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A Demographic Profile of the People of Jammu and Kashmir
1. POPULATION STRUCTURE

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One of the most problematic issues in the world today is the burgeoning growth of human population. Although the twentieth century has witnessed extraordinary scientific and technological achievements by man (in their march towards development and success) due to the exponential growth rate he has unfortunately become the hapless spectator of slow destruction of his own creations and the environment he is living in, almost nullifying all his accomplishments. And today, the exacerbating all-round environmental crisis – the crises of non-renewable resources, land, water, air are generating global concern. It is feared that the longer this continual peopling persists, the more precarious will be the prospect for a healthy life on this planet; and developmental pursuits more difficult to achieve.

It took from the dawn of man's existence on the earth to the year 1820 to achieve a total population of one billion. This figure doubled to two billions by 1930; and then rapidly to four billions by 1976. In 1981, the world population was 4.5 billions with an annual growth rate of 1.7 per cent, which grew to 5.4 billions in 1992. And at the end of this century, it is expected to be close to 6.3 billions, with each individual sharing an area of 0.02 sq.km (UNFPA,1993). Demographic projections for 2000 AD, whether coming from the United Nations or the World Bank or any other source are all close to six billion inhabitants. Such phenomenal increase in the world's population has created immense problems, and at presently weighs heavily on all developmental efforts and man-environment relationship.

True, the growth rates have started declining recently in many parts of the world, even in some populous Latin American and Asian countries like, Brazil, Mexico, Indonesia, Thiland and China, due to a decline fertility levels; but disturbing high rates still persists in most of the developing world, particularly in Sub-Saharan Africa, West and South Asia. Moreover, the fall in growth rate, however satisfying, cannot conceal the continual absolute increase in population (McNicoll and Nag,1982). And even if one child policy is practised by all countries (which seems highly unlikely, Zero Population Growth (ZPG) will not be achieved immediately. The UN projections show that significant population growth will probably continue untill about 2150 AD and stationerity will be roughly attained only during the third quarter of the next century with a world population on the order of 11 billions.

It is however, evident that the unprecedented population growth is largely a phenomenon of the developing world. This is because, within a span of one generation, there have been a dramatic decline in mortality levels, and increase in human life expectancy mainly due to eradication of epidemics, famines, introduction of modern medicines and without any substantial economic development. But, fertility, the other component of population growth has failed to follow a similar downward trend. The social and economic consequence of this disquilbrium, with its built-in-momentum not only undermines the efforts to promote and achieve the aspired goals of overall development and well-being, but also has led to a polarization of the world.

In fact, the world's demographic polarization between the industrialized/developed countries and developing, less developed countries is rather marked. In 1950, 33 percent of the world's population lived in the developed countries (North America, Europe), which in 1990, decreased to 20 percent. On the other hand, the percent share of world's population in case of the developing countries increased from 67 percent in 1950 to 80 percent in 1990 (Table 1). This is mainly on account of the continuing growth of population in Africa, Asia, which in turn is attributed to high birth and low death rates. Actually, the difference in death rates between the more developed (10) and less developed countries (9) is marginal, whereas the disparities in birth rates, fertility rates are striking. The developed countries also have

Table 1: Estimated and projected population in different regions of the world – 1950-2000

	Population in million (percentage)							
Region/country	*1950*	*(%)*	*1970*	*(%)*	*1990*	*(%)*	*2000*	*(%)*
World Total	2516	(100.0)	3698	(100.0)	5292	(100.0)	6261	(100.0)
Industrialized countries	832	(33.1)	1049	(28.4)	1207	(22.8)	1264	(20.2)
Developing countries	1684	(66.9)	2649	(71.6)	4086	(77.2)	4997	(79.8)
Africa	222	(8.8)	362	(9.8)	642	(12.1)	867	(13.8)
North America	166	(6.6)	226	(6.1)	276	(5.2)	295	(4.7)
Latin America	166	(6.6)	286	(7.7)	448	(8.5)	538	(8.6)
Asia	1377	(54.7)	2102	(56.8)	3113	(58.8)	3713	(59.3)
Eruope	393	(15.6)	460	(12.4)	498	(9.4)	510	(8.1)
Oceania	13	(0.5)	19	(0.5)	26	(0.5)	30	(0.5)
USSR[a]	180	(7.2)	243	(6.6)	289	(5.5)	308	(4.9)

a. Erstwhile USSR
Soruce: UN Population Division, World Population Prospectus, 1990 (UN, 1991)

Table 2: World population indicators

Region/country	*Population (in millions) 1992*	*Population increase 1990-95*	*Density (per (km²) 1992*	*Vital Rates*				*Expectation of life at birth 1990-95*
				Birth rate 1990-95	*Fertility rate 1990-95*	*Death rate 1990-95*	*Infant mortality rate 1990-95*	
World Total	5479	1.7	40	26	3.3	9	62	65
More developed countries	1225	0.5	-	14	1.9	10	12	75
Less developed countries	4254	2.0	-	29	3.6	9	69	62
Africa	682	2.9	22	43	6.0	14	95	53
Aorth America	283	1.1	13	16	2.0	9	8	76
Latin America	458	1.8	22	26	3.1	7	47	68
Asia	3233	1.8	117	26	3.2	8	62	65
Europe	512	0.3	100	13	1.7	11	10	75
Oceania	28	1.5	3	19	2.5	8	22	73
USSR[b]	285	0.5	13	16	2.3	10	21	70
India	880	1.9	274[c]	29	3.9	10	88	60

Source: United Nations Population Fund, 1993, UN Demographic Yearbook, 1992
a. (In percentage)/Average annual exponential growth rate
b. Erstwhile USSR
c. 1991 census figure
(*Source:* Office of the Registrar General and Census Commissioner, India, 1992)

comparatively very low infant mortality rate and high life expectancy than the developing ones (Table 2). The rates of population increase (1990-95) also show remarkable difference (0.5 and 2.0 percent, respectively).

The progressive growth of population and allied multidimensional complexities are quite acute in India, a developing country, in the South Asian region. In fact, India is the most populous country in the world, only next to China. The explosive population growth in India can be grasped from the increasing population from 316 million in 1951 to 683 million in 1981. In 1991, it has been a prodigious 846 million (Table 3). Every sixth person in the world is now an Indian. Even though there has been a slight decline in the average annual exponential growth rate from 2.20 in 1981 to 2.14 in 1991 (Census of India, 1991), the absolute decadal population increase from 109 million in 1971 to 135 in 1981 to 163 million in 1991, is still colossal. This is because, since 1951-61, the death rate has declined by nearly 57 percent, from 22.8 deaths per 1000 population to 9.8 in 1991; unlike the birth rate, which even though declined during these years, the pace has been much slower (29.7 percent); and in 1991, it has been estimated as 29.5 births per 1000 population as against 41.7 in 1951-61 (Table 3). The population density in India (worked out on comparable data) has also spiraled to 216 persons per sq. km as against world average of 30 persons per sq. km in 1981. The 1991 estimate shows higher figure of 267 persons

Table 3: Population growth in India, 1901-1991

Year	*Population (in millions)*	*Decennial growth rate (%)*	*Average annual exponential growth rate (%)*	*Birth rate*	*Death rate*	*Natural Growth rate*
1901	238.40					
1911	252.09	5.75	0.56	49.2	42.6	6.6
1921	251.32	-0.31	0.03	48.1	49.6	-0.5
1931	278.98	11.00	1.04	46.4	36.3	10.1
1941	318.66	14.22	1.33	45.2	31.2	14.0
1951	361.09	13.31	1.25	39.9	27.4	12.5
1961	439.23	21.51	1.96	41.7	22.8	18.9
1971	548.16	24.80	2.20	41.2	19.0	22.2
1981	683.33	24.66	2.22	37.2	15.0	22.2
1991[a]	846.30	23.85	2.14	29.5	9.8	19.7

a. The 1991 census has not been held in Jammu and Kashmir. Population include projections of the state as on 1.3.1991, made by the Standing Committee of Experts on Population Projections (october, 1989)
Source: Registrar General, India - Sample Registration System (1991); Registrar General and Census Commissioner, India (1992).

per sq.km (world average 40 persons per sq. km).

Projections and the likely growth rates during the 1990s, point to the disconcerting fact that India's population in all likelihood will cross the one billion mark before the next census in 2001 AD (Premi,1991); and in 2025, it will be 1393.9 million (UNFPA, 1993). The zero growth rate hence, appears to be a distant goal. The annual report of Department of Family Welfare, Govt. of India (1992), admittedly points out that –'the zero growth rate of population (stabilization of population) may be achieved only after several decades, even after attaining a net reproduction rate of unity (NRR-I), which itself is stipulated to be reached by 2011-2016 AD'.

It is inescapable that the population increase of such magnitude will pose immense problems. To feed the growing numbers, to house, to educate and employ them and to provide basic health care and other infrastructure, impossible amounts of investments are necessary. It is increasingly felt that the country's rapidly multiplying numbers are one of the single biggest factors inhibiting speedier socio-economic development. Moreover, they are stretching the environment to dangerous limits thereby exerting tremendous adverse pressure on its carrying capacity and also on the quality of life in both rural and urban areas.

In India, apart from the population proliferation, the demographic diversity is also striking. This is because, the dynamics of population components and family planing methods usage within and across states, regions, populations (castes, communities, tribes) are vastly influenced by the interplay of physical environmental, biological, economic, socio-cultural, demographic determinants and attitudes related to family size and structure at the micro-level. Besides, the disparate demographic profile and the levels of development also vary substantially within the country because of such factors. Therefore, specific settings of individual region/population; can not be generalized and overlooked, and no single solution (of the population problem) is applicable to all. Even in the western world, the fertility decline had apparently occurred under diverse conditions; and different packages of social and economic factors were responsible for the same, although the major stages of the demographic transition theory, particularly the ultimate post-transitional stage of low birth-low death rates was quite similar.

In India, past experience and relative failure to achieve satisfactory demographic goals have repeatedly pointed out that for drawing out effective strategies, the ever-changing demographic diversity of India caused by various operative factors at the micro-level need to be identified and studied in detail. Such studies are also deemed practically important, as they may help to formulate plans and policies conducive to the overall environment of specific regions; and to identify population groups and/or sub-groups among whom programmes should be directed on a priority basis and areas which need special interventions. But, the census,

large-scale surveys at the macro-level, albeit immensely important, are unlikely to go beyond a certain level or depth, although these also portray disprate demographic profiles across regions/states and populations.

In an account, Bose (1991) has shown demographic diversity by grouping the Indian States and Union Territories according to the demographic, geographical, social, economic and political indicators like vital rates, infant mortality rate age at marriage, literacy rate, per capital income, proportion below poverty line, structure of work force, family planning performance etc. He has designated Kerala and certain other states as demographically progressive states; but Jammu and Kashmir (where the present study area is located), which has shown high growth rate and is plagued with several problems, as the demographically vulnerable state. In fact, Jammu and Kashmir has returned very high decennial growth rates in 1971-81, 1981-91 (26.69, 28.92, percent, respectively), which were even higher than the national growth rate (Table 4). The average annual exponential growth rates also have been observed high for these periods (2.58, 2.54 percent, respectively). And, whereas the birth rate in the state in 1990 stood at 31.4 per 1000 population, the death rate seemed rather low at 8.

On the other hand, the state of Kerala, at a relatively low level of economic development, with a per capita income below the national average enjoys a unique position in the demographic scenario of the country, and is far ahead of all the Indian states in terms of levels of modernization and social development. Kerala's low vital rates (CBR – 18; CDR-6, in 1992) are comparable to those of the developed countries and the literacy rates of males and females, autonomy of women and their age at marriage, life expectancy are high, fertility and infant mortality rates are low (i.e., physical quality of life index is high); the land and agrarian reforms are successful; the distribution of public services, infrastructure are nearly same throughout the state irrespective of rural and urban areas and child labour is negligible (Nair, 1974; Krishnan, 1976; Ratcliffe, 1977; Dyson and Moore, 1983; Nishikawa, 1984; Zachariah, 1984; Mahadevan et al., 1992).

According to Kurup (1986) and Mahadevan et al. (1992), Kerala seems to be quite close to the demographic transition. And, the recent National Family Health Survey, 1992-93 (IIPS, 1995) has revealed that Kerala has already achieved below – replacement fertility (along with the state of Goa). Hence, there is an increasing realization that population problems are often discrete, requiring solutions at specific levels/settings. Also to comprehend and find the solutions at the macro-level, one has to be cognizant of the problems at the micro-level too.

Further, the worsening man-environment equation which is leading to allround environmental crisis, as already mentioned, also requires studies within specific settings.

Actually, natural ecosystems which include

Table 4: Decennial growth of population, 1901-1991, in Jammu and Kashmir, India

Census Year	*Population (in 000's) Jammu and Kashmir*	*Decennial growth rate Jammu and Kashmir*	*Population (in 000's) India*	*Decennial growth rate India*
1901	2139		238396	
1911	2292	7.16	252093	5.75
1921	2424	5.75	251321	-0.31
1931	2670	10.14	278977	11.00
1941	2947	10.36	318661	14.22
1951	3254	10.42	361088	13.31
1961	3561	9.44	439235	21.51
1971	4617	29.65	548160	24.80
1981	5987	29.69	683329	24.66
1991[1]	7719	28.92	846302	23.85

1. The 1991 census has not conducted in Jammu and Kashmir. The figures are as per projections prepared by the Standing Committee of Experts on Population Projections (october, 1989).

Sources: Director of Census Operations, Jammu and Kashmir (1990) - Cenus of India 1981, Part - XII, Series-8, Census Atlas, Jammu asnd Kashmir; Office of the Registrar General and Census Commissioner, India (1992), Census of India 1991, Series - I, India, Paper-II of 1992, Final Populations Totals, Brief Analysis of Primary Census Abstract.

plants, animals, people and environment, are characterized by self-regulatory energy flows and foods chains and are in a state of equilibrium. This ecosystem equilibrium however, is sensitive to such external stimuli as human abundance and also activities and interference promoted by their developmental goals.

Although man's interaction with his environment has been continuously undergoing change and adaptation for centuries, today, the increasing scale and rate of changes, be it unplanned (like rapid population growth, increasing population movements or mobility, growing aspirations, unforeseen natural processes), and/or planned changes (increasing ameliorative or developmental activities, often resulting from unplanned changes also), threaten to exceed the present adaptive capacities of both individual societies and the whole biosphere by seriously altering natural and socio-cultural systems.

With respect to the ever-changing scenario of man-environment interaction and population proliferation, the mountain areas in different parts of the world appear to be especially vulnerable due to their areal extent, peculiar and variable environment along altitudinal gradients, extensive permanent human habitations, problems of relative isolation and difficulties in communication. The prime concern arises from constantly increasing human factor in terms of numbers and activities in a finite system, or area, at times exerting disproportionately negative impact. This result in critical situation at a faster rate than in any other types of ecosystems and developing latent dangers for the adjacent regions too. In these areas, any unplanned and/or planned changes tend to lead to severe environmental exploitations and alterations, thereby pressurizing the carrying capacities tremendously.

These matters become still more aggravated and complicated beyond 2500 m, in the fragile high-altitude zones, such as the Ladakh region in Jammu and Kashmir, India, where even minimal disruptions (natural or induced) may lead to irreversible consequences. Although there is no precise cut-off point, usually the altitude of 2500 m and above is considered as high-altitude zone. At this particular altitude, the lowering of oxygen pressure associated with high-altitude zones, begins to have significant effect upon man and also exerts important effects on the plants and animals which man uses for his subsistence (UNESCO, 1973).

These high-altitude zones are characterized by a complex set of physical environmental conditions (multiple-stress complexes) [not yet fully mastered by man through culture or technological innovations], such as reduced oxygen pressure, low temperature, low precipitation, low humidity, high radiation, strong winds, and rugged terrain. These zones are also economically and technologically less developed ones, having limited natural resources, cultivable land, settlement areas and physical inaccessibility. The inhabitants of these zones-a variety of ethnic groups with typical economic and socio-cultural systems; perpetually lie in stressful conditions, where stresses are the various natural and cultural environmental forces, which potentially reduce the population's ability to function in a given environment (Baker, 1984). As a result of such intricacies, all high-altitude settlements face peculiar problems and also constitute pockets of extreme vulnerability with respect to population increase and interference, as against population survival and well being.

In the Ladakh region in the state of Jammu and Kashmir in India too, various pressing matters related to population, development and environment, elaborated earlier are all being manifested increasingly creating widespread concern.

The natural environment of Ladakh is characterized by the high-altitude stresses (mentioned above) as well as minimal forest cover and mineral resources and few pasture lands at high elevations. The settlements are found only in narrow oases like valleys having limited arable land and limited water for irrigation purposes [suggesting an encapsulated environment as mentioned by Goldstein (1981)]. Such characteristics and nearly stationary population, subsistence level agro-pastoral economy, traditional social and religio-cultural systems (extra-somatic medium to counteract environmental stresses), were perceived as composite parts of cold desert Ladakh's ecological system, which developed as a totality and a closed system. The human activities have been largely confined to more or less self-sufficient units,

thereby maintaining symbiotic man-environment relationship without any attempt to dominate or erode the fragile, finite base till a few decades ago, upto the late forties, even though Ladakh was a focal centre in the central Asian carvan-trade route.

But, several significant developments since then, particularly the accession of Jammu and Kashmir state to India in 1947 establishing democratic institutions, uniform laws and regulations; the communist revolution in China bringing an end to the caravan-trade in 1949 and subsequent Chinese occupation of Tibet (leading to the severance of the link with Ladakh); the Indo-Chinese war in 1962 leading to closure of the border and occupation of considerable area by China; and constant conflicts with Pakistan giving the zone extreme strategic importance; decline in the temporal role of religion; introduction of the 'Big Land Estate Abolition Act', the 'Buddhist Polyandrous Marriage Abolition Act', equal inheritance (among siblings) laws, individual rights; and opening of Ladakh to tourism in 1974; continuous massive defence investments and improvement in communications; proliferation of government departments; introduction of policy of developmental activities; provision for basic amenities; alterations in traditional subsistence economy, its commercialization and extension of technical know-how through government departments and non-governmental organizations; changes in political and economic expectations, alterations in food habits and material possessions leading to the over-dependence on non-local foodgrains and industrial goods; land reclamation and afforestation etc. resulted in a series of rapid changes – unplanned as well as planned, altering the environment, population dynamics, mobility, economics, socio-cultural values and systems, and communal harmony in Ladakh of yesteryears.

During the 1901-1941 period, the population growth rate of the present day Ladakh region (Leh and Kargil districts) was quite slow. In that forty year span, only 15,500 persons were added to the initial 60,500 persons in 1901, registering a growth rate of about 26 per cent. The low growth rate of population throughout this period resulted from natural environmental stresses, epidemics, lack of basic amenities, especially communication and modern medical care, which took heavy toll of human lives, particularly affecting infants and which left presumably the fittest survivors. Later on, gradual improvement of medical amenities and control of epidemics hindered such large number of mortalities to a great extent. And, as various socio-cultural and other developmental limitations were also on the wane the population grew gradually and almost uncontrollably. By the year 1971, prior to the 'opening up' of Ladakh, there were 105,291 persons, a net addition of 29,291 persons, resulting in a growth rate of 38.5 percent in the thirty year span of 1941-1971. But, the population growth in the recent 1971-81 decade, was simply stupendous and started attracting widespread apprehensions as an imminent threat. In a single decade, the population jumped to 134,372 persons – a net addition of 29,081 persons and registering an unprecedented decadal growth rate of 27.7 per cent, as against a very low decadal growth rate of 2.5 per cent in 1901-1911 (Census of India, 1981 – Jammu and Kashmir, Leh district, Kargil district; Statistical Handbooks-Leh district, 1983-84, 1985-86, 1987-88; Statistical Handbooks-Kargil district, 1983-84, 1986-87).

Therefore, it is not difficult to foresee the challenging consequences of such demographic scenario in the high-altitude Ladakh in the years to come, unless suitable corrective measures are undertaken. Moreover, there is increasing apprehension that this situation may contribute to the multi-dimensional problems faced by the Jammu and Kashmir state in particular and India in general.

It may be mentioned here that, as compared to previous sporadic but informative accounts on travels, history, art and culture of Ladakh; recently, a myriad of literature has started appearing regularly. Generally speaking, for the most part, these portray either generalized or journalistic information or narrow over-specialized approach. Nonetheless, population trend and related issues, causes and consequences of its progressive growth have also been discussed in a number of publication (among others – Cunningham 1970; Goldstein, 1981; Norberg-Hodge, 1981; Roy Burman, 1981; Wahid and Storm, 1981; Goldstein et al., 1983; Crook. 1986; Dhar Chakraborty, 1986; Lhadol, 1986;

Rizvi, 1986; Chatterjee, 1987; Mann, 1990). These are however, based on census and allied procedures based on secondary data sources or theoretical reasoning, or limited empirical surveys. Any comprehensive population dynamics study among the major population groups of cold-desert Ladakh – a demographically, ecologically and strategically vulnerable high-altitude zone is absent till date.

Keeping this background in mind, a series of papers focusing on the population dynamics of the Ladakh region have been presented. In these papers, attempts have been made to study population structure and trends; and to explore the determinants of fertility, child loss and survival and usage of family planning methods among the four major population groups, namely, Bodhs (Buddhist Scheduled Tribe) Baltis (Muslim Schedule Tribe), Brokpas (Muslim Schedule Tribe), and Arghuns (Muslim Community) of Ladakh Region. The details are as follows:

I. To Study the Demographic Profile of Population:
   1. Measures of Population Composition: age-sex composition (age sex distribution, dependency ratio, index of aging, sex ratio, economic characteristics (crude and general activity rates) educational characteristics (literacy rates, levels of educational attainments), marital status distribution.
   2. Measures of Fertility-crude birth rate, general fertility rate, age specific fertility rate, total fertility rate, gross reproduction rate, mean age of childbearing, general marital fertility rate, age-specific marital fertility rate, total marital fertility rate, child-woman ratio.
   3. Measures of Mortality – crude death rate, age-specific death rate, under-5 mortality rate, infant mortality rate, neonatal and post neonatal mortality rates, perinatal mortality rate, cause-specific death rate.

II. To Study the Independent Determinants (Background Charac teristics of Individual Respondents) for the Exploratory Fertility, Child Mortality and Family Planning Methods Usage Analyses:
   1. Demographic, Economic, Socio-Cultural Determinants and Those reflecting Attitude Towards Sex Composition of Children and Family Size – past experience of foetal, infant, early childhood mortality; economic characteristics/occupation, (household) income, (household) ownership of land; educational characteristics; age at marriage, type of marriage (consanguineous/non-consanguineous), family structure; (offspring) gender preference and ideal number of children desired.
   2. Biological Determinants – age at menarche and menopause.
   3. Physical Environmental Determinants – place of residence, type of educational, communication, and medical facilities available; type of medical care availed; housing condition and attributes.

III. Exploratory Fertility Analysis: To study number of children ever born and surviving; and to explore the inerplay between these and various independent determinants.

IV. Exploratory Child Mortality Analysis: To study the child loss and survival ratios; and to explore the interplay between these and various independent determinants.

V. To Study the Indexes of Total Selection (following Crow, 1958; and Johnston and Kensinger, 1971) for the Study Population Groups of Ladakh Region in Jammu and Kashmir, India.

VI. To Study of the Dynamics of Family Planning Methods Usage:
   1. Knowledge, attitude and practice of family planning methods; sources of knowledge; incidence of complications and use-failure following the usage; suggestions towards effective implementation of family planning programme.
   2. To explore the interplay between usage of family planning methods and various independent determinants.

VIII. 1. Attempt comparison of the study population groups of Ladakh region with Kashmiri Pandits and Muslims of Kashmir region: Dogra Brahmans, Dogra Rajputs, Dogra Scheduled Castes and Gujjars of Jammu region

(in Jammu and Kashmir); Jammu and Kashmir and Kerala states; and India; as well as some South Asian countries with respect to the dynamics of population components and family planning methods usage.

2. To assess the results of the present study against the findings of available published materials.

AREA AND PEOPLE

The State of Jammu and Kashmir occupies the northern most part of the India and lies approximately between 32º 15' and 37º 05' North latitudes and 72º 35' and 80º 20' East longitudes (Fig. 1). The state is bounded by China and Tibet in the north and the east respectively, by Afghanistan in the north-west and

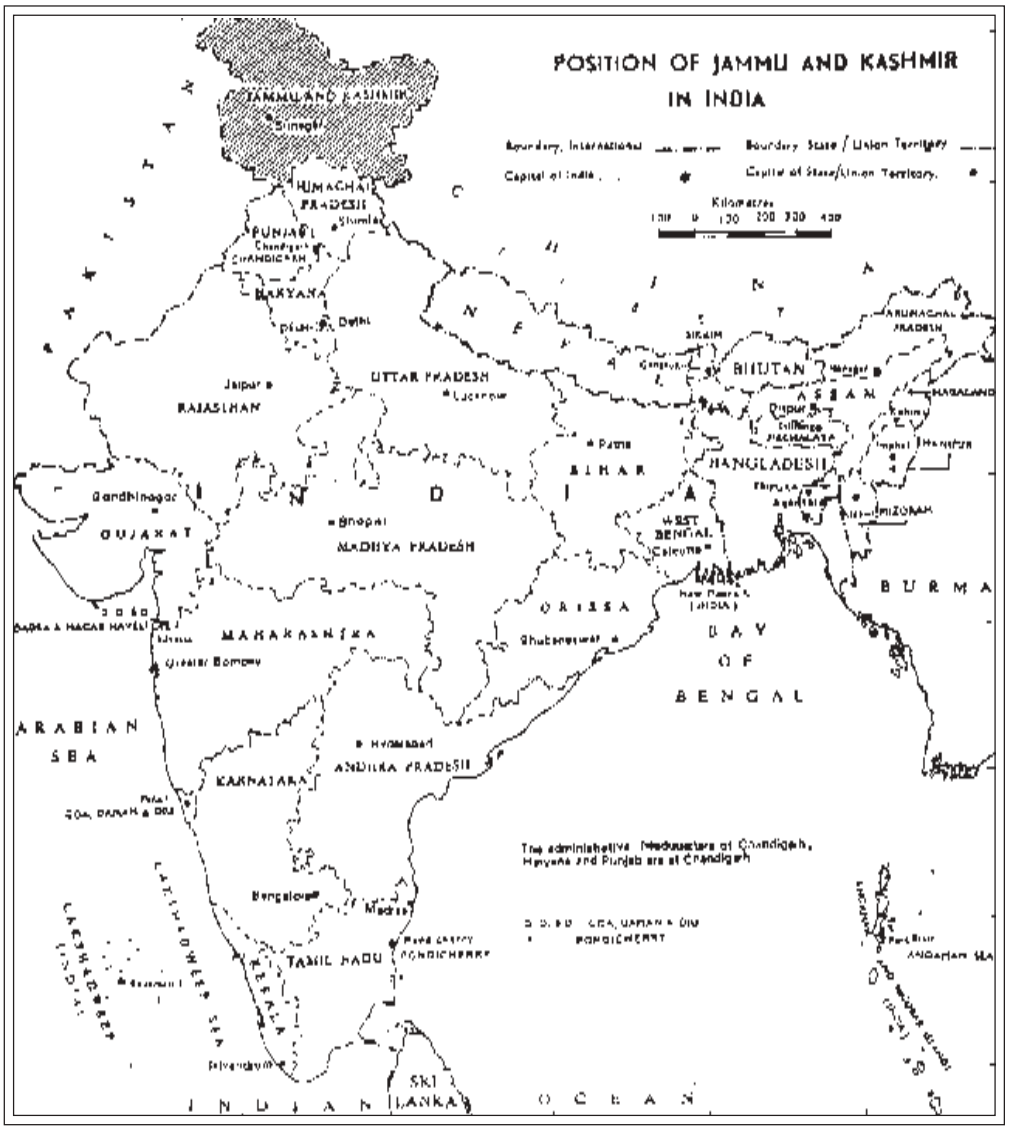

Fig. 1. Position of Jammu and Kashmir in India

by Pakistan in the west. States of Himachal Pradesh and Punjab are contiguous with its southern boundary. The area of the state stands at 222236 sq.km, out of which 78114 sq.km is being held illegally by Pakistan and 37555 sq.km by China. Also, 5180 sq.km has been illegally handed over by Pakistan to China. The state is situated in the 'northern mountains' namely, Jammu and Kashmir Himalayas and comprises of territories of Jammu Kashmir and Ladakh. The state can be broadly divided into the following three natural regions/ecological zones, taking into consideration the diversified and remarkable variations in the physiographical conditions at the three-tier level: (i) Outer Hills; (ii) Middle Himalayas; (iii) Inner Himalayas.

The last region, which more or less synchronizes with the Ladakh region, is situated in the highland crystalline mass of trans-Himalayan rain-shadow zone, and mainly comprises of high-altitude mountains, lofty peaks, glaciers, narrow valleys, alluvial fans and deep gorges. The region falls in the ranges of Greater Himalayas in the south, Zanskar and Ladakh in the north-west to south-east, Karakoram and Kunlun in the north. The land surface of the Ladakh region can be broadly divided into the upper zone above 4500m and the lower zone between 2700m to 4500m (approximately). In the former zone, most of the land surface is above 5000m and is unfit for any vegetative growth or human settlements. Only very limited land surface between 4500m to 5000m has few pastures and allow pastoral activities of rudimentary kind, as settled agriculture is not possible due to thin or no soil cover, extremely low temperature for most of the year and low precipitation. Human settlements and settled agriculture are confined to the lower zone, in narrow oases like valleys, alluvial fans, talus cones, where soil cover is reasonably thick, slopes are gentler or land can be cut into terraces for cultivation, and with a short summer season, perennial or snow-fed springs or streams in the vicinity. The Ladakh region comprising of Leh and Kargil districts constitutes the present study area.

The district of Leh is the northernmost and the largest in the state of Jammu and Kashmir as well as India, covering an area of 82665 sq.km (includes 37,555 sq. km under illegal occupation of China. The district of Kargil, which has been newly carved out in 1979 in the wake of administrative reorganization, extends over an area of 14,036 sq. km. It is the second largest one in the state.

Cultivation and habitations in the Ladakh region are mostly confined to the river valleys, like, Indus Valley, Nubra-Shyok Valley, Shingo-Suru Valley (or Drass-Suru-Wakha Valley), and Zanskar Valley. Some villages are also situated on the low-lying mountain slopes and around the rivers in the Chang-Chenmo, Ladakh and Zanskar ranges, while one village is located in the Greater Himalayan region. The villages under the present study are situated in the Indus Valley, Shingo-Suru Valley, and in the regions of Zanskar range.

The situation and physiography of the state are mostly responsible for the varying climatic conditions in its three regions. The varied climate influences not only the environment but also human activities. The variations in temperature and rainfall are in fact related to their altitude. Jammu where the average altitude is 305m, experiences tropical heat and climatic condition. The Kashmir region with its average altitude of 1828m has a temperate-cum-mediterranean climate, but having winter conditions of the continental type. The Ladakh region, which is entirely mountainous with an altitude varying upto 7620 m has severe climatic conditions of semi-arctic type.

Since both the Leh and Kargil districts are situated in the trans-Himalayan rain-shadow zone, rainfall is low. In the Leh district, it is limited to 99.7 mm as normal annual. Winter precipitation is also low, at 40 to 50mm (approx.). The average annual rainfall in Kargil district is recorded at 250 to 300 mm. Excepting the Drass-region, where winter precipitation in the form of snow is high at 500 mm (approx.), in other places, it usually does not exceed 200mm (approx.).

In Leh district, the maximum normal annual temperature is not more than 11.7ºC, while the annual minimum temperature is as low as 1.3ºC. The Kargil district has a mean annual temperature of 9ºC. For nearly half of the year, the temperature remains below 6ºC, and the winter temperature in some areas drop even to – 40ºC. during winter especially, the human activities get extremely limited.

Administratively, the state has been divided into 14 districts (Fig. 2) and 50 tehsils during

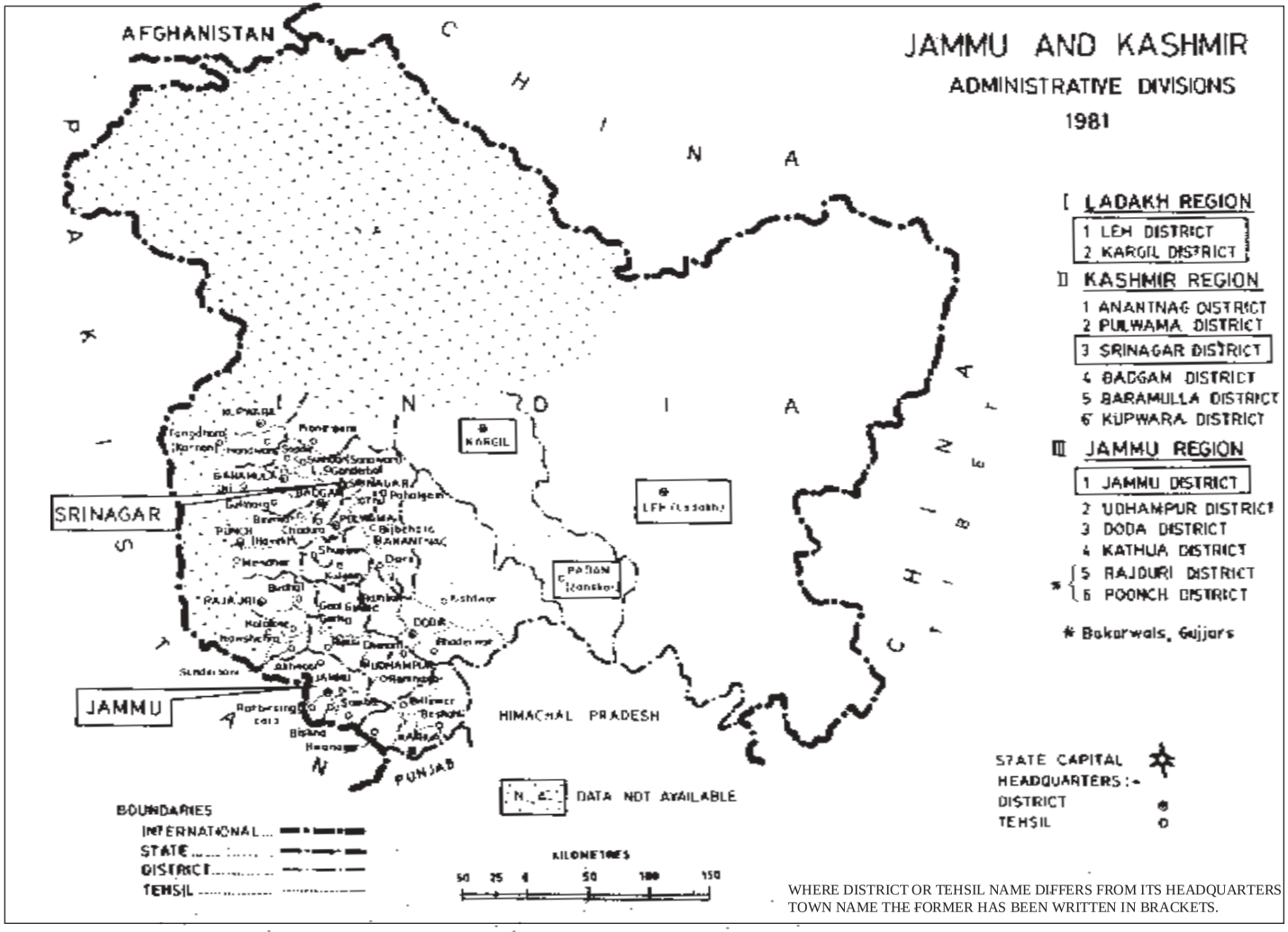

Fig. 2. Jammu and Kashmir-Administrative Divisions

1981, with 58 urban centres (of which only two-Jammu and Srinagar are class I cities) and 6,758 villages (of which 281 are uninhabited). A detailed statement on area, number of – districts, tehsils, towns, villages, occupied residential houses is given in table 5. Within the Ladakh region, the Leh district is administratively divided into one tehsil-Leh and five blocks, viz., Leh, Khaltsi, Nyoma, Nubra, and Durbuk. The district has only one town- Leh (class V), which serves as the district headquarters; and 112 inhabited and 1 uninhabited villages in 1981 (Table 5). Data for the present study were collected from 9 villages in the Leh block of Leh tehsil and Leh town (Table 8).

The Kargil district on the other hand, is administratively divided into two tehsils – Kargil and Zanskar; and seven blocks. The tehsil of Kargil comprises of Kargil, Sankoo, Taisuru, Shargole, Shakar-Chiktan and Drass blocks; while the tehsil of Zanskar comprises of the Zanskar block. The only town in the district, viz., Kargil (Class VI), serves as the district headquarters. The total number of villages in the Kargil tehsil is 104, of which 2 villages in the Drass block are uninhabited. The Zanskar tehsil (and Zanskar block) comprises of 25 villages. Data for the present study were collected from blocks Kargil, Sankoo, Shargole and Drass of Kargil tehsil and the Kargil town (Table 8). Table shows area, population, number of households, occupied residential houses in the specific study areas.

In 1981, the total population of the Jammu and Kashmir state stood at 5,987, 389 persons, which was made up of 3,164,660 males and 2,822,729 females. Out of the total population, more than three-fourths (78.95 per cent) were in rural areas. These figures do not include the population residing in the areas under the illegal occupation of Pakistan and China. The 1991 census has not yet been conducted in the state, however, the projected population figure stands at 7,718,700 persons (prepared by the Standing Committee of Experts on Population Projections, 1989). The list of districts and region-wise break-up of population in Jammu and Kashmir, according to 1981 census are presented in table 6.

The growth of population from 1901 to 1991 and the decennial growth rates for India; and Jammu and Kashmir are presented in table 4. It

Table 5: List of districts, area, number of tehsils, town, villages, occupied residential houses (1981) in Jammu and Kashmir, India

State/District	*Area (in km²)*	*Number of tehsils*	*Number of towns*	*Number of villages*	*Number of Occupied residential houses*
Jammu and Kashmir	222236[1]	50	58	6758	819172
Ladakh Region					
Leh	82665[2]	1	1	113	14042
Kargil	14036	2	1	129	10654
Kashmir Region					
Anantnag	3984	5	8	645	75470
Pulwama	1398	3	4	554	47533
Srinagar	2228	2	3	175	78623
Badgam	1371	3	1	496	44274
Baramula	4588	6	6	660	77658
Kupwara	2379	3	2	369	41680
Jammu Region					
Doda	11691	4	6	655	62667
Udampur	4550	5	6	624	77545
Kathua	2651	4	6	587	58118
Jammu	3097	5	9	1192	150934
Rajouri	2630	5	4	381	46697
Punch	1674	2	1	178	33277

1. Includes 78114 km² under illeegal occupation of Pakistan and 5180 km² illegally handed over by Pakistan to China, and 37555 km² under illegal occupation of China.
2. Includes 37555 km² under illegal occupation of China.

Source: Censua of India, 1981, Part XII, Series 8, Census Atlas, Jammu and Kashmir, Director of Census Operation Jammu and Kashmir (1990).

Table 6: List of districts, distribution of population (1981), intercensal change in population (1971-1981), density (1981), sex ratio (1981), in Jammu and Kashmir, India

State/District	*Populaiton*			*Intercensal change in*		
	Males	*Females*	*Persons*	*populaiton ('71-'81)*	*Density*	*Sex ratio*
Jammu and Kashmir	3164660 (4014100)[1]	2822729 (3704600)[1]	5987389 (7718700)[1]	29.69 (28.92)[2]	59 (76)[2]	892 (923)[2]
Ladakh Region						
Leh	36248	32132	68380	31.78	2	886
Kargil	35609	30383	65992	23.58	5	853
Kashmir Region						
Anantnag	347706	308645	656351	26.68	165	888
Pulwama	213093	190985	404078	28.62	289	896
Srinagar	378189	330139	708328	25.52	318	873
Badgam	195395	171867	367262	36.51	268	880
Baramula	358293	311849	670142	30.82	146	870
Kupwara	176909	151834	328743	27.51	138	858
Jammu Region						
Doda	223362[3]	201900[3]	425262[3]	24.27	36	904
Udhampur	237963[3]	215673[3]	453636[3]	32.37	100	906
Kathua	192570[3]	176553[3]	369123[3]	32.91	139	917
Jammu	491972[3]	451423[3]	943395[3]	30.16	305	918
Rajouri	158679	143821	302500	39.16	115	906
Punch	118672	105525	224197	31.27	134	889

1. The populaiton figures exclude population of areas under unlawful occupation of Pakistan and China where census could not be taken. The figures in brackets indicate projected estimates of population in 1991; prepared by the Standing Committee of Experts on Populaiton Projections (October, 1989).
2. Figures in brackets indicate change in population during 1981-1991, density in 1991, sex ratio in 1991, as per projections prepared by the Standing Committee of Experts on Population Projections (October 1989), since the 1991 census has not been held in Jammu and Kashmir.
3. Population of 41 villages fully and 3 villages partly of Akhnoor tehsil (Jammu district) falling on the other side of Line of Control referred to in the Simla Agreement, 1972 has been adjusted in districts of Udhampur, Kathua and Jammu on pro-rata basis.

Source: Director of Census Operations, Jammu and Kashmir (1990) - Census of India, 1981, Part-XII, Series-8, Census Atlas, Jammu and Kashmir; Office of the Registrar General and Census Commissioner, India, 1992 - Census of India, 1991, Series-1, India,Paper-2 of 1991, Final Population Totals, Brief Analysis of Primary Census Abstract.

is evident that whereas pre-independence decades showed gradual increment, the post-independence decades, especially recent ones registered unprecedented growth of population. It is therefore, interesting to note that during the period of 80 years ending 1981, there has been a net addition of 3,848,027 persons to the population of the state, giving rise to a growth rate of 179.9 percent during 1901-1981 period. In the 1971-81 decade, the state registered very high population growth rate of 29.69 percent, higher than the India's growth rate of 24.66 per cent. This is mainly due to eradication of epidemic diseases, famines, reduction of conflicts, breaking down of various institutionalized statutes, betterment of facilities (particularly in the realm of health cover and communication), and poor family planning performance; which brought about sharp decline in death rate, but only marginal or no reduction in birth rate. The 1981-91 decade however, has shown a slight decline in the growth rate, which has been estimated as 28.92 percent (based on projections). This rate still appears higher than the national growth rate of 23.85 percent. The decennial growth rates of population in various districts of Jammu and Kashmir have been shown in Table.

The crude birth rate for Jammu and Kashmir at 31.4 per 1000 population in 1990 (SRS,1990) has also been higher than the national average of 30.2. However, the reverse has been noticed in case of crude death rates (7.9, 9.7 per 1000 population, respectively).

In the Ladakh region, in 1981, total population of the Leh district (and tehsil) stood at 68,380 with 36,248 males and 32,132 females (Table 6). The rural areas returned 59,662 per-

sons (87.25 per cent); and only 8,718 persons (12.75 per cent) were recorded in the urban area. The sex ratio of the district in 1981 was rather low at 886 (Table 6). Whereas the rural sex ratio in 1981 stood at 911, the urban sex ratio surprisingly was much lower at 733.

The district has witnessed in recent decades an increase in population, due to eradication of epidemic diseases, (which in turn, is due to the health awareness, expansion of modern health services), and falling inant and child mortality rates. Furthermore, waning of certain institutionalized statutes like, fraternal polyandry, primogeniture and monasticism, due to legal sanctions, advent of education, changes in socio-psychological conceptions are also responsible. The contraception acceptance is also quite low. As a result, the population is growing at an almost unchecked pace, which needs immediate attention. In the 1971-81 decade, the district registered an absolute population increase of 16,489 persons over the 1971 population of 51,891. Therefore, the percentage change (or the growth rate) during that decade was as high as 31.78 per cent (Table 6).

In 1981, the Kargil district had an overall population of 65,992 persons, consisting of 35,609 males and 30,383 females (Table 6). The rural population stood at 62,465 (94.66 percent), while urban areas returned only 3,527 persons (5.34 percent). The sex ratio of the district in 1981 was quite low at 853 (Table 6). The rural sex ratio was around 859; which is interestingly, much higher than the urban sex ratio of 758.

Unlike the decades before 1961, in the recent decade, the district has registered high population growth, although lower than the Leh district; mainly due to similar reasons mentioned above. In the 1971-81 decade, there has been a net addition of 12,592 persons in the district, resulting in high population growth rate of 23.58 percent.

Ethnic Groups

Various ethnic groups residing in the Jammu and Kashmir state are, Bodhs, Mons, Bedas, Garras, Purigpas, Brokpas, Baltis, Changpas, Arghuns, Kashmiri Pandits, Kashmiri Muslims, Dogras, Kishtwaris, Mahajans, Khatris, Harijans, Paharis, Gujjars, Bakerwals.

Religions

Religion-wise break-up of the population (in 1981) [Table 7] shows that the Muslims (64.19 percent) constitute the predominant religious community, followed by Hindus (32.24 per cent), Sikhs (2.24 per cent), Buddhists (1.16 per cent), Christians (0.14 per cent) and Jains (0.03 per cent).

Scheduled Castes

In Jammu and Kashmir, following 13 castes stand notified as Scheduled Castes under the state constitution: Barwala, Basith, Chamar or Ramdasia, Batwal, Chura, Dhyar, Doom or Mahasha, Gardi, Jolaha, Megh or Kabirpanthi, Ratal, Saryara, Watal. Out of a total population of 5,987,389 in the state in 1981, 497,365(8.31 percent) are scheduled castes.

Scheduled Tribes

In the year 1989, eight population groups of

Table 7: Distribution of population under various religions (1981), in Ladakh region of Jammu and Kashmir, India

	Population under various religions (percentage)						
State/district	*Buddhist*	*Hindu*	*Muslim*	*Christian*	*Sikh*	*Jain*	*Others*
Jammu and Kashmir	69706	1930448	3843451	8481	133675	1576	52
	(1.16)	(32.24)	(64.19)	(0.14)	(2.24)	(0.03)	(0.00)
Ladakh Region							
Leh	55514	2046	10475	156	184	-	5
	(81.18)	(2.99)	(15.32)	(0.23)	(0.27)	-	(0.01)
Kargil	12862	1492	51407	81	150	-	-
	(19.49)	(2.26)	(77.90)	(0.12)	(0.23)	-	-

Source: Director of Census Operations, Jammu and Kashmir (1990)-Census of India,1981, Part-XII Series-8, Census Atlas, Jammu and Kashmir.

the Ladakh division of the state have been declared scheduled tribes: Bot (Boto), Mon, Beda, Garra, Purigpa, Brokpa (Dogpa, Shinna etc.) Balti, Changpa. In the year 1991, two other population groups have also been declared scheduled tribes, namely the Gujjars and Bakerwals.

Bodhs (Scheduled Tribe)

The Bodhs form bulk of the population in the Leh district, whereas in the Kargil district, they are the second largest population group. They inhabit the area between Skara-Igo to Taru-Umla villages, including Leh town, to Achinathang village in the lower Indus region, Nubra-Shyok valley; along the Leh-Srinagar highway and Zanskar valley. Although they belong mainly to the Mongoloid ethnic stock; historical accounts refer to the blending of both Mongoloid and Aryan elements, the former being the stronger one. They profess a form of Buddhism, which essentially includes Lamaism and elaborate and complicated rituals, including elements of animism, magic and demon worship.

The main occupation of Bodhs is cultivation, supplemented by horticulture, animal husbandry. Nowadays, they are increasingly opting for services and also trade and commerce. The language of the Bodhs is 'Ladakhi'/'Bodhi', which belong to the Tibeto-Chinese family and has regular grammer and dictionary.

Baltis (Scheduled Tribe)

Baltis inhabit most of the Kargil district, Kargil town; and parts of Indus valley and Nubra-Shyok valley in the Leh district. They are believed to belong to the predominant ethinic stock of Ladakh region, i.e., having admixture of Mongoloid and Aryan (Dard) elements, the latter being the stronger one. It is suggested that they were earlier Buddhists, but long back converted to Islam when mass conversion took place, after Mirza Haider Dughlat invaded Baltisatn. Baltis profess Shia faith of Islam; therefore, they are sometimes referred as 'Shias'. They are quite conservative and orthodox and mostly do not take any thing touched by non-Muslims. Music, dance, entertainment are still avoided unlike the Bodhs.

Baltis are mainly agriculturists and horticulture, animal husbandry are sometimes marginally undertaken. Their spoken language is 'Balti', which belongs to the Tibeto-chinese family and preserves the archaic characters of pronunciation. However, the population being Muslim, Urdu and Persian characters are used for writing.

Brokpa/Brog-pa/Shinna (Scheduled Tribe)

'Brok' means high pasture ground; and hence 'Brokpa' connotes 'highlander'. Brokpas are Muslim Dards and inhabit the valleys along the Drass river and its tributaries (falling in the major region of Shingo-Suru valley) in the Kargil district. They are also known as 'Shinna', after their spoken language, which belongs to the Dard group of languages in the non-sanskritic Indo-European family. They profess Sunni faith of Islam and many of their socio-cultural customs are now akin to those of Sunni Kashmiri Muslims inhabiting the adjacent region and also the Baltis. They have not retained much of original customs and rituals after their conversion to Islam long back, unlike their Buddhist counterparts, inhabiting the lower Indus valley, who are also known as 'Brog-pas' in the Leh district, but 'Dog-pas' or 'Dukpas' in the Kargil district.

They belong to the Aryan stock and are believed to have come from Dardistan (the Gilgit region) in distant past. The main occupation of the Brokpas is agriculture. Their subsidiary occupation is animal husbandry, and negligibly horticultural activities. Because of obvious socio-economic constrains many (mainly menfolk) even venture out for jobs (including various services).

Arghuns (Community)

Since long, the Ladakh region occupied a nodal position on the central Asian trade route and, therefore, was frequently traversed by merchants from various regions including Kashmir valley and central Asia. Arghuns are the descendants of Muslim merchants of Kashmir valley, Yarkand and also muslim missionaries. These people married local Buddhist Ladakhi women who converted to Islam and eventually settled there. They profess Sunni faith of Is-

lam. Many of their socio-cultural customs bear similarity with those of the Sunni Kashmiri Muslims of the Kashmir valley. They inhabit mainly the Indus valley in Leh district, but a smaller proportion is also found in the Zanskar valley in Kargil district. Their spoken language is 'Ladakhi' belonging to the Tibeto-Chinese family, but many can converse in Balti, Turkish, Tibetan and Kashmiri languages. However, urdu characters are mostly used for writing. They are mainly engaged in trade and commerce. Some however, have taken to agriculture akin to Boto population group along with minimal horticultural and animal husbandry activities. Many of them are economically quite well off.

Status of Women and Their Economic Activities

Among Bodhs, position of women is relatively high and more or less on a par with that of men. They enjoy freedom and great deal of control over household affairs; and participate equally in all religious festivities. She has equal rights in the selection of life-partners, and in the family property. In the absence of any male sib, she is the sole inheritor, and may enter into a type of marriage by negotiation known as 'magpa', where the husband has no rights over her property and takes up the residence with her. There is no strict restrction on divorce, or widow remarriage. More and more among them are also getting themselves enrolled in educational institutions and waiting employment opportunities. They participate tirelessly in all household activities, agricultural operations (except ploughing), collection of fuel, fetching of water, selling farm produce in the markets etc., and occasionally even work as labourers, or hold office-jobs. However, men mostly continue to be heads of the family and principal earners, and play a fairly dominating role in public and community affairs.

Among the Muslim Baltis, Brokpas, and Arghuns, position of women if not exactly high, seems to be better than their Muslim counterparts in many other places in India. However, there exist restrictions of movement and free mixing, particularly in the urban areas. Though relative isolation of the people, ecological and economical compulsions have rendered the 'purdah' system almost dysfunctional, it is obligatory for them to cover their head from young ages. The age at marriage and literacy rates (except among Arghuns) among women are quite low. They take part in all religious occasions, but separately. However, at the household level, they enjoy considerable authority over household matters. In the absence of male sex, they too become sole inheritors and may contract 'magpa' marriages. But otherwise, a share in the family property for which they are entitled to is usually neither demanded nor given. The elders mostly decide marriages, although they are also asked. They carry out all household activities and agricultural operations (except ploughing), but rarely venture out for work elsewhere. Only in the recent years, a few Muslim women seem to be engaged in various services.

Further, brief sketches of the other major population groups of Jammu and Kashmir state who have been considered for comparison purpose are presented here.

Kashmiris

Kashmiris are well spread in different parts of Jammu and Kashmir state but their major concentration lies in the valley of Kashmir. According to Historians, the ancestors of Kashmiris are early immigrants from India proper. Most of the people of Kashmir claim their descent from Indo-Aryan stock. The mother tongue of all Kashmiris in Kashur/ Koshur or Kashmiri—a language of Indo-Aryan family. Before the 14th century when the mass of people was converted to Islam through the efforts of Shah Hamaden, the entire valley was inhabited by Hindus only. With the passage of time the valley became a Muslim majority area. Thus the two population groups, Kashmiri Pandits and Kashmiri Muslims though at the time constituted ethnically homogenous population, came to differ from each other in faith and customs. At the close of 19th century, major part of population was constituted by Kashmiri Muslims, the rest being Kashmiri Pandits.

Kashmiri Muslims

The Muslims of the Kashmir, belong to the Caucasoid racial group (Eickstedt, 1926). They

profess Islam of both Sunni and Shia sects. The Muslims of Kashmir may be divided into four divisions-Sheikhs, Saiyads, Mughals and Pathans. The Sheikhs are considered to be the descendants of Hindus and the pure Kashmiri Muslims, professing Sunni faith, the major part of the population of Srinagar district and the Kashmir state. The Saiyads may be divided into those who follow the profession of religion and those who have taken to agriculture and other pursuits. These are indistinguishable from Kashmiri Muslims but profess Shia faith. The other divisions-Mughals and Pathans are not numerous. The present study included only Sheikhs.

Kashmiri Pandits

The Brahmans of Kashmir, more commonly known as Pandits, are considered to be the purest descendants of the Indo-Aryan race by Guha (Ray, 1957). Kashmiri Pandits or Brahmans are a very small group left, but they sitll continue to show a phenomental instinct of survival which is primarily due to the tradition of marrying within the community. Kashmiri Pandits constitute about 10 per cent of the total population of the Srinagar district. They are not only caste conscious to large extent but also show adherence to their respective group.

Table 8: Number of households studied in the Ladakh region of Jammu and Kashmir, India, by specific study area and population group.

	Number of households studied					
	Buddhists	*Muslims*				*Ladakh*
Study areas	*Bodhs*	*Baltis*	*Brokpas*	*Arghuns*	*(Pooled)*	*(Pooled)*
Ladakh Region						
Rural Study Areas (Villages)						
Leh District						
Thiksey	11	6	-	24	30	41
Saboo	20	-	-	-	-	20
Shey	17	-	-	3	3	20
Spituk	21	-	-	-	-	21
Phiyang	16	-	-	8	8	24
Choglamsar	10	-	-	5	5	15
Chuchot shama	18	20	-	-	20	38
Chuchot goma	5	19	-	-	19	24
Mathoo	5	-	-	6	6	11
Kargil District						
Lotsum	-	11	-	-	11	11
Shargole	14	-	-	-	-	14
Mulbek	22	-	-	-	-	22
Wakha	-	14	-	-	14	14
Thangdumru	-	17	-	-	17	17
Trespon	-	16	-	-	16	16
Minji	-	18	-	-	18	18
Baroo	-	12	-	-	12	12
Chuliskambo/Chanigund	-	18	-	-	18	18
Kharboo	-	-	4	-	4	4
Pandrass	-	-	19	-	19	19
Ranbirpora	-	-	22	-	22	22
Karkit	-	12	-	-	12	12
Rural (Total)	159	163	45	46	254	413
Urban Study Areas (Towns)						
Leh District						
Leh NA (Notified area)	74	14	-	69	83	157
Kargil District						
Kargil NA (Notified area)	-	70	-	10	80	80
Urban (Total)	74	84	-	79	163	237
Ladakh (Grand Total)	233	247	45	125	417	650

Dogras

The Dogras are the inhabitants of the hilly regions bordering Punjab. Their major concentration lies between the two holy lakes. i.e. 'Surinsar' and 'Mansar'. Some Scholars are of the opinion that the word Dogra is a corruption of the Rajasthani word 'Dungara' meaning hills and of the word 'Dugar' meaning the region of two holy lakes. Shastri (1976) however advocates that Dogra is a corrupt form of the Sanskrit term 'Dvigera' andthe country they inhabit is 'Dvigerdesh' meaning country of two hollows. The term dogra is derived from 'Dugar' and refers to the people living in the region regardless of the clan or class to which they belong (Plait, 1972). The Dogras at best can be conceived of as a linguistic group with ethnic overtones. According to their physical appearance they can be regarded as Caucasoids (Drew, 1987). They speak the Dogri (Indo-Aryan) language, a mixture of Sanskrit, Punjabi, Persian and Urdu words which belongs to the Indo-European family.

The Dogras are divided into castes in the same way as are the Hindus of India, though with local variations. However in general, these are partly the remnant of race distinctions and partly the outcome of pursuing hereditary occupations. Among the most important Dogra castes are the Brahmans, Rajputs, Khatris, Thakurs, Jats, Banias and Scheduled Castes. Investigation for the present study was carried out on numerically dominant Dogra Brahmans, Dogra Rajputs and the Dogra Seheduled Castes settled in Tawi valley.

Dogra Brahmans

They distinguish themselves from Mohyal and Kashmiri Pandits and form the largest population of the Jammu district. The Dogra Brahmans are traditionally the priestly caste - who rendered services to Rajputs in religious ceremonies and rituals. In recent times, the Dogra Brhamns have, to a large extent, left their hereditary occupation and taken to cultivation and other remunerative professions. In physical appearance they portray the same general cast of features as seen in dogra Rajputs and can be scarely distinguished from them, except that Dogra Brahmans are not so well built as Dogra Rajputs.

Dogra Rajputs

They claim their descent from the families of erswhile Rajput rulers who reigned over this state for many centuries. Banerjee (1975) traces their origin from the Rajputs of Plains. The Dogra Rajputs are broadly sub-divided into two classes, viz, the Rajputs and the Working Rajputs. The former belong to Kshatriya Varna and are a martial class, mostly serving in the army or employed in agriculture. The latter on the other hand, have taken to agriculture as their primary source of livelihood.

Dogra Scheduled Castes

Dogra Sheduled castes are fairly largely distributed in allthe districts of the state, especially in Jammu district. They do menial jobs and agricultural labour.

Gujjars

The Gujjars (Scheduled Trible), the hill people of Kashmir, are mostly herdsmen by occupation, and are found in most parts of Jammu and Kashmir. Some of them have now settled down to agriculture. The major concentrations of Gujjar tribe lies in Jammu region, Udhampur, Poonch, Uri and Ganderbal. The early history of Gujjars is obscure. According to one school of thought, under certain pull and push factors they left their habitat (Georgia-a territory situated between the Black Sea and the Caspian Sea in the former Soviet Union) and through Central Asia, Iraq, Iran, and Afganistan crossed the Khyberpass to enter into the sub-continent of India. By making a southward march they reached Gujarat where from they entered the green pastures of Siwaliks and the Himalayas. In the opinion of some of the social anthropologists, Gujjars probably got their names from the sanskrit word, Gujjara-the original name of Gujarat. They were Hindus at the time they were first noticed in the sub-continent and later on embraced Islam (Lawence, 1985). They speak Indo-Aryan language.

MATERIAL AND METHODS

The study design included -a preliminary investigation; the main study itself; as well as collection of official statistics from secondary sources, and empirical data from Kashmir and Jammu regions of the state for comparison purposes; followed by data processing.

Following the preliminary investigation, a comprehensive interview schedule keeping in view the specific objectives of the study was prepared. The study data were collected from ever married women, aged 15-54 years; who were the units of study and primary respondents. In all, 783 ever-married women (respondents) belonging to 650 households from four population groups in Ladakh region (Leh and Kargil districts); namely, Bodhs (Scheduled Tribe), Baltis (Scheduled Tribe), Brokpas (Scheduled Tribe), Arghuns (Community) were interviewed. The households were located in 22 villages and 2 towns in the Ladakh division (9 villages and 1 town in the Leh tehsil of Leh District; and 13 villages and 1 town in the Kargil tehsil of Kargil district) of Jammu and Kashmir, India (Table 10). The households were randomly selected from each of the specific study areas (villages/towns); and respective village household lists provided information regarding the distribution of study population groups. Table 10 presents number of sample hoseholds from where data have been collected classified by specific study area and resident population group. [The list of specific study areas and the number of women interviewed in the Ladakh region; classified by population group, has been presented in Table 11].

Limited empirical data were also obtained from Kashmiri Pandits (Hindu Caste goup) [32 respondents], Kashmiri Muslims (Muslim community) [46 respondents] belonging to Srinagar District, Kashmir Division (from 3 villages and 1 city); and Dogra Brahmans (Hindu Caste group) [125 respondents], Dogra Rajputs (Hindu Caste group) [123 respondents], Dogra Scheduled Castes (Hindu Scheduled Caste Group) [118 respondents], Gujjars (Muslim Scheduled Tribe) [29 respondents] belonging to Jammu District, Jammu Division (from 11 villages, 3 towns and 1 city).

Details of the Methods

Interviews with ever-married women (the primary respondents) were conducted in each of the sample household using interview schedules to collect village level, household level and individual respondent level information. To supplement the interviews, participant observation; and indirect, informal conversation were also carried out, not only with the respondents but also elders, spouses in the households.

Socially important persons, religious leaders, medical centres, hospitals were also contacted at frequent intervals for verifying the responses. Moreover, in the Ladakh region, villages and even towns are closely interwoven with very little privacy, which considerably minimized misrepresentations and response errors.

A combination of approaches, such as retrospective approach, life-history approach, were additionally adopted to check the consistency and accuracy of responses. The retrospective approach proved to be useful to gather fairly consistent information on ages at various stages of life of the respondents, as well as on present ages of all members and life events in the sample households. Firstly, the calendar months,years in respect of the requisite information were asked. Failing to obtain the calendar date, the responses were corroborated by relating to important local events or historical or cultural events of some importance. These were again cross-checked.

As per the life history approach, the integrated pregnancy/birth histories of the respondents were reconstructed as a detailed chronological list. In other words, information was obtained by a sequential life-history approach which required detailed probing for events in each segment of respondent's reproductive life(including intervals), viz., menarche to first marriage (or vice-versa); consummation of marriage; first conception: outcome of conception; place of delivery; survival status of the offspring; if dead, type and causes of death; duration of breast feeding, age at which supplementary food was introduced, post-partum amenorrhoea; then from this period to the second conception, and thus to the last open

interval or menopause. In between, various other events in the household or in respondent's life were also fitted in. This approach was found to be quite effective, since it helped to minimize the recall errors and misplacement of events in the time-scale of respondent's life.

Further, for the collection of data on causes of deaths, lay-diagnosis approach as adopted by the Office of the Registrar General, India, for survey of causes of deaths (rural), 1989 [Ministry of Home Affairs, Government of India, 1991] was followed with minor variations. Classification of deaths was done by a non-medical list of major cause-group and symptoms. The familiar and indentifiable diseases were arranged either in groups or on the basis of similar symptom associations, or were recorded as such, if death certificate of medical prescriptions etc. were available. Also, a cited condition was counted as a cause regardless of whether or not it was designated as an underlying cause. This lay-diagnosis procedure for deciding the causes of deaths involved isolation of 'major-cause groups' by way of elimination and final identification of a cause. However, in many of the sample households, the causes of deaths (probable/certain), particularly during the recent years prior to the survey were remembered more or less accurately by the members; even if proper documentation were not available. Additionally, frequent discussions with district/village level medical practitioners/para-medical staff also helped in checking the accuracy of responses, and the assessment of classification of causes.

The preliminary investigation in the study area was undertaken in 1988 (August-November). The main study in the Ladakh region was conducted in 1989-1990 for about eight months. It included the months of August to November, 1989 and April to July, 1990. The collection of data from Kashmir and Jammu regions was carried out during the months of December 1989 to March 1990.

After the collection of data, the same were organized, edited and coded manually and then entered in an IBM PC^{+}. Thereafter, machine editing; recoding; creation of new variables, indexes; and analyses were carried out using the standard SPSS/PC program package (Statistical Package for Social Scinences) [Nie et al., 1975; Norusis, 1987]. The tabular and graphic representations of the data analyses were created using the standard Microsoft Office 97. All the computations and analyses (demographic and statistical) were done separately for each of the study population groups, namely; Bodhs, Baltis, Brokpas and Arghuns; and then for the three muslim population groups pooled together [Muslims (Pooled)] as well as for all the four populations groups pooled together [Ladakh (pooled) group-total population).

The variables (dependent and independent) considered in the present study for the exploratory (investigative) analysis are presented in table 9. Five dependent variables (2 fertility-related variables, 2 child (offspring) mortality experience-related variables, 1 family planning methods usage-related variable) have been studied, after considering their closeness to the objectives and nature of the study.

The independent variables included in the statstical analyses have been selected keeping in mind their measurable nature, and potential/operative influence on population components, family planning methods usage. The categorizations of the variables have been arrived at after extensive assessment at the area level. However, for feasibility and analytical considerations involved, categories of certain variables containing few cases have been clubbed together.

Further, in the present study two index variables have been computed to divide the sample in few categories with respect to certain independent variables.

(1) Communication facilities index-Availability of such communications facilities (within 5 km of households) as: a) pucca road; (b) bus service; (c) post/telegraph/telephone sevice; (d) radio/television/daily newspapers (in the household or in the immediate neighbourhood); have been studied together. Each of the these independent variable was assigned a value of 0 if absent and 1 if present and then added together. The lowest computed score was 1 and the highest was 4. The computed score was classified into two categories; 1) 1,2-representing poor level of communication facilities available; and 2) 3,4-represent-

ing good level of communication facilities available.

(2) Housing condition index - Following 9 independent variables denoting housing conditions and household attributes were assigned values 0 and 1.

a. Type of construction: 0 = Kutcha/Semi pucca, 1 = Pucca;

b. Number of storey: 0 = One, 1 = more than one;

c. Separate lavatory and kitchen/cattle shed facilities: 0 = Absent, 1 = Present;

d. Chimney in kitchen: 0 = Absent, 1 = Present;

e. Drainage/sewarage system: 0 = Absent, 1 = Present;

f. Ventilation condition: 0: Unsatisfactory, 1 = Satisfactory;

g. General sanitary condition: 0 = Unsatisfactory, 1 = Satisfactory;

h. Number of rooms: 0 = 1 to 4,1 = More than 4;

i. Sources of water supply: 0 = Sources other than pipe/tap, 1 = Piped.

Table 9: List of variables utilized in the exploratory analyses

S.No.	*Variables*[1]	*Abbreviations used*
A.	**Dependent Variables**[2]	
1.	Mean number of children even born (alive) [per woman[3]]	CEB
2.	Mean number of children surviving ('currently' living) [per woman[3]]	CSU
3.	Child loss ratio (proportion of children dead among children ever born to woman[3])	CLR
4.	Child survival ratio (proportion of survivors among children ever born to woman[3])	CSR
5.	Usage of family planning method	FPP
B.	**Independent Variables**	
1.	(Present) age of woman[3]	APW
2.	Economic characteristics/occupation of woman[3]	OCH
3.	Economic characteristics/occupation of husband	OCW
4.	(Household) income	RIH
5.	(Household) ownership of land	LDH
6.	Educational characteristics of woman[3]	EDH
7.	Educational characteristics of husband	EDW
8.	Age at marriage of woman[3]	AMW
9.	Type of marriage (consanguineous/non-consanguienous)	CNM
10.	Religion	REL
11.	Family structure	FMH
12.	(Offspring)-gender preference (son preference)	GPW
13.	Ideal number of children desired	ICD
14.	Age at menarche	AMN
15.	Place of residence	PLR
16.	Type of educational facilities available	EDU
17.	Type of communication facilities available:	
	(a) Approach by pucca road	APR
	(b) Bus service available	BSR
	(c) Post/telegraph/telephone service available	PTT
	(d) Radio and television and /or newspaper available	RTN
	(e) communication facilities index	CFI
18.	Type of medical facilities available	MDF
19.	Type of medical facilities availed	MDC
20.	Housing condition and attributes:	
	(a) Type of construction	CTH
	(b) Number of storeys	STH
	(c) Separate lavatory and kitchen/cattleshed	SPF
	(d) Chimney in kitchen	CHH
	(e) Drainage/sewarage system	DSH
	(f) Ventilation condition	VNH
	(g) General sanitary condition	SNH
	(h) Number of rooms	RMH
	(i) Source of water supply	WSH
	(j) Housing condition index	HCI
21.	Source of knowledge of family planning method	SFP

1. Explanations have been provided in the text for all the variables, including the index variables.
2. Some of these dependent variables have also been utilized as independent variables in certain exploratory analyses.
3. Ever married respondent.

The variable values were then added together. The lowest computed score was 0, and the highest was 9. The scores were classified into three categories: 1) 0,1,2 - represening poor housing condition; 2) 3,4,5 - representing fair housing condition; 3) 6,7,8,9 - representing good housing condition.

Besides these computations, the mean inbreeding coefficients have also been computed. The overall amount of inbreeding in population has been measured by the mean inbreeding coefficient (∞) by using the formula: $\alpha = \sum p_i F_i$ (where p_i is the proportion of marriages with inbreeding coefficient F_i. This formula includes the marriages with F=0; i.e., nonconsanguineous marriages (after Roy Choudhury, 1976).

In the present study, the index of opportunity for selection have additionally been computed following: (i) Crow (1958); and (ii) Johnston and Kensinger (1971). The reproductive histories of respondents (aged 45 years and over) who have completed their reproductive life span have been considered for these computations.

(i) The index of opportunity for selection (I_1) following Crow (1958) has been calculated as:
$I_1 = I_m + I_f / P_s$ where $I_m = P_d/P_s$;
and $I_f = V_f/(x)^2$
[I_f = Index of opportunity for selection due to mortality (mortality from birth to reproductive age -below 15 years);
1_m = Index of opportunity for selection due to fertility;
x = Average number of live births per woman aged 45 years and above who have completed their reproductive life span;
V_f = Variance of number of live births;
P_d = Proportion of pre-reproductive deaths;
P_s = Proportion of survivors from birth to reproductive age].

(ii) The index of opportunity for selection (I_2) following Johnston and Kensinger (1971) has been calculated as: $I_2 = I_{me} = I_{m6}/P + I_f/P_bP_s$; where $I_{me} = I\text{-}P_b/P_b$, $I_{me} = P_d/P_s$; $I_f = V_f/(x)^2$ $P_b = I\text{-}P_{ed}$
[I_{me} = Index of opportunity for selection due to exbroyonic mortality;
I_{me} = Index of opportunity for selection due to pre-reproductive mortality (mortality from birth to reproductive age);
P_{ed} = Proportion of embryonic deaths;

Table 10: Distribution (number and percentage) of households and women[1] among various population groups of Ladakh region, Jammu and Kashmir, India; by family structure and place of residence

Population group	*Place of residence*	*Number of households covered*	*Number (Percentage) of households having*		*Number of NF[2] in JF[3]*	*Total number nuclear fmilies*
			NF[2]	*JF[3]*		
Buddhists						
Bodhs	Rural	159	63 (39.6)	96 (60.4)	128	191
	Urban	74	46 (62.2)	28 (37.8)	43	89
	Combined	233	109 (46.8)	124 (53.2)	171	280
Muslims						
Baltis	Rural	163	84 (51.5)	79 (48.5)	113	197
	Urban	84	40 (47.6)	44 (52.4)	61	101
	Combined	247	124 (50.2)	123 (49.8)	174	298
Brokpas[4]	Rural (Combined)	45	27 (60.0)	18 (40.0)	27	54
Arghuns	Rural	46	23 (50.0)	23 (50.0)	33	56
	Urban	79	45 (57.0)	34 (43.0)	50	95
	Combined	125	68 (54.4)	57 (45.6)	83	151
Muslims	Rural	254	134 (52.8)	120 (47.2)	173	307
(Pooled)	Urban	163	85 (52.1)	78 (47.9)	111	196
	Combined	417	219 (52.5)	198 (47.5)	284	503
Ladakh	Rural	413	197 (47.7)	216 (52.3)	301	498
(Pooled)	Urban	237	131 (55.3)	106 (44.7)	154	285
	Combined	650	328 (50.5)	322 (49.5)	455	783

1. Total number of ever-married respondents/families studied
2. Nuclear family
3. Joint/extended family
4. The Brokpa sample has been drawn from rural areas

P_b = Proportion of survivors to birth; P_d = Proportion of pre-productive deaths].

Further, firstly to interpret each of the selected variable, precentage distributions and/ or means were calculated. Thereafter, differential and multiple regression analyses were employed to explore and quantify relationships between the dependent and independent variables. The selected set of independent variables has been considered uniformly for all the four study population groups and for the Pooled groups.

The differential analyses were done to produce detailed tabulation presenting mean values for fertility, child mortality- related dependent variables (obtained from complete pregnancy/ birth histories of respondents); and precentage values for family planning methods usage-related dependent variable, classified by categories of selected independent variables. These provided a general view of the differentials within and across the study population groups as well as possible relationships.

Table 11: List of specific study areas and the number of woman[1] studied in the Ladakh region of Jammu and Kashmir, India, by specific study area and population group

	Number of women studied					
	Buddhists	*Muslims*				*Ladakh*
Study areas	*Bodhs*	*Baltis*	*Brokpas*	*Arghuns*	*(Pooled)*	*(Pooled)*
Ladakh Region						
Rural Study Areas (Villages)						
Leh District						
Thiksey	13	8	-	30	38	51
Saboo	24	-	-	-	-	24
Shey	20	-	-	3	3	23
Spituk	26	-	-	-	-	26
Phiyang	21	-	-	10	10	31
Choglamsar	10	-	-	6	6	16
Chuchot shama	21	24	-	-	24	45
Chuchot goma	6	23	-	-	23	29
Mathoo	6	-	-	7	7	13
Kargil District						
Lotsum	-	13	-	-	13	13
Shargole	16	-	-	-	-	16
Mulbek	28	-	-	-	-	28
Wakha	-	18	-	-	18	18
Thangdumru	-	21	-	-	21	21
Trespon	-	19	-	-	19	19
Minji	-	21	-	-	21	21
Baroo	-	15	-	-	15	15
Chuliskambo/Chanigund	-	21	-	-	21	21
Kharboo	-	-	5	-	5	5
Pandrass	-	-	23	-	23	23
Ranbirpora	-	-	26	-	26	26
Karkit	-	14	-	-	14	14
Rural (Total)	191	197	54	56	307	498
Urban Study Areas (Towns)						
Leh District						
Leh NA (Notified area)	89	16	-	84	100	189
Kargil District						
Kargil NA (Notified area)	-	85	-	11	96	96
Urban (Total)	89	101	-	95	196	285
Ladakh (Grand Total)	280	298	54	151	503	783

1. Ever married respondents/families studied

The multiple regression analyses (using the step-wise selection procedure) have been done for 4 dependent variables with a selected set of independent variables.

(1) For the dependent variable- number of children ever born per-ever married woman, the independent variables used are: age of woman, number of foetal deaths experienced by woman, number of infant deaths experienced by woman, economic characteristics of woman and husband, (household) annual income, (household) ownership of land, educational characteristics of woman and husband, age at marriage of woman, religion, family structure, (offspring) gender preference, ideal number of children disired, age at menarche, place of residence, communication facilities index, type of medical facilities availed, housing condition index, usage of family planning methods.

(2) For the dependent variable - number of children surviving per ever-married woman, all these independent variables, excepting three, namely, numbers of fetal, infant deaths experienced by woman and age at menarche, have been utilized.

(3) For the dependent variable - number of child (offspring) loss per woman, the same set of independent variables as in (2) have been used, and also the number of children ever born per woman.

(4) For the dependent variable - usage of family planning methods, the same set of independent variables as in (3) have been utilized. But, instead of number of children ever born, number of surviving children per woman has been used. [The analyses for this particular dependent variable have been done for the 'currently' married women aged 15-44 years.]

All these analyses were attempted to: (i) establish and measure the existence of relationship, linear in the coefficient, betwen a dependent variable and a set of independent variables; (ii) determine the proportion of variance in the dependent variable; and (iii) indentify relatively important independent variables.

The linear multiple regression model is of the form: $Y = a_0 + b_1x_1 + + b_2x_2 + ... + b_ix_i + e$ (where Y is the dependent variable; a_0 is the constant; b is the partial regression coefficient of the ith independent variable; x_1 is the value of the ith independent variable; and e is the random error term with mean equal to zero).

The multiple regression (stepwise) procedure in the standard package SPSS/PC$^+$ utilized for the exploratory analyses firstly provided a zero order correlation matrix containing coefficients of correlation between the dependent variable and each independent variable, as well as between the independent variables.

The regression analysis has then provided such equation statistics as, coefficient of multiple correlation -MR (which characterizes the closeness of the measured linear relationship), coefficient of multiple determination - R^2 (which measures the goodness of fit linear model and also represents the proportion of variance in the dependent variable that is explained by the model or the selected independent variables simultaneously), and the standard error - SE. Besides these, the F statistic [F (Eqn)], and the observed significance level of F [Sig F (Eqn)] have also been computed, which tests how well the regression model fits the data. Further, the analysis has provided such statistics for the independent variables as, partial regression coefficient - b, standard error of b, F value for b, significance level of F and the stnadardized regression coefficient Beta. These statistics indicated-whether each selected independent variable in the equation has significant relationship with the dependent variable, as well as the relative importance of an independent variable to predict the dependent variable.

Apart from these, assessment of the results has been attempted in relation to the results of the empirical data collected from Kashmir and Jammu regions as well [from among the major population groups, namely Kashmiri Pandits, Kashmiri Muslims of Kashmir region; and Dogra Brahmans, Dogra Rajputs, Dogra Scheduled Castes and Muslim Gujjars of Jammu region]. Similarly, macro-level statistics for the states of Jammu and Kashmir, Kerala and India; as well as some South Asian countries have been utilized for comparison purposes. Further, a brief discussion on the rural-urban differentials in the demographic characteristics has been attempted as well.

In all, information on various aspects have

been collected from 783 ever-married women respondents (nuclear families) belonging to 650 households (nearly two-thirds of which were rural). Of these, 280 women were Bodhs, 298 were Baltis, 54 were Brokpas and 151 were Arghuns (Table 10).

RESULTS AND DISCUSSION

Population Composition

The study of population composition is the most fundamental aspect of a population dynamics study. Population composition is the internal structure or make-up of a population group, with respect to one or more demographic traits, such as, age, sex, marital status and also economic, educational characteristics, at a specified point of time.

Age Composition

The age composition of a population is of major importance in demographic analysis, since it is a potential source to study the dynamics of population growth. It also indicates the relative level of development of an area. For example, in developed region, the proportions of persons tend to be higher in the older than in the younger age groups (old population structure) while the reverse is discernible in developing regions (young population structure). To comprehend the overall age composition, a population pyramid is also generally constructed. The shape of the pyramid depends on the past vectors of fertility, mortality, migration, nuptiality operating in an area/population.

The age composition of India is 'young', typical of many developing regions, with moderately high fertility and falling mortality. Children aged 0-4 years comprise 36.1 percent of the total population (Sample Registration System, SRS, 1992) [Table 12]. However, the statewise variation in the age composition of population appear great. At the one end, Kerala has the lowest percentage (29.0 percent) of young population (0-4 years); showing a picture, typical of demographically advanced regions, that has experienced substantial decline in fertility in the past. At the other end. Bihar has the highest percentage (39.8 percent), closely followed by Uttar Pradesh (39.4 percent). The state of Jammu and Kashmir is also found have high proportion of young population aged 0-14 years (37.5 percent) [SRS, 1989].

The Ladakh (Pooled) data too show a relatively young age structure, typical of developing regions. Nearly 39 percent of the total population is in the age group of 0-14 years with their reproductive years still in the future, thereby indicating potentials for population growth. However, it may be noted that marked inter-population variation exists in the study area. Baltis seem to have the highest percentage of child population (43.2), followed by Brokpas (40.5). These estimates appear even higher than that returned by Bihar. And, while the percentage of young population among Bodhs is observed lower (36.5), that among Arghuns appears the lowest (32.1 percent).

Thus, Baltis as well as Brokpas seem to register younger age composition than Bodhs and Arghuns, attributable probably to higher fertility and various concomitant factors. In Bodhs too, the proportion of young children is not exactly low. In many demographically advanced, but otherwise developing regions/nations (Kerala, Sri Lanka), still lower proportions of children at ages 0-14 years have been noticed (Table 12). The low percentage of young population among Arghuns, seems akin to the demographically advanced popu-lations, amongst whom fertility has declined in the recent past. However, the Ladakh Muslims on the whole, seem to have very high proportion of child population (39.9 percent); due mainly to the higher proportions of children in Baltis and Brokpas, thereby indicating younger age composition than the Buddhists (Bodhs).

In the broad age groups of 15-49 years, comprising the population at fertile ages, Arghuns (56.7 percent) registered the highest percentage, followed by Bodhs, Brokpas and Baltis (48.6 percent). The total population data have shown that almost half of the population (50.8 percent) is in the childbearing ages of 15-49 years (Table 12). This may be attributed to the falling mortality in the region, and survival of persons to the age of reproduction. These findings signify potential upward thrust on fertility and population growth, in the finite Ladakh region. In the peak productive ages of

Table 12: Percent[a] distribution of population groups of Ladakh, Kashmir, Jammu regions, Jammu and Kashmir; and Kerala, India; South Asian countries

Region/Population group/ State/Country	*Percentage aged 0-14 years*	*Percentage aged 15-49 years*	*Percentage aged 60 + years*
Ladakh Region (Study Area)			
Buddhists			
Bodhs	36.5	57.9	5.6
Muslims			
Baltis	43.2	53.9	3.0
Brokpas	40.5	55.4	4.1
Arghuns	32.1	64.2	3.7
Muslims(Pooled)	39.9	56.8	3.3
Ladakh (Pooled)	38.8	57.2	4.1
Kashmir Region			
Hindus			
Kashmiri Pandits	27.8	66.0	6.2
Muslims			
Kashmiri Muslims	40.9	53.6	10.7
Jammu Region			
Hindus			
Dogra Brahmans	35.8	58.0	6.2
Dogra Rajputs	32.6	62.3	5.1
Dogra Scheduled Castes	39.2	54.3	6.7
Dogra Hindus (Pooled)	35.8	58.3	5.9
Muslims			
Gujjars	44.5	50.7	4.8
Jammu and Kashmir	37.5[a]	57.2[a]	5.3[a]
Kerala	29.3[b]	62.3[b]	8.3[b]
India	36.1[b]	57.8[b]	6.2[b]
Nepal	43[c]	52[c]	5[c]
Bhutan	41[c]	53[c]	6[c]
Sri Lanka	31[c]	60[c]	9[c]
Pakistan	44[c]	51[c]	5[c]
Bangladesh	45[c]	50[c]	5[c]
Maldives	44[c]	50[c]	6[c]

a. 1989 Estimates (*Source*: Office of the Registrar General, India-SRS, 1989)
b. 1992 Estimates (*Source:* Office of the Registrar General, India-SRS, 1992)
c. Estimates for 1992 (*Cited from*: Family Welfare Programme in India, Year Book, 1993-94, Ministry of Health and Family Welfare, Government of India, 1997)

15-59 years (in the working age group), the proportion of total study population has been seen 57.2 percent, which appears more or less same to the proportions found at the all India level - 57.8 percent (SRS, 1992), and in the Jammu and Kashmir state - 57.2 percent (SRS, 1989). The proportion of total population in this age group in Kerala (SRS, 1992), however, seems rather high at 62.3 percent (Table 12).

Further, persons aged 60 years and over, according to SRS, 1992 constituted 6.2 and 8.3 percent in India and Kerala respectively; while the state of Jammu and Kashmir has shown a lower proportion of 5.3 percent (SRS, 1989). The Ladakh (Pooled) group has also revealed low percentage of population in ages 60+years (4.1 percent); thereby implying relatively low survival to the old ages (or low life expectancy). Low proportion of population in the old ages is also an indicator of young age composition, as observed in many developing regions.

The comparison of the age compositions of the study population groups and the major population groups of Kashmir and Jammu regions has revealed that the Kashmiri Pandits have the lowest percentage of child population in ages 0-14 years (28 percent). The percentages are relatively low among Arghuns (32 percent) and Dogra Rajputs (33 percent) too, probably owing to lower fertility amongst these than in the other population groups. While Dogra Brahmans and Bodhs have registered 35-36 percent of the total population in these ages; Dogra Scheduled Castes, Kashmiri Muslims, Brokpas, Baltis and Gujjars have shown rather high percentages of 39-45 (Table 12).

These five population groups, thus, seem demographically backward, with relatively high fertility and a large burden of dependency, especially of young persons. They have also been found at a more disadvantageous position than others with respect to the availability of infrastructure facilities, infant and early childhood mortality levels, literacy rates and levels of educational attainments, particularly of females and their active participation in the work force and usage of contraception etc., which may be contributing to their demographic backwardness. In other words, the age structures for Muslims across the three regions of Jammu and Kashmir state, seem to be quite young, with clear potentials of population growth.

Table 12 also shows that age distribution of some South Asian countries. It seems, almost all the neighbouring countries of India, viz., Nepal, Bhutan, Pakistan, Bangladesh, Maldives have large young population in the age group 0-14 years (41 to 45 precent), typical of the developing countries with high fertility. Only Sri Lanka has relatively low percentage of population in these ages (31 percent); indicative of comparatively 'old' age composition and low fertility. India seems to occupy an intermediate position between these two extremes. The Ladakh (Pooled) data also reveals a similar position.

Dependency Ratio

An important statistic derived from the age distribution of population in an area is the dependency ratio, which measures the impact of age composition on the livelihood activity of a population. The dependency ratio is based on the fact that every member of a society is a consumer and only some members are producers (Thompson and Lewis, 1965). The dependency ratio also reflects the level of development of a region (i.e., the higher the dependency load, lower the latter). It is estimated in reference to the proportion of young (0-14 years) and old (60 + years) in the total population, who are presumably economically inactive; and proportion of population at productive ages (15-59 years). In other words, it attempts to describe the burden of dependency or dependency load that is supported by potentially economically active population. The dependency ratio can be estimated in parts, thereby separately measuring the dependency ratio. In the present study, all the three measure, viz., young age dependency ratio, old age dependency ratio and total dependency ratio have been estimated (Table 13).

Young Age Dependency Ratio

India being a developing country, has shown a high young age dependency load of 73.3 (in 1981, Census of India, 1981). In the present study population too, the young age dependency ratio has been noticed relatively high at 67.8. And, whereas this ratio has been found the highest in Baltis (80.1), it appears the lowest in Arghuns (50.1). The higher ratios in Baltis and Brokpas than in Bodhs and Arghuns may be explained in terms of relatively young age compositions and high fertility in them than in the latter two groups.

But, the ratio for Muslims on the whole (Pooled) was noted lower than that for Buddhist Bodhs. Further, the young age dependency load for the rural population has been observed higher than the urban one, which may be attributed to higher fertility along with consequent younger age composition in the rural than in the urban sector.

Old Age Dependency Ratio

The old age dependency load for India, as per expectation, has been found low at 12.0 in 1981 (Census of India, 1981). The Ladakh total population data also have shown a quite low old dependency ratio of 7.1, thereby again indicating a youthful population, as is typical in developing region. The inter-population comparison has revealed that the ratios are lower in Baltis (5), Arghuns (6), Brokpas (7) than in Bodhs (10). Evidently, all these estimates seem to be rather low as compared to the corresponding young age dependency ratios (Table 13). Therefore, problems in relation to the old age dependency burden may not be very great in the Ladakh region, i.e., problems of economic handicap of unproductive elderly persons may be relatively negligible in the region. These estimates, in general, additionally suggest low survival to old ages in the study areas.

Table 13: Dependency ratios, index of aging among various population groups of Ladakh region, Jammu and Kashmir, India; by place of residence

Population group	*Place of residence*	*Dependency ratios*			
		Young age dependency ratio	*Old age dependency ratio*	*Total dependency ratio*	*Index of aging*
Buddhists					
Bodhs	Rural	64.60	10.65	75.24	16.48
	Urban	59.27	7.27	66.54	12.27
	Combined	63.09	9.69	72.78	15.36
Muslims					
Baltis	Rural	83.02	5.16	88.18	6.22
	Urban	74.48	6.25	80.73	8.39
	Combined	80.09	5.54	85.63	6.91
Brokpas[1]	Rural (Combined)	73.04	7.35	80.39	10.07
Arghuns	Rural	53.71	3.93	57.64	7.32
	Urban	47.75	7.02	54.77	14.71
	Combined	50.09	5.81	55.90	11.60
Muslims	Rural	75.53	5.30	80.83	7.02
(Pooled)	Urban	61.62	6.62	68.24	10.75
	Combined	70.14	5.81	75.95	8.29
Ladakh	Rural	71.46	7.30	78.70	10.21
(Pooled)	Urban	60.99	6.80	67.79	11.15
	Combined	67.77	7.12	74.89	10.51

1. The sample for Brokpas has been drawn from rural areas

Total Dependency Ratio

The total dependency ratio for India and the state of Jammu and Kashmir have been found rather high at 85 and 89 respectively in 1981 (Census of India, 1981), typical of many developing countries. The ratio for Kerala has been found relatively low at 73.8 in 1981. In 1992, however, the dependency ratio for India seems to have declined to 75 (Ministry of Health and family Welfare, 1997), although it still appears relatively high. It may be mentioned that this estimate is higher than that for Sri Lanka, but lower than the ratio for other South Asian countries (Table).

The 1992 estimate for India seems comparable with the ratio for the Ladakh (Pooled) group (75). The high ratio of dependants to potential workers broadly indicates possible development drag in the Ladakh region for years to come, even if fertility declines in the future. It is also evident that, in the total dependency ratios, the contribution of young age dependency ratio is overwhelming. This also roughly implies less produce per capita, if not per worker directly, and an economic drain created by the need to rear large numbers of children to adulthood. However, the comparison with individual population groups shows that Bodhs and Arghuns have lower total dependency load than the national level; while Baltis and Brokpas have higher load (Figure).

Futher, the total dependency ratios have been found higher for Baltis, Bodhs and Arghuns in rural areas than in urban ones (Table 13); largely because of higher young age dependency ratios amongst all in rural areas than in urban areas. The Ladakh (Pooled) group also registered the same trend. These findings may be attributed to younger age composition in rural than in urban areas; as well as (probable) out-migration of young people at productive ages from the former sector to the latter one for better job opportunities, availability of various facilities, living conditions.

Table 14 also show that the total dependency ratio is the lowest in Kashmiri Pandits (51.6), while it is the highest in Gujjars (97.4). (However, such a high ratio can also be due to the small sample size). Whereas the ratios in Arghuns and Dogra Rajputs also appear low (56, 61, respectively); the ratios in Bodhs, Dogra Brahmans are noticed higher. In the rest of the population groups, dependency ratios appear still higher, largely due to their younger age

Table 14: Dependency ratios, indices of aging for various population groups of Kashmir, Jammu regions, Jammu and Kashmir; and population of Kerala, India; South Asian countries

Region/Population group/State/Country	*Dependency Ratio*	*Index of Aging*
Kashmir Region		
Hindus		
Kashmiri Pandits	51.6	22.2
Muslims		
Kashmiri Muslims	86.7	13.5
Jammu Region		
Hindus		
Dogra Brahmans	72.1	17.3
Dogra Rajputs	60.5	15.6
Dogra Scheduled Castes	84.4	17.0
Dogra Hindus (Pooled)	71.5	16.6
Muslims		
Gujjars	97.4	10.9
Jammu and Kashmir	87.8[a]	-
Kerala	73.8[b]	21.5[b]
India	85.4[b] (75[c])	16.4[b]
Nepal	94[c]	-
Bhutan	86[c]	-
Sri Lanka	66[c]	-
Pakistan	94[c]	-
Bangladesh	83[c]	-
Maldives	98[c]	-

a. 1981 Estimates (*Source*: Census of India, 1981, Part XII, Series-8, Census Atlas, Jammu and Kashmir, Director of Census Operations, J & K (1990)
b. 1981 Estimates (*Source*: Census of India 1981, Series-1 India, Paper-2 of 1983; Office of the Registrar General, India, 1983)
c. Estimates for 1992 (*Cited from*: Family Welfare Programme in India, Year Book, 1993-94, Ministry of Health and Family Welfare, Government of India, 1997)
- Not available

compositions than others. In other words, the comparison of dependency ratios has revealed that it is the highest in Muslims of Jammu region (97), followed by Muslims of Kashmir (87) and Ladakh (76), respectively. The ratios have been observed lower in Buddhists of Ladakh, and still lower in Hindus of Jammu, and Kashmir regions. The higher estimate for Muslims than for Buddhists in Ladakh region seems to be on account of higher ratios in Baltis, Brokpas than in Bodhs.

Index of Aging

The aging of a population, i.e., whether the population is 'young' or 'old' can be described by the ratio of old persons to the child population aged 0-14 years. This is known as the index of aging. This index, in general, is found low, when the proportion of population under 15 years is high and vice-versa. Hence in developing countries with high fertility, this is usually low. The index of aging for India in 1981 too, has been found relatively low at 16 (Census of India, 1981); while for the state of Kerala, it has been estimated rather high at 22, denoting a somewhat 'old' population with low fertility (as noticed in developed regions). The Ladakh (Pooled) group has a low index of aging of 10.5. Though, the estimates appear relatively high in Bodhs and Arghuns than in Brokpas and Baltis (Table 13), all of them seem relatively young, according to this index.

The comparison of indices of aging for major population groups of Jammu and Kashmir state (Table 14) reveals that it is the highest in Kashmiri Pandits (22.2), while in Baltis, it is the lowest (6.9). And, the religion-wise break-up shows that the Hindus of Kashmir region has the highest index of aging (22.2); followed by Hindus of Jammu and Buddhists of Ladakh. The Muslims of Kashmir, and Jammu regions have recorded lower indices,and the Muslims of Ladakh, the lowest ones (8.3).

Sex Composition (Sex Ratio)

The sex composition of a population play a vital role in the population analysis, since it affects the incidence of births, deaths, and marriage. The migration rates and almost all population characteristics, including socio-economic characteristics, community life are influenced by the sex composition of population, and is in turn affected by these attributes. In addition, the development of a region also affects the sex composition of population of that area (Jain 1975).

It is widely known that the sex ratios in most of the developing countries are tilted in favour of males, unlike the trend observed in the developed ones. For example, while USA (1985), Japan (1984) have returned high sex ratios (showing higher proportion of females than males) of 1055, 1033, respectively; India (1991), China (1982), Bangladesh (1981), Pakistan (1981), Sri Lanka (1984), Nepal (1985) have shown compatively low estimates at 927, 941, 905, 962, 946 respectively (Census of India, 1991; UNICEF, 1991) [Table]. These figures also

that revealed that even among the neighbouring countries, with the exception of Pakistan, India's sex ratio is comparatively low. And, a declining tendency has been noticed over time, from 1901-1991.

However, within India, the variation in the sex ratios across different regions of India is quite great. In 1991, the highest and lowest sex ratios have been observed 1036 for Kerala and 859 for Arunachal Pradesh, respectively. On the whole, major north-western states like Haryana (865), Uttar Pradesh (879), Punjab (882), Rajasthan (910), have much lower sex ratios than the major southern states of Kerala (1036), Tamil Nadu (974), Andhra Pradesh (972), Karnataka (960), chiefly due to gender inequality and differences in status of women; which seem to be better in the southern than in the north/north-western states of India (Dreze and Sen, 1995).

The sex ratio for the present study popoulation has been found 952, which indicates higher proportion of males than females- a characteristic of developing regions. The inter-population comparison has shown that the sex ratio for Baltis (961) is not much different from that for Bodhs (956), but higher than the estimates for Brokpas, Arghuns (Table 15). The Muslims on the whole (951), seems to have nearly similar sex ratio as Buddhist Bodhs.

Relatively high sex ratio among Baltis can be due to the relatively high male-selective emigration and/or less female-selective emigration on account of job prospects/marriages (from the study areas). Among the Bodhs, despite higher female literacy, work-force participation, age at marrriage and participation in the decision-making process in household, which point to their increased status and economic value; marginally lower sex ratio amongst them than among Baltis may be accidental due to limited sample size and or lower male selective migration (which need further probing). The still lower sex ratio in Brokpas, can be due to comparatively high over all female than male mortality. And, inadequate educational and medical facilities available to them, poor housing conditions, harsh climate, low status of women, women's early marriage and frequent childbearing, untrained, delivery attendance etc. may be the concomitant factors.

Inerestingly, the sex ratio for Arghuns has been noticed nearly same as that for India, 1991 (929) and Jammu and Kashmir, 1991(923), unlike the other three study population groups, who seem to register higher ratios. It also appears lower than the sex ratios for other major population groups of the Jammu and Kashmir State, with the exception of Gujjars and Kashmiri Muslims. This observation may be explained in terms of the limited sample size; and /or relatively high female-selective emigration on account of marriages; as other factors appeared more or less on a par, if not more advantageous in case of Arghuns than in others. The status of Arghun females has also not been found inferior to that of other women, in spite of their relatively low age at marriage.

It has been noticed that, the sex ratio for Kerala (1036) is much higher than the ratio for the Ladakh (Pooled) group as well as each of the study population group (Table 16). The excess of males over females observed in the present study as against the reverse trend in Kerala seems in general, to be the result of relatively young age composition, higher female than male deaths at the earlier ages. These in turn, can be attributed to several factors like, lack of health awareness, poor housing conditions, not so impressive status of women

Table 15: Sex ratios among various population groups of Ladakh region in Jammu and Kashmir, India; by place of residence

Population group	*Place of residence*	*Sex ratio*
Buddhists		
Bodhs	Rural	940
	Urban	1000
	Combined	956
Muslims		
Baltis	Rural	984
	Urban	917
	Combined	961
Brokpas[1]	Rural (Combined)	947
Arghuns	Rural	890
	Urban	954
	Combined	928
Muslims (Pooled)	Rural	961
	Urban	933
	Combined	951
Ladakh (Pooled)	Rural	953
	Urban	951
	Combined	952

1. The estimates for rural and combined Brokpas are same, as the sample has been drawn from rural areas

despite their important role within households and sometimes outside too, compounded by the inadequacy of infrastructural facilities as opposed to the scenario noticed in Kerala.

On the other hand, as already stated the sex ratio for the study population as a whole has been found higher than the national average (929) and the Jammu and Kashmir state average (923) [Census of India, 1991]. These findings broadly indicate that probably other states of India, and other regions within the Jammu and Kashmir State are in a more unfavourable position, as compared to the study area, as far as the causes of sex disparity (particularly the status of women) are concerned. But it may be mentioned that whereas larger sample size as well as specific focus on the causes of sex disparity, may have helped in bringing out more definitive estimates and reasonings for the observed sex ratio differentials; relative undernumeration of females in the 1991 census, a posibility that has been mentioned by Premi (1991), may also be responsible for relatively low sex ratio at the national level.

Further, the rural-urban difference in sex ratios (953, 951, respectively) [Table 15] in case of the Pooled Ladakh data has been found non-existent. While this is unlike the trend seen in case of urban (894) and rural (939) India in the 1991 Census, it is similar to that noticed in case of Kerala (1037, 1034, respectively) [Census of India, 1991]. However, wide variations can be seen when such differentials for individual population group have been considered. For instance, the ratios for urban Bodhs and Arghuns seem higher than their rural counterparts, dissimilar to the trend noticed at the national level, but the sex ratios for rural and urban Baltis (also Muslims on the whole) show a similar trend as that for India.

The higher sex ratios for urban than rural Bodhs and Arghuns may be explained by relatively high status of woman; better accessibility to infrastructural facilities in urban than in rural areas; and by probable immigration into urban areas by not only males but females as well to avail better educational facilities, and/or to enter the labour market (as rural areas in the Ladakh region offer comparatively few employment opportunities for women) and also on account of marital dependency. In case of Baltis, the rural-urban sex ratio disparity may be the function of more male than female-selective migration to urban areas, while rural females probably may not be availing of better educational facilities or joining effective labour force in urban areas, unlike those in the other population groups. But, possible involvement of effect of limited sample sizes can not also be ruled out.

Table 16: Sex ratios for various population groups of Kashmir, Jammu regions, Jammu and Kashmir; and for Kerala, India; some South Asian countries

Region/Population group/State/Country	*Sex ratio*
Kashmir Region	
Hindus	
Kashmiri Pandits	1000
Muslims	
Kashmiri Muslims	812
Jammu Region	
Hindus	
Dogra Brahmans	1117
Dogra Rajputs	1005
Dogra Scheduled Castes	933
Dogra Hindus (Pooled)	1017
Muslims	
Gujjars	816
Jammu and Kashmir	923[a]
Kerala	1036[a]
India	927[a]
Nepal	946[b]
Sri Lanka	962[c]
Pakistan	905[d]
Bangladesh	941[d]

a. Estimates for 1991 (The sex ratio for Jammu and Kashmir worked out on the projected population of state, prepared by the Standing Committee of Experts on Population Projections, October, 1989) [*Source*: Census of India, 1991-Office of the Registrar General, India, 1992]
b. Estimates for 1985
c. Estimates for 1984 (*Cited from*: UNICEF, 1991
d. Estimates for 1981

The comparison of the sex ratios for the study population groups and for the major population groups of the Kashmir and Jammu regions reveal that, Dogra Brahmans has the highest ratio (1117); while the Kashmiri Muslims, the lowest (812). The intermediate range shows a wide variation, from 1005 (among Dogra Rajputs) to 816 (among Gujjars); and the sex ratio among the study population groups fall within this range.

The religion-wise comparison has shown higher sex ratios for Hindus of Jammu (1917) and Kashmir regions (1000), than for Buddhists (956) and Muslims (951) of Ladakh region. The Muslims of Jammu (816) and Kashmir (812)

regions have comparatively very low sex ratios (Table 16). These observations may be attributed to the facts that, even though Ladakhi women in general, as compared to the Hindu women in the other two regions are not facing undue discrimination, the hard work, together with harsh climate poor housing conditions, unsatisfactory state of infrastructural facilities etc., may be taking their toll. But, Muslim women in other two regions may be relatively underprivileged. The data from the Census of India, 1971 (Census of India, 1971), also have shown slightly higher sex ratio for Hindus (930) than for Muslims (922); although both these ratios have been lower than the sex ratio for Buddhists (962).

Economic Characteristics

The size of the work force actively engaged in any productive and gainful economic activity is a basic economic characteristic of a population. It is therefore, of importance in a study on population dynamics, since all demographic processes and economic characteristics are believed to influence each other directly and indirectly; and it is closely linked with development and well-being (of a population). The crude and general activity rates throw light on the size of the work force in a population.

Crude Activity Rate

In the present study, crude activity rates as measures of basic economic characteristics have been studied, which focus attention on the proportion of economically active persons in a population, irrespective of age. The crude activity rates have been computed for persons, as well as either sex, since the sex differentials are usually found substantial throughout the world, more so, in developing countires, like India. The crude activity rate for persons in India in 1991 has been noticed 37.5 per cent (Census of India, 1991). The Ladakh (Pooled) group shows a slightly lower crude activity rate of 30.8 percent (Table 17), possibly attributable to young age composition, and still limited active labour force participation by females. Additionally, limited cultivable land and limited gainful employment opportunities in finite Ladakh may also be responsible for the low estimate (although the picutre seems to be changing slowly, due to the ongoing changes in the region).

Further as in case of other measures, the inter-population variations are evident in the crude activity rates too. This rate is found the highest in Arghuns (34 percent), while it is the

Table 17: Crude activity rates and general activity rates among various population groups of Ladakh regions in Jammu and Kashmir, India; by place of residence

Population group	*Place of residence*	*Crude activity rate*			*General activity rate*		
		Male	*Female*	*Person*	*Male*	*Female*	*Person*
Buddhists							
Bodhs	Rural	49.8	14.1	32.5	90.2	23.9	57.0
	Urban	48.5	18.3	33.4	86.1	28.8	55.6
	Combined	49.5	15.3	32.8	89.1	25.3	56.6
Muslims							
Baltis	Rural	47.0	6.7	27.0	86.3	12.9	50.8
	Urban	47.2	9.9	29.4	87.2	17.6	53.1
	Combined	47.1	7.9	27.8	86.6	14.5	51.6
Brokpas[1]	Rural (Combined)	49.7	9.5	30.2	89.5	17.2	54.4
Arghuns	Rural	53.4	11.2	33.5	86.4	17.1	52.8
	Urban	53.2	16.0	35.0	89.8	22.8	54.2
	Combined	53.3	14.1	34.4	88.4	20.7	53.7
Muslims	Rural	48.6	7.9	28.7	86.9	14.5	51.8
(Pooled)	Urban	49.9	12.6	31.3	88.4	20.2	53.6
	Combined	49.1	9.7	29.9	87.8	16.8	52.5
Ladakh	Rural	49.1	10.1	30.1	88.1	18.1	53.8
(Pooled)	Urban	49.5	14.2	32.3	87.8	22.6	54.2
	Combined	49.2	11.5	30.8	88.0	19.7	53.9

1. The Brokpa sample has been drawn from rural areas

lowest in Baltis (28 percent). The Muslims on the whole seem to have a lower crude activity rate (30 percent) than Buddhist Bodhs, on account of low rates for Baltis and Brokpas. Slightly lower rate in these two groups than in Bodhs and Arghuns may be explained by younger age compositions, lower crude activity rates for females; lower literacy rates and levels of educational attainments, and somewhat negative attitude towards female literacy and employment.

It is also noticed in Table 18, that the crude activity rates for males are much higher than the activity rates for females, similar to the pattern noticed in case of India. This feature is largely attributable to the traditional involvement of females in household and agricultural activities that are not recognized as gainful economic activity independently, even though the workload may be same or perhaps even higher than males. Moreover, lower literacy rates and level of educational attainments of females than males, and somewhat biased and rigid attitudes towards their employment outside home amongst all may also be responsible for the observed sex differentials in activity rates.

The rural-urban comparison in crude activity rates for persons has revealed slightly higher estimates for the urban than for the rural study population (Table 17). In both sectors, the highest rates have been registered by Arghuns and the lowest ones by Baltis. Moreover, whereas the activity rate for females also shows a similar trend; the activity rate for males appear not much different in rural and urban areas. These observations indicate that while males remain principal earners in both sectors; urban females may be having and availing of educational and employment opportunities, unlike their rural counterparts who are continuing with the traditional duties. Besides, the higher literacy level and lesser rigid altitudes toward their non-traditional role in urban than in rural areas may also be responsible for the differential.

The comparison of crude activity rates for the major population groups of Jammu and Kashmir state (Table 18) has revealed that, the rate is the highest in Gujjars (43.6 percent), closely followed by the rate in Kashmiri Pandits (41.8 percent); whereas it is the lowest in Dogra Brahmans (24.7 per cent) and Dogra Scheduled Castes (24.3 percent).

The high activity rate for Gujjars, despite their younger age composition, lower literacy rate, as compared to most of the study population groups, may be attributed to high female work-force participation. Since they are a transhumant group, mainly depending on animal husbandary, the women activity participate in selling milk, milk products etc., particularly when the men are herding the livestock. The high rate for Kashmiri pandits may be explained in terms of comparatively old age composition, higher activity rates and literacy rates for both males and females, less biased attitude towards female employment outside home, high status of women amongst them than among others. It may be mentioned that the low activity rate for Dogra Hindu females as a whole, points out restrictions on any gainful activity and the continuation of their traditional roles in most cases. According to Jejeebhoy (1991) too, the low level of outside employment is compatible with the belief that it is socially disgraceful for women to work for wages or profits in Jammu.

Table 18: Crude activity rates for population groups of Kashmir,Jammu regions, Jammu and Kashmir; and for India

Region/Population group/Country	*Crude activity rate*		
	Male	*Female*	*Person*
Kashmir Region			
Hindus			
Kashmiri Pandits	56.7	26.8	41.8
Muslims			
Kashmiri Muslims	42.4	6.5	26.3
Jammu Region			
Hindus			
Dogra Brahmans	48.2	3.7	24.7
Dogra Rajputs	48.6	4.1	26.3
Dogra Scheduled Castes	43.1	4.3	24.3
Dogra Hindus (Pooled)	46.6	4.0	25.1
Muslims			
Gujjars	48.0	38.2	43.6
India	51.6[a]	22.3[a]	37.5[a]

a. Relates to the year 1991 (excludes Jammu & Kashmir) [*Cited from:* Ministry of Health and Family Welfare, Government of India, 1997]

General Activity Rate

The economic characteristics of a population are also greatly affected by its age composition, and hence, the general activity rate

has also been computed, to study the ratio of persons engaged in any gainful and productive economic activity to the population at the (potential) working ages, i.e., 15-59 years (as persons at ages 0-14 and 60+ years are usually economically inactive). The Ladakh (Pooled) group has shown a general activity rate of 53.9 percent, and the rates for males and females are 88 and 20 percent respectively (Table 17). Hence, the Ladakh region, with limited resources, low level of development, potentials for population growth, and around half of population depending on the other working half, may face serious problems ahead. The inter-population differences in general activity rates again have shown variations, mainly on account of the differences in rates for females (which appear higher in Bodhs and Arghuns than in Baltis and Baltis).

Economic Activities

In the Ladakh region, man are the principal earners. Hence, most of the husbands in the present study (95.5 percent) have been noticed economically active. Only a few reported themselves as non-workers, i.e. unemployed, retired etc. Their proportions however, appeared lower among Bodhs and Baltis than among Brokpas and Arghuns.

Further in each of the study population group, the simple largest group of husbands was observed working as white-collar workers, professionals, technicians, and skilled workers in public/private/defence services. But, 58 percent of men among Bodhs and 51-52 percent among Borkpas, Arghuns, as aginst only 40 per cent of men among Baltis were found in this category. Hence, more Buddhists than Muslims (in general) were found in the service sector. In the aggregate, one half of men seemed to be engaged in various services. This trend appeared to be relatively new phenomenon in the Ladakh region. And, most of the people seemed to want at least one male member in the family to get into public/defence services.

The second largest segments of men among Baltis, Bodhs, Brokpas were found engaged in cultivation/agricultural, unskilled labour (untrained carpet/pattu weaving, carpentry, servicing and repair work etc.). However, the percentage value was higher in the first population group (41 per cent) than in the latter two (31-33 per cent). On the other hand, among Arghuns, trade/commerce constituted the second rank (26.5 per cent) and cultivation etc., the third (15.6 percent) in the order of importance. Trade/commerce seemed to be pursued by more men among Baltis than among Bodhs and Brokpas. Thus, in Buddhists and Muslims on the whole, as well as in the total population such occupational categories as, cultivation/agricultural, unskilled labour and trade/commerce constituted the second and third ranks (respectively). These observations reflect the ongoing changes in the economic scenario in the Ladakh region in general, resulting in a large scale shift from the trditional occupations, as well as a tendency of upward occupational mobility among men; although among women occupational mobility seems very limited, as they are still chiefly pursuing traditional household duties.

Income (Household)

Income, a relative indicator of socio-economic status, and material comfort, wealth, resources (of people) is a complex determinant of population dynamics; as its potential role is often determined by various other socio-economic factors affecting fertility. In the present study, the annual household income distribution, i.e. total money income received by any earning member of a household has been studied. It may be noted that, apart from the influence of several determinants on household income, varying size of households may be having certain bearing on the income distribution.

According to table 19 the single largest section of women (respondents) in each of the study population group and on the whole reported annual (household) income of Rs. 10001-30000. However, in this slab, the proportions of Bodhs and Brokpas appeared higher (66-67 percent) than Baltis (58 percent) and Arghuns (49 percent). On the other hand, the lowest proportions of Buddhist Bodhs were found in both the higher incomes slabs of Rs. 30001-50000 and Rs. 50000 and above. In the highest income slab, the proportion of Arghuns was found the highest (24.4 percent). It may be

Table19: Percent[1] distribution of women[2] among various population groups of Ladakh region, in Jammu and Kashmir, India; by economic background

Economic	*Buddhists*	*Muslims*				*Ladakh*
background	*Bodhs*	*Baltis*	*Brokpas*	*Arghuns*	*(Pooled)*	*(Pooled)*
Income (Household) (in Rupees)						
Total Income[3]						
10000 and less	6.8	3.7	1.9	6.0	4.2	5.1
10001-30000	66.4	58.7	66.6	49.0	56.0	60.1
30001-50000	18.2	20.5	20.4	20.5	20.4	19.6
50001 and above	8.5	17.0	11.3	24.4	18.7	15.0
Ownership of Land[4]						
No land	16.4	8.7	5.7	13.9	10.0	12.3
Less than 10	17.5	18.5	15.1	25.8	20.3	19.3
10-29	42.2	54.4	64.1	47.7	53.4	49.3
30-49	18.6	14.1	9.4	7.2	11.6	14.1
50 and above	5.4	4.4	5.7	5.2	4.8	5.0

1. The total may not add upto 100, due to rounding off
2. Ever married respodents
3. Household income per annum
4. Household ownership of cultivable land in kanals (8 kanals= approximately 1 acre)

mentioned that Arghuns in general are economically better placed than other population groups in the region, mostly earning from trading/business for years.

Ownership of Land (Household)

Often studies based on rural areas, primitive societies include the land ownership or size of land owned by households as additional indicators to estimate the overall economic condition and their potential role in determining the population processes. The Ladakh region being predominantly rural, one of the major sources of livelihood is land. The size of land (arable) owned hence is also indicative of relative economic status and resources (although it has been observed that some people had high economic standing owing to employment in new economic spheres, but do not have land). Because land is worked jointly by household members and because the benefits are distributed among household members; household ownership of land has been studied.

In each of the study population group, the single largest sectiions [range 42 percent (among bodhs) to 64 percent (among Brokpas)] appeared to have 10-29 kanals of (household) land (8 kanals = approximately 1 acre). At the aggregate level, 49 percent of women respondents reported such size of household land (Table 19). The table has also revealed that more Arghuns have less than 10 kanals of land than others do. And, as expected, very low percentages ranging from 4.4 (among Baltis) to 5.7 (among Brokpas) seemed to have 50 and above kanals of land, due to limited availability of cultivable land. Notably, more Bodhs (16.4 percent) and Arghuns (13.9 percent), compared to Baltis (8.7 percent) and Brokpas (5.7 percent) were found not owning land. In the aggregate, nearly one-eighth was found not owning land. It may be mentioned that the many in this category have split off from the traditional family structure (and economic activity), and have availed various new economic opportunities largely in the urban areas. And in many cases, economic status seemed on par with, or relatively high compared to that of those having land.

Educational Characteristics

Education in an integral component of development and well being. hence, the study of educational characteristics of a population in a region is deemed essential for a study on population dynamics. In fact, the educaitonal characteristics are believed to affect the reproductive behaviour, use of contraceptives, health of children, proper hygienic practices and status of women. Besides the education characteristics of population also provide insight into the 'output' of the educational system in an area.

Literacy Rate

Literacy rates (also expressed as crude Literacy rates) denote the number of literate, i.e., persons who are able to read and write with some understanding in a population at a specified time. In the present study, literacy rates both as percentages of total population, and as percentage of population aged 5 years and over have been estimated. These measures have also been calculated for either sex.

The literacy rates, also known as crude literacy rates indicate the number of literate in a population at a specified time. These measures are usually estimated for either sex to assess the gender difference, which is substantial in many developing countries, including India.

In 1991, the national literacy rate has been estimated 52.2 percent for the population aged 7 years onwards (Census of India, 1991). As compared to this, the literacy rate for the Ladakh (Pooled) group - 56 percent (for the population of age 5 years onwards) seems slightly higher. But, this finding also indicates that only around half of the sample population in study areas is literate and large sections of males and females have remained outside the realm of education, despite continuous efforts being made to improve the literacy scenario and free education upto the university level in the Jammu and Kashmir state. And, even though education in itself is considered prestigious, the cost-benefit calculation of education does not appear beneficial to a large section of the populace, whose main occupation remains agro-pastroalism in case of males and traditional duties in case of females.

It has also been observed, that the literacy rate of the Ladakh (Pooled) group is much higher than the 1981 census figure for Jammu and Kashmir state (32.7) for population aged 7 years and above). However, the unavailable 1991 estimate may have brought out a better comparison, since some progress must have been made during the 80's in the state. On the other hand, the reverse is seen, when compared with the Kerala's overall literacy level of 89.8 percent (Census of India, 1991).

Further, when the literacy rates for males and females - 68 and 43 percent respectively (as percentage of poulation aged 5 years and above) in the total study population have been compared with corresponding estimates for India and the states of Jammu and Kashmir and Kerala, similar patterns of differentials as elaborated above have been observed (Table 21). Besides, a considerable gender difference is also evident. Hence, the 'output' of the educational system appears somewhat unsatisfactory in the Ladakh region and the universal education plan is still far from becoming a reality.

Table 21 also shows the interpopulation differences in literacy rates. The overall literacy rates (as percentage of population aged 5 years and above) seem to vary between 50 percent in (Baltis and Brokpas) to 74 percent (in Arghuns). The literacy rates for males and females are also the highest in Arghuns as compared to the corresponding rates in other study population groups. The rates however, are much higher for males than for females amongst all. And, while the differences in literacy rates for males in Bodhs, Baltis and Brokpas have been observed very small, this is not so in case of the rates for females (the rates are higher in Bodhs than in Baltis and Brokpas) [Table 20).

These sex differentials seem responsible for the differences in overall literacy rates amongst them. The gender difference on the literacy gap between males and femals too, has been noticed the lowest in Arhguns and the second lowest in Bodhs; while the gap seems to the highest in Baltis. It may however, be mentioned here that the overall literacy rates for Muslims on the whole and Buddhists Bodhs are not much different, although the gender gap in literacy seems higher in the former than in the latter.

The comparison of the literacy rates for individual population groups with macro-level estimates has revealed that the rate for Arghuns is much higher than the 1991 national figure. And, while the literacy rate for Bodhs also appears slightly higher, the rates for Baltis and Brokpas are noticed lower than the 1991 national average. But, Kerala's level of literacy (in 1991) appears comparatively quite high (Table 21).

The rural-urban differentials have shown that the overall literacy rates as well as levels of male and female literacy are higher in urban than in rural areas. This trend seems similar to

Table 20: Literacy rates among various population groups of Ladakh region in Jammu and Kashmir, India; by place of residence

Population group	*Place of residence*	*Literacy rate*					
		As percentage of total population			*As percentage of population aged 5 years and above*		
		Male	*Female*	*Person*	*Male*	*Female*	*Person*
Buddhists							
Bodhs	Rural	53.5	36.4	45.2	61.2	41.5	51.6
	Urban	62.5	48.5	55.5	70.8	54.2	62.4
	Combined	55.9	39.8	48.0	63.8	45.1	54.6
Muslims							
Baltis	Rural	50.9	25.8	38.4	59.8	31.1	45.7
	Urban	66.3	31.6	49.7	77.4	37.4	58.4
	Combined	56.1	27.7	42.2	65.8	33.1	50.0
Brokpas[1]	Rural (Combined)	54.5	29.1	42.1	65.2	33.6	49.5
Arghuns	Rural	69.1	54.7	62.3	75.0	57.8	66.8
	Urban	78.0	61.0	69.7	88.7	67.8	78.4
	Combined	74.4	58.5	66.8	83.0	63.8	73.6
Muslims	Rural	54.7	31.1	43.1	63.6	36.3	50.3
(Pooled)	Urban	71.4	44.8	58.6	82.4	51.4	67.4
	Combined	61.0	36.1	48.9	70.7	41.9	56.7
Ladakh	Rural	54.3	33.0	43.9	62.7	38.3	50.8
(Pooled)	Urban	69.1	45.8	57.7	79.3	52.2	66.1
	Combined	59.3	37.3	48.6	68.4	43.0	56.0

1. The Brokpa sample has been drawn from rural areas

that noticed at the All India level in the NFHS, 1992-93. And, though in case of Kerala too, the same trend is observed, the rural-urban difference seems quite small. Therefore, considering the largely rural setting of the region and relatively inadequate educational facilities, together with certain lack of motivation and negative attitude toward female education amongst a large section of populace, more efforts are needed to achieve literacy for all, and counter population and development problems. However, probable out-migration of literate people from rural to urban areas for economic or other reasons may also have contributed to the higher literacy rates in urban than in rural areas.

The comparison of the major population gorups of Jammu and Kashmir state has shown that the overall literacy rates as well as the rates for males and females (for the population aged 5 years and above) are the highest in Kashmiri Pandits, and the lowest in Gujjars (Table 21). However, the gender differences in the literacy rate have been observed the highest in Baltis and Brokpas (about 32-33 percent); although the lowest difference has been noticed in Kashmiri Pandits (2 percent). It may be mentioned here that the literacy levels in Dogra Brahmans and Dogra Rajputs are also higher than the levels in the study population groups of Ladakh.

Age Specific Literacy Rate

In the present study, the male and female literacy rates have been further computed after classifying by five year age groups, to obtain the age-specific literacy rates. These rates showed considerable variations in age patterns in all the study population groups. Nevertheless, it seems that there has been some progress over the years. The literacy gap between males and females has also narrowed over time, but has not vanished (Table 22).

At ages 5-9 years, when the formal schooling should have already started, the literacy rates for males registered large differentials, with the highest recorded by Arghuns (95 percent), followed by Bodhs (79 percent), Baltis (73 percent) and Brokpas (40 percent). These figures suggest that, formal schooling of male children at proper ages is almost universal among Arghuns, and also in farily large sections of Bodhs and Baltis, but in Brokpas, it

may not be so. At these ages the literacy rates for females were also found higher among Bodhs and Arghuns than among Baltis and Brokpas. In the next age group of 10-14 years, when every child should be literate, the same trend has been observed. The total population data showed 91.7 and 78.9 percent male and female literacy, respectively in these ages (Table 22). The age specific literacy rates for males and females were found declining progressively from 20 years onwards.

The literacy rates for males appear higher in Muslims on the whole, than in Buddhist Bodhs, in all but the age groups of 5-9 to 20-24 years (Table 22). This broadly implies that in a recent decade or two, male literacy has increased much more among Buddhist Bodhs than among the Muslims, although in earlier decades, the reverse may have been true, particularly on account of high male literacy among Arghuns. The differentials in literacy rates for females too showed more or less similar trend, i.e. in recent decades, female literacy also has progressed much more in Buddhists than in the Muslims.

Further, the levels of educational attainment of literates in the household has also been studied (Table 23). The single largest section of literate in the total household population was observed having primary school education, whereas the proportion of literate at matriculation/secondary level was observed 30.1 percent. This indicates inadequacy of higher educational facilities in the region as well as lack of persons with higher educational qualifications, particularly scientific and technical cadres in the region. Further, in all the study population groups and in the total population, literate females tended to outnumber males at the primary level of education; but the reverse was observed at higher educational levels (barring a few exceptions).

Educational Characteristics of Woman (Respondent)

Literacy levels of women (respondents) were found rather unsatisfactory in each of the study population group (Table 23). Nevertheless the scenario appeared better among Arghuns than among others. Whereas 43 percent of women among Arghuns were noticed literate; comparatively much lower percentage of women

Table 21: Literacy rates for population groups of Kashmir, Jammu regions, Jammu and Kashmir; and for Kerala and India

Population group	*Literacy rate*					
	As percentage of total population			*As percentage of population aged 5 years and above*		
	Male	*Female*	*Person*	*Male*	*Female*	*Person*
Kashmir Region						
Hindus						
Kashmiri Pandits	84.5	86.6	85.6	98.8	96.6	97.7
Muslims						
Kashmiri Muslims	61.8	31.9	48.4	67.7	36.4	54.0
Jammu Region						
Hindus						
Dogra Brahmans	79.4	55.1	66.6	89.9	63.1	75.9
Dogra Rajputs	88.0	72.9	80.5	96.7	79.8	88.2
Dogra Scheduled Castes	56.7	41.3	49.2	68.0	46.8	57.4
Dogra Hindus (Pooled)	74.9	57.0	65.9	85.4	64.1	74.6
Muslims						
Gujjars	20.0	14.7	17.6	23.8	16.7	20.5
Jammu and Kashmir	36.3[a]	15.9[a]	26.7[a]	44.2[b]	19.5[b]	32.7[b]
Kerala	75.3[a]	65.7[a]	70.4[a]	93.6[c]	86.2[c]	89.8[c]
India	46.9[a]	24.8[a]	36.2[a]	64.1[c]	39.3[c]	52.2[c]

a. 1981 Estimates (the figure for India exclude Assam) [*Source*: Census of India, 1981, Series-1, India, Part IIB (i) Primary Census Abstract, General Population, Registrar General, India, 1983]
b. Estimates for 1981 and figures indicate percentages of literate to estimated population aged 7 years and above (*Source*: Census of India, 1981, Registrar General, India, 1983)
c. Estimates for 1991 and figures indicate percentages of literate to estimated population aged 7 years and above (*Source*: Census of India, 1991, Registrar General, India, 1992)

Table 22: Age - specific literacy rates percent literate by age and sex among various population groups of Ladakh region in Jammu and Kashmir, India

		Age-specific literacy rate (percent literate in the respective age group)					
		Buddhists	*Muslims*				*Ladakh*
Age group	*Sex*	*Bodhs*	*Baltis*	*Brokpas*	*Arghuns*	*(Pooled)*	*(Pooled)*
0-4	Male	2.8	2.6	-	6.1	3.0	2.9
	Female	3.1	0.6	-	11.1	2.2	2.5
5-9	Male	79.2	72.7	40.0	95.4	73.5	75.7
	Female	80.2	50.6	21.7	83.3	53.7	61.6
10-14	Male	94.5	88.4	75.0	98.6	90.7	91.7
	Female	90.3	62.8	76.7	100.0	79.1	78.9
15-19	Male	98.5	93.5	85.7	89.3	93.5	94.1
	Female	74.7	50.9	61.5	93.0	67.0	69.5
20-24	Male	77.3	70.7	72.4	78.7	73.1	74.4
	Female	45.0	24.5	29.0	80.9	40.7	42.1
25-29	Male	66.7	71.6	84.6	76.3	74.2	71.7
	Female	24.7	26.6	18.2	50.0	31.1	28.9
30-34	Male	47.3	64.0	70.0	82.9	70.0	61.3
	Female	24.2	12.5	7.7	61.1	24.4	25.7
35-39	Male	58.9	53.1	72.7	79.5	64.0	62.4
	Female	28.6	9.8	25.0	31.6	18.7	21.8
40-44	Male	35.6	46.0	71.4	70.4	53.6	47.9
	Female	17.1	5.1	-	28.6	10.7	12.4
45-49	Male	35.9	35.9	50.0	57.1	42.4	39.8
	Female	9.4	-	-	8.0	3.5	4.5
50-54	Male	14.3	18.6	20.0	75.0	35.3	28.2
	Female	-	5.0	7.7	17.9	9.9	6.0
55-59	Male	21.1	30.0	66.7	55.6	40.6	33.3
	Female	-	-	-	36.4	20.0	11.8
60-64	Male	18.9	12.0	40.0	53.9	29.2	24.7
	Female	4.8	-	33.3	16.7	8.7	6.8
65+	Male	29.4	7.7	50.0	40.0	24.0	26.2
	Female	-	-	-	-	-	-

among Bodhs (18 percent) and still lower percentages among Brokpas (13 percent) and Baltis (9 percent) were found literate. The Muslim women on the whole, seemed to have a slight edge over Buddhists with respect to literacy, on account of Arghuns. The Ladakh (Pooled) group registered that an overwhelming majority of women (81 percent) were illiterate; while only 19 percent were illiterate.

An attempt has also made to study the levels of educational attainment of literates (Table 24). the proportions of women among Baltis, Bodhs, Brokpas with primary and middle educational levels were found not so different, but comparatively more Arghuns women appeared to have attained the same. Among Baltis and Brokpas, the percentages of women having matriculation (secondary) and above levels were also found relatively low (2-3 percent) than among Bodhs (7 percent) and Arghuns (16 percent). But, the proportions of literate women under all levels of education among Muslims on the whole were not greatly different from those among Buddhists.

Educational Characteristics of Husband

The literacy levels of husbands seemed much better than those of their spouses in all the study population groups, although very few have gone beyond school (Table 24). The percentage of literate men was noticed the highest among Arghuns (76 percent) followed by Brokpas (56 percent), Baltis (50 percent) and Bodhs (46 percent). Thus among Muslims on the whole, more men were found literate than among Buddhist Bodhs. The Ladakh (Pooled) group registered that 46.4 percent of husbands were illiterate; while 53.6 percent were literate. Further, the single largest sections of literate husbands in each study population group were observed to have matriculation/ higher secondary levels of education (Table 24). And, only a few (less than one-tenth) amongst all seemed to have the graduation and above educational levels. Further, apart from the matriculation/higher secondary levels of education, which more Muslims (Pooled) than Buddhist Bodhs appeared to have

Table 23: Percent distribution of various population groups of Ladakh region in Jammu and Kashmir, India; by sex and levels of educational attainment

Population group	*Sex*	*Illiterate*	*Level of educational attainment of literates*				
			Primary	*Middle*	*Matriculation/ Secondary*	*Higher secondary/ intermediate*	*Graduation and above*
Buddhists							
Bodhs	Male	44.1	38.0	26.1	28.4	3.1	4.4
	Female	60.2	46.3	20.3	28.8	2.2	2.5
	Person	52.0	41.4	23.7	28.6	2.7	3.6
Muslims							
Baltis	Male	43.9	35.8	25.6	33.3	3.2	2.2
	Female	72.3	56.4	27.3	13.8	1.8	0.7
	Person	57.8	42.4	26.1	27.0	2.7	1.7
Brokpas	Male	45.5	15.5	35.0	43.7	4.9	1.0
	Female	71.0	44.2	25.0	25.0	1.9	3.9
	Person	57.9	25.2	31.6	37.4	3.9	1.9
Arghuns	Male	25.6	28.1	28.1	32.1	4.3	7.4
	Female	41.5	32.3	23.0	38.5	3.5	2.7
	Person	33.2	29.9	25.9	34.8	3.9	5.4
Muslims	Male	39.0	31.2	27.3	33.9	3.7	3.8
(Pooled)	Female	63.9	44.8	25.2	25.6	2.5	1.9
	Person	51.2	36.1	26.6	30.9	3.3	3.1
Ladakh	Male	40.7	33.4	27.0	32.2	3.5	4.0
(Pooled)	Female	62.7	45.4	23.5	26.7	2.4	2.1
	Person	51.4	37.9	25.6	30.1	3.1	3.3

Table 24: Percent distribution of women[1]/husband among various population groups of Ladakh region, in Jammu and Kashmir, India; by educational characteristics

Educational characteristics	*Buddhists*	*Muslims*				*Ladakh*
	Bodhs	*Baltis*	*Brokpas*	*Arghuns*	*(Pooled)*	*(Pooled)*
Woman						
Illiterate	82.5	90.9	87.0	57.0	80.3	81.1
Literate	17.5	9.1	13.0	43.0	19.7	18.9
Primary	4.6	3.0	5.6	15.9	7.2	6.3
Middle	5.4	3.4	5.6	11.3	6.0	5.7
Matriculation/secondary and above	7.5	2.6	1.9	15.9	6.6	7.0
Husband						
Illiterate	54.0	50.4	44.0	24.4	42.2	46.4
Literate	46.0	49.6	56.0	75.6	57.8	53.6
Primary	4.4	7.9	6.0	5.3	7.0	6.1
Middle	16.0	10.9	18.0	20.6	14.4	15.0
Matriculation/higher secondary	24.8	31.1	30.0	43.5	34.9	31.3
Graduation and above	3.2	1.1	2.0	8.4	3.3	3.3

1. Ever married respondent

achieved, the percentage difference between the religious groups under other levels were found not substantial.

Marital Status

Marital status has demographic, social, religious and legal significance. Therefore, the marital status composition is yet another essential part of the study of population dynamics. It is often pointed out that it is not simply the number of fertile female that influences the level of fertility in a population, but the number of married fertile females. This is because, in most societies, all but a small fraction of childbearing occurs within marriage, which is the socially and legally recognized childbearing institution.

In the present study the marital status distribution in general, have indicated that in the study population groups, and hence, in the total population (Table 25): (i) marriage is almost universal ; (ii) the proportion of the popu-

Table 25: Percent distribution of various population groups of Ladakh region in Jammu and Kashmir, India; by broad age group (in years), sex and merital status

Population group	Sex	Marital status: Never married (single) 15-19	20-24	15-49	All ages	"Currently" married 15-19	20-24	15-49	All ages	Ever married[1] 15-19	20-24	15-49	All ages
Buddhists													
Bodhs	Male	92.5	64.0	30.6	53.7	7.5	34.7	66.8	41.7	7.5	36.0	69.4	46.3
	Female	85.7	37.5	27.6	49.2	14.3	61.3	66.4	43.2	14.3	62.5	72.4	50.8
Muslims													
Baltis	Male	97.5	45.5	29.6	56.5	2.2	53.5	68.2	40.6	2.2	54.6	70.4	43.5
	Female	85.5	19.2	23.7	55.8	12.7	80.9	71.8	39.2	14.6	80.9	76.3	44.2
Brokpas	Male	95.2	31.0	36.1	56.6	4.8	69.0	61.9	41.3	4.8	69.0	63.9	43.4
	Female	76.9	22.6	20.2	52.5	23.1	77.4	77.4	43.6	23.1	77.4	79.8	47.5
Arghuns	Male	98.2	46.8	35.9	54.3	1.8	51.1	61.3	42.5	1.8	53.2	64.1	45.7
	Female	76.1	36.2	28.4	46.0	22.5	59.6	65.9	45.3	24.0	63.8	71.7	54.0
Muslims	Male	97.6	43.4	32.2	55.9	2.4	55.4	65.5	41.1	2.4	56.6	67.8	44.1
(Pooled)	Female	81.4	24.4	24.8	52.8	17.0	74.4	70.6	41.3	18.6	75.6	75.2	47.2
Ladakh	Male	96.2	49.6	31.7	55.2	3.8	49.2	65.9	41.3	3.8	50.4	68.3	44.8
(Pooled)	Female	82.8	28.6	25.8	51.6	16.1	70.2	69.1	41.9	17.2	71.4	74.3	48.4

1. All ever-married include widowed, divorced/separated persons

lation that is single (never - married) declines with increasing age, and the proportion of population, that is ever-married, rises by a corresponding amount; (iii) widowhood and divorce seem to reduce the married population as the age increases; (iv) children under 14 years and the majority of abolescents are not married; (v) some young females in the ages 15-19 years (17 percent in the total population) and the young adults tend to be married; (vi) proportions of married males are lower than females in the 15-19, 20-24 and 15-49 years age groups, probably due to the lower age at marriage of females and continuation of their traditional roles as wives and mothers; (vii) remarriage seems not exactly infrequent, as there do not exist rigid taboos for the same after divorce/widowhood; and (viii) those who have remarried, seem to have done so mostly within five years of widowhood/divorce, therefore, the effect of marital dissolution on the overall exposure to childbearing appear to be somewhat minimal.

Since in the total population, 17 percent of women are noticed (ever) married in ages 15-19 years, it seems in study areas, some people have ignored the Child Marriage Restraint Act, 1978, and some young women are exposed to a long period of childbearing. The proportions are higher in Brokpas and Arghuns (23-24 percent) than in Bodhs and Baltis (14-15 percent). Most of these women, excepting 1-2 percent, are 'currently' married too. In the total poopulation, 16 percent of women have reported such marital status. This percentage however, seems lower than that returned in the SRS, 1992, for India (30 percent).

In the broad reproductive age group of 15-49 years, about 66 percent of women have been noticed 'currently' married in Arghuns as well as in Bodhs, as against 72 percent in Baltis and 77 percent in Brokpas. In the total population, 74 percent of women have been found ever-married, of which 69 percent have reported themselves as 'currently' married. Such a scenario, generally speaking, appears to be conducive to fertility increment. However, the percentage of 'currently' married Indian women in this age group, in the NFHS, 1992-93, has been found higher at 77 percent.

It may also be mentioned here that, the proportions of married women in ages 15-19, 20-24 and 15-49 years among Muslims on the whole (17,74 and 71 percent, respectively) are higher than the corresponding proportions among Buddhists (14, 61 and 66 percent, respectively). This observation may by attributed to the higher age at marriage of Buddhist women, as well as more Buddhist women availing of educational, employment opportunities,

and so delaying the marriage as compared to Muslim women, in general.

Age at Marriage of Woman (Respondent)

The mean ages at marriage for women respondents were found lower than for men (husbands) in each of the study population group (Table 26). The mean age was observed the highest among Bodhs (19.3 years), followed by Arghuns (17.7 years), Baltis (17.5 years), and Brokpas (16.8 years). The age at marriage of Muslim women on the whole (17.5 years) thus, was found lower than that of Buddhists. The mean age at marriage of respondents in the aggregate was found 18.1 years.

The majority of women in each study population group were found to have married at ages 15-19 years (Table 26). The percentage of women reporting such ages at marriage was the highest among Baltis (70 percent); followed by Arghusn (69 percent), Brokpas (61 percent) and Bodhs (53 percent). It has also been noticed that 18.5 percent of women among Brokpas as compared to 7.8 percent among Arghuns and Baltis, and 5 percent of women among Bodhs have got married at the younger ages of 10-14 years. Overall, 71 percent of women seemed to have married by 19 years of age. Therefore, the marriages of quite a large number of women (the largest segment among Brokpas) appeared to have taken place at relatively young ages, when examined in the light of the present permissible age at marriage (for women), i.e., 18 years.

The rural-urban differentials in ages at marriage of women registered lower mean ages in rural than in the urban areas (Table 27). In both rural and urban sectors, the mean ages at marriage were found higher among Bodhs than among others in respective sectors. That is, Muslim women have lower age at marriage irrespective of place of residence than Buddhist Bodhs. The Ladakh (Pooled) group registered that the age at marriage of women differed slightly between rural and urban study areas (17.8, 18.6, respectively). Further, the majority of women across the study population groups in both rural and urban sectors appeared to have got married at ages 15-19 years; although the proportions were noticed higher in the former than in the latter sector.

Age at Marriage of Husband

The mean ages at marriage for men (hus-

Table 26: Percent[1] distribution of women[2]/husbands among various population groups of Ladakh region, in Jammu and Kashmir, India; by age at marriage

Age at marriage	*Buddhists*	*Muslims*				*Ladakh*
	Bodhs	*Baltis*	*Brokpas*	*Arghuns*	*(Pooled)*	*(Pooled)*
Woman						
Percentage of women married at ages (in years)						
10-14	4.6	8.4	18.5	7.3	9.2	7.5
15-19	52.9	69.8	61.1	68.9	68.6	63.0
20-24	36.8	20.8	20.4	21.2	20.9	26.6
25-29	5.7	1.0	-	2.6	1.4	2.9
Mean ± S.D.	19.3±3.2	17.5±2.7	16.8±2.8	17.7±2.8	17.4±2.7	18.1±3.0
Husband						
Percentage of husband married at ages (in years)						
10-14	3.2	3.4	7.4	4.0	4.0	3.7
15-19	25.7	26.8	35.2	23.2	26.6	26.3
20-24	37.9	39.3	35.2	45.7	40.8	39.7
25-29	23.6	24.7	16.7	19.2	22.2	22.7
30-39	9.7	5.7	5.6	7.9	6.4	7.5
Mean ± S.D.	22.6 ± 5.1	22.0±4.5	20.8±4.5	22.3±5.0	22.0±4.7	22.2±4.8

1. Totals may not add upto 100, due to rounding off
2. Ever-married respondent

bands) were found not much different among Bodhs (22.6 years), Arghuns (22.3 years) and Baltis (22.0 years); but lower among Brokpas (20.8 years). The mean age at marriage of husbands among Muslims on thew whole, however, was observed 22 years, nearly similar to that among Buddhist Bodhs; although the difference between age at marriage of women and husbands was higher among the former than among the latter. The Ladakh (Pooled) group showed that the mean age at marriage of husbands was 22.2 years (Table 26).

The table has also revealed that for the single largest groups of men in each of the study population group, excepting Brokpas, the marriages have taken place at ages 20-24 years. Among Brokpas, while in case of 35.2 percent of men, the marriages were performed at such ages; for another 35.2 percent of them, the marriages took place at the lower ages of 15-19 years. Notably, 23-27 percent of men among Arghuns, Bodhs, Baltis too seemed to have got married at ages 15-19 years. A few men in all the stduy population groups (3 to 7 percent) were additionally found to have still lower ages at marriage of 10-14 years. The Ladakh (Pooled) group thus, registered that while the single largest group of men, i.e., two-fifths had got married at ages 20-24 years, another 30 percent of them seemed to have married at the younger ages of 10-19 years. Hence, it appeared that quite a few men (in

Table 27: Percent[1] distribution of women[2]/husbands among various population groups of Ladakh region, in Jammu and Kashmir, India; by age at marriage and place of residence

Age at marriage	*Buddhists*	*Muslims*				*Ladakh*
(in years)	*Bodhs*	*Baltis*	*Brokpas*	*Arghuns*	*(Pooled)*	*(Pooled)*
			(Rural)			
Woman						
Percent women married at ages						
10-14	4.7	8.1	18.5	5.4	9.4	7.6
15-19	56.5	74.1	61.1	80.4	73.0	66.7
20-24	35.6	16.8	20.4	12.5	16.6	23.9
25-29	3.1	1.0	-	1.8	1.0	1.8
Mean ± S.D.	18.9±2.8	17.3±2.5	16.8±2.8	17.1±2.5	17.2±2.6	17.8±2.8
Husband						
Percent husband married at ages						
10-14	3.7	4.6	7.4	7.1	5.6	4.8
15-19	30.4	27.7	35.2	28.6	29.2	29.6
20-24	38.7	37.9	35.2	53.6	40.3	39.7
25-29	19.9	25.6	16.7	8.9	20.9	20.6
30-39	7.3	4.1	5.6	1.8	4.0	5.2
Mean ± S.D.	21.8±4.6	21.8±4.5	20.8±4.5	20.2±4.0	21.3±4.4	21.5±4.5
			(Urban)			
Woman						
Percent women married at ages						
10-14	4.5	8.9	-	8.4	8.7	7.4
15-19	44.9	61.4	-	62.1	61.7	56.5
20-24	39.3	28.7	-	26.3	27.6	31.2
25-29	11.2	1.0	-	3.2	2.0	5.0
Mean ± S.D.	20.2±3.8	17.8±2.9	-	18.0±2.9	17.9±2.9	18.6±3.3
Husband						
Percent husband married at ages						
10-14	2.2	1.0	-	2.1	1.5	1.8
15-19	15.7	25.0	-	20.0	22.6	20.4
20-24	36.0	42.0	-	41.1	41.5	39.8
25-29	31.5	23.0	-	25.3	24.1	26.4
30-39	14.6	9.0	-	11.6	10.3	11.6
Mean ± S.D.	24.2±5.7	22.5±4.6	-	23.5±5.1	23.0±4.8	23.4±5.1

1. Totals may not add upto 100, due to rounding off
2. Ever married respondent

each of the study population group) had married before the (present) permissible age of 21 years.

Comparison by place of residence showed that the mean ages of marriage of husbands were lower among rural Bodhs and Arghuns than among their urban counterparts; but among Baltis, the ages were not much different in either sector. At the aggregate level, the age at marriage of husband was found lower in rural (21.5 years) than in the urban areas (23.4 years). And, even though according to the Pooled data, the single largest groups of husbands in both sectors had got married at ages 20-24 years; more men in rural than in urban areas reported ages at marriage of 19 years and below, and more men in urban than in rural areas reported later ages of 25 years and over.

Type of Marriage of Woman (Consanguineous/Non- Consanguineous)

In the Ladakh region of Jammu and Kashmir state, consanguineous marriages seemed to be proscribed among Bodhs; but practised, though not widely, amongst all muslim population groups. The frequencies of consanguineous marriages were found varying from a low of 14.8 percent among Brokpas, to a high of 21.8 percent among Arghuns. The mean inbreeding coefficients were found 0.0072, 0.0109, and 0.0138 in Brokpas, Baltis, Arghuns, respectively (Table 28). The most preferred type of consanguineous marriages amongst all was that between first cousins; more between cross-cousins than between parallel cousins. A few Balti, Brokpa, Arghun women (respondents) have also reported marriages between second cousins, and those beyond such relation. Uncle niece/aunt nephew marriages have also been found in case of a few Arghuns (3 per cent) and Baltis (1 per cent), although these types are forbidden in Islam. The Ladakh (Pooled) group registered that the percentage of women marrying a relative was not exactly high (12.6 percent); as the overwhelming majority of marriages were of non-consanguineous type (Table 28). The mean inbreeding coefficient for the Pooled data was estimated as 0.0075.

Further, while among Baltis, the rate of con-

Table 28: Incidence of consanguineous marriages[1] and coefficients of inbreeding among various population groups of Ladakh regions in Jammu and Kashmir, India; by place of residence

				Type of consanguineous marriage				
					First cousin			
Population group	*Place of residence*	*Non-consang-uineous*	*All consang-uineous*	*Uncle-niece/ aunt-nephew*	*Parallel cousin*	*Cross cousin*	*Second cousin/ others*	*Mean inbreeding coefficient*
Buddhists								
Bodhs	Rural	100.0	-	-	-	-	-	-
	Urban	100.0	-	-	-	-	-	-
	Combined	100.0	-	-	-	-	-	-
Muslims								
Baltis	Rural	83.2	16.7	0.5	7.1	7.1	2.0	0.0097
	Urban	77.2	22.8	1.0	6.9	11.9	3.0	0.0134
	Combined	81.2	18.8	0.7	7.0	8.7	2.4	0.0109
Brokpas[2]	Rural (Combined)	85.2	14.8	-	3.7	7.4	3.7	0.0072
Arghuns	Rural	73.2	26.8	3.6	7.1	14.3	1.8	0.0180
	Urban	81.1	19.1	2.2	2.1	11.6	3.2	0.0116
	Combined	78.1	21.8	2.6	4.0	12.6	2.6	0.0138
Muslims	Rural	81.8	18.3	1.0	6.5	8.5	2.3	0.0108
(Pooled)	Urban	79.1	20.8	1.5	4.6	11.7	3.0	0.0124
	Combined	80.7	19.3	1.2	5.8	9.7	2.6	0.0114
Ladakh	Rural	88.6	11.4	0.6	4.0	5.4	1.4	0.0067
(Pooled)	Urban	85.6	14.5	1.1	3.2	8.1	2.1	0.0087
	Combined	87.5	12.6	0.8	3.7	6.4	1.7	0.0075

1. In percentages
2. The estimates for rural and combined Brokpas are same, as the sample has been drawn from rural areas

sanguinity was found higher in urban than in rural areas; the reverse pattern was noticed among Arghuns. The rural Brokpas registered lower consanguinity rate than other rural muslim groups (Table 28). The ranking regarding the mean inbreeding conefficient also differed between rural and urban areas, with the Arghuns recording the highest coefficient in rural areas (0.0180) and the Baltis in urban ones (0.0134). But in either sector, the most preferred type of consanguineous marriage was that between first cousins. The Pooled Ladakh data registered that the consanguinity rate was slightly higher in urban than in rural study areas.

Family Structure

As already stated, the family is considered the most universal and permanent institution of every society and also a basic decision-making unit, and hence, it exerts a definite influence on the life of an individual. Besides, the presence or absence of additional kin in the household also affects certain other aspects as, the overall economic status, sharing of resources, attitude and also several cultural factors. In the Ladakh region, since long, the extended (joint) family organization, have been rather prevalent among various population groups owing to finite resources and largely rural, traditional setup. However, with the onset of rapid planned and unplanned changes in the recent few decades, the conventional family structure too has been undergoing change leading to relatively large scale formation of nuclear families, although physically isolated nuclear families in study areas have been found not always economically and psychologically free from the influence of the extended kin.

The highest percentage of women (respondents) residing in extended (joint) family setting was observed among Bodhs (61.1 per cent); followed by Baltis (58.4 percent), Arghuns (55.0 per cent) and Brokpas (50.0 per cent). The reverse was noticed when nuclear family organization was considered. Thus, more Muslims in general seemed to be living in nuclear family set-up than Buddhists (Table 29). On the whole, 58.1 respondents were found residing in extended family organization; and 41.9 percent in nuclear family set-ups, as shown by the Ladakh (Pooled) group.

Gender Preference (Offspring)

In many societies, particularly those in the developing regions, the (offspring) gender preference is often marked. Mostly, such a preference is translated as an overt preference for son(s), arising from economic, socio-cultural needs; more so in rural, traditional, agricultural societies. In the present study, it has been observed that the majority of women (respondents) in each study population group [72.2 per cent (among Brokpas) to 75.5 per cent (among Arhguns)] had no gender preference.

Table 29: Percent[1] distribution of women[2] among various population groups of Ladakh region, in Jammu and Kashmir, India; by family structure and attitude related to sex composition of children, family size

Family structure/attitude	*Buddhists*	*Muslims*				*Ladakh*
	Bodhs	*Baltis*	*Brokpas*	*Arghuns*	*(Pooled)*	*(Pooled)*
Family Structure						
Percentages of women living in:						
Joint family organization	61.1	58.4	50.0	55.0	56.5	58.1
Nuclear family organization	38.9	41.6	50.0	45.0	43.5	41.9
Gender preference (Offspring)						
Percentage prefering son	26.1	24.2	27.8	21.2	23.7	24.5
(Mean) ideal number of son desired	1.92	2.16	2.26	1.75	2.05	2.00
Percentage prefering daughter	0.4	1.7	-	3.3	2.0	1.4
(Mean) ideal number of daughter desired	1.15	1.37	1.31	1.25	1.33	1.27
No (offspring) gender preference	73.6	74.2	72.2	75.5	74.4	74.1
Ideal Number of Children (Mean) Desired	3.08	3.53	3.57	3.00	3.38	3.27

1. Totals may not add upto 100, due to rounding off
2. Ever-married respondent

That is, they did not express any distinction between sons and daughters. However, a noticeable proportion amongst each population group [21.2 per cent (among Arghuns) to 27.8 per cent (among Brokpas)] voiced preference for sons, due to number of ethnic, religious, legal, economic and social needs, like continuation of family name and lineage; fulfillment of religious duties and rites; participation in farm activities or other gainful activities; old age security etc. The proportions of Muslims on the whole, and Buddhists prefering sons over daughters were found differeing only slightly. In the aggregate, whereas about one-fourth of women expressed such preference, only a miniscule minority preferred daughters over sons (Table 29).

Further, the mean ideal numbers of sons desired (per woman) were found slightly higher among Brokpas (2.26) and Baltis (2.16) than among Bodhs (1.92) and Arghuns (1.75). On the other hand, in each study population group, the mean ideal numbers of daughters desired (per woman) were found not greatly different (Table 29). These averages were also found slightly lower than the corresponding estimates for sons. The mean ideal numbers of sons and daughters desired (per woman) for the Ladakh (Pooled) group worked out to 2.00, 1.27 respectively. These estimates gave a rough idea about the attitude towards sex composition of children.

Ideal Number of Children Desired

Attitude/desire relating to family size broadly indicated respondent's fertility intentions/desires and ideals in general, despite inherent limitations. The mean ideal numbers of children desired per woman (respondent) were estimated a little higher for Brokpas (3.57) and Baltis (3.53) than for Bodhs (3.08) and Arghuns (3.00). The mean ideal number of children desired per woman for the Ladakh (Pooled) group worked out to 3.27, which appeared 1.3 children more than the nationally recommended norm of 2 children. However, as this variable has been measured ex post facto, there could be a tendency to rationalize the desired ideal number by the respondents in view of the achieved fertility, particularly because, average number of children surviving has been observed comparatively low. On the other hand, because of the higher average numbers of children ever born than the corresponding average ideal numbers of children desired in each of the study population group and in the Ladakh (Pooled) group (Table 29). It appeared that, in study areas people might have borne more children than desired, to offset high child loss (or low child survival).

Age at Menarche

The age at onset of menarche, the first outward sign of a woman's attainment of sexual maturity, and the starting point of (relative) reproductive span is of considerable biological and social interest. Menarche exposes a woman to possible childbearing, and hence assumes significance, when the age at marriage is relatively low. In the present study, the mean age at menarche among Bodhs has been estimated 15.43 years, which appeared slightly higher than the mean ages observed among others. Among Baltis, Brokpas and Arghuns, the mean ages varied within the narrow range of 14.65 to 14.85 years [the Pooled Muslim data showed the mean age of 14.75 years] (Table 30). The mean age at menarche for the Ladakh (Pooled) group worked out to 14.99 years. Although the ages of menarche in all the study population groups ranged between 11 to 20 years, the single largest sections of women amongst each groups [38.9 per cent (among Brokpas) to 49.0 per cent (among Arghuns)] seemed to have the menarcheal onset at ages 15-16 years.

Age at Menopause

The reproductive life of a woman comes to an end (with varying degree of suddenness) with menopause, largely a human phenomenon (Potts and Selman, 1979). In the present study, the mean ages at menopause of women were found varying within a narrow range of 44.12 years (among Brokpas) to 45.68 years (among Arghuns). Bodhs, Baltis (Table 30) registered intermediate values. The mean age at menopause for the Ladakh (Pooled) group worked out 44.67 years.

Reproductive Period

The period extending from menarche to

Table 30: Percent[1] distribution of women[2] among various population groups of Ladakh region, in Jammu and Kashmir, India; by age at menarche and menopause

	Buddhists	*Muslims*				*Ladakh*
Age at menarche/menopause	*Bodhs*	*Baltis*	*Brokpas*	*Arghuns*	*(Pooled)*	*(Pooled)*
Age at Menarche (in years)						
11-12	12.1	12.0	11.1	9.3	11.1	11.5
13-14	16.8	29.9	33.3	32.5	31.0	25.9
15-16	42.9	39.9	38.9	49.0	42.5	42.7
17-18	20.4	15.4	11.1	8.6	12.9	15.6
19-20	7.9	2.7	5.6	0.7	2.4	4.3
Mean ±S . D.	15.43±2.12	14.79±1.89	14.85±2.09	14.65±1.54	14.75±1.81	14.99±1.96
Age at Menopause (in years) Mean ± S.D.	44.49±4.20	44.39±2.92	44.12±3.20	45.68±2.78	44.78±2.96	44.67±1.96
Reproductive period[3]	29.06	29.60	29.27	31.03	30.03	29.68

1. Totals may not add upto 100, due to rounding off
2. Ever married respondent
3. Physiological reproductive period (in years)

menopause provides an understanding of the relative physiological reproductive period of a woman (although pregnancy and childbirth are actually governed by a host of factors). The reproductive period of woman was found varying from 29.1 (among Bodhs) to 31.0 years (among Arghuns) [Table 30]. The reproductive period for the Ladakh (Pooled) group worked out to 29.7 years.

Facilities Abailable

Type of Educational Facilities Available

As already mentioned, the availability of infrastructure like educational facilities, facilitate the education of individuals, which is generally linked with the population dynamics in a region. In the Ladakh region, whereas primary and middle educational facilities are quite widely available; considerable lacunae exist with regard to the higher educational facilities. Till date, there are no degree colleges, polytechnics, Industrial Training Institutes etc. in the region and even the higher secondary schools are situated only in the urban areas, in the two towns only. Due to such circumstances and also due to the characteristic settlement and distribution patterns of the various population groups in the region, there seem to exist wide disparities regarding the type of educational facilities available to the masses. However, in all the study areas, certain educational facilities have been available within 5 km of households.

The primary / middle / high / higher secondary school facilities were found available near the residence of 62.9 percent of Arghun women (respondents) as compared to only 33.9, 31.8 percent of Baltis, Bodhs, respectively; most probably on account of their being more concentrated in urban areas. All these facilities together were not available to Brokpas, i.e., none of the Brokpas seem to have such facilities together within 5 km of their houses. However, primary / middle / high school facilities together were found available near the houses of 59.3 per cent of Brokpas as compared to lesser proportions of others (Table 31). Thus, more Muslims on the whole, than Buddhist Bodhs were found having high or higher secondary schools near their residence, apart from primary and middle schools. The Pooled Ladakh data showed that the primary / middle / high / higher secondary school facilities together were available near the residence of 36.4 per cent of respondents, while another considerable chunk had primary / middle / high schools within reach (35.6 per cent).

Type of Communication Facilities Available

Communication facilites are also inherent parts of the living context, and are believed to influence the population processes. In the present study, availability of such communication facilities as - 'approach by pucca road'; 'availability of bus service'; 'availability of post

and telegraph / telephone service' within 5 km of households; and 'availability of radio and television and / or newspaper' in the house and/or immediate neighbourhood have been studied individually. Further, these determinants have been considered together to compute an index variable 'communication facilities index' [explained in 'Materials and Methods'].

I. Approach by Pucca (Surfaced) Road: In the Ladakh region, although many of the villages have been connected with road, much of it still remains unsurfaced, particularly in remoter rural areas. A pucca (surfaced) road (the Srinagar-Leh highway) on the other hand, connects the two towns with each other. However, during the prolonged winter months, the maintenance of even the pucca roads becomes extremely difficult, thereby restricting mobility. Except one village, all other rural/urban study areas have been approachable by pucca road. It has been noticed from table 31 that more Brokpa and Arghun women than Bodh and Balti ones have a pucca road within 5 km of their residence. The Ladakh (Pooled) group recorded that 91.2 per cent of women respondents had relatively easy approach by pucca road.

II. Availability of Bus Service: In the Ladakh region, inadequacy of this communication facility is quite apparent, particularly in the remoter rural areas. The service gets worse during the prolonged winter months. And, even in the villages enjoying daily bus service, the frequency is mostly limited to two trips. Although taxi service is available, the fare is rather high, and hence the populace mostly depends on the bus service. The two towns in the region are connected with each other by bus service. The bus service appeared available within 5 km of residence of all the population groups, excepting 4.7 per cent of Baltis who did not have the same. The Ladakh (Pooled) group showed that 98.2 percent of women respondents had bus service facility within 5 km of their houses (Table 31).

III. Availability of Post and Telegraph/ Telephone Service: The post and telegraph/telephone services in the Ladakh region are also inadequate, particularly in the remoter areas; and the overall situation (even in areas where these are available) gets worse during the prolonged winter months. Whereas these services were found available near all Arghun and Brokpa households (within 5 km); these appeared available near the residence of 83 per cent of Baltis, and 80 per cent of Bodhs (Table 31). The Ladakh (Pooled) group showed that these services were available near the houses of 86.2 per cent of women.

IV. Availability of Radio and/or Television and/ or Newspaper: The mass media or the radio, television and newspapers are considered as excellent channels of information, which can effectively change the attitudes, generate awareness about many aspects, including health, hygiene, nutrition, small family size, family planning methods etc. In the Ladakh region, although radio/transistors are available to almost all; neither newspapers are regularly available, nor the electricity supply is steady to view television progrmmes regularly. Whereas in the Kargil district, electricity supply is available for only a few hours in the evening; in the Leh district, the supply is erratic, though available for longer duration. And, the situation gets worse during the prolonged winter months; when only radio remains operative. Moreover, in many rural areas, all these three facilities together are not available even today. It may also be mentioned here that the life style and consumption patterns shown by the media (especially television) are often seen as alien to the culture, particularly in the Kargil district of the Ladakh region, hence television viewing is further restricted in that district.

Whereas 68.9, 50.4, 48.3 per cent of Arghun, Bodh, Balti women respondents, respectively appeared to have radio and television and/or newspaper in the house and/or in the immediate neighbourhood; none of the Brokpas had the same (Table 31). The Ladakh (Pooled) group showed that only 49.7 per cent of respondents had these facilities in their residence or in the immediate neighbourhood. In other words, it appeared that about half of the respondents did not have an easy access and hence, not regularly exposed to any kind of mass media.

V. Communication Facilities Index: As explained earlier, the above mentioned variables, viz, approach by pucca road, bus service, post and telegraph/telephone service, radio and television and/or newspapers , relating to various communication facilities have been considered together to compute an index variable

Table 31: Percent[1] distribution of women[2] among various population groups of Ladakh region, in Jammu and Kashmir, India; by some background characteristics[3]

Background characteristics[3]	*Buddhists*	*Muslims*				*Ladakh*
	Bodhs	*Baltis*	*Brokpas*	*Arghuns*	*(Pooled)*	*(Pooled)*
Type of Educational Facilities Available[4]						
Primary/middle school	39.0	25.2	40.7	8.6	21.9	28.0
Primary/middle/high school	29.3	40.9	59.3	28.5	39.2	35.6
Primary/middle/high/higher secondary school	31.8	33.9	-	62.9	39.0	36.4
Type of Communication Facilities Available[4]						
Approach by Pucca Road						
Not available	8.9	13.1	-	3.3	8.7	8.8
Available	91.1	86.9	100.0	96.7	91.3	91.2
Bus service						
Not available	-	4.7	-	-	2.8	1.8
Available	100.0	95.3	100.0	100.0	89.6	98.2
Post and Telegraph/Telephone Service						
Not available	20.0	17.4	-	-	10.4	13.8
Available	80.0	82.6	100.0	100.0	89.6	86.2
Radio and Television and/or Newspaper[5]						
Not available	49.6	51.7	100.0	31.1	50.7	50.3
Available	50.4	48.3	-	68.9	49.3	49.7
Communication Facilities Index						
Poor	18.2	22.5	-	3.3	14.3	15.7
Good	81.8	77.5	100.0	96.7	85.7	84.3
Type of Medical Facilities Available[4]						
Not available	0.4	13.1	-	-	7.8	5.1
Medical sub-centre/Aid centre/Dispensary	60.2	30.8	51.9	35.8	34.6	43.8
Primary health centre	7.5	22.1	48.1	1.3	18.7	14.7
Hospital/Allopathic dispensary/Tuberculosis clinic/Family planning centre	31.8	33.9	-	62.9	39.0	36.4
Type of Medical Facilities Availed						
Folk and modern[6]	65.2	60.8	84.2	41.1	57.5	60.3
Modern[6]	34.8	39.2	14.8	58.9	42.6	39.7

1. Total may not add upto 100, due to rounding off
2. Ever married respodent
3. The background characteristics (physical enviromental) of respondents have been elaborated in the text
4. Facilities not available/ available within 5 km of house (residence)
5. Available in the house and/or in the immediate neighbourhood
6. From both government and private sources

- 'communication facilities index'. The index has been classified into 'poor' and 'good' categories.

The index was observed 'good' for the manjority of Bodhs, Baltis, and Arghuns (Table 31). It was also found 'good' for all Brokpas. In other words, one or the other or all of the aforementioned communication facilities seemed to be (relatively) easily available near the residence of many women respondents (within 5 km). However, the proportion of Baltis and Bodhs with 'good' communication facilities were found lower than Arghuns and Brokpas. It has also been noticed that slightly more Muslim women on the whole (86 per cent) had 'good' communication facilities near vicinity. The Ladakh (Pooled) group recorded that the availability of communication facilities were 'good' for the majority of respondents (84 per cent); but 'poor' for the rest.

Type of Medical Facilities Available

The type of medical facilities available is also important part of the living context, affecting the population dynamics of a region. In the Ladakh region, the types and overall state of availability of medical facilities are not satisfactory. In many rural areas, even today no medical facilities are available within a distacne of 5 km. Moreover, where certain modern medical facilities are available, the inadequacies are quite apparent, which gets worse during the prolonged winter months. Even in the two district hospitals and other medical centres in urban areas (which always remain overcrowded), the situation is unsatisfactory. In all the study areas, except three villages, certain

modern medical facilities have been available within a distance of 5 km, but the deficiencies are also quite evident.

Whereas 34 and 32 per cent of Balti and Bodh women (respondents) respectively seemed to have hospital/allopathic dispensary/ tuberculosis clinic/family planning centre (hospital etc.) together within 5 km of houses; more Arghun women (63 per cent) had the same nearby. None of the Brokpas appeared to have an access to all these facilities together within 5 km of their residence. However, 48 percent of Brokpas seemed to have primary health centre nearby (within 5 km); as compared to much lesser proportions of Baltis (22 percent), Bodhs (8 percent), and Arghuns (1 per cent). Further the proportion of Bodh women having 'medical sub-centre/dispensary/aid centre' nearby was found the highest, followed by others. Incidentally, 13.1 and 0.4 per cent of Balti and Bodh women (respectively) did not seem to have any modern medical facilities within 5 km of their residence. Thus, the 'hospital etc.' and 'primary health centre' were found available near the residence of more Muslims than Buddhist Bodhs; and the reverse appeared true when 'medical sub-centre/dispensary/aid centre' were present within reach. The Ladakh (Pooled) group registered that the single largest group of respondents (43.8 per cent) had relatively easy access to ' 'medical sub-centre/ dispensary/aid centre'. And, whereas another 36.4 per cent had 'hospital etc.' near their houses, only 14.7 had primary health centres within 5 km of their residence (Table 31).

Type of Medical Facilities Availed

Although the availability and effectiveness of medical facilities are greatly important in influencing the population dynamics of a region; the utilization of the same, or type of medical care availed by the populace is equally, if not at times, a more important determinant. In the Ladakh region due to the unavailability or unsatisfactory state of medical facilities, and also due to certain scepticism towards modern medical care, some forms of folk (traditional) medicines/treatments and even spiritual-cum-faith healing system practised by such traditional practitioners as, Amchis, Lhamo, Lhaba, Akhoons, Pirs etc., (who claim cure for many ailments) are widely availed by all population groups, in addition to the modern medical care. But, only a few Amchis are registered with the Health Department of the Government, and the medical authorities owing to lack of scientific basis have not substantiated the others claims for complete cure. It may also be noted that in the Ladakh region, there are no private medical institution, but a few doctors serving in the district hospitals also do private practice in the two towns only. Therefore, availing of any modern medical care mainly refers to the utilization of governmental medical facilities (though in urban areas this may also refer to the few private practitioners).

It has been noticed from table 31 that the proportions of Bodhs and Baltis availing of only modern medical care are only slightly different (35 and 39 percent, respectively). However, the majority amongst them (65 and 61 percent, respectively) seemed to be availing of both folk and modern medical care. Similar trend was noticed among Brokpas too, with 84 per cent availing of both types of medical care. On the other hand, the proportion of Arghuns availing of both types of medical care was found lesser (41 per cent); while those availing of only modern medical care (59 per cent) greater than the corresponding proportions of others. On the whole, more Muslims than Buddhists seemed to be availing of only modern medical care. The Ladakh (Pooled) group registered that both folk and modern medical care were being availed of more widely (60 per cent) than only modern medical care (40 per cent). Therefore, the data reflect differential utilization of type of medical care in study areas; and also not full utilization of modern medical care provided by the Health Department.

Housing Attributes and Condition

Housing attributes and condition, i.e., the type and quality of the dwelling place are an aggregate of determinants, which constitute the immediate physical environment of man. These are also broadly indicative of the level of living or socio-economic status. Hence, the housing characteristics are also recognized to influence the dynamics of population components, viz, fertility and mortality levels in a

region. In the present study, such housing attributes and condition as, 'type of construction', ' number of stories', 'separate lavatory and kitchen/cattleshed facilities'; chimney in kitchen'; 'drainage /sewerage system'; ventilation condition'; 'general sanitary condition'; 'number of rooms'; and 'source of water supply' have been studied individually. Further, these have been considered together to compute an index variable - 'housing condition index' (explained in 'Materials and Methods').

I. Type of Construction: In the Ladakh region, irrespective of the rural-urban sectors, the majority of the houses are of kutcha type (made from indigenous materials) with typical kutcha roof, kutcha or cement washed walls, floors and relatively poor environment. These are also often dingy and insanitary. But the overall condition is (comparatively) fairly good in pucca houses, which are few and mostly concentrated in the urban sector.

Only 8-10 per cent of Bodh and Balti women respectively were found living in pucca houses, while the rest in kutcha ones (Table 32). But, whereas comparatively high percentage of Arghuns (28 per cent) was found of living in pucca houses, only a negligible percentages of Brokpas (4 per cent) appeared to be doing

Table 32: Percent[1] distribution of women[2] among various population groups of Ladakh region, in Jammu and Kashmir, India; by some background chracteristics (housing attributes and condition)

Background chracteristics[3]	*Buddhists*	*Muslims*				*Ladakh*
	Bodhs	*Baltis*	*Brokpas*	*Arghuns*	*(Pooled)*	*(Pooled)*
Housing Attributes and Condition						
Type of Construction						
Kutcha	89.7	91.7	96.3	72.2	86.3	87.5
Pucca	10.4	8.4	3.7	27.8	13.7	12.5
Number of Storeys						
Single	52.1	31.9	29.6	27.2	30.2	38.1
Double	47.9	68.1	70.4	72.8	69.8	62.0
Separate Facilities						
Lavatory present	80.0	78.2	81.5	84.8	80.5	80.3
Kitchen present	48.2	69.8	59.3	68.2	68.2	61.1
Cattleshed present	40.4	41.3	53.7	29.8	39.2	39.6
Chimney in Kitchen						
Absent	20.7	20.5	25.9	34.4	25.4	23.6
Present	79.3	79.5	74.1	65.6	74.6	76.4
Drainage/Sewarage System						
Absent	68.9	77.9	96.3	53.6	72.6	71.3
Present	31.0	22.2	3.7	46.4	27.5	28.7
Ventilation Condition						
Unsatisfactory	39.6	63.4	87.0	29.1	55.7	49.9
Satisfactory	60.4	36.6	13.0	70.8	44.4	50.1
General Sanitary Condition						
Unsatisfactory	56.8	79.2	96.3	50.3	72.4	66.8
Satisfactory	43.2	20.8	3.7	49.6	27.7	33.2
Number of Rooms						
1 to 2	16.1	13.4	7.4	8.6	11.3	13.0
3 to 4	32.9	30.9	31.5	20.5	27.8	29.6
More than 4	51.1	55.7	61.1	70.8	60.8	57.4
Average number of persons per room in the household	1.4	1.5	1.4	1.1	1.4	1.4
Source of Water Supply						
Sources other than tap/pipe[4]	54.8	29.2	33.3	33.1	30.8	39.3
Tap/pipe[5]	45.2	70.8	66.7	66.9	69.2	60.7
Housing Condition Index						
Poor	25.4	20.1	20.4	12.6	17.9	20.6
Fair	46.6	54.0	72.2	35.8	50.5	49.1
Good	28.0	25.8	7.4	51.7	31.6	30.3

1. Total may not add upto 100, due to rounding off
2. Ever-married respodent
3. The background characteristics of respondents have been elaborated in the text
4. Natural sources (river/steam/spring/nallah etc.)
5. Available in the household and/or in the immediate neighbourhood

so. On the whole, slightly more Muslims than Buddhists seemed to be living in pucca houses. The Ladakh (Pooled) group registered that only 12.5 per cent of respondents were living in pucca houses.

II. Number of Stories: In the Ladakh region, large proportions of housed are double storied. And, though single storied houses are not uncommon; three storied houses are rather rare. Nearly one half of Bodh women (47.9 per cent) were found living in double storied houses and the rest in the single storied ones (52.1 percent). But comparatively large proportion of Baltis had double storied houses (68.1 percent). The percentages of Brokpas and Arghuns living in two storied houses (70, and 73 per cent respectively) were observed slightly higher than that of Baltis. On the whole, 69.8 per cent of Muslims were found having double storied houses; which seemed higher than the percentage of Buddhist Bodhs (having the same). The Ladakh (Pooled) group recorded that over three-fifth of respondents had double storied houses and only three-eighth of them had only single storied ones (Table 32).

III. a. Separate Lavatory Facility: In the Ladakh region, the majority of houses have separate lavatory facilities. Most of these are, however, of conventional dry pit type. Only in a very few houses in urban areas, modern flush toilets with septic tanks have replaced the conventional ones in recent years. It has been observed that, today, irregular supply of ground soil, which is traditionally used in pit type lavatories instead of water, as well as poor sewerage system, poor construction and maintenance of septic tanks in modern flush toilets are posing grave health and sanitation problems.

In the present study, only the presence of separate lavatory facility in the houses have been considered, and no further categorization has been attempted as very few people (in urban areas only) had modern flush toilets in houses. This facility was found present in houses of 78 to 80 per cent of Balti, Bodh women, as compared to slightly higher percentages of Brokpas and Arghuns (82, 85 per cent, respectively). However, the proportions of Muslims on the whole and Buddhists Bodhs having separate lavatory facility inside the house were found nearly same. The Ladakh (Pooled) group showed that while the majority of respondents (80 per cent) had this facility in the houses; about one-fifth did not have the same (Table 32).

III. b. Separate Kitchen Facility: In the Ladakh region, a large number of houses particularly those of Bodhs do not have separate kitchen facilities. In these houses, a large room having an indigenous hearth and / or gas stove etc., is used as the main living room-cum-kitchen. Separate kitchen were noticed mainly in those houses, constructed in the recent decade. As people have been observed spending most of their time in the dingy, ill-ventilated, ill-lighted sitting living room-cum-kitchen, their health may be adversely affected by such poor enviornment as compared to those having separate kitchens in houses.

In the present study, about one-half of Bodh women (respondents) [48 per cent] were found having separate kitchen in their houses; but the majority of Baltis (70 per cent) appeared to have the same. Whereas among nearly same percentage of Arghuns (68 per cent) as that of Baltis, separate kitchen was observed present in houses; among comparatively less percentage of Brokpas (59 per cent), it was so. But, more Muslims on the whole, than Buddhists were observed having this facility. This may be atributed to the fact that in many houses of Baltis and other Muslim population groups kitchen is usually not used as a sitting room, and women often do not appear in front of male strangers. The Ladakh (Pooled) group registered that although the majority of respondents had separate kitchen in houses (61.1 per cent) quite a few (38.9 per cent) did not have the same (Table 32).

III. c. Separate Cattleshed Facility: In the Ladakh region, separate cattleshed facilities are not present in a large number of houses; where the cattle, poultry are kept in one of the rooms inside the house (usually on the ground floor), thereby adversely affecting the immediate physical environment. It may also be mentioned that even when there is a separate place for livestock during the severe and prolonged winter months, the residents live together with cattle, poultry in the same room.

Separate cattleshed facility was found present in the houses of 40-41 percent of Bodh, Balti women (respondents). Whereas fewer

Arghuns (30 per cent) were observed having such facility in their residence; more Brokpas (54 per cent) seemed to have the same (Table 32). Only about 40 per cent of respondents at the aggregate level were found having separate cattleshed facility in house.

IV. Chimney in Kitchen: In the Ladakh region, as the houses are usually dingly, ill-ventilated, absence of chimney in kitchen aggravates the atmosphere, thereby adversely affecting the residents; particularly where the traditional hearths, heating equipments are used. In the present study, nearly 80 per cent of Bodh and Balti women were observed having chimney in kitches of their houses (Table 32). But, lower and still lower percentages of Brokpas (74 percent) and Arghuns (66 percent), respectively appeared to have the same. The percentage of Muslims as a whole (75 per cent) having this facility in their houses seemed slightly lower than that of Buddhist Bodhs. The Ladakh (Pooled) group recorded that the majority of respondents had chimney in kitchens of their houses, although the proportion of those without such amenity (23.6 per cent) was also not exactly low.

V. Drainage / Sewerage System: In the Ladakh region, drainage/sewerage system is not present in every house; more so, in rural areas. In general relatively affluent people in urban areas have such facility in houses (especially which have been built during the recent decade or so); although the condition of the same is mostly not satisfactory. Besides, during the prolonged winter, the system usually gest clogged, rendering the systme inactive. The drainage/sewerage system was observed present in the houses of only 31 per cent of Bodh and 22 per cent of Balti respondents, as compared to higher percentage of Arghuns (46 per cent). But only 4 percent of Brokpas seemed to have the same (Table 32). The Ladakh (Pooled) group registered that the majority of respondents did not have such system in their houses, excepting only two seventh, who had such amenity.

VI. Ventilation Condition: In the Ladakh region, many houses, particulary old and traditional ones, are badly ventilated. Even the houses, which are otherwise satisfactorily ventilated, all openings are usually closed during the prolonged winter months. In the present study, the houses of 60 per cent of Bodh respondents were found satisfactorily ventilated as against only 37 per cent of Baltis. Whereas the percentage of Arghuns having satisfactory ventilation in houses was observed higher (71 per cent), the percentage of Brokpas was noticed the lowest (13 per cent). The Ladakh (Pooled) group indicated that one-half of respondents seemed to live in satisfactorily ventilated houses; and onehalf of respondents in badly ventilated ones (Table 32).

VII. General Sanitary Condition: In the Ladakh region, many houses are of kutcha, indigenous type and without separate kitchen and/or lavatory and/or cattleshed. Many houses are also badly ventilated, and do not have drainage / sewerage system, piped water supply within. And, since many people themselves lack health and sanitary awareness, and do not undertake regular cleaning of the house, furnishings etc., the general sanitary condition of many houses have been observed far from satisfactory. However, in general, the houses of the relatively affluent people have better sanitary condition although during the winter months the situation in these too becomes quite unsatisfactory.

The general sanitary condition has been observed satisfactory in the houses of 43.2 per cent of Bodhs as against only 20.8 per cent of Baltis. But, whereas higher percentage of Arghuns (50 per cent) were found living in houses with satisfactory sanitary condition; only 3.7 per cent of Brokpas seemed to be doing so. The proportion of Muslims on the whole, having satisfactoy sanitary condition in their houses was found much lesser than that of Buddhist Bodhs (Table 32). The Ladakh (Pooled) group recorded that more respondents were living in houses with unsatisfactory sanitary condition than otherwise.

VIII. Number of Rooms: Generally speaking, in the Ladakh region, many people live in houses with more than two rooms, i.e., the houses seem to have fairly adequate space. But since the sizes of households are often large, the living space remains somewhat limited. And, some households may even be labelled as 'crowded' [i.e., having 1.5 or more persons per room (Bogue, 1969)]. Crowded condition as opposed to the adequacy of living space, an important characteristic of immediate physical

environment of man, is believed to affect the health and the quality of life as well as privacy of individuals. The availability and adequacy of living space also refers to some extent to the standard of living and socio-economic status, an aspect often linked with fertility and mortality.

As seen in Table, the majority of the respondents in each study population group seemed to have more than four rooms in their houses [51 per cent (among Bodhs) to 71 per cent (among Arghuns)]. The percentages of Bodh, and Balti women living in houses with 1 to 2 rooms (33 and 31 percent, respectively) were found not greatly different from each other, but much higher than the corresponding proprotions of Brokpas and Arghuns (7 and 9 percent, respectively). The reverse was noticed when the number of rooms was more than four. The Ladakh (Pooled) group registered that even though the majority of respondents had more than 4 rooms in their houses; quite a few also lived in houses with 3 to 4 rooms (30 percent) as well as 1 to 2 rooms (13 percent).

Though the number of rooms has provided an understanding of the 'exposure' and 'resource' aspects of households, an attempt has also been made to study the average number of persons per room (calculated to measure the 'residential crowding'); which also reflects the adequacy of living space. Balti women seemed to live in 'crowded' houses with 1.52 persons per room (Table 32). The average number of persons per room in case of Bodhs, Brokpas, Arghuns were found lower at 1.39, 1.39, 1.14, respectively. The Ladakh (Pooled) group registered that, the respondents in general, were not living in 'crowded' condition, and the average number of persons per room in houses was 1.39.

IX. Source of Water Supply: In the Ladakh region, due to various natural constraints, many rural areas still do not have the facility of safe/ protected drinking water (tap/piped water) in the vicinity. The people in these areas depend on various natural sources of water such as, river, streams, springs, snowfed nallah, etc. The water from these sources are usually neither boiled nor treated before consumption. Even in the areas, where the piped water facility is available within the house or nearby; the supply is badly affected by natural and certain other limitations, particularly during the prolonged winter months. And at such times, the inhabitants of these areas too rely on the natural sources. The water sources, which provide drinking water, are also utilized for all the other purposes including washing utensils, clothes etc. It may be mentioned that, according to the medical authorities of the region, the quality of the piped water cannot also be labelled as 'completely safe'.

Whereas 70.8 per cent of Balti respondents were found having piped water within the house or nearby (in the immediate neighbourhood), only 43.8 percent of Bodhs seemed to have the same. The percentages of both Arghuns (67 percent) and Brokpas (68 per cent) havng such a facility within the house or nearby were observed little lower than that of Baltis, but much higher than that of Bodhs. Thus, the piped water was found available within or near the residence of more Muslims on the whole, than Buddhist Bodhs (Table 32). The Ladakh (Pooled) group recorded that although 60.2 per cent, i.e.e the majority of respondents had piped water within the house or nearby; a large segment seemed to depend on various natural sources of water.

X. Housing Condition Index: As explained earlier, the nine variables discussed above relating to housing attributes and condition have been considered together to compute an index variable - 'housing condition index'. The index has been classified into 'poor', 'fair', and 'good' categories.

The housing condition index was found 'fair' for the single largest sections of Bodh (46.6 percent), Balti (54.0 per cent), and Brokpas (72.2 percent) respondents; whereas the single largest section of Arghuns (51.7 percent) seemed to have 'good' housing condition. The percentage of Bodhs having 'good' housing condition too was noticed slightly higher than Baltis (26 percent) and much higher than Brokpas (7 per cent). But, even though the single largest segment of Muslims as a whole, seemed to register 'fair' housing condition (50.5 percent) as also noticed in case of Buddhist Bodhs, slightly higher proportion amongst the former (82 percent) than among the latter (75 percent) was found having better housing condition. The Pooled Ladakh data registered

that the single largest percentage of respondents have 'fair' housing condition (49 percent) while the percentages of women having 'good' and 'poor' housing condition were found lower and still lower (30 and 21 percent, respectively).

KEY WORDS Population Composition. Age Composition. Sex Ratio. Caste Groups. Jammu and Kashmir.

ABSTRACT The study presents the population structure of the caste groups, tribal groups and communities of Jammu and Kashmir. The study sample was collected from four districts of Jammu and Kashmir state; and comprised of Buddhist and Muslim (Bodhs, Baltis, Brokpas, Arghuns) from Ladakh region; Kashmiri (Pandits and Muslims) for Srinagar region; Dogra (Brahmans, Rajputs and Scheduled Castes) and Muslim (Gujjars) from Jammu region. The sex ratio, age composition of these population groups give a picture of the structure/demographic pattern prevalent in the state of Jammu and Kashmir.

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