	58.2	76.1	25.3	42.2	42.4	59.5
<Primary	19.0	11.8	18.6	13.1	18.8	17.2	20.9	18.5
Pre-Middle	22.7	11.2	19.1	9.9	30.5	25.3	26.3	16.8
Secondary	5.7	1.7	3.4	0.8	17.2	10.7	8.0	4.3
Graduate +	1.2	0.2	0.6	--	7.9	4.2	2.3	0.8

Source: National Sample Survey 43rd Round (1987-88), Table 31.4, pp. S85-

86.

Appendix-VII

Percentage of Currently Married Women using contraceptive methods among Hindus and Muslims by levels of Education, 1998-99

Educational Level	Hindus		Muslims		Difference between methods	
	Any method (2)	Any modern method (3)	Any method (4)	Any modern method (5)	Diff. b/w (2) & (4) = (6)	Diff. b/w (3) & (5) = (7)
Illiterate	41.0	38.0	29.0	23.3	12.00	14.70
Literate but below middle	54.0	48.9	42.3	35.1	11.70	13.80
Middle completed but below high school	50.6	43.2	45.5	37.7	5.10	5.50
High School and above	55.7	46.1	44.6	37.5	11.1	8.60

Source: Calculated by the author on the basis of NFHS-II.

Appendix-VIII

Socio-economic Differentials between Hindus and Muslims, India, 2001

Indicators	Hindus	Muslims	All Religions
Urban population	26.1	35.7	27.8
Literates			
Total	65.1	59.1	64.8
Male	76.2	67.6	75.3
Female	53.2	50.1	53.7
Percentage of workers total population			
Total	40.4	31.3	39.1
Male	52.4	47.5	51.7
Female	27.5	14.1	25.6
Percentage of workers in (sector)			
Agriculture	60.7	42.7	58.2
Household Industry	3.8	8.1	4.2
Other	35.5	49.1	37.6
Sex Ratio (females per 1000 males)	931	936	933
Percentage of population in the age group (0-6 years)	15.6	18.7	15.9

Source: 'The First Report on Religion Data', Census of India 2001, Registrar General and Census Commissioner, India

Appendix-IX

Percentage of population Below Poverty Level among Hindus and Muslims, India, 1987-88 to 1993-94

Years/ Areas	1987-88				1993-94			
	All India	Muslims	Hindus	Ratio of Muslims to Hindus	All India	Hindus	Muslims	Ratio of Muslims to Hindus
Rural	39.38.21	40.8	39.9	0.98	37.3	37.5	41.3	1.10
Urban	38.2	36.8	54.6	1.48	32.4	29.9	48.5	1.62

Source: Bhat (2004) for Hindu-Muslim poverty levels. All India figures are from Planning Commission. 1987-88 figures are from *Shelter*, HUDCO/HSMI, Vol. 5, No. 2, p. 73, and for 1993-94, Planning Commission (2002), p. 166.

Appendix-X

Average Annual Growth Rate of population of Hindus and Muslims during 1981-1991 and 1991-2001, Major States

Country and state	Average Annual Growth Rate (Per Cent)				Decline in the Growth Rate (%)		Difference (Hindu-Muslim)
	1981-1991		1991-2001		Hindu	Muslim	
	Hindu	Muslim	Hindu	Muslim			
India	2.05	2.84	1.82	2.59	0.23	0.25	-0.02
Andhra Pradesh	2.21	2.67	1.35	1.65	0.86	1.02	-0.16
Assam	NA	NA	1.39	2.57	NA	NA	NA
Bihar	2.05	2.59	2.07	3.11	-0.02	-0.53	0.50
Delhi	4.16	6.13	3.65	6.02	0.51	0.12	0.39
Gujarat	1.92	2.15	2.00	2.42	-0.08	-0.26	0.18
Haryana	2.40	3.78	2.39	4.71	0.01	-0.93	0.94
Himachal Pradesh	1.90	2.47	1.57	2.93	0.33	-0.46	0.80
Karnataka	1.86	2.43	1.43	2.11	0.43	0.32	0.11
Kerala	1.19	2.27	0.70	1.47	0.48	0.80	-0.31
Madhya Pradesh	2.36	2.72	1.96	2.58	0.40	0.13	0.26
Maharashtra	2.25	2.73	1.96	2.97	0.30	-0.24	0.54
Orissa	1.75	3.14	1.47	2.77	0.28	0.37	-0.09
Punjab*	1.20 (1.86)	3.54	2.53 (1.77)	4.67	-1.33 (0.09)	-1.14	-0.19 (1.05)
Rajasthan	2.48	3.47	2.46	3.06	0.01	0.41	-0.39
Tamil Nadu	1.41	1.92	1.04	1.28	0.37	0.63	-0.27
Uttar Pradesh	2.08	3.11	2.16	2.75	-0.09	0.36	-0.45
West Bengal	1.91	3.14	1.33	2.30	0.58	0.84	-0.25

Note: The growth rates for combined population of Hindus and Sikhs are given in parenthesis because in the 1991 Census, many Hindus were probably reported as Sikhs.

NA – Not Available

Source: Adopted from Bhat (2005), EPW, March 26, 2005, p. 1378.

Appendix-XI

Regional Scenario of Hindu-Muslim Population Growth Rates, 1991-2001

Region (1)	Growth Rate			Difference (5)=(4)-(3)
	Population (2)	Hindu (3)	Muslim (4)	
South India	1.29	1.22	1.66	0.45
North-East India	1.94	1.30	2.63	1.33
East India	1.99	1.71	2.67	0.96
West India	2.43	2.00	2.86	0.86
North West India	2.36	2.32	2.86	0.53
India	2.03	1.82	2.57	0.75

Source: Rajan (2005): "District Level Fertility Estimates for Hindus and Muslims", EPW, January 29, 2005, p. 441

Appendix-XII

District-wise CBR and TFR by Religion, 2001

S L	District	All Religion		Hindus		Muslims	
		CBR	TFR	CBR	TFR	CBR	TFR
1	Darjeeling	19.6	2.1	19.5	2.2	34.8	4.7
2	Jalpaiguri	24.9	2.8	23.3	2.8	32.3	4.3
3	Koch Bihar	25.5	3.0	22.5	2.7	31.6	4.2
4	Uttar Dinajpur	35.1	4.3	28.7	3.7	43.6	6.1
5	Dakshin Dinajpur	26.9	3.3	24.2	3.0	31.6	4.2
6	Malda	33.0	4.0	27.2	3.5	37.1	5.1
7	Murshidabad	29.3	3.5	22.8	2.7	32.3	4.3
8	Birbhum	26.1	3.0	22.9	2.8	31.0	4.1
9	Bardhaman	20.0	2.3	19.4	2.2	25.2	3.1
10	Nadia	21.1	2.4	18.2	2.0	27.2	3.5
11	North 24 Parganas	18.8	2.1	15.7	1.6	26.8	3.4
12	Hugli	18.1	2.0	17.2	1.8	24.2	3.0
13	Bankura	22.2	2.6	21.6	2.5	32.2	4.3
14	Puruliya	24.9	3.1	24.9	3.1	35.4	4.8
15	Medidnipur	22.6	2.6	21.1	2.5	32.0	4.2
16	Haorah	18.0	2.1	16.1	1.6	28.0	3.6
17	Kolkata	11.8	1.4	12.1	1.0	20.7	2.4
18	South 24 Parganas	24.7	3.0	19.9	2.3	33.3	4.5
All West Bengal		22.5	2.6	19.7	2.2	30.9	4.1

Source: adopted from S. Irudaya Rajan, EPW, 29th January, 005, p. 444.

Appendix-XIII

District-wise TFR and its determinants, 2001

SL	District	TFR	Female Literacy (%)	Gender gap	FWPR (%)	% WSTS	% SC/ST	Sex Ratio	% of FSTS
1	Darjeeling	2.10	62.90	17.10	21.40	20.90	30.80	937.00	78.50
2	Jalpaiguri	2.80	52.20	20.60	23.50	33.60	55.60	942.00	73.20
3	Koch Bihar	3.00	56.10	19.80	22.20	63.50	50.70	949.00	36.90
4	Uttar Dinajpur	4.30	36.50	22.00	23.80	66.40	32.80	938.00	35.90
5	Dakshin Dinajpur	3.30	54.30	18.10	25.10	65.40	44.90	951.00	39.50
6	Malda	4.00	41.30	17.50	28.30	50.90	23.70	948.00	71.70
7	Murshidabad	3.50	47.60	13.10	16.40	48.00	13.30	952.00	90.00
8	Birbhum	3.00	51.60	19.30	19.70	56.80	36.20	950.00	53.30
9	Bardhaman	2.30	61.00	17.70	16.00	40.80	33.40	922.00	56.50
10	Nadia	2.40	59.60	12.70	14.10	44.30	32.20	946.00	85.00
11	North 24 Parganas	2.10	71.70	12.20	11.30	22.20	22.80	926.00	89.60
12	Hugli	2.00	67.20	15.40	16.20	35.30	27.80	947.00	62.30
13	Bankura	2.60	49.40	27.30	32.00	61.60	41.60	952.00	36.00
14	Puruliya	3.10	36.50	37.20	36.20	56.40	36.60	954.00	32.70
15	Medinipur	2.60	64.40	20.50	22.80	54.60	24.70	955.00	51.20
16	Haorah	2.10	70.10	13.10	9.20	12.50	15.80	906.00	93.90
17	Kolkata	1.40	77.30	6.50	12.80	0.50	6.20	829.00	98.70
18	South 24 Parganas	3.00	59.00	20.20	11.80	35.70	33.30	937.00	65.30
	All West Bengal	2.60	56.59	18.35	20.16	39.50	31.24	934.00	67.40

Source: Calculated from the data collected from Primary Census Abstract,

Vol. 7 (CD ROM), Census of India, 2001

TFR= Total Fertility Rate,

FWPR= Female Work Participation Rate,

WSTS= Workers in Secondary and Tertiary,

FSTS= Female workers in Secondary and Tertiary Sector.

Appendix-XIV

Educational and Economic status by religion, 2007-08

Religion	No. years of schooling				Percent in service [#]	Monthly Finance (Per Capita)		
	Self	Father	Mother	Husband		Income	Expenditure	Savings
Buddhists	9.73	5.99	3.86	10.82	68.00	3077	1703	1374
Christians	5.28	3.74	0.72	7.12	34.00	1200	614	586
Hindus	5.84	5.12	2.21	7.31	18.50	1416	903	513
Muslims	4.56	4.59	1.73	6.24	11.00	1413	931	482
Average	6.35	4.86	2.13	7.87	32.88	1777	1038	739

Source: Calculated by the researcher from the data collected from field work, 2007-2008.

Data relevant to the husbands of the respondents.

Appendix-XV

Population Trends for Major Religions of India, 1961-2001

Year	All	Hindu	Muslim	Christian	Sikh	Buddhist	Jain	Others
	(Figures in '000)							
1961	439239	366528	46941	10728	7846	3256	2027	1909
1971	547950	453292	61418	14223	10379	3912	2605	2221
1981	683330	562389	80286	16696	13093	4758	3222	2885
1991	846388	690060	106715	19654	16426	6476	3355	3701
2001	1028610	827579	138188	24080	19216	7955	4225	7367

Source: Registered General of India (2004). *Interpolated figures of population by religion for Assam 1981 and Jammu and Kashmir 1991.

Appendix-XVI

Reasons for Currently Not Using Contraceptives Among and Muslims, 1998-99

Reasons	Hindus	Muslims	All Religions
Husband away	2.6	4.3	2.9
Not having sex	1.4	1.1	1.3
Infrequent sex	1.2	0.7	1.1
Menopausal/had hysterectomy	8.1	8.4	8.2
Sub-fecund/infecund	4.3	3.4	4.1
Post-partum/breast feeding	7.8	6.3	7.6
Wants as many children as possible	46.3	35.7	44.6
Opposed to family planning	0.8	1.4	0.9
Husband opposed	3.5	6.2	3.8
Other people opposed	0.8	0.6	0.7
Against religion	0.2	12.5	2.0
Knows no method	1.4	1.2	1.4
Knows no source	2.7	2.4	2.6
Health concerns	3.5	2.4	3.4
Worry about side effect	3.5	2.5	3.4
Hard to get method	0.4	0.4	0.4
Costs too much	0.9	1.5	1.0
Inconvenient	0.3	0.2	0.3
Afraid of sterilization	2.9	1.8	2.7
Does not like the existing method	3.1	3.2	3.2
Others	2.7	2.9	2.7
Don't know	1.7	1.0	1.6
Total	100	100	100
No. of Women	26701	4715	22752

Source: Calculated based on NFHS-II data, IIPS, Mumbai (adopted from EPW, 29th January, 2005, p. 416)

Appendix-XVII

Number of Districts Falling under Different Levels of Fertility for Hindus and Muslims, India, 2001

Level of TFR	Hindus		Muslims	
	No. of Districts	Percent	No. of Districts	Percent
<2	79	13.30	26	4.38
2-3	203	34.18	137	23.06
3-4	162	27.27	160	26.94
4-5	135	22.73	167	28.11
>5	15	2.53	104	17.51
Total	594	100.00	594	100.00

Source: Rajan (2005): EPW, 29th January, p. 438 {original calculation done by Guilmoto and Rajan (2004) and Rajan and James (2004) for Centre for Development Studies, Trivandrum, Kerala}.

Appendix-XVIII

Population, Decadal Growth Rate, Density and General Sex Ratio by Residence and Sex, India / West Bengal / District / Sub District, 1991-2001

Sl. No.	India/ State/ District/ CD/ PS/ City/Town/	Civic Status	T R U	Area in Km ²	Population						Decadal Growth Rate 1991-	Density 2001 (Persons)	Sex Ratio		No. of Females per 1000 Males
					1991 \$			2001					1991	2001	
					Person	Male	Female	Person	Male	Female					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
	DARJILING DISTRICT(01)		T	3149.00	1299919	679323	620596	1609172	830644	778528	23.79	511	914	937	
			R	3073.77	903859	467324	436535	1088740	556633	532107	20.45	354	934	956	
			U	75.23	396060	211999	184061	520432	274011	246421	31.40	6918	868	899	
	RURAL UNITS														
1	DARJEELING PI	C.D.	T	416.00	117196	60059	57137	115837	58407	57430	-1.16	278	951	983	
	PS-LODHAMA (F),		R	413.80	117196	60059	57137	114204	57601	56603	-2.55	276	951	983	
	PULBAZAR (F)DARJILING (P)		U	2.20	-	-	-	1633	806	827	-	742	-	1026	
	Urban units under the CD Block		U	2.20	-	-	-	1633	806	827	-	742	-	1026	
	*PATTABONG I (CT)		U	2.20	-	-	-	1633	806	827	-	742	-	1026	
2	RANGLI RANGL	C.D.	T	272.99	65342	33367	31975	64349	32304	32045	-1.52	236	958	992	
	PS-RANGLI RANGLIOT (F)		R	272.99	65342	33367	31975	64349	32304	32045	-1.52	236	958	992	
			U	-	-	-	-	0	0	0	-	-	-	-	
3	KALIMPONG-I	C.D.	T	360.46	53641	27445	26196	67680	34382	33298	26.17	188	954	968	
	PS-KALIMPONG (P)		R	360.46	53641	27445	26196	67680	34382	33298	26.17	188	954	968	
			U	-	-	-	-	0	0	0	-	-	-	-	
4	KALIMPONG-II	C.D.	T	241.26	51411	26905	24506	60263	31309	28954	17.22	250	911	925	
	PS-KALIMPONG (P)		R	241.26	51411	26905	24506	60263	31309	28954	17.22	250	911	925	
			U	-	-	-	-	0	0	0	-	-	-	-	
5	GORUBATHAN	C.D.	T	442.72	46382	24203	22179	54279	27572	26707	17.03	123	916	969	
	PS-GORUBATHAN (F),JALDHAKA (F)		R	442.72	43285	22531	20754	54279	27572	26707	25.40	123	921	969	
			U	-	3097	1672	1425	0	0	0	-	-	852	-	
6	JORE BUNGLOI	C.D.	T	222.12	92312	46412	45900	100724	49816	50908	9.11	453	989	1022	
	PS-JORE BUNGALOW (P),		R	222.12	92312	46412	45900	100724	49816	50908	9.11	453	989	1022	

	SUKHIAPOKRI (F)	U	-	-	-	-	0	0	0	-	-	-	-
7	MIRIK && C.D.	T	119.18	42807	22195	20612	42237	21112	21125	-1.33	354	929	1001
	PS-MIRIK (P),NAXALBARI (P)	R	119.18	42807	22195	20612	42237	21112	21125	-1.33	354	929	1001
		U	-	-	-	-	0	0	0	-	-	-	-
8	KURSEONG { C.D.	T	372.30	80489	41372	39117	85867	43330	42537	6.68	231	945	982
	PS-KURSEONG (P), MATIGARA- INVESTIGATION CENTRE (P)	R	354.31	66917	34344	32573	72204	36425	35779	7.90	204	948	982
	Urban units under the CD Block	U	17.99	13572	7028	6544	13663	6905	6758	0.67	759	931	979
	CART ROAD (CT)	U	17.99	13572	7028	6544	13663	6905	6758	0.67	759	931	979
9	MATIGARA # C.D.	T	143.00	89927	47267	42660	129326	68004	61322	43.81	904	903	902
	PS-MATIGARA INVESTIGATION- CENTRE (P), SILIGURI (P)	R	140.49	85224	44648	40576	123921	65123	58798	45.41	882	909	903
	Urban units under the CD Block	U	2.51	4703	2619	2084	5405	2881	2524	14.93	2153	796	876
	BAIRATISAL (CT)	U	2.51	4703	2619	2084	5405	2881	2524	14.93	2153	796	876
10	NAXALBARI # C.D.	T	181.88	93731	49163	44568	144915	75831	69084	54.61	797	907	911
	PS-NAXALBARI (P)	R	180.25	81667	42731	38936	129141	67595	61546	58.13	716	911	911
	Urban units under the CD Block	U	1.63	12064	6432	5632	15774	8236	7538	30.75	9677	876	915
	UTTAR BAGDO (CT)	U	1.63	12064	6432	5632	15774	8236	7538	30.75	9677	876	915
11	PHANSIDEWA C.D.	T	312.15	140045	73304	66741	171508	87945	83563	22.47	549	910	950
	PS-PHANSIDEWA (F)	R	312.15	140045	73304	66741	171508	87945	83563	22.47	549	910	950
		U	-	-	-	-	0	0	0	-	-	-	-
12	KHARIBARI # C.D.	T	144.88	64012	33383	30629	88230	45449	42781	37.83	609	918	941
	PS-KHARIBARI (F)	R	144.88	64012	33383	30629	88230	45449	42781	37.83	609	918	941
		U	-	-	-	-	0	0	0	-	-	-	-
	URBAN UNITS	U	75.23	396060	211999	184061	520432	274011	246421	31.40	6918	868	899
	(Inclusive of those shown under the CD Block)												
1	*PATTABONG I (CT)	U	2.20	-	-	-	1633	806	827	-	742	-	1026
2	DARJILING (M)	U	10.57	73062	37763	35299	107197	55963	51234	46.72	10142	935	915
3	KALIMPONG (M)	U	8.68	38832	19973	18859	42998	22296	20702	10.73	4954	944	929

4	MIRIK	(NA)	U	6.50	7022	3585	3437	9141	4619	4522	30.18	1406	959	979
5	KURSEONG	(M)	U	5.05	26758	13989	12769	40019	20410	19609	49.56	7925	913	961
6	CART ROAD	(CT)	U	17.99	13572	7028	6544	13663	6905	6758	0.67	759	931	979
7	UTTAR BAGDO	(CT)	U	1.63	12064	6432	5632	15774	8236	7538	30.75	9677	876	915
8	BAIRATISAL	(CT)	U	2.51	4703	2619	2084	5405	2881	2524	14.93	2153	796	876
9	SILIGURI (P)	(M.Corp)	U	20.10	216950	118938	98012	284602	151895	132707	31.18	14159	824	874
Urban Agglomeration (inclusive of urban units shown above)														
	* DARJILING U.A.		U	12.77	-	-	-	108830	56769	52061	-	8522	-	917
	(a) DARJILING	(M)	U	10.57	-	-	-	107197	55963	51234	-	10142	-	915
	(b)*PATTABONK	(CT)	U	2.20	-	-	-	1633	806	827	-	742	-	1026

Declassified/

merged towns

of 2001 for

U 3097 1672 1425

which 1991

figures have not

been recast.

Note:-

1.# - Newly formed District/CD Block subsequent to 1991. 1991 figures recast according to jurisdictional changes in 2001.

2.* - New census town/ OG/ UA subsequent to 1991. 1991 figures are not recast and included in the concerned CD Block/ Town.

3.** - New census town/ OG subsequent to 1991 which were part of the urban frame in 1991 as part of census town/og and hence amenable to comparison with 1991.

4.&& - Partial Jurisdictional changes in CD block boundaries by addition or deletion of areas in 2001. 1991 figures recast accordingly.

5. \$ - 1991 figures are inclusive of towns which have been declassified or merged into other towns in 2001.

6. @- Towns are part of Kolkata U.A. and as such are also shown under Kolkata U.A.

7. There was no census in Jammu & Kashmir in 1991 due to disturbed conditions. Population of India shown for 1991 excluded those for Jammu & Kashmir

8. India figures exclude those of the three sub-divisions viz. Mao Maram, Paomata and Purul of Senapati district of Manipur as population census 2001 in these three sub-divisions were cancelled due to technical and administrative reasons

9. As per Union P.C.A. for 1991 there is a gap of 16,052 Persons in the total of Main, Marginal and Non Workers with the Indian Population Totals.

10. C.D. = Community Development Block

M.Corp. = Municipal Corporation

M = Municipality

NA = Notified Area

CB = Cantonment Board

CT = Census Town

OG = Out Growth

Source: Census of India, 2001

Point "A" Chapter-III

Corrigendum: The second sentence in the last paragraph of page-70 should be read as "It is interesting to note that particularly in the hilly region, the fertility rate is not always inversely related to female literacy e.g. Kalingpong-I, with female literacy of 66.60 per cent, one of the highest literacy rate in the region, has CBR of 19.26 which is much higher than the regional average of 17.39".


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Addendum: Summary of the chapter-III

The present chapter i.e. chapter-III highlights the fertility character by religious groups in the study area. It also covers the spatial variation in fertility with an analysis at the block level for the area concerned. Primary data collected from the field have been compared to the available secondary data from the different sources. The CBR as well as the TFR have been computed for the study area and have also been compared with state and national average. It is found that both CBR and TFR for the study area are slightly higher than the state as well as the national averages. The phenomenon could be attributed to large concentration backward communities in the area. Different attributes of fertility such as number of pregnancies ever occurred, number of births including still births ever took place, number of live births (ever born), number of still births, number of children during enumeration, number of live births during last one year have been highlighted in this chapter. Crude Birth Rates, Total Fertility Rates and Family Size have been computed and results have been compared with that of state and national averages.

In the section dealing with the spatial variation in fertility it has been observed that among the C. D. Blocks in Darjeeling Sadar, Kurseong and Kalinpong subdivisions Jorebunglow Sukhiapokhri has got the lowest fertility in terms of CBR i.e. 4.83. However, the Kalimpong-I C. D. Block has the highest CBR i.e. 19.26 despite the fact that the C. D. Block has one of the highest female literacy rates which stands 36.60 per cent in the block.

The comparison of CBR and TFR among the religious groups exhibits that the highest CBR (51.02) is found among the Muslims but at the same time the highest TFR (4.89) is recorded among the Christians. Probable explanation for such high fertility among the communities mentioned above could be found in the subsequent chapters where educational attainment of the respondents as well as their parents and husband along with their per capita income have been compared between the religious groups. It is observed from the comparison that the Muslims and the Christians lag behind other communities in question with respect to educational attainment as well as per capita income. It is further noted that the Christians have


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Point the lowest per capita income of Rs. 1200.00 and the Muslims have the second lowest per capita income of Rs. 1413.00 in the present study. It is further observed from the study that the Muslims have the lowest occupational profile with only 11.00 per cent being employed in regular service sector as compared to an average figure of 20.00 per cent among all the communities taken together. The following


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Add "B" Chapter-IV

The gendum: First sentence in the last paragraph of page-89 should be replaced by and sentence "The analysis of TFR and CBR among all the four religious groups irres is that CBR is the highest among the Muslims followed by Christians, Hindus to buddhists (table 4.3) and TFR is found to be the highest among the Christians fol ved by Muslims, Hindus and Buddhists (table-4.2)".

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Appendum: Summary of the chapter-IV

The present chapter i.e. chapter-IV covers the discussion and analysis on religion and fertility. The chapter begins with ASFR of all the respondents taken together, irrespective of their religious affiliation. The highest ASFR (266.67 per 1000) is found in the age group of 20-24 years where as the lowest ASFR (37.04 per 1000) is found in the age group of 40-45 years. Religious group-wise TFR and CBR have also been presented to rank the groups on the basis of fertility prevailed among them. A comparative study of ASFR of the religious groups under study has also been presented in this chapter. This section of the study reveals that the lower age group 15-20 years has very low ASFR ranging between 0.06 per 1000 to 96.77 per 1000 among the Buddhists and the Christians respectively. The highest ASFR is found in the age group of 20-24 years for all the religious groups excepting the Christians in case of whom the age group of 25-29 years has the highest ASFR i.e. 53 per 1000. Having a good number of children and also large number of females in the above mentioned age group in case of Christians, the resultant TFR is high among the community in question.

Apart from the basic measures of fertility i.e. TFR, CBR and ASFR, an attempt also been made to find out the trend of fertility among the religious groups through an analysis of number of pregnancies ever recorded by religious groups. Similarly, number of births, including still births have also been analysed along with number of children during enumeration. It is interesting to note that the Muslims recorded the highest number of pregnancies, births including still births and also number of children during enumeration leading to higher fertility. The phenomenon can be attributed to their poor record of educational attainment as well as poor educational profile. It is needless to mention that among all the communities in question, the Muslims have the poorest educational attainment with respect to the respondents, their parents and husbands. It is interesting to note further that the educational attainment has affected fertility more effectively among the Muslims as compared to the other communities.

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ndum: Follows table- 5.41, page-185.

of significance of the Correlation Coefficients and interpretation

er to ascertain the importance of the relationship that exists between the les i.e. level of fertility and the variables for which correlation coefficients have calculated (table-5.41). Sample size being large, test of significance of the ation coefficients has been done taking the critical points of **Standard Normal Distribution Values i.e. T (tau) values**. Actual T (tau) values have been calculated the formula:

$$\frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$$

e, T (tau) = computed value, r = correlation coefficient (here modulus of r has taken) and n = sample size.

5.41a: Results of test of significance of correlation coefficient using Standard Distribution Values of T

es	Buddhist	Christian	Hindu	Muslim
onal ent (Self)	4.92635* (1.960 & 2.576)	5.08613* (1.960 & 2.576)	7.57477* (1.960 & 2.576)	5.73197* (1.960 & 2.576)
s ion	1.03653 (1.960 & 2.576)	1.21703 (1.960 & 2.576)	3.20376* (1.960 & 2.576)	3.50228* (1.960 & 2.576)
s ion	1.97994** (1.960 & 2.576)	1.95424 (1.960 & 2.576)	2.42745** (1.960 & 2.576)	1.36363 (1.960 & 2.576)
s	1.34848 (1.960 & 2.576)	2.07026** (1.960 & 2.576)	2.63408* (1.960 & 2.576)	2.40052** (1.960 & 2.576)
arriage	2.8685* (1.960 & 2.576)	2.80327* (1.960 & 2.576)	3.43268* (1.960 & 2.576)	3.67926* (1.960 & 2.576)
capita income	3.15494* (1.960 & 2.576)	3.38506* (1.960 & 2.576)	2.44215** (1.960 & 2.576)	0.69838 (1.960 & 2.576)

es in the parenthesis indicate theoretical values of T(tau) at 5 % and 1 % level confidence.

ans significant both at 1 % as well as 5 % level of confidence and ** means significant only at 5 % level of confidence.

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the help of this formula T(tau) values have been computed and the theoretical values from the table have been put along side in the table-5.41a. Both the theoretical values for 5 % level and 1 % level of confidence have been given. A close observation of the theoretical values and actual computed values show that some of the variables taken to find out correlation with fertility level have no significant relation. But for other variables the relation is significant. The significance of the relationship also varies from one community to other. Let us take individual variable and study the significance.

1) Educational attainment of the respondent has significant negative relationship with fertility both at 5 % and 1% level of confidence irrespective of religious groups. It could be said that educational improvement of the respondent of all religious affiliation can reasonably control fertility as it is expected to improve their sense of social responsibilities.

Father's educational attainment of the respondent has significant negative relationship with fertility both at 5 % and 1% level of confidence among the respondents belonging to Muslim and Hindu religious groups. It means that educational improvement of the respondent of these religious affiliations can also effectively control fertility. At the same time, among the Buddhists and Christians, the relationship is found not to be significant both at 5 % and 1% level of confidence. Societal value systems may be responsible for not having significant influence on daughter's fertility in spite of the fact that fathers' education is showing an increasing trend.

2) It is also interesting to note that mother's educational achievement has almost no significant influence on the fertility of their daughters. As it has been found from the test of significance that among Christians and Muslims, mother's educational attainment has no significant relation with fertility of their daughter both at 5 % and 1% level of confidence. It is only among the Buddhists and Hindus where we find marginally significant negative relationship between mother's educational attainment and their daughters' fertility found only at 5 % level of confidence. However, at 1 % level of confidence it is found not to be significant.

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- 4) Husband's educational attainment presents a varied kind of relationship with their wives' fertility. Among the Buddhists, the variable has no significant relationship both at 5 % and 1% level of confidence where as among the Muslims and the Christians it is found to be significantly negatively related only at 5 % level of significance. It is only among the Hindus that the variable is significantly related to the fertility both at 5 % and 1% level of confidence.
- 5) Age at first marriage of the respondents has significant negative relation with the fertility of the respondents among all the religious groups both at 5 % and 1% level of confidence. That means rising age at first marriage has a positive effect on the rate of fertility.
- 6) The analysis of correlation between the per capita income and the fertility rates shows that it is only among the Buddhists and the Christians that the variable i.e. per capita income has significant negative relation with fertility both at 5 % and 1% level of confidence. In case of Hindus, the variable has significant relation only at 5 % level of confidence. However, it is interesting to note that the increase in income does not seem to have negative impact on the fertility in the Muslim community in this area as it has been statistically found that per capita income has no significant relation even at 5 % level of confidence. This phenomenon may be attributed to the fact that food security and other basic necessities of life may not prompt Muslims to adopt small family norm in the area under study.

Thus, from the above discussion on test of significance of correlation coefficients it may be said that educational attainment of the respondents and their age at the first marriage have significant negative relationship with fertility irrespective of religious affiliation. Such relationship between the variable, as is understood from the analysis, will go a long way in helping the policy makers to formulate policy planning in regard to an emerging demographic scenario in the study area. As far as the other variables are concerned, such variables do not show consistent negative relationship for all the communities.


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