

6. Demographic Studies on Santals, Mundas and Oraons at Hili

Block:

6.1 Introduction : Analysis of data on fertility, mortality, migration, growth etc. and studies on human population is usually termed as demography. John Graunt (1662) was the first worker on demography, who published an article entitled, "Natural and political observations made upon the bills of mortality on the population of London." Though many workers as Petty (1665, 1680, 1691); King (1696); Halley (1693) ; Susmilch (1775) etc. worked on population around that time, the subject received little attention, until Malthus (1798). The work of Malthus aroused a lot of excitement in general but were criticized by many scientist, politicians and clergymen. With the acceleration of scientific progress in the 19th century, population studies attracted many scientists.

Accurate quantitative data on population is essential to determine the problems with regards to health, education and social habits of a society, and to formulate appropriate remedial measures. Socio-cultural aspects play a crucial role in analyzing natality, mortality, fertility, growth rate migration etc. of a population. On the other hand population parameters are heavily influenced by the ecological realities of particular geographic regions. Despite demographic vulnerability of small populations with regards to epidemics and incidence of random demographic variations Mac-Farlane (1976) believed that, 'Microdemography can come up with meaningful estimate of general demographic trends and can make very useful contribution to population studies'. According to Kunstadter (1972) we may come up with three types of demographic variables while studying a small community.

(1) variation of population structure within a given community overtime; (2) Variation between communities with the same basic social system when observed at the same time and (3) variation between families within any community at any time. Works on different aspects of small population such as on fertility differences in relation to altitude (Gupta, 1980); on the economic value of child labour (Nag et. al., 1978; Rehman, 1992); on land ownership and labour requirements (Mamdani, 1972); on educational opportunity (Stanhope and Hornabrook, 1974); and on fertility status of a population, (Roberts, 1971), contributed greatly to our understanding of the dynamics of small population.

6.2 Aims and Objectives :

The main objectives of this chapter are :

- (i) To estimate the impact of externally induced changes of socio-ecological and cultural nature on the demography of the santals, Mundas and Oraons, and
- (ii) to analyze their demographic structure at the Hili Block.

6.3 Method : With the emergence of nation states as political entities in the dawn of modern period in Europe it became a necessity to have an estimate of human population for proper execution of various Governmental activities. The first estimation of whole population by house to house survey was done in 1665 for the colony of New France. The credit of accomplishing first National Census goes to Sweden in 1749. Similar census records were done in 1801 for France and England and in 1790 for U.S.A. The first census record for India (India and Pakistan) was completed in 1872 and officially the population was declared as 233 million (U.N., 1973).

Demographic data of the tribals (Santals, Mundas and Oraons) at the Hili Block for the year 1971, 1981 and 1991 were collected from the census records and the present study. No work on the

tribals of the Block is known. Following van Arsdale (1978) birth order among siblings, marital and parenthood history, event calendars and appearance was used in the present study. Enumeration in the present study was mainly based on household survey, all the heads of the families or their wives were interviewed. The age sex structure, marital status and reproductive performance of married females were recorded. Data were cross checked from several sources. For example, age of a person was determined with the help of the following information :

- (i) relative age of the members in the settlements.
- (ii) date of known external events such as flood, famine and outbreak of diseases.
- (iii) age at marriage
- (iv) present age
- (v) age at first pregnancy
- (vi) interval between the subsequent pregnancies etc.

Only in three to four (3-4) percent cases, the calculated age varied by a factor of one to two years from the reported age of the subjects. In order to minimize the chance of variation associated with the small population as well as errors in ascertaining the age, the population was divided into different age groups. To describe the structure and to measure the trends of population, grouped data on different age-sex class indices, rates and proportions were presented in suitable graphs and tables.

Important demographic information obtained through calculation such as life table, gross reproductive rates etc. of small populations are usually subjected to various criticism. However, reasonably accurate and acceptable estimates of population can be obtained with reference to model life tables developed by the U.N. (1967) and Demeny (1971) mainly based on heavily weighted age-sex mortality rates. With the help of these life tables it is possible to cover a wide range of mortality levels experienced by human populations of different countries. The refined demographic structures including the level of mortality for the preparation of life tables as described in the study were based on U.N. (1967) and Demeny (1971) and stable population concept.

For the calculation of trends of population growth, available data recorded in the statistical abstract, India; Bureau of applied economics and statistics, W.B.; District statistical hand book for Uttar and Dakshin Dinajpur and partial census records were considered.

6.4 Results and Discussion :

6.4.1 Density: Density of population in a particular area depends mainly on socio-economic structure. Population density i.e, the number of individuals per unit area often reflect the inherent socio-cultural dimensions and ecological involvement of a community. On the basis of Anthropological studies it has been assessed that the maximum density of hunter and food gatherer community could hardly exceed one or two persons per square mile, even in the most favoured areas. Hassan (1975) also claimed that the population density of hunter gatherer communities were very low and were estimated as 0.01 to 2 persons per square miles.

Table - 6.1 Presents the population density of the Hili Block tribals in relation to India, West Bengal, Howrah, Purulia, Uttar Dinajpur, Dakshin Dinajpur, Kumarganj Block and Balurghat Block. The density of Hili Block can be compared with the neighbouring Balurghat. The population density at the Hili Block including both tribals and nontribals was 701 per square kilometer (1991 census records). This density as a whole was higher than Kumarganj Block, Dakshin Dinajpur District, other Districts of West Bengal and India. The density of tribals in the Block was 137 per

square kilometer, total cultivable land in the Block was 7500 hactor. Therefore, the physiological density i.e. net cultivable area/person was 0.303 acres. Considering only the tribals it was 0.710 acres / person. Physiological density of Dakshin Dinajpur District calculated in 1991 was 0.356 acres / person (Annual plan on Agriculture, Uttar and Dakshin Dinajpur. 1999-2000).

Ecologically, to calculate the actual population pressure on an area the total land / man ratio is to be considered. However, a favourable land / man ratio, does not necessarily imply higher productivity or uiltization. For example, the tribals enjoy a favourable ratio incomparison to the nontribals at the Hili block but due to primitive agricultural technique and other reasons, their productivity / unit area was lower than that fo the non tribals.

Table - 6.1 : Population density per squre kilometer at Hili Block, adjaust areas, West Bengal and India.

Name of the Places	Year			Sources
	1971	1981	1991	
India	182	216	267++	Statistical abstract (India)
West Bengal	504	621	767	Do
Howrah (Dt.)	1640	2022	2543	Bereau of applied economics and statistics, W.B.
Purulia (Dt.)	256	296	355	Do
Uttar Dinajpur (Dt.)	328 (D.D.+U.D)	450 (D.D.+U.,D)	607	District Sastical hand book, Uttar and Dakshin Dinajpur
Dakshin Dinajpur (Dt.)	Do	Do	552	Do
Kumarganj Block	301	365	452	Do
Balurghat Block	508	692	819	Do
Hili Block	425	573	701	Do

Note :

D.D - Dakshin Dinajpur

U.D- Uttar Dinajpur

++ - density has been worked out on comparable data.

6.4.2 Composition : Biological variable such as age and sex affect a community in various ways. Individuals of different age-sex groups assume various domestic, economic and cultural activities of the community. This process is influenced to a great extent by socio-cultural and ecological conditions in the region.

6.4.3 Demographical economic analysis of the tribals :

People undertake variety of jobs of subsistence. The qualitative and quantitative nature of work and subsistence activities depend on the capability, tradition and demand of the society. People differ in their capabilities in performing certain jobs. Most societies endeavour to engage a portion of the people to appropriate jobs through the phenomenon of division of labour. But in most populations a substantial proportion of people are dependent on others for subsistence i.e, the young, the unemployed physically disabled and aged persons.

The number of dependents vary among different communities. Because of high fertility, decrease in infant mortality and increase in life span, the proportions of dependents is increasing in most developing countries.

Dependency ratio (DR) can be formulated as :

$$DR = \frac{\text{Dependent children} + \text{Dependent aged}}{\text{Active population}} \times 100$$

Communities differ in demarkating the start and end points of economically active life. In most tribals it starts rather early but also terminates early. The dependency ratio among the Santals, Mundas and Oraons were - 74.81, 77.74 and 83.19 respectively. Because of unemployment dependency ratio does not provide a clear picture about the economic load factor in most communities. The economic load factor can be expressed from the following relation :

$$\text{Economic Load factor (ELF)} = \frac{\text{Economically inactive population}}{\text{Economically active population}} \times 100$$

Economic load factor of santals, Mundas and Oraons were almost the same as DR. Absence of employment of a large proportion of the population seemed to be the sole reason for a very high DR and ELF among the tribals.

6.4.4 Age-sex structure of tribal population at Hili Block :

Population structure in demography constitutes a central point of analysis; because it defines the limits of reproductive potential of a society on one hand and express past trends in fertility, natality, mortality and migration on the other.

Age-sex structure of a population is usually presented in bar graphs. The sex wise population structure of the santals, Mundas and Oraons at Hili Block are presented in fig. 6.1, 6.2 & 6.3

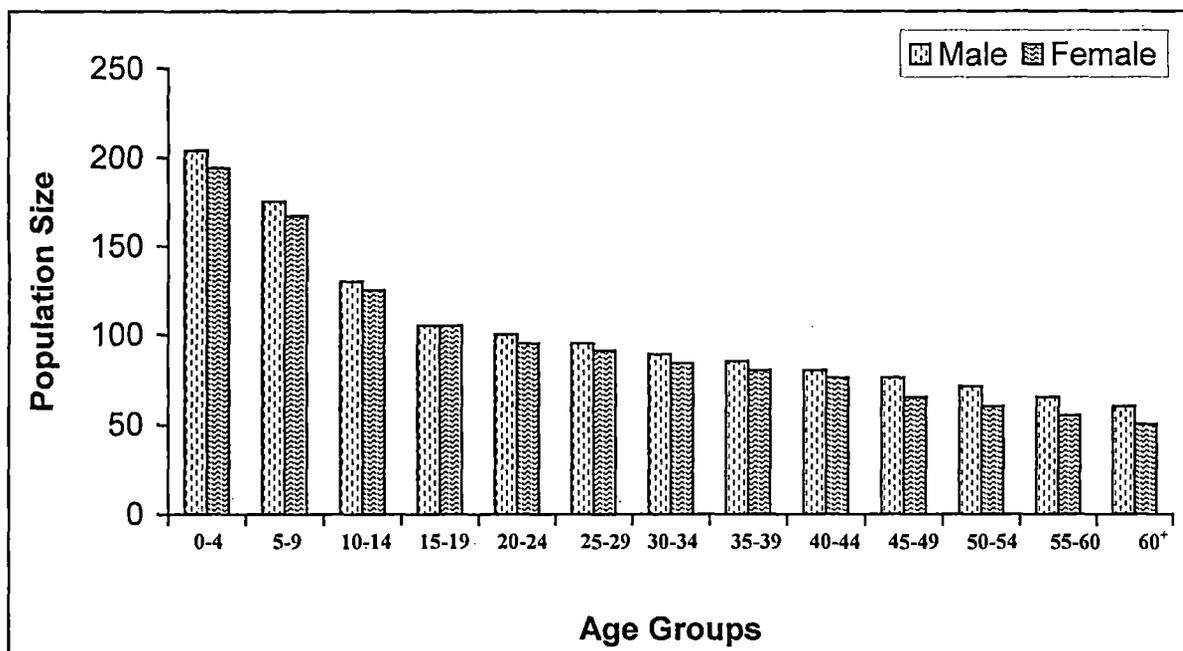


Fig. 6.1 : Population structure of the Santals (Males & Females) in 2000.

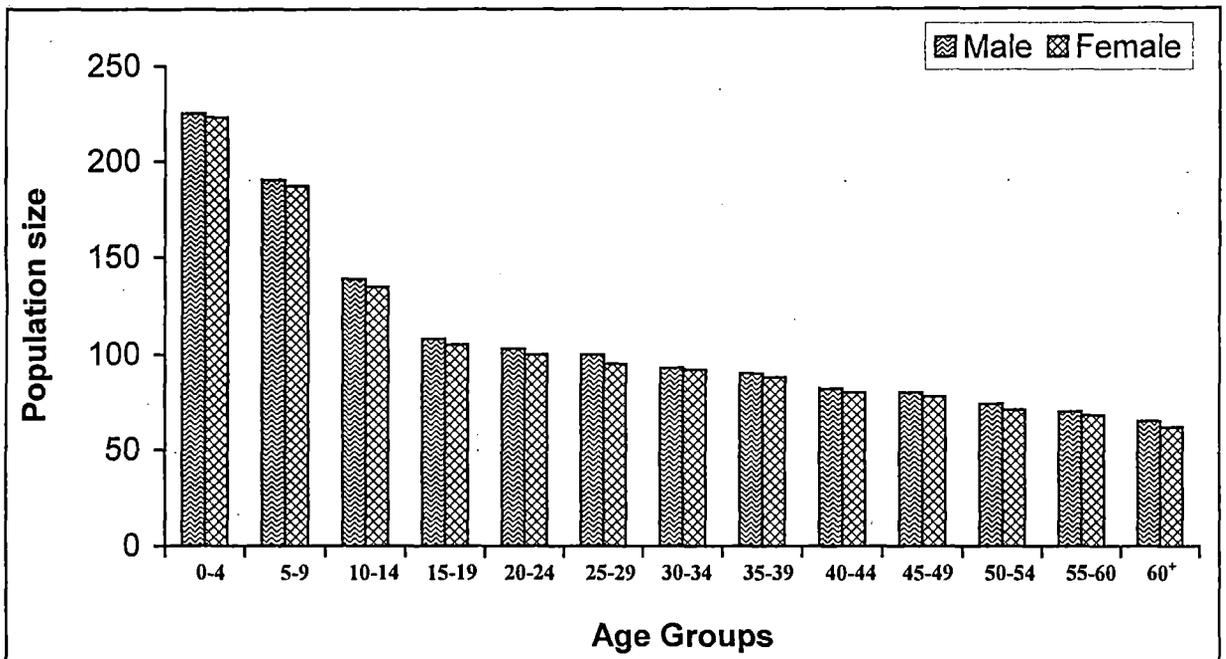


Fig. 6.2 : Population structure of the Mundas (Males & Females) in 2000.

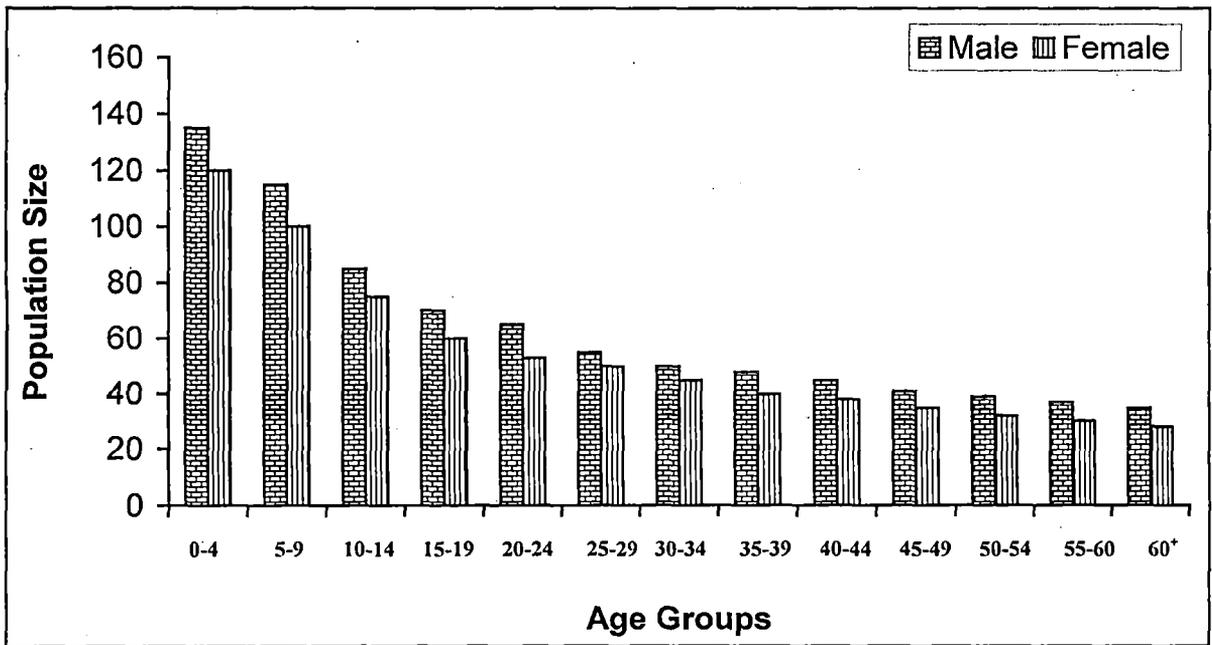


Fig. 6.3 : Population structure of the Oraons (Males & Females) in 2000.

respectively for the year 2000. These represented a stable population in general with proportionately higher distribution in the lower age groups for all the three ethnic communities.

Table - 6.2, 6.3 & 6.4 shows percent distribution of the population in different age-sex classes in the three ethnic communities . Lower percent population in the lower age groups was considerably higher in all the communities. High percentage of population in the lower age groups indicated high fertility among them. In the old age groups (60+) percent distribution of population was low. Lower percentage of population in the old age groups indicates high mortality rate among them. Moderate percentage of population in the middle age groups coupled with high percentage in the younger age groups is indicative of a growing population.

Table - 6.2 : Percent distribution of Santal population in different Age-sex group in 2000.

Age groups	Male		Female		Total	
	Number	%	Number	%	Number	%
0-4	204	15.28	194	15.56	398	15.41
5-9	175	13.11	167	13.39	342	13.25
10-14	130	9.74	125	10.02	255	9.88
15-19	105	7.87	105	8.42	210	8.13
20-24	100	7.49	95	7.62	195	7.55
25-29	95	7.12	91	7.30	186	7.20
30-34	89	6.67	84	6.74	173	6.70
35-39	85	6.37	80	6.42	165	6.39
40-44	80	5.99	76	6.09	156	6.04
45-49	76	5.69	65	5.21	141	5.46
50-54	71	5.32	60	4.81	131	5.07
55-60	65	4.87	55	4.41	120	4.65
60+	60	4.49	50	4.01	110	4.26
Total	1335	100	1247	100	2582	100

Table - 6.3 : Percent distribution of Munda Population in different age-sex group in 2000.

Age groups	Male		Female		Total	
	Number	%	Number	%	Number	%
0-4	225	15.86	223	16.11	448	15.98
5-9	190	13.39	187	13.51	377	13.45
10-14	139	9.80	135	9.75	274	9.76
15-19	108	7.61	105	7.59	213	7.60
20-24	103	7.26	100	7.23	203	7.24
25-29	100	7.05	95	6.86	195	6.96
30-34	93	6.55	92	6.65	185	6.60
35-39	90	6.34	88	6.36	178	6.35
40-44	82	5.78	80	5.78	162	5.78
45-49	80	5.64	78	5.64	158	5.64
50-54	74	5.21	71	5.13	145	5.17
55-60	70	4.93	68	4.91	138	4.92
60+	65	4.58	62	4.48	127	4.53
Total	1419	100	1384	100	2803	100

Table 6.4 : percent distribution of Oraon population in different age-sex group in 2000.

Age groups	Male		Female		Total	
	Number	%	Number	%	Number	%
0-4	135	16.46	120	16.99	255	16.71
5-9	115	14.02	100	14.16	215	14.09
10-14	85	10.37	75	10.62	160	10.48
15-19	70	8.54	60	8.50	130	8.52
20-24	65	7.93	53	7.51	118	7.73
25-29	55	6.71	50	7.08	105	6.88
30-34	50	6.10	45	6.37	95	6.23
35-39	48	5.85	40	5.67	88	5.77
40-44	45	5.49	38	5.38	83	5.44
45-49	41	5.00	35	4.96	76	4.98
50-54	39	4.76	32	4.53	71	4.65
55-60	37	4.51	30	4.25	67	4.39
60+	35	4.27	28	3.97	63	4.13
Total	820	100	706	100	1526	100

6.4.5 Sex ratio of Santal, Munda and Oraon:

The sex distribution pattern extends beyond its demographic domain into wider realms of ecological and economical perspectives of a community. Sex ratio measures the balance between males and females in human population. Large imbalances in this aspect affect the ecologic, economic and social status of life in many ways. In a population closed to migration, the sex ratio is an indicator of the sex differential in mortality. A higher or lower sex ratio reflect the status of the socio-cultural maternal and child health care programmes existing in the population. Thus it is required to study the sex distribution in different age groups to determine the planning strategies for the well being of a community.

The sex composition of the population in India is found to be favourable to males. Female disadvantage in mortality attributed as the cause for the low sex ratio [females/thousand males over the last 30 year i.e 941 (1961), 930 (1971), 935 (1981), 927 (1991)].

The sex ratios of males /100 females in santal, Munda and Oraon populations belonging to different age groups for the year 2000 at Hili Block are presented in table - 6.5, 6.6 & fig. 6.4. The

sex ratio in all age groups among the santals, Mundas and Oraons were in favour of males. Sex ratios for the broader age groups of santal, Munda and Oraon at the Hili Block; Toto and non Toto at Totopara, Jalpaiguri; Malanesia (a developing region) and Europe (a highly developed region) are shown in table -6.6. In general, among the Santals, Mundas and Oraons, the sex ratio was infavour of males which were close to the Totos and non Totos (Pal & Sinha, 1988).

Table - 6.5 : Sex ratio in different age groups among the santals, Mundas and Oraons:

Status	Age groups in years	Sex Ratio (Male / 100 female)		
		Santal	Munda	Oraon
Infant	0-4	105.15	100.89	112.50
Sub adult	5-19	103.27	102.34	114.89
Adult	20-60	109.08	102.98	117.64
Old	60+	120.00	104.84	125.00
Total	0-60+	107.06	102.53	116.15.

Table - 6.6 : Sex ratio of broad age groups among the Santals, Mundas and Oraous (2000), Malanesia and Europe.

Place	Community	Age groups in years				Source
		0-14	15-60	60+	Total	
Hili Block	Santal	104.73	107.74	120.00	107.06	Present study Do Do
	Munda	101.65	102.96	104.84	102.53	
	Oraon	113.56	117.49	125.00	116.15	
Totopara	Toto	102.40	98.50	122.50	101.10	Pal & Sinha
	Nontoto	105.60	112.80	110.90	107.40	
Malanesia	1965	107.10	*112.30	105.70	109.90	U.N., 1973
Europe (excluding the U.S.S.R),	1965	104.80	*95.30	**66.60	94.10	U.N., 1973

* Sex ratio of 15-64 years age group

** Sex ratio of 65+ years age group.

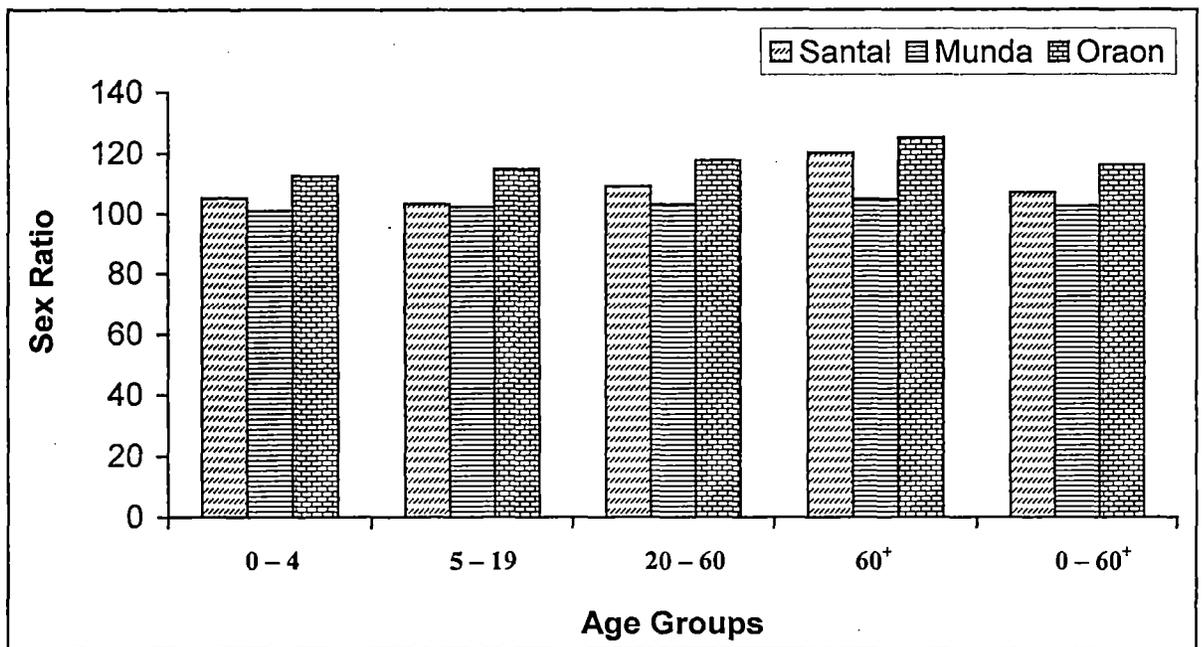


Fig. 6.4 : Sex ratio among the Santals, Mundas and Oraons in 2000.

This trend was similar to those found in case of over all India and Malanesia, a small developing region in Oceania, This was however, did not agree with the trends found in Europe, a highly developed region. In developed regions the sex ratio at birth was usually infavour of males but due ot higher mortality of males in all age groups, the ratio swunged infavour of females with advance in age.

6.4.6 Family structure of Santals, Mundas and Oraons :

The structure and variations in the size of the families and household and the factors affecting them form comparatively a new field of demography. In demography, family is considered to be one of the most important concepts, for it is the family or household and not the individuals which is the unit of statistical enumeration of the study of income maintenance, economic dependency, saving, fertility, migration, social welfare and various other things (U.N., 1973). The development of the ideas pertaining to 'families life cycle' and 'unclearisation' of the families may be described as direct outcomes of studies on the families.

Family is defined by various authors in various ways. Consideration of essential components of a family in the present study may be stated as follows:

- (i) a group of social individuals living together in a common residence.
- (ii) having relationship among themselves through socially regulated reproduction and blood.
- (iii) Shairing common source of socio economic facilities.
- (iv) The association is usually stable (U.N., 1973; Murdock, 1949)

During the course of present study the number of santal, Munda and Oraon families were recorded to be 587, 592 and 324 respectively at the Hili block of the ITDP Mauzas.

Table 6.7 shows the percent distribution of family sizes among the Santals, Munda and Oraon at Hili Block for the year 1995 and 2000. Five categories of family sizes were considered for convenience i.e, 1 member; 2-3 members; 4-5 members, 6-7 members and 8+ members units. It is observed that single member families are decreased among the santals, Mundas and Oraons in 2000 in comparison to 1995. Single member families among the tribals were mainly represented by the persons belonging to DWS (divorced widowed and separated) category and a small number were formed primarily by male immigrants from other areas. Recent increase in 2-3 membered families among Mundas and Oraons and 4-5 members families among santals and Oraons in the main reflects the effect of increased growth rate coupled with a traditional custom where by the married children live separately from their parents along with a share of parental property. Of these three communities Oraons are most choiced to shift from large sized family to small sized family due to better handling and management Nowadays . they are trying to follow the family structure of nontribal general ethnic communities. In general, data showed a shift in percent distribution in large sized families i.e, 6-7 membered among all the societies in 2000 from 1995. This situation was probably dictated by socio-economic demand for a large labour force required in agricultural and agricultural gatherer communities. However, in adequate economic resources and land holding, seem to have played an important role in limiting the number of a large membered families more among the tribals. At present the average family size of 4.34; 4.71 and 4.65 among the santals, Mundas and Oraons respectively which were better than the Totos i.e. 6.00 (Pal and Sinha, 1988)

The analysis of family structure of the santals, Mundas and Oraons at Hili block showed that there were -

- (i) non-familial or single member unit.
- (2) conjugal unit (husband and wife).
- (3) elementary family unit (Parent with unmarried children).
- (4) extended or patrilocal joint familial unit (parent with married children).
- (5) any unit with patri and matrikin's.

Table - 6.7 Percent distribution of different family sizes among the santals, Mundas and Oraons (1995 and 2000).

Ethnic community	Number of members in a family	Year	
		1995	2000
S			
A	1	4.31	3.41
N	2-3	33.54	28.79
T	4-5	40.57	45.83
A	6-7	18.17	16.18
L	8+	3.41	5.79
Total No. of Family -		552	587
M	1	2.10	2.03
U	2-3	15.35	18.24
N	4-5	45.19	42.40
D	6-7	32.17	30.07
A	8+	5.19	7.26
Total number of family		573	592
O	1	3.21	1.85
R	2-3	24.24	25.30
A	4-5	42.11	49.38
O	6-7	24.23	18.42
N	8+	6.21	5.05
Total no. of family		303	324

Table - 6.8 shows percent distribution of different familial units for the year 1995 to 2000 among the tribal communities at Hili Block. Elementary family type constituted more than half of the total familial units among all of the Santals, Mundas and Oraons. It is cleared that elementary familial units increased remarkably in 2000 at the cost of patrilocal joint familial units.

In 1995 the Santals and Mundas presented exactly opposite picture with regard to percent young conjugal unit. At present the ratio of young and old conjugal units were approximately 1.3:1; 1: 2 and 3:1 among the santals, Mundas and Oraons respectively.

Table - 6.8 Percent distribution of family types among the Santals, Mundas and Oraons. (1995 to 2000)

Community	Year	Non-familial unit		Conjugal unit		Elementary familial Unit	Extended or patrilocal familial Unit	Any units with patri or matrikins	Total
		Man	Woman	Young	Old				
S A N T A L S	1995	1.52	2.79	7.31	12.74	51.35	20.90	3.39	552
	2000	1.06	2.35	17.06	13.12	47.03	15.07	4.31	587
M U N D A S	1995	0.75	1.35	0.00	13.42	54.13	24.75	5.60	573
	2000	0.95	1.08	6.05	12.01	49.74	23.47	6.70	592
O R A O N S	1995	1.20	2.01	11.05	9.80	44.51	22.49	8.94	303
	2000	0.71	1.14	17.15	5.81	52.24	15.76	7.19	324

6.4.6.1 Marital Condition

The Santals, Mundas and Oraons are male dominated endogamous tribal community. In 2000, 587, 592 and 324 families were studied for the santals, Mundas and Oraons respectively. During the course of the present study, it is confirmed that intraclan marriage is not permissible among the three communities. It was observed that the communities encouraged monogamy but polygamy was not prohibited. Though Nika of widows was forbidden, polyandry is forbidden in all the three communities encouraged monogamy but polygamy was not prohibited. Though Nika of widows was forbidden, polyandry if forbidden in all the three communities. It may be mentioned that one could marry after one year from the death of the partner. Marriage between brothers and sisters and cousins were forbidden. Consanguineous marriages are common in the Kota tribes of Nilgiri District, Tamil Nadu, India (Siva kumaran, Karthikeyan, 1997). Exogamy is not practiced by the Santals, Mundas and Oraons though it is practiced among all the subsistence categories of the Gangte, a little known tribe from North east India, Manipur (Heman - Natabar - Shyam - Reddy -B-Mohan, 1998).

6.4.6.1.1 Among the santals :

No santal may marry within his own sept, nor within any of the Sub septs into which the sept is divided. He may marry into any other sept, including the sept to which his mother belonged.

A santal proverb says : no one heeds a cow track or regards his mother's sept. A man may not marry into the sub sept to which his mother belonged, though it is doubtful whether the santals observe this rule for as many generations in the descending line as is customary.

Pre marital sex is tacitly recognised, it being understood that if the girl becomes pregnant the young man is bound to marry her. If he refuses to marry her he would be severely beaten by the "Moroles" and in addition his father would be required to pay a heavy fine. Polygamy is not favoured by the custom of the tribe. A man may take a second wife if his first wife is barren, or if his elder brother dies, he may marry the widow. It appears that fraternal polyandry might times have existed among the santals. A man's younger brother may share his wife with impunity; only they must not go about it very openly. Similarly, a wife will allow her younger sister to develop intimate relations with her husband, and if pregnancy occurs scandal is avoided by his marrying the girl as a second wife.

The following forms of marriages are recognised by the Santals and distinguished by separate names :

(i) Regular marriage (bapla or kiring behu, literally bride-purchase); (ii) Ghardijawae; (iii) Itut; (iv) Nir-bolok; (v) Sanga and (vi) Kiringjawae.

6.4.6.1.2 Among the Mundas :

A Munda may not marry a woman of his own sept. The sept-name goes by the father's side and inter-marriage with persons nearly related through the mother is guarded against. As among the Santals premarital sex is tacitly recognised, but in all respectable families matches are made by the parents, and the parties themselves have very little say in the matter. The bride-price is still rupees twelve and a low if possible. Sindur-Dan, or the smearing of vermilion on the bride's forehead by the bridegroom and on the bridegroom's forehead by the bride, is the essential and binding portion. Marrying the bride to a Mahua tree and the bridegroom to a mango seems now to have been abandoned. A form of marriage, resembling the Santali nir-bolok still survive among the Mundas. It is called dhuko era, meaning a bride who has entered the household of her own accord.

However the children out of such marriage seem to have an inferior status in respect of their rights to inherit the landed property of their father.

Widows may marry again by the ritual known as sagai, in which Sindur-Dan is performed with the left hand. Divorced women are permitted to marry again. In cases of adultery the seducer is required to pay the husband the full amount of the bride-price.

6.4.6.1.3 Among the Oraons :

Infant marriage is entirely unknown among the Oraons. A few of the wealthier - men, who affect to imitate Hindu customs, have now taken to this practice, and marry their daughters before

they attain puberty. In general however, girls marry only when they are grown up, often following courtship during festivals and social gatherings of various kinds. Sexual intercourse before marriage is tacitly recognised, and is generally practiced.

A girl is usually taken to be a virgin at time of her marriage. sexual morality however, seems to be of little importance among the oraon community. An unmarried woman may bestow her favours according to her sweet will. If, however, she becomes pregnant, arrangements are made to get her married without delay, and she is then expected to lead a virtuous life.

When a young man makes up his mind to marry, his parents or guardians go through a process of bride selection. However the girl they ultimately select is always the one that the groom has already selected. The parents arrange all preliminaries, including the price of the damsel, which is traditionally rupees 125/- and six cloths. A number of visits are exchanged by the negotiators, when all is settled, the bridegroom proceeds with a large party of his friends & relatives to the bride's house. Most of males have war like weapons, real or sham and as they approach the village of the brides family the young men from the bride's family emerge, also armed, as if to repel the invasion and a sham fight ensues, which finally transforms to a pleasant dance. Soon the bride and bridegroom join, each riding on the back of one their friends. A bower is constructed in front of the residence of the bride's father, into which the bride and bridegroom are carried by women. A host of rituals follows. Finally the groom danbs vermilion on the forehead of the bride. The Oraons have no prescribed wedding garments. Nor any special days or seasons for marriages. The ceremony may take place in any month of the year. but the hot, dry months are generally preferred.

Polygamy is permitted among the Oraons and in there is no limit to the number of wives a man may have. This luxury, however, is but little sought after. The majority however content themselves with one. Widows may marry again, and are subject to no restrictions in selecting their second husband.

Divorce is readily effected at the will of either husband or wife. The consent of panchayet is not required. If a woman have children, her husband may be compelled to contribute to their maintenance if he divorces the mother on any ground other than adultery. Similarly, when a wife deserts her husband, her parents may be called upon to repay the bride-price which they received at her marriage. Divorced wife may marry again.

Social norms and customs associated with marriage ceremonies have important bearings on the demographic behaviour of a society.

Percent distribution of marital status of Santals, Mundas and Oraons are shown in table 6.9, 6.10 & 6.11 respectively. Of the 2582 Santals, 2803 Mundas and 1526 Oraons at Hili Block, 38.26%, 37.35%, 40.72% were in unmarried categories, whereas 59.15%, 59.25% and 57.01% belonged to married categories respectively. Percentage of DWS (Divorced - widowed - separated) categories 2.57%, 3.39% and 2.27% respectively. No marriage was reported below 10 years among the Santals, below 12 years among the Mundas, and below 11 years among the oraons. Majority number of males and females (30+) age groups (18.49% and 16.37%) were married among the Santals.

Table - 6.9 : Percent distribution of marital status of 'Santal' males and females in different age groups in 2000.

Age groups	Unmarried			Married			DWS			Total		
	♂	♀	Total	♂	♀	Total	♂	♀	Total	♂	♀	Total
↓15	18.31	12.45	30.76	1.40	6.37	7.77	-	-	-	19.71	18.82	38.53
15-20	2.74	1.99	4.73	2.00	2.60	4.60	0.10	0.21	0.31	4.84	4.80	9.64
20+ - 25	0.67	0.41	1.08	2.95	2.96	5.91	0.21	0.27	0.48	3.83	3.64	7.47
25+ - 30	0.45	0.24	0.69	2.97	3.04	6.01	0.22	0.32	0.54	3.64	3.60	7.24
30+ ↑	0.67	0.33	1.00	18.59	16.37	34.96	0.91	0.73	1.24	19.67	17.43	37.10
Total	22.84	15.42	38.26	27.81	31.34	59.15	1.04	1.53	2.57	51.69	48.29	100.00

Table - 6.10 : Percent distribution of marital status of 'Munda' males and females in different age groups in 2000.

Age groups	Unmarried			Married			DWS			Total		
	♂	♀	Total	♂	♀	Total	♂	♀	Total	♂	♀	Total
↓15	18.20	12.05	30.25	1.45	7.12	8.57	0.11	0.27	0.38	19.76	19.44	39.20
15-20	2.35	1.98	4.33	1.93	2.12	4.05	0.29	0.36	0.65	4.57	4.46	9.03
20+ - 25	0.69	0.42	1.11	3.27	3.40	6.67	0.32	0.39	0.71	4.28	4.21	8.49
25+ - 30	0.41	0.26	0.67	3.45	3.35	6.80	0.35	0.42	0.77	4.21	4.03	8.24
30+ ↑	0.68	0.31	0.99	16.75	16.41	33.16	0.37	0.51	0.88	17.80	17.23	35.03
Total	22.33	15.02	37.35	26.85	32.40	59.25	1.44	1.95	3.39	50.62	49.37	100.00

Table - 6.11 : Percent distribution of marital status of 'Oraon' males and females in different age groups in 2000.

Age groups	Unmarried			Married			DWS			Total		
	♂	♀	Total	♂	♀	Total	♂	♀	Total	♂	♀	Total
↓15	20.74	12.37	33.11	1.21	6.96	8.17	-	-	-	21.95	19.33	41.28
15-20	3.18	2.00	5.18	2.16	2.39	4.55	0.10	0.20	0.30	5.44	4.59	10.03
20+ - 25	0.63	0.35	0.98	3.37	2.77	6.14	0.13	0.29	0.42	4.13	3.41	7.54
25+ - 30	0.31	0.21	0.52	3.00	2.63	5.63	0.23	0.37	0.60	3.54	3.21	6.75
30+ ↑	0.62	0.31	0.93	17.60	14.92	32.52	0.45	0.50	0.95	18.67	15.73	34.40
Total	25.45	15.24	40.72	27.34	29.67	57.01	0.91	1.36	2.27	53.73	46.27	100.00

DWS - Divorced - Widowed and separated; - means not available.

Similarly majority males and females of (30+) age groups (16.75% and 16.41%) of Mundas and Majority males and females (17.60% and 14.92%) of Oraons of the same age groups were married. Unmarried tribal people are rather common in the middle age group (15-20). Physically and mentally disabled individuals were accounted for most of the aged unmarried tribals.

Percent distribution of males and females in the married category was in favour of the males among the Santals, Mundas and Oraons. Among the Santals, Mundas and Oraons DWS persons were found in the younger age groups, even in the (15-20) years age group also. Early marriage among the tribals accounted for occurrence of DWS persons in the younger age groups. Remarriage on the other hand reduced the number of the DWS category.

6.4.6.2 Family life cycle and headship:

The most widely accepted family life cycle is described by Glick and Parke (1965), and is as follows :

- (i) Family formation : First marriage.
- (ii) Opening of Child bearing : Birth of first child.
- (iii) End of child bearing : Birth of last child.
- (iv) Empty nest : marriage of last child.
- (v) Family dissolution : death of one spouse.

Headship status and dynamics of family life cycle among the three tribal communities were strongly governed by the socio-economic considerations, natality fertility, mortality and life expectancy of the community.

It may be mentioned that the three communities at Hili Block are mostly similar in the basic socio-economic aspects such as : mode of subsistence, age at marriage, immigration, casteism, inheritance of parental property and attitude to tradition and modernisation. :

No significant differences were found in family structure of the communities. It is reported that the community had significant differences only, about one or one and half decades ago.

6.4.7 Fertility :

Fertility is one of the most important and complex physiological process ensuring perpetuation of species. It is influenced by a multitude of Socio-economic, cultural, genetical, disease and health factors (UN, 1973; Nag 1962; Benedict, 1972). Generally, fertility among the tribals is high and varies from one tribe to another. For example, fertility was twice as high in the developing as in the more developed regions of the world. Though fertility is a biological phenomenon there are a number of factors that influence the levels and differentials of fertility among tribals. Demographers usually measure the fertility differentials by looking at such dimensions as land, income, occupation, education, family type etc., of women. It is understood that some of these variables are not relevant for the tribal population. Because, tribals usually own very meager assets and most of them work in traditional occupations and the majority of them are below the poverty line. When such is the situation, measuring fertility differentials using these variables for tribals may not provide good insights. Cultural practices also important factors in demography of ethnic groups.

According to Mazumdar (1947) economic conditions are largely responsible for these variations. During field studies, he collected information on children ever born and children surviving among six tribes. He estimates high fertility among tribals (for example, Ho 6.2; Oraon 6.0; Kuki 6.5 Khond 7.2; Tara 6.6 and Saora 5.7). Evidences of Verma (1977) obtained high fertility for Santals (6.96) and Birhor (6.33) in Bihar in (45-49) years age groups.

In the present study the fertility rate were 5.3, 6.0 and 5.0 for the Santals. Mundas and Oraons in the 30-45 years age groups. Sekar - A - Chandra; Xaviour -D; Sirajuddin - S.M (1998) Stated that the percentage of fertility component is more than 3 times to that of mortality component among the Koraga tribe of Karnataka. The study of the factors associated with fertility assumed great importance in view of achieving optimal growth and development of a society. Various aspects of fertility among the Santals, Mundas and Oraons at Hili Block region are discussed.

Data obtained from interviewing all the heads of the family or their wives at Hili Block. Collection of data were cross checked from several sources. The factors associated with fertility discussed in the portion as follows :

- (i) age at puberty.
- (ii) age at marriage.
- (iii) ratio of married males and females .
- (iv) birth rate.
- (v) child-women ratio.
- (vi) child survival rate.
- (vii) total and gross fertility rate
- (viii) order of birth, according to the age of mother including foetal wastage.
- (ix) seasonality of birth, attitude measures and customs related to fertility.

6.4.7.1 Puberty :

The transitional stage of life characterized by gradual appearance of physical features secondary sexual characters subsequently leading to adulthood is described as puberty. This period starts by the appearance of the first oestrus or menstruation cycle in the females. Age at menarche varies according to geographical location, ecological set up, economic and social environment of the community.

Table - 6.12 describes the mean menarcheal age for the three ethnic communities into five different age groups. The menarcheal age is lower in the higher age groups than in the lower for the Santals and Mundas. But in the Oraons opposite picture is obtained. They attain later puberty from the past to present possibly due to malnutrition, different socio-economic and environmental factors lack of consciousness and sexual unawareness etc. A total of 471 Santals, 460 Mundas and 280 Oraon women were considered for this study. No Santal girl had her first period not below the age of eleven and last period within $14\frac{1}{2}$ years of age. In Mundas this period started first at the age of $11\frac{1}{2}$ year and last period was within $14\frac{1}{2}$. But for the Oraons, they had their first period not below the age of twelve years and above up to fifteen years. Fig- 6.5 showed the mean age at menarche among the Santals, Mundas and Oraons, Mazumder (1947) started that 78.4% tribal (mainly of North India) girls and 92% among girls of all races in India menarcheal period started between (10-14) years of age which holds good for the Santals, Mundas & Oraons at Hili Block.

Table - 6.12 Showing mean age at puberty in the three ethnic communities (Santal, Munda and Oraon) at Hili Block.

Ethnic communities	Age groups (in years)				
	11-20	20+ -30	30+ -40	40+ - 50	50+
Santal	12.34 (112)	12.60 (84)	12.78 (90)	13.00 (85)	13.24 (100)
Munda	12.42 (100)	12.61 (80)	12.79 (85)	12.95 (95)	13.19 (100)
Oraon	13.12 (55)	12.96 (65)	12.75 (60)	12.68 (50)	12.53 (50)

*Figures in the paranthesis indicate sample size.

Table - 6.13 shows the frequency occurrence of Santal, Munda and Oraon girls according to age at menarche. For this specific study a total of 198 santals, 223 Mundas and 75 Oraons women were considered. The mean menarcheal age among the Santals, Mundas and Oraons were 12.65 years (SD = 1.41; co-efficient of variance i.e. cv = 11.15%) ; 12.72 years (SD= 1.26, CV = 9.91%) and 13.65 years (SD = 0.94; CV = 6.89%) respectively. The Santal, Munda and Oraon societies are significantly differed among themselves on the age of women experiencing their first meanstrual period.

Table - 6.13 Distribution of age at puberty among the Santals, Munda and Oraon females (1996-97)

Age of menarche	Frequency of Occurrence		
	Santal	Munda	Oraon
10-11	41	37	Nil
12-13	101	125	32
14-15	56	61	43

$\bar{X} = 12.65$
SD = 1.41
CV = 11.15

$\bar{X} = 12.72$
SD = 1.26
CV = 9.91

$\bar{X} = 13.65$
SD = 0.94
CV = 6.89

6.4.7.2 Age at marriage : The age at marriage of girl depends on social values. Among the tribals, virginity is not very much valued. Many of the tribal societies were lax towards premarital sex relations which were negotiated or otherwise. Marriage ceremony of these communities consisted of two parts. The first part started as a training in the art of love and sex life and when the couple was allowed to stay together, often ended in marriage (Vidyarthi and Rai, 1977). Girls were given marriage generally when they attain puberty in majority of the tribal societies. Age at marriage of the females strongly influences the levels of fertility. Data from different regions of the world showed that the number of children born were significantly higher in women married at early

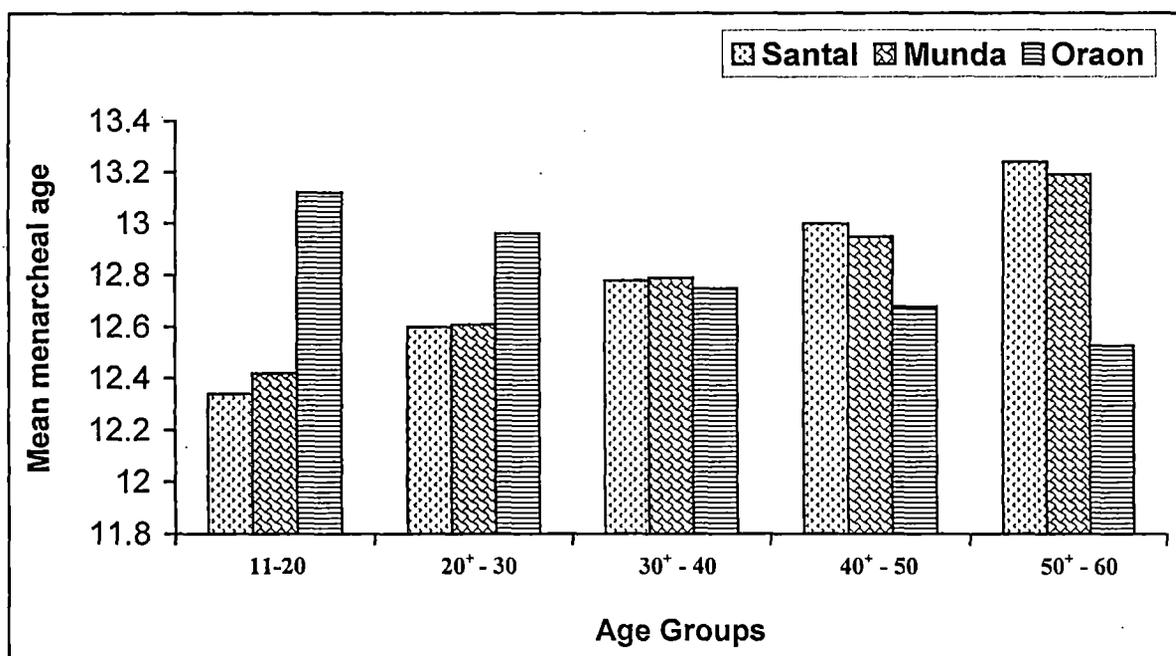


Fig. 6.5 : Illustrates mean menarcheal age among the Santals, Mundas and Oraons at Hili Block.

than late in life (Glass and Grebenik, 1954; UN, 1961).

Age at marriage, here has been used to mean age of socially accepted sexual union between men and women. In 1976, Government of India, increased the age of marriage of girls and boys to 18 and 21 years respectively, as one of the population control policies. However, this limit was not enforced on small ethnic communities.

According to 1971 census at the national level, the age at marriage for tribal women was higher (16.39) than that of the rural women in general (15.39). The mean age at marriage of the tribal females in Assam, Gujarat, Himachal Pradesh, Kerala, Manipur, Meghalaya, Nagaland, Andaman and Nicobar Islands and Arunachal Pradesh was more than 18 years, the highest being in Nagaland (21.33). On the other hand, it was less than 15 years in Rajasthan and Uttar Pradesh, lowest being in Uttar Pradesh (14.50).

There were a few micro-level studies which dealt with the age at marriage of individual tribes i.e. female age at marriage - Ao Naga (16-20 years), Bbil (16 yrs), Chenchu after puberty, Khasi (13-18 yrs), Koli (12-16 yrs.), Bodh (19yrs), Gond (18 yrs), Munda (18 yrs), Oraon (16 yrs) (Sinha, 1986) Mean age at marriage of jaunsads was 12.2 yrs., Dudh Kharias, 21.41 yrs., and santals - 17.87 yrs (Basu, 1993).

In the present study age at first marriage of 202 Santals, 201 Mundas and 150 Oraons women were 18.19, 18.45 and 18.60 yrs respectively which compares well with Basu (1993) and for Totos 16.78 yrs.(Pal & Sinha, 1988).

Highest percentage of marriage occurred in the 15 - 20 years age groups for all the three communities. Most marriages occurred in the 15 - 20 yr. group where at least or negligible in the 30+ year group. in all communities (Table 6.14).

Table - 6.14 Showing mean age at first marriage in the three ethnic communities at the Hili Block.

Ethnic Communities	Age groups in years					Total
	↓15	15 - 20	20+ - 25	25+ - 30	30+↑	
Santal	13.09 (49) (24.25)	17.91 (109) (53.96)	23.56 (34) (16.83)	27.67 (09) (4.46)	31.00 (01) (0.50)	202
Munda	13.20 (42) (20.90)	17.90 (111) (55.22)	23.29 (38) (18.91)	28.27 (10) (4.98)	Nil	201
Oraon	13.25 (28) (18.67)	17.98 (88) (58.67)	23.38 (27) (18.00)	28.36 (6) (4.00)	35.00 (01) (0.67)	150

*Figures in the parantheses indicate sample size and percentage.

Nowadays, the Oraons are avoid to celebrate the marriage ceremonies of their daughter be-

low 15 years due to late puberty, population control, to avoid foetal wastage and mothers death at the time of child birth.

6.4.7.3 Child woman ratio :

Child woman ratio is described as the number of child present per hundred women of child bearing age. The child-woman ratio is often employed by the demographers as an index of fertility particularly in situations where birth statistics are inadequate. The index can be computed from age-sex distributions of census data by the following formula :

$$\text{Child woman ratio (CWR)} = \frac{P_x}{F} \times 100$$

Here, P_x = Number of children in the (0-4) years age groups.

F = Women of child bearing age (14 - 45) years.

There is some hereditary limitations in CWR as it does not make provision for

- (i) misstatement of age of both children and women under enumeration.
- (ii) mortality either children or women.
- (iii) a precise specification of the population that bore the children content in the enumerator.

However, CWR is not one of the most widely used measures to determine the women of child bearing age of small communities confined to small areas where birth statistics were inadequate.

The CWR of Oraon (82.79%) and Munda (74.42%). The CWR of the Santals, Mundas and Oraons can be compared with the Totos at Totopara (82.00% Pal and Sinha 1983) and 70.8% among the Kaoras of West Bengal (Pakrashi and Dasgupta, 1982). One of the main causes for high CWR among the ethnic communities is due to the fact that almost all women in the (15 - 49) years age groups are married. Table 6.9, 6.10, 6.11 shows 2.97%, 2.97% and 2.87% unmarried women in the 15-30+ years age groups among the Santals, Mundas & Oraons.

6.4.7.4 Crude birth rate (CBR) :

The fertility performances of a woman varies according to age and duration of married life. If the duration of marriage increases 20 years in non-contraceptive communities women may give birth to more children. Generally, fertility is higher among women of the younger age group than in the older ones.

The most common indicator for measuring the fertility in a community is the crude birth rate (CBR), usually represented by the number of live births per 1000 mid year population.

$$\text{i.e., CBR} = \frac{B}{P} \times 1000$$

Here, B = The total number of live births that occur during a calendar year.

P = Total population of a mid calendar year.

Table - 6.15 describes the distribution of crude birth rate (CBR) among the Santals, Mundas and Oraons for a period of six years from 1995 to 2000. Data were collected from field

survey during the period 1995 - 2000. Tribal CBR compares well with those of Bihar in 36.1 and 32.0 in West Bengal (Agarwala, 1972) but do not match with those of the developing regions of the world (1965-70) such as 49.0 of Western Africa (U.N., 1973), the eastern states i.e. 45.5 for Assam, (Agarwala 1972) CBR from 52 to 71 for a culturally transitional hunter gatherer tribe as Bisman Asmat of Papua New Guinea (Van Arsdale, 1978). CBR of rural India declined from 40.4 in 1965-67 to 32.8 in 1969.

Table - 6.15 Crude birth rate among the Santals, Mundas and Oraons at Hili Block from 1995 to 2000.

Year	Crude birth rate (CBR) Per 1000		
	Santal	Munda	Oraon
1995	35.44	36.18	32.28
1996	37.51	36.12	32.35
1997	35.77	36.95	32.98
1998	36.83	36.53	34.22
1999	36.63	36.59	34.78
2000	27.95	37.46	35.39

6.4.7.5 General Fertility Rate (GFR) (2000 - 2001)

Number of births per year per 1000 women of child-bearing ages is referred to as general fertility rate (GFR) and may be expressed as follows :

$$\text{GFR} = \frac{B}{F} \times 1000$$

Here, B = The total number of births that occur during a calendar year.

F = The total number of women of child bearing reproductive age.

GFR is one of the most important practices for measuring fertility though it is less precise and have some obvious limitations. The chief virtue of GFR is that it removes from the denominator most of the population that is not directly exposed to child-bearing, female children and women who have passed menopause. On account of this, it is a more important acceptable measure of fertility levels. The practice of using the female population is widely accepted as standard procedure (Bauge, 1971).

The general fertility rate (GFR) of Santals, Mundas and Oraons at Hili block were 180.15, 182.61 and 184.30 per 1000 females of reproductive age respectively (Table 6.16, 6.17 and 6.18) The GFR of West Bengal was 201 and 139 per 1000 of reproductive females for 1967 - 1968 and 1971 respectively and 171.1 for India in 1970 (Mehta, 1978). The GFR among the Santals and Mundas were lower than that of the Oraons. The GFR of Oraons can be comparable with West

Bengal in 1967. The GFR of Oraons is higher than the non-Totos (121.10) but is lower than the Totos (233.7 : Pal and Sinha, 1988)

6.4.7.6 Age specific fertility rate (ASFR) :

The frequency of child bearing of women within a population remarkably varied from one age group to another. The schedule of age specific fertility rate at a given period provides more precise important information about the child bearing activity of a population. Usually it is calculated for the whole reproductive age of females i.e, 15 to 49 years divided into five (5) years age intervals. Bauge (1971) concluded that the shape of the age specific fertility curve is determined by collective interaction of a definite set factors such as :

- (i) The distribution of age at marriage.
- (ii) The proportion of women of each age who were co-habiting either with or outside marriage.
- (iii) The distribution of sterility and subnormal fecundity by age.
- (iv) The distribution of age and birth order with regard to use of birth control.

The difference in these factors must be understood interms of fertility with in a population . Age specific fertility rate is calculated as follows :

$$nfx = \frac{nBx}{nFx} \times K [K = 1.0422222]$$

Where, nfx is age specific fertility rate of females aged x to x + n years.

nFx is the number of females aged x to x + n year.

nBx is the number of births to females aged x to x + n years during a calender year.

K is a constant.

Table - 6.16 Age specific fertility among the Santals (2000- 2001)

Age of women in years	Total number of mother in this group	Total no. of births in this group	Average No. of birth per women in 12 months proceeding the survey	adjusted age specific fertility rate
15-20	124	28	0.226	0.236
20+ - 25	94	20	0.213	0.222
25+ -30	89	15	0.169	0.176
30+ - 35	84	14	0.167	0.174
35+ - 40	79	12	0.152	0.158
40+ - 45	74	09	0.122	0.127
45+ - 50	-	-	-	-

The general fertility rate (GFR) is calculated per 1000 to be 180.15 for the Santals. From age specific fertility rate; total fertility rate is obtained as 5.47 and gross reproductive rate (GRR) as 2.68.

Table - 6.17 Age specific fertility among the Mundas (2000-2001)

Age of women in years	Total number of mothers in this group	Total no. of births in this group	Average No. of birth per women in 12 months proceeding the survey	Adjusted age specific fertility rate
15-20	125	30	0.240	0.250
20+ -25	99	24	0.242	0.252
25+ - 30	94	18	0.191	0.199
30+ - 35	91	15	0.165	0.172
35+ - 40	87	11	0.126	0.131
40+ - 45	79	7	0.089	0.093
45+ - 49	-	-	-	-

The general fertility rate (GFR) is calculated per 1000 as 182.61 for the Mundas. From age specific fertility total fertility rate is obtained as 5.49 and gross reproductive rate (GRR) as 2.67.

Table - 6.18 age specific fertility among the Oraons (2000-2001)

Age of women in years	Total number of mothers in this group	Total no. of births in this group	Average No. of birth per women in 12 months proceeding the survey	Adjusted age specific fertility rate
15 - 20	70	17	0.243	0.253
20+ -25	53	12	0.226	0.236
25+ - 30	49	11	0.224	0.233
30+ - 35	44	06	0.136	0.142
35+ - 40	39	05	0.128	0.133
40+ - 45	38	03	0.079	0.082
45+ - 49	-	-	-	-

The General fertility rate (GFR) is calculated per 1000 as 184.30 for the Oraons. From age specific fertility total fertility rate is obtained as 5.40 and gross reproductive rate (GRR) as 2.80.

The tables 6.16, 6.17 & 6.18 shows the current and adjusted age specific fertility rate per santal, Munda and Oraon women of reproductive age at the Hili Block for the year 2000-2001. Adjustment of age specific fertility rate was done by using the factor P3/F3 through current age specific fertility following demeny (1971). The table 6.16 shows that the most potentially fertile group among the Santals is (15-20) years age group and then fertility started to decline. Table 6.17 described for the Mundas at Hili block that the maximum fertility potential group was 20+ - 25 and the fertility started to decline after that age group. The table 6.18 showed that the most potentially fertile group for the Oraons were (15-20) and then fertility started to decrease the fig. 6.6 showed the trends of age specific fertility among the Santals, Mundas and Oraons at the Hili Block region. Higher fertility in the (15-25) age groups onwards was similar to that of south European migrants in Australea, which Cladwell et.al. (1973) and Yusuf and Eckstein (1980) described to the use of less efficient contraceptive methods.

6.4.7.7 Total fertility rate (TFR) :

Total fertility rate (TFR) presents the overall measure of fertility obtained by summing the age specific fertility rates for each year of the child bearing period of women. It provides the number of children per women would bear during their life spans if they were to bear children through out their lives at the rates specified by the schedule of age specific fertility rates for a particular year. A similar measure i.e. the gross reproductive rate (GRR) is identical to TFR except that it refers to female births only which is described by some Demographers. Emperically TFR may be represented as follows:

$$TFR = n \sum_{W_1}^{W_2} f_x$$

Where, $n \sum_{W_1}^{W_2} f_x$ = The sum of age specific fertility rate.

fix = the lower and upper age limits of the female reproductive period W_1 and W_2 i.e., 15 - 49, and

n = the age interval i.e., 5.

The Gross reproductive rate (GRR) may be emperically expressed as follows :

$$GRR = \frac{f_x}{B_x} \times nf_x$$

Where, f_x = the total number of female births that occur during a calender year.

B_x = the total number of births during the same year.

nf_x = the total fertility rate of women aged x to $x + n$ years.



Fig. 6.6 : Age specific fertility among the Santals, Mundas and Oraons at Hili Block (2000-2001)

The total fertility rate (TFR) and gross reproductive rate (GRR) of the Santals were calculated from the adjusted age specific fertility (Table - 5.18, 5.19 and 5.20) and the calculated TFR and GRR were 5.47 and 2.68 respectively for 2000-2001. TFR of the Mundas and Oraons were 5.49 and 5.40 where as the GRR were 2.67 and 2.80 respectively for the same period. The value of TFR of the tribals were more or less parallel and can be compared to 4.42 of West Bengal, 5.53 of India in 1970 (Mehta, 1978) but lower than the Totos (8.45) in 1981-1982 (Pal and Sinha - 1988). The TFR values of the Santals, Mundas and Oraons were lower than 6.28 for the Namasudras, (Basu et.al.,1980; Mukhopadhyay, 1981). Similarly GRR of the tribals were also similar but lower than the Totos [(4.38) Pal and Sinha - 1988]. The number of children born alive per women in agricultural communities in India varied from 4.9 (Driver -1963) 5.0 -5.6 (United Nation, 1961) to 7.1 and 7.38 (Saxena, 1959 and Agarwala, 1972) Coale (1974) reported that no definite sizable population was observed with total fertility greater than 8 births pre women.

6.4.7.8 Children Even-born and Survive:

Marriage was common and almost ubiquitous among was the Santal, Munda and Oraon communities. The divorced - widowed - separated i.e the DWS persons get married at the earliest opportunity. All female spouses were considered here as ever married women. The number of children everborn to ever married women were rerecorded irrespective of the number of marriages.

The table 6.19 shows the average number fo children everborn per ever married Santal, Munda and Oraon women at the Hili Block. Substantially, the average number of live births in the 25 yrs, and below age groups among Santal, Munda and Oraon females more or less similar but in the 45+ years age group the said number was higher among the Mundas. This indicated that the average size of family of completed fertility were similar for all of the three communities.

Table : 6.19 Average number of Children ever born per even married woman 2000-2001.

Age of women in years	Total number of women surveyed	Average number of children women	Average number surviving Children per women
Santal:			
25	51	0.88	0.82
25+ - 35	48	3.58	3.50
35+ - 45	40	5.20	4.98
45+	31	6.06	5.70
All ages	170	3.61	3.44
Munda :			
25	55	0.96	0.87
25+ - 35	49	3.63	3.55
35+ - 45	42	5.24	4.98
45+	29	7.00	6.48
All ages	175	3.74	3.54
Oraon :			
25	48	0.77	0.71
25+ - 35	40	3.13	3.03
35+ - 45	35	5.43	5.14
45+	27	5.67	5.44
All ages	150	3.37	3.21

6.4.8 Pregnancy, births, conception and family planning

Pregnancy order indicates the level of fertility. A higher proportion of low order and high order births in a population with uncontrolled fertility indicate lower and higher fertility respectively. It is observed that there are some differences in first three order of births between rural and urban areas, and on average about 20% of all births in India are of sixth and higher order (Agarwala, 1972; Mosher, 1979; Kramer, 1987; and Park, 1997). Nowadays, family planning methods are accepted slowly in the tribal communities in India and it is also in practice among the Santals, Mundas and Oraons of the Study area. Lack of knowledge of contraceptive methods can be a major obstacle to their use. We obtained information on awareness and use of contraceptive methods by asking each respondent.

Table 6.20 shows that percent females completing their 1st order of pregnancy up to 20 years age group were lower among the Oraons (13.44%) than the Santals (14.98%) and Mundas (17.21%). Fig - 1 showed the distribution of pregnancy by pregnancy order among the three ethnic communities.

Table - 6.20 Distribution of Santal, Munda and Oraon Mothers completed pregnancy up to 2001, by pregnancy order and age.

Community	Age of mothers (in yrs.)	No of female in order of pregnancy				Total
		1	2-3	4-5	6+	
S A N T A L S	20 & below	29 (5.87)	05 (1.01)	-	-	34 (6.88)
	20 ⁺ -30	45 (9.11)	65 (13.16)	49 (9.92)	11 (2.23)	170 (34.42)
	30 ⁺ -40	-	04 (0.81)	32 (6.48)	115 (23.28)	151 (30.57)
	40 ⁺ & above	-	-	41 (8.30)	98 (19.84)	139 (28.14)
	All ages	74 (14.98)	74 (14.98)	122 (24.70)	224 (45.35)	494 (100.01)
M U N D A S	20 & below	41 (7.93)	02 (0.39)	-	-	43 (8.32)
	20 ⁺ -30	48 (9.28)	65 (12.57)	61 (11.80)	15 (2.90)	189 (36.56)
	30 ⁺ -40	-	-	30 (5.80)	95 (18.38)	125 (24.18)
	40 ⁺ & above	-	-	45 (8.70)	115 (22.24)	160 (30.95)
	All ages	89 (17.21)	67 (12.96)	136 (26.31)	225 (43.52)	517 (100.00)

Contd. Table - 6.20

Community	Age of mother (in yrs.)	No of female in order of pregnancy				Total
		1	2-3	4-5	6+	
O R A O N	20 and below	16 (4.78)	-	-	-	16 (4.78)
	20+ - 30	27 (8.06)	37 (11.04)	20 (5.97)	10 (2.99)	94 (28.06)
	30+ - 40	-	10 (2.99)	30 (8.96)	57 (17.01)	97 (28.96)
	40+ and above	02 (0.60)	10 (2.99)	37 (11.04)	79 (23.58)	128 (38.21)
	All ages	45 (13.44)	57 (17.02)	87 (25.97)	146 (43.58)	335 (100.00)

Figures in the parantheses indicate %

6.4.9 Seasonality of birth :

Seasonality of birth among humans has received less than expected attention from demographers. Guha (1997) documented demographic significance of these seasonal patterns. Interest about seasonal pattern of human births in more than a century and half old (Heape, 1909; Westermarc, 1922). Recent studies indicate that seasonality fo birth is substantially influenced by a broad based ecological background comprising of a complex mosaic of environmental, physiological and cutural variables (Gunn, 1992; Gerocia- Mora, C. 2000). This include temperature in the month of conception (Takahashi, 1964; stoeckel and Choudhury, 1972), heatstress, protein deficiency and poor nutrition during the warm months (Pasamanik et. al., 1959; Mc Donald, 1966; Malina and Himes, 1977; Wrigley et. al., 1997), cultural factors such as religions festivals (Takahashi, 1964; Johnson et. al. , 1975) and seasonal availability of food supply (Susheela et. al. 1991, Kishor et. al., 1999) Under nourished women tend to deliver low birth weight babies (Kramer, 1987) Women among less privileged communities in India era malnourished (Samuel and Rao, 1992) and their dietary energy intake is not adequate to compensate their heavy physical work load (Chatterjee and Lambert, 1990) Mosher (1979) from his studies on a fishing community in Taiwan claimed that the annual cycle of production was linked to conception through the intervening variable of diet particularly in populations where diet significantly varied in different seasons.

Table - 6.21 shows the number of births among santals, Mundas and Oraons according to different seasons. as well as months of the year for a seven years period starting from 1995 to 2001. Data is cross-checked with reference to the names of the children, their date of births and major events of the community from their parents and relatives and other sources where ever possible.

There were altogether 417, 436 and 266 live births among the Santals, Mundas and Oraons respectively. Percent births was highest in the winter months i.e November to February for Santal

47.00%, Munda - 47.24% & Oraon 51.12%. Highest live births of the Santals was 14.15% (in December), of the Mundas was 13.76% (in January) and of the Oraons was 17.29% in December. Birth rate gradually increased from summer to winter among the three communities. Incidence of births in different months of the year from 1995 to 2001 among the Santals, Mundas and Oraons is shown in fig - A.

Table - 6.21 Births according to different seasons / months of the year from 1995 to 2001 among the Santals, Mundas and Oraons.

Ave. Temp. °C	Ave. Rain fall m.m.	Season	Months	No. of Births					
				Santal		Munda		Oraon	
				No.	%	No.	%	No.	%
25.09°C	114.97	Summer	March	22	5.28	20	4.59	14	5.26
			April	23	5.52	24	5.51	15	5.64
			May	21	5.04	25	5.73	15	5.64
			June	27	6.47	24	5.51	14	5.26
			Total	93	22.31	93	21.34	58	21.80
26.41°C	343.97	Rainy	July	25	6.00	24	5.51	15	5.64
			August	31	7.43	35	8.03	15	5.64
			September	35	8.39	39	8.94	19	7.14
			October	37	8.87	39	8.94	23	8.66
			Total	128	30.69	137	31.42	72	27.08
16.24°C	32.36	Winter	November	52	12.47	55	12.61	36	13.53
			December	59	14.15	51	11.70	46	17.29
			January	49	11.75	60	13.76	31	11.65
			February	36	8.63	40	9.17	23	8.65
			Total	196	47.00	206	47.24	136	51.12

6.4.10 Seasonality of conception :

Conceptions appeared to be influenced not by and single factor but by a combination of several factors. Pandey (1994) considered sociological and biological explanations and concluded that "the seasonal component in human reproduction is based on biological factors." Of the high conception months, January and February was related to good nutritional period and frequency of social ceremonies; March and April was related to moderate environment and high frequency of social ceremonies; May was related to good nutritional period; July to December were related to slack period alone.

As described earlier as a agriculturer gatherer community the Santals, Mundas and Oraons mainly depend on the cultivation of paddy, wheat, and other cereals besides some other food items. They partly depend on fishing and hunting. Actually, the social and economic activities of the tribals were mainly settlement based, planting, harvesting and forest gathering constituted their sustenance

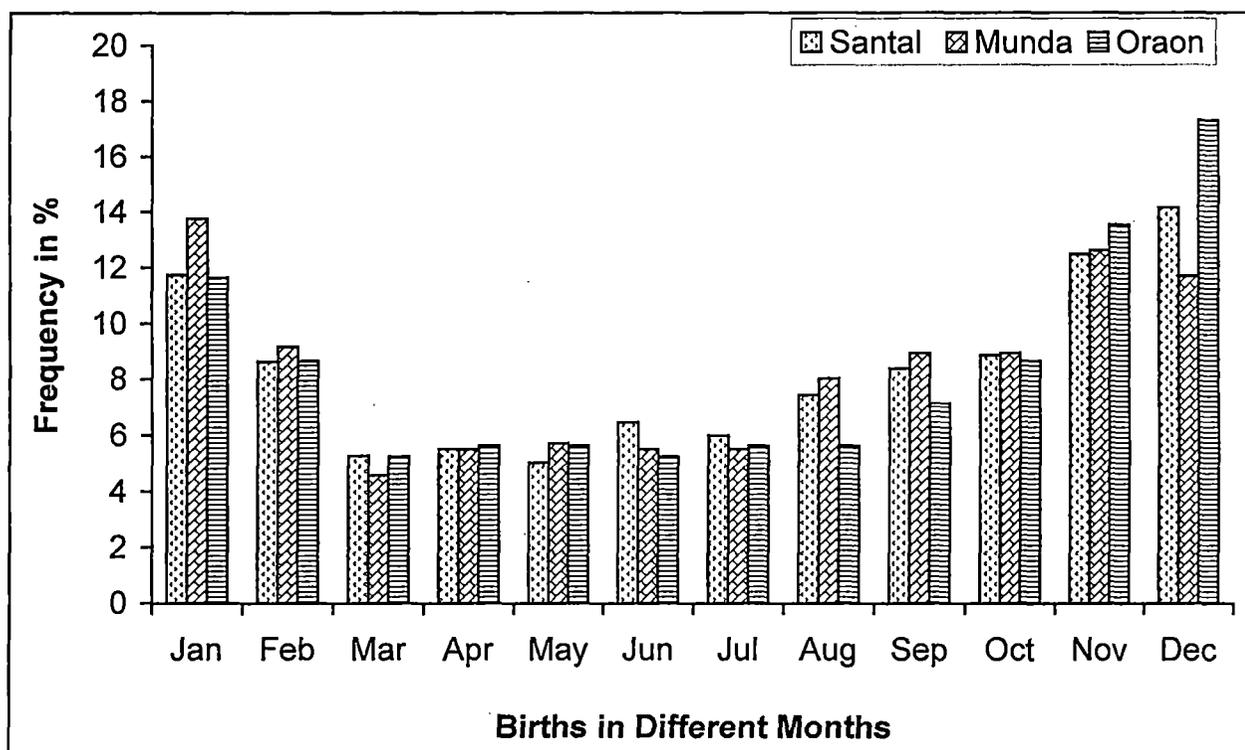


Fig.A : Births in different months of the year from 1995 to 2001 among the Santals, Mundas and Oraons.

activities and subsequent availability of the items determined their nutritional status. Scheduling of social and religious ceremonies also correlated considerably with harvesting periods particularly with the autumn crops. The whole panorama, however, is effectively influenced by basic environmental factors such as temperature rainfall and humidity. Rank order co-relation co-efficients between monthly conceptions and monthly humidity (Kendall's tau = -0.380), average rainfall (Kendall's tau = -0.563) and average temperature (Kendall's tau = -0.584) suggested significant relation with the climatic conditions. Business transactions and communication with outside were conducted mostly during moderate environmental regimes because of convenience.

Mosher (1979) reported that seasonality of conception depended mainly on :

- (i) geographical location i.e. more in areas where extremes of environmental variations prevail.
- (ii) availability of nutrition is higher where food resource varied widely in different seasons.
- (iii) Cultural stimuli is more effective where seasonal pattern of coital frequency occurred due to cultural stimuli (Such as religions, seasonal migration and seasons of marriage).

(iv) Rosenberg (1966) was of opinion that socio-economic factors in a way acted to filter out the social, behavioural and Physiological consequences of seasonal changes of births and conceptions. This appeared to be the case among the Santals, Mundas and Oraons.

Now, it was difficult to pin point to any single factor to be responsible for higher conception among the three ethnic communities but the environmental factors seems to have an edge over other factors. The action, however, may not be direct but rather through other factors associated with the environment.

Table - 6.22, 6.23 & 6.24 summarized the results of interviews regarding the attitude of Santal, Munda and Oraon married males and females separately belonging to younger (below 25 years), middle younger (25-40 yrs.) and older age groups (above 40 yrs.) regarding their family size and sex life. Here, most Santals and Mundas were in favour of unlimited families, whereas most Oraons favoured the limited families. A portion of both sexes of Santals, Mundas and Oraons believed that excessive sex was harmful for health. Only a few indulged having sex within a weeks before and after parturition.

6.4.11 Contraceptive use and family planning :

The increasing prevalence of contraceptive use among uneducated women in South Asia has recently attracted attention (Cleland et. al., 1994; Kishor, 1994; Cladwell et. al., 1999). The concealment of induced abortions can lead to an erroneous conclusion about the role of contraceptive use or other proximate determinants of the changes in fertility. Recently some tribals (Santals, Mundas and Oraons) particularly those belonging to the younger age groups (below 25 yrs.) were becoming incursive regarding conventional contraceptive practices. Here 578 couples of Santals, 536 of Mundas, 294 Oraons and 421 of nontribals of the Hili Block were interviewed regarding the use of contraceptives (Table - 6.25)

Table 6.25 shows that a large proportion of couples about 60-70% did not use any contra-

Table - 6.22 Attitude towards family size and sex life of Santals.

Favouring					Sexual activity				
Age group	Sex	Number favouring unlimited family	Number favouring limited family	Responded %	Excessive sex harmful	Sex within 2-3 days before delivery	Sex within a week after delivery	Responded %	Sample size
↓25	♂	15	12	72.97	08	02.	02	32.43	37
	♀	11	04	60.00	02	-	-	8.00	25
25-40	♂	40	05	71.43	22	13	07	66.67	63
	♀	37	04	54.67	19	07	-	34.67	75
40+	♂	77	-	77.00	15	10	11	36.00	100
	♀	28	-	28.00	16	03	-	19.00	100

Table - 6.23 Attitude towards family size and sex life of Mundas.

Favouring					Sexual activity				
Age group	Sex	Number favouring unlimited family	Number favouring limited family	Responded %	Excessive sex harmful	Sex within 2-3 days before delivery	Sex within a week after delivery	Responded %	Sample size
↓25	♂	25	09	97.14	05	03	02	28.57	35
	♀	19	04	74.19	02	02	-	12.90	31
25-40	♂	36	26	95.38	15	18	10	66.15	65
	♀	36	10	66.67	09	07	03	27.54	69
40+	♂	67	-	67.00	29	15	14	58.00	100
	♀	27	-	27.00	20	05	-	25.00	100

Table - 6.24 Attitude towards family size and sex life of Oraons.

Favouring					Sexual activity				
Age group	Sex	Number favouring unlimited family	Number favouring limited family	Responded %	Excessive sex harmful	Sex within 2-3 days before delivery	Sex within a week after delivery	Responded %	Sample size
↓25	♂	04	13	94.44	04	02	01	38.89	18
	♀	02	11	76.47	03	01	-	23.53	17
25-40	♂	05	23	87.50	16	06	05	84.38	32
	♀	04	17	63.64	12	02	-	42.42	33
40+	♂	40	19	59.00	27	06	07	40.00	100
	♀	11	15	26.00	15	-	-	15.00	100

ceptive devices. Women in all three communities used more contraceptive devices than their male counterparts. It is interesting to note that more ethnic people depend on Government Hospital facilities in regard to birth control than traditional herbal medicine.

Further it may be stated that more and more tribal women are accepting pills as birth prevention measures particularly the below 40 year group. Of the three communities the Santals till use herbal medicine as temporary birth prevention methods.

Table - 6.25 Family plannings of Santals, Mundas, Oraons and nontribals of Hili Block.

Community	Age group	Sex	Use of contraceptive					No. of couples without any protection	No. of Couples studied
			Permanent sterilization		Temporary methods				
			Herbal	Inhospital	Pills	Condoms	Herbal		
SANTALS	Below 40 yrs	male	-	01 (1.11)	-	05 (5.56)	04 (4.44)	190 (67.86)	280
		Female	04 (4.44)	28 (31.11)	27 (30.00)	-	21 (23.33)		
	above 40 yrs	male	-	01 (0.82)	-	-	06 (4.92)	176 (59.06)	298
		Female	20 (16.39)	65 (53.28)	03 (2.46)	-	27 (22.13)		
MUNDAS	Below 40 yrs	male	-	04 (5.41)	-	-	03 (4.05)	166 (69.17)	240
		Female	03 (4.05)	30 (40.54)	19 (25.68)	-	15 (20.27)		
	above 40 yrs	male	-	04 (3.81)	-	-	-	191 (64.53)	296
		Female	11 (10.48)	76 (72.38)	08 (7.62)	-	06 (5.71)		
ORAOONS	below 40 yrs	male	-	-	-	05 (11.63)	-	85 (66.41)	128
		Female	01 (2.33)	19 (44.19)	12 (27.91)	-	06 (13.95)		
	above 40 yrs	male	-	02 (3.85)	-	-	-	114 (68.67)	166
		Female	04 (7.69)	44 (84.62)	-	-	02 (3.85)		
NONTRIBALS	below 40 yrs	male	-	02 (1.31)	-	23 (15.03)	-	47 (23.50)	200
		Female	02 (1.31)	17 (11.11)	109 (71.34)	-	-		
	abvoe 40 yrs	male	-	05 (5.62)	-	04 (4.49)	-	132 (59.73)	221
		Female	07 (7.87)	60 (67.42)	13 (14.61)	-	-		

6.4.12 Mortality trends among the Santal, Munda and Oraon Communities:-

Demographic theory has developed in response to dramatic changes in mortality and fertility in the recent past which is called demographic transitions (Wilson and Airey, 1999). Mortality is one of the most important demographic trait that affects population structure, fertility, growth and various socio-economic variables. It is studied in relation to marital status (Spiegelman, 1960; Benjamin, 1964; Fox and Goldblatt, 1978), in relation to sex (Madigan, 1957; Myrdal, 1968; Bauge, 1969), in relation to food habits (Beaver, 1973), in relation to health, disease and sanitary conditions (Gillbert, 1958; Mc.Keown, 1962 ; Benjamin , 1964; Woods, 1978; Wilson, 1991; Rangneker and Darbari, 1993; Tanuja et.al., 1995; Mondal, 1997).

Recent population explosion in most developing countries is attributed to decline in mortality accompanied by unabated fertility. Ethnic differences are common in mortality. Mortality variation among the ethnic communities mainly reflects differences in socio-economic status and available health facilities (U.N., 1973). Kark and Chesler (1956) claimed biological and cultural factors to be responsible for significantly lower neonatal mortality among the Hindu and Zulu communities. Embryonic mortality is rather small for the tribals in India. It was 0.002 in Bhatra to 0.11 among the Totos, the Oraons also showed a lower range. (Das, 1997).

Anaemia during pregnancy increases the risk of high maternal and foetal mortality, morbidity, low birth weight and many other health problems (Jackson and Latham, 1982; Edmundson and Edmundson, 1992; Steer et.al., 1995; Mondal, 1997; Park, 1997). In India, 20-40% of maternal deaths are due to anaemia (Rushwan, 1994) of the 52% anaemia pregnant mothers globally. 90% reside in developing countries and at present at least 50% pregnant women in India are anaemic (Editorial note of Indian J. Pub. Hlth, 1999). Over the last few years there has been an enormous increase in research dealing with infant and child mortality, morbidity, reproductive wastage etc. in both the tribal and non tribal populations of North East India (Barua, 1982; Khongsdier, 1995; Pathak and Mondal, 1999; Mondal, 2000). Iron and folic acid deficiency singly or in combination is a common cause of anaemia inducing large scale mortality of pregnant mother (Rushwan, 1994; Sing et.al.,1998; Agarwala et.al., 1999).

6.4.12.1 Crude death rate (CDR):

Table 6.26 describes the crude death rate (CDR) per thousand of Santals, Mundas and Oraons from 1995 to 2001. CDR is comparatively low among the Mundas and fluctuates considerably among the Mundas and Oraons in comparison to the Santals where the range of fluctuation is much smaller than the other two communities. The moving average of 3 years CDR did not show a trend of decline in mortality from upwards to downwards for the communities. Comparatively, low death reate was found in 1997. and 1998 in all communities. High death rate in the year 2001 occurred due to an outbreak of gastroenteritis epidemic at the Hili Block.

Table : 6.26 Crude Death Rate (CDR) of the Santals, Mundas and Oraons from 1995-2001

Community	Year	Crude death rate per 1000	Moving average of 3 years
S A N T A L	1995	9.19	-
	1996	10.26	-
	1997	11.28	10.24
	1998	9.11	10.22
	1999	9.41	9.93
	2000	10.46	9.66
	2001	11.53	10.47
M U N D A	1995	10.43	-
	1996	11.51	-
	1997	6.00	9.31
	1998	4.43	7.31
	1999	8.25	6.23
	2000	12.49	8.39
	2001	11.30	10.68
O R A O N	1995	14.71	-
	1996	11.74	-
	1997	8.80	11.75
	1998	9.38	9.97
	1999	11.95	10.04
	2000	15.07	12.13
	2001	16.23	14.42

High CDR experienced by the Oraons in 2001 (16.23) is comparable to 16.7 for Senegal in 1960-61, and 17.6 for the Totos at Totopara, in the year 1980-81 (Pal and Sinha, 1983) and 18.0 for Vietnam, in 1960 (UN, 1967, Van Arsdale, 1978).

6.4.12.2 Age Specific Death Rate :

Actual number of deaths experienced by different age groups of from 1995 to 2001 is shown in table - 6.27. A total of 179, 175, and 131 among Santals, Mundas and Oraons respectively during the last seven years were considered. Maximum and minimum mortality was recorded for the age groups 0-4 and 15-21 in all three communities. Mortality pattern were similar in the communities at Hili Block.

Table - 6.27 Deaths in different age groups among the Santals, Mundas and Oraons from 1995 to 2001.

Ethnic groups	Year	Age groups in years						Total
		0-4	4+-15	15+- ↓21	21-40	40+-55	55+↑	
S A N T A L	1995	09	02	-	01	03	07	22
	1996	12	-	01	01	02	09	25
	1997	15	03	01	02	-	07	28
	1998	10	03	01	-	03	06	23
	1999	09	02	02	01	02	08	24
	2000	14	-	01	04	01	07	27
	2001	11	03	-	02	04	10	30
	Total	80 (44.69)	13 (7.26)	06 (3.35)	11 (6.15)	15 (8.38)	54 (30.17)	179
M U N D A	1995	11	02	01	03	03	07	27
	1996	14	03	-	-	04	09	30
	1997	07	-	01	02	01	05	16
	1998	05	01	-	-	03	03	12
	1999	10	02	-	01	04	06	23
	2000	15	01	01	01	04	13	35
	2001	12	02	02	01	03	12	32
	Total	74 (42.29)	11 (6.29)	05 (2.86)	08 (4.57)	22 (12.57)	55 (31.43)	175
O R A O N	1995	08	02	-	02	02	07	21
	1996	08	02	01	01	01	04	17
	1997	05	01	02	-	01	04	13
	1998	06	-	01	02	02	03	14
	1999	07	02	-	02	02	05	18
	2000	12	-	01	02	03	05	23
	2001	10	02	01	02	03	07	25
	Total	56 (42.75)	09 (6.87)	06 (4.58)	11 (8.40)	14 (10.69)	35 (26.72)	131

6.4.12.3 Seasonality of death:

Table - 6.28 describes the present distribution of deaths experienced by the Santals, Mundas and Oraons different months of the year during the study period. Higher mortality was observed in the months from March to June; a small increase, however, occurred during september -October. Mortality trend was represented graphically in fig 6.7, 6.8 & 6.9 for the Santals, Mundas and Oraons respectively. Peak mortality may be said to correlate with transitional environmental factors such as temperature (maximum-minimum), rainfall and humidity characteristics of seasonal change. Socio-cultural events of the societies also influenced mortality. For example : Most social ceremonies

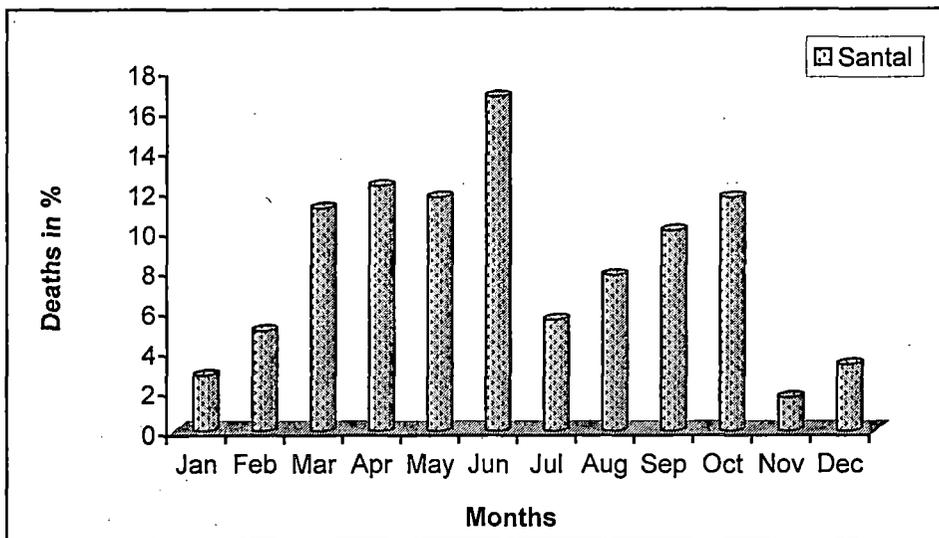


Fig. 6.7 : Percent distribution of Deaths among the Santals in different months of the year over 7 years from 1995 to 2001.

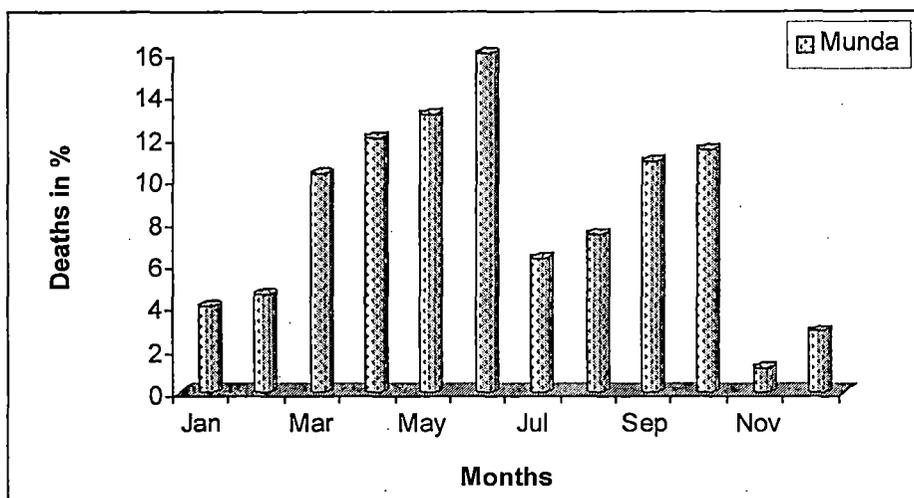


Fig. 6.8 : Percent distribution of Deaths among the Mundas in different months of the year over 7 years from 1995 to 2001.

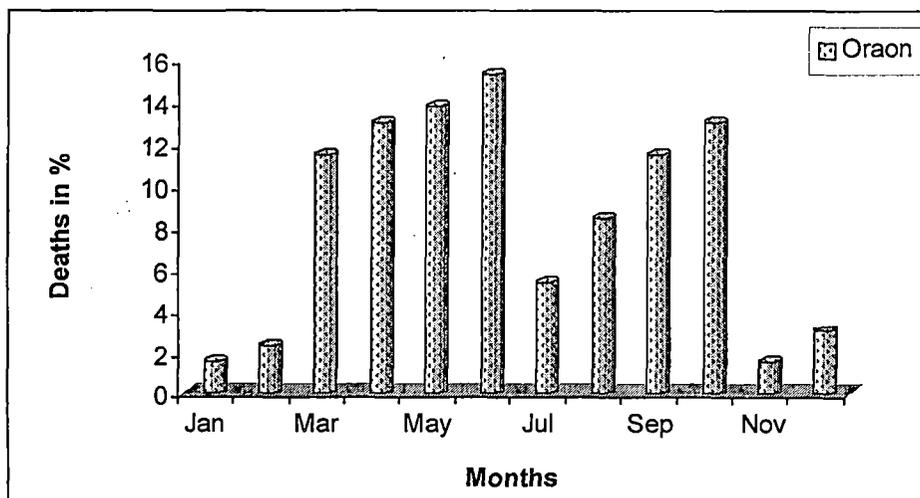


Fig. 6.9 : Percent distribution of Deaths among the Oraons in different months of the year over 7 years from 1995 to 2001.

(religions, marriages etc.) occurred during the months from February to April and deaths peak during May - July. Festivals traditionally are associated with elaborate feasts including lots of Pork and drinks. It is suspected that the food materials consumed during the social events may be unhygienic due to improper preservation and cooking. In general mortality appears to coincide well with temperature being low in the winter months and high in the warmer months.

Table : 6.28 Deaths according to different months of the year from 1995 to 2001 among the Santals, Mundas and Oraons.

Months	No of deaths					
	Santal	%	Munda	%	Oraon	%
January	05	2.79	07	4.00	02	1.53
February	09	5.03	08	4.57	03	2.29
March	20	11.17	18	10.29	15	11.45
April	22	12.29	21	12.00	17	12.98
May	21	11.73	23	13.14	18	13.74
June	30	16.76	28	16.00	20	15.26
July	10	5.59	11	6.29	07	5.34
August	14	7.82	13	7.43	11	8.40
September	18	10.06	19	10.86	15	11.45
October	21	11.73	20	11.43	17	12.98
November	03	1.68	02	1.14	02	1.53
December	06	3.35	05	2.85	04	3.05
Total	179	100	175	100	131	100

6.4.12.4 Causes of Mortality :

Causes of mortality are diverse: due to diseases, poor health, malnutrition and accidents. They suffer from Malaria, Amoebic dysentery, Respiratory infections, Paralyse, Jaundice, and Tuberculosis. Deaths are also known due to alcoholism, gastroenteritis and helminth infections. Most of the tribals are careless about the use of slipper. So they have the chances of getting helminth infections particularly hook-worms and a major part of time they suffered from it. Tanuja et.al., (1995) pointed out that the tribal women of Bihar did not wearing slippers when they go out. This may increase the chances of getting hook worm infection there by causing anaemia and sometimes causing of death. Rao sugunan and Schgal (1998) reported that continuous decline is largely due to malnutrition and high infant mortality.

The santals, Mundas and Oraons go to the Health Centre during the course of any kind of disease established at the Hili Block ethnic community people visit the Health Centre Only, when folk medicines failed. Even then the tribals value the advise of the quack doctors residing in the locality.

The distribution of diseases in kind and magnitude varies from society to society and this variance could be explained with the help of different biological, ecological and socio-cultural factors (Rajpramukh, 1998). Disease specific mortality records among the Santals, Mundas and

Oraons are inadequate. Due to modernisation and control programmes most of the traditionally prevalent diseases are at present under control. However, available disease specific mortality records from the Health Centre; verbal reports of the Welfare Organiser, Hili Block; compunder of Missionary dispensary and folk medicine man of the tribals are shown in table 6.29, 6.30 & 6.31 for the Santals, Mundas and Oraons respectively. Epidemics (Gastroenteritis diarrhoea); respiratory infections, cough, cold, high fever and old age account for more than 55% deaths. Among many tribals, some of the respiratory diseases are caused by excessive alcoholism and smoking (Rajpramukh, 1998). Delivery and maternal care is still performed in the primitive traditional manner. Death of 3,5 and 2 mothers within 5 days of delivery among the Santals, Mundas and Oraons respectively and 12 babies of Santals, 8 of Mundas and 7 of Oraons on the days of birth indicate poor sanitary and inadequate facilities for delivery, maternal and child care.

Table : 6.29 Available disease specific mortality records among the Santals, 1995 to 2001.

Diseases	Adult		Children (0-14 yrs)		% occurrence
	male	female	male	female	
Epidemics (Gastroenteritis diarrhoea)	06	05	16	13	22.35
Respiratory infections, cough, cold and high fever	04	01	12	10	15.08
Paralyses	06	03	-	-	5.03
Jaundice	-	02	04	02	4.47
Tuberculosis	04	03	-	-	3.91
Malaria	01	02	01	-	2.23
Oldage	15	16	-	-	17.88
Measles	-	-	03	09	6.70
Death on the date of birth	-	-	06	06	6.70
Death of mother within 5 days of delivery	-	03	-	-	1.68
Heart attack	07	04	-	-	6.15
Sickle cell disease	01	-	-	-	-
Accident	01	-	-	-	0.56
Snake bite	-	-	01	-	0.56
Dog bite	-	-	-	01	0.56
Miscellaneous (weakness, sudden death, etc.)	02	02	03	04	6.15
Total	47	41	46	45	179

N.B. Diseases were not diagnosed by medical practitioner.
- means absent.

Table : 6.30 Available disease specific mortality records among the Mundas, 1995 to 2001.

Diseases	Adult		Children (0-14 yrs)		% occurrence
	male	female	male	female	
Epidemics (Gastroenteritis diarrhoea)	09	08	12	11	22.86
Respiratory infections, cough, cold and high fever	05	03	13	08	16.57
Paralyses	05	03	-	-	4.57
Jaundice	01	-	03	02	3.43
Tuberculosis	03	04	-	-	4.00
Malaria	02	01	03	-	3.43
Oldage	14	11	-	-	14.29
Measles	-	-	09	06	8.57
Death on the date of birth	-	-	03	05	4.57
Death of mother within 5 days of delivery	-	05	-	-	2.86
Heart attack	07	04	-	-	6.29
Sickle cell disease	-	01	-	-	0.57
Snake bite	-	-	01	-	0.57
Dog bite	-	-	-	02	1.14
Miscellaneous (weakness, sudden death, etc.)	03	03	03	02	6.29
Total	49	43	47	36	175

N.B. Diseases were not diagnosed by medical practitioner .

- means absent.

Table : 6.31 Available disease specific mortality records among the Oraons, 1995 to 2001.

Diseases	Adult		Children (0-14 yrs)		% occurrence
	male	female	male	female	
Epidemics (Gastroenteritis diarrhoea)	07	05	06	08	19.85
Respiratory infections, cough, cold and high fever	02	05	07	08	16.79
Paralyses	04	02	-	-	4.58
Jaundice	-	-	03	02	3.82
Tuberculosis	02	03	-	-	3.82
Malaria	-	-	03	04	5.34
Oldage	10	14	-	-	18.32
Measles	-	-	05	03	6.11
Death on the date of birth	-	-	04	03	5.34
Death of mother within 5 days of delivery	-	02	-	-	1.53
Heart attack	04	03	-	-	5.34
Sickle cell disease	01	-	01	-	1.53
Snake bite	-	-	01	-	0.76
Dog bite	-	-	-	-	-
Miscellaneous (weakness, sudden death, etc.)	02	01	03	03	6.87
Total	32	35	33	31	131

N.B. Diseases were not diagnosed by medical practitioner .

- means absent.

6.4.13 Population Growth

Change in population size irrespective of increase or decrease is regarded as growth. It is the balance between birth, death, immigration and emigration.

Emperically it may be expressed as:

$$P_t = P_o + (B-D) + (I-E). \dots\dots (i)$$

- Where, P_t = total population at a point of time.
 P_o = total population at last census.
 B = total number of births, during the given period.
 D = total number of deaths during the given period.
 I = total number of immigrants during the period.
 E = total number of emigrants during the period.

Rate of natural increase is the difference between birth and death rates. The birth and death rate are dependent upon the age distribution of the population. Populations subjected to stable mortality and fertility schedules attain stable age structure.

The realisation that wide range of present day human populations irrespective of geographical or ethnic similarity are close to the stable state (Lotka 1925; Un, 1973) due to stable fertility and mortality schedule experienced by them in the indefinite past; provide a powerful tool in determining demographic parameters of populations with deficient or erroneous demographic statistics but having a real stable state.

Stable population analysis has been applied by demographers to populations:

- i) Where fertility has been subject to no more than low amplitude and short duration variations during the previous five or six decades, and mortality has changed only slightly and gradually during past generations. The stability of fertility is a common feature of agricultural populations with low literacy and income. The absence of major trend in mortality has also been a common characteristic of less developed areas until the past few decades when very rapid decline in death rates was observed.
- ii) Whose mortality has been declining, although the resultant estimates may be biased.

The weakness of the method of stable population are

- i) The actual situation may be poorly approximated by a stable model.
- ii) If the true situation is close to a stable state, the available data may be too fragmentary or biased to permit the derivation of the approximate stable populations. However, inspite of these drawbacks, it has proven effective under many circumstances and a significant

portion of our current knowledge on world demographic trends and characteristics come directly from the application of stable population analysis.

The estimation of stable population parameter consists of two basic steps:

- (i) On the basis of available evidence relating to a given population.
- (ii) The various parameters of the stable population are assigned to the actual population in order to estimate the corresponding parameters in that population. The age distribution of stable population is described by the well-known formula developed by Lotka (1925).

$$C_{(a)} = be^{-ra} P(a) \dots\dots\dots (ii)$$

Where $C_{(a)}$ is proportion of the population at age a,

b, is the birth rate of the stable population which is determined by the fact that the sum of the proportions of all ages must be equal to one,

r, is the annual rate of increase.

$P(a)$, is the proportion surviving from birth to age 'a' according to the prevalent mortality risks or is an alternative expression for the survivor function l_a/l_0 in the life table.

The expectation of life e: for the santals, Mundas and oraons at the Hili Block region was calculated from the data on live births and child survival.

The rate of increase for the santals, Mundas and oraons were 0.015, 0.017 and 0.014 respectively per person per annum as calculated from the population data of 1995 to 2001. The following equation was used to determine the rate.

$$P_t = P_o (1+r)^t \dots\dots\dots (iii)$$

Where, P_o , is the population in initial year of census.

P_t , is population in next census year.

t. is the time between two censuses.

r, is the intrinsic rate of increase per person per annum.

The santal, Munda and oraon male and female stable age distribution (Table– 6.32) are presented graphically in figures 6.10, 6.11, 6.12, 6.13, 6.14 & 6.15. Figures show that the santal, Munda and oraon male and female stable age pattern are more or less similar to each other.

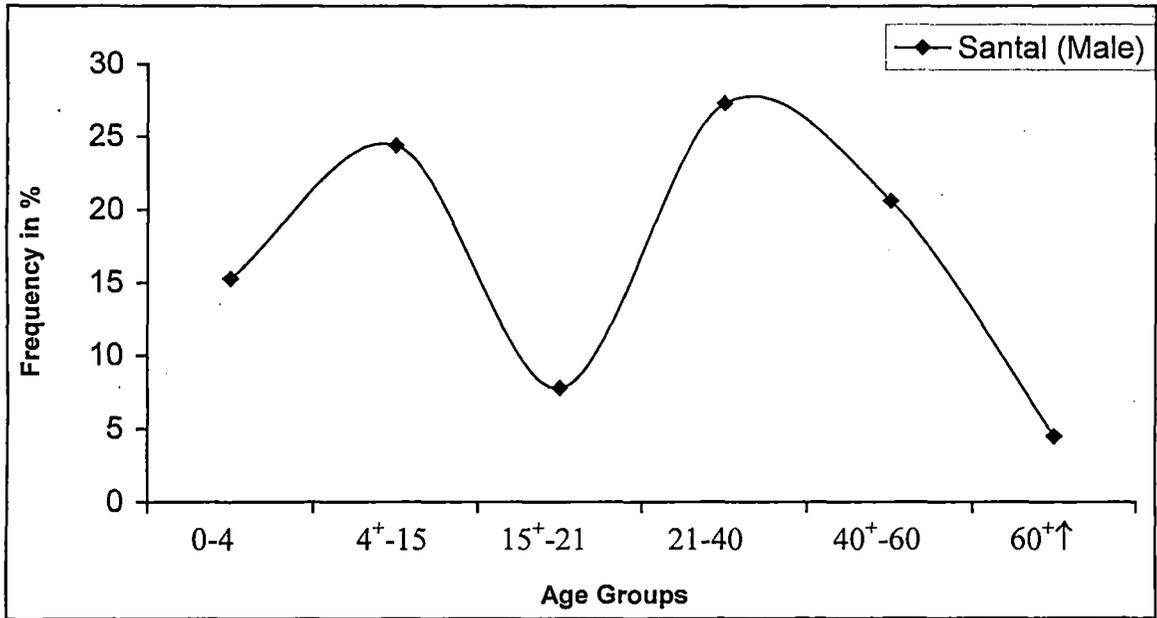


Fig. 6.10 : Observed age distribution of Santal Male.

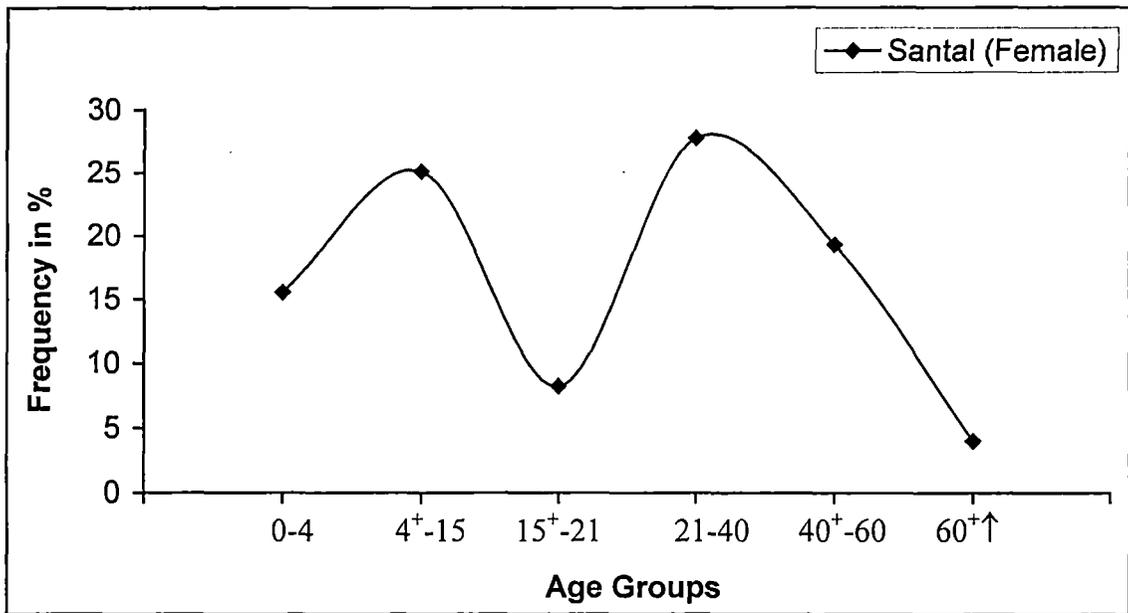


Fig. 6.11 : Observed age distribution of Santal Female.

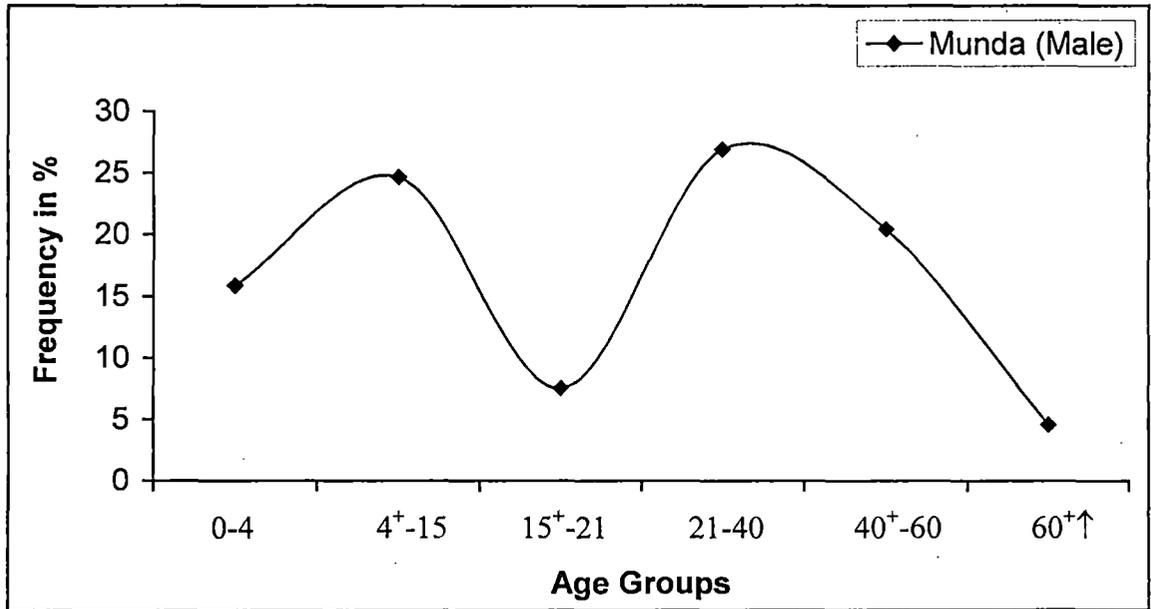


Fig. 6.12 : Observed age distribution of Munda Male.

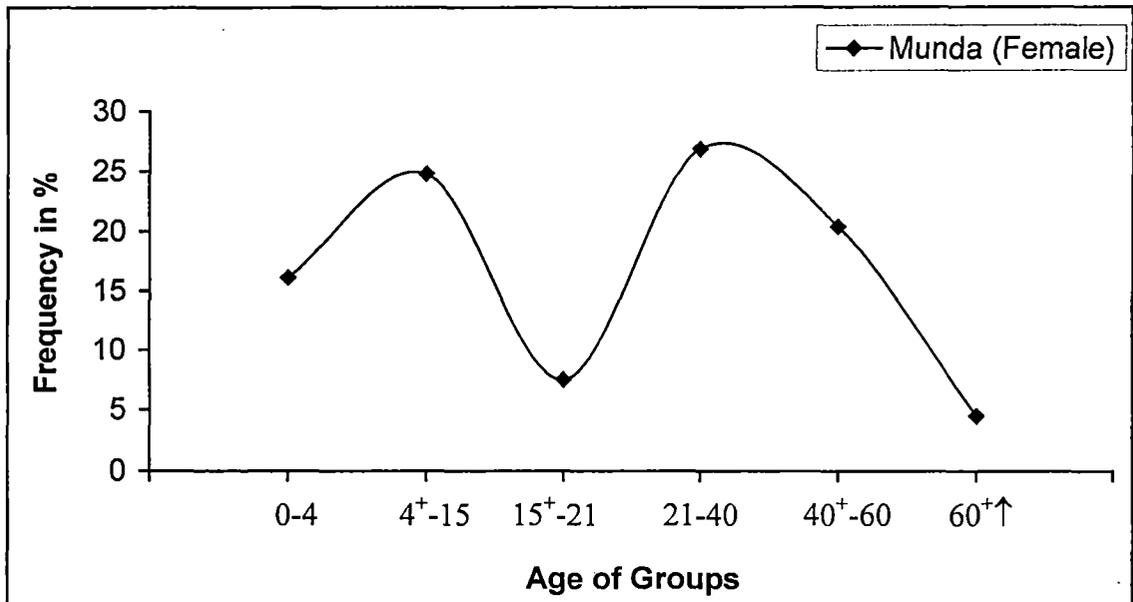


Fig. 6.13 : Observed age distribution of Munda Female.

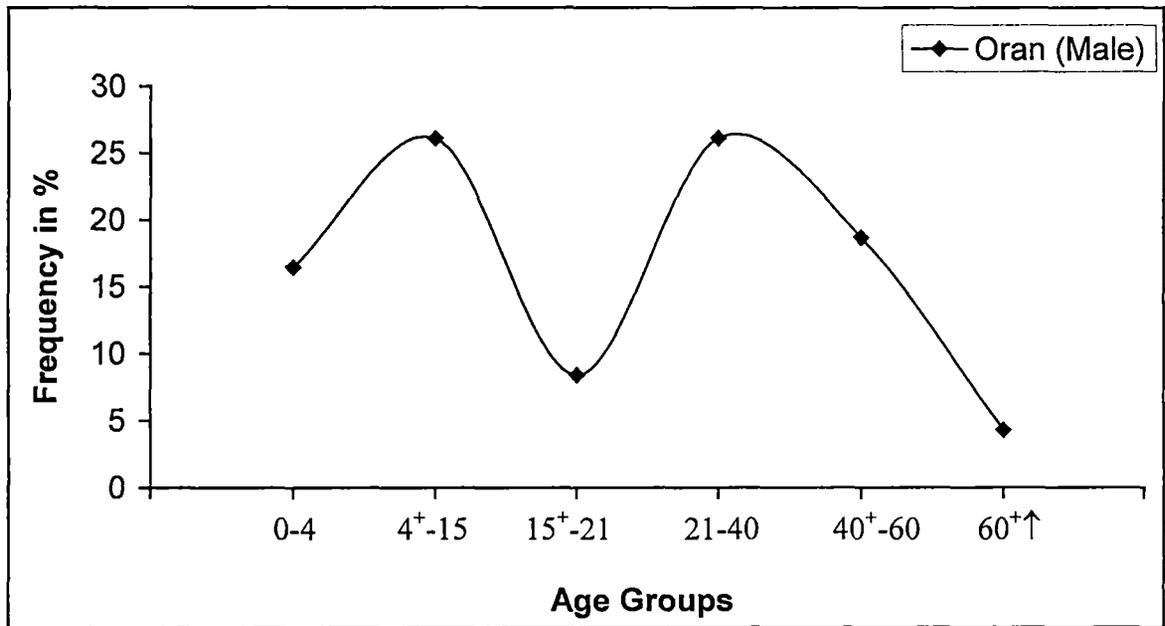


Fig. 6.14 : Observed age distribution of Oraon Male.

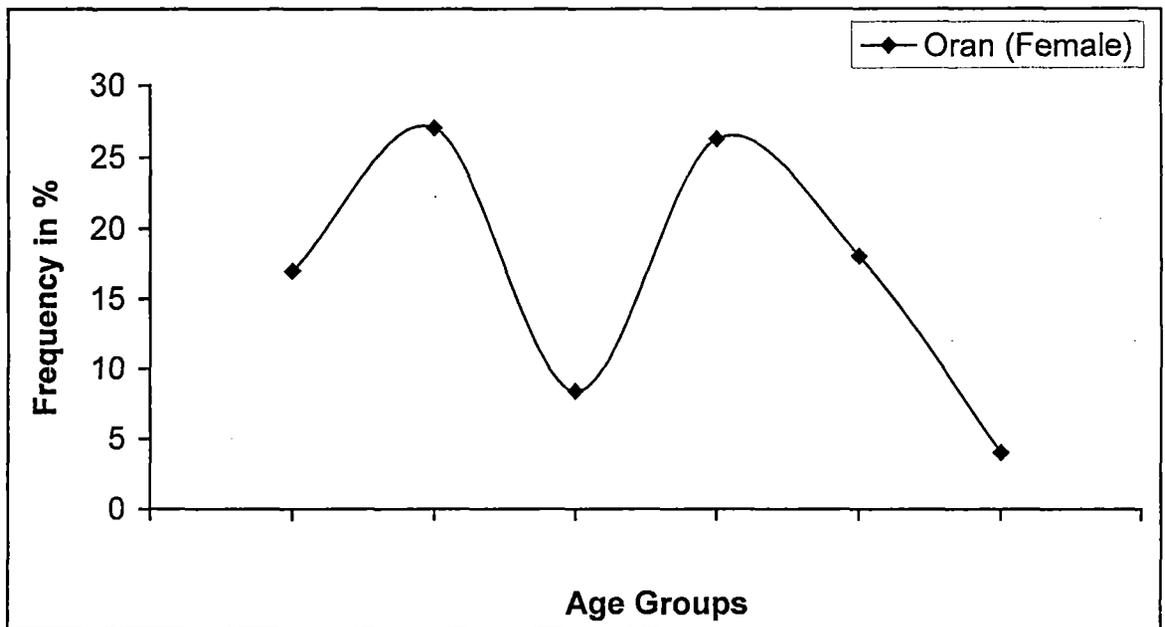


Fig. 6.15 : Observed age distribution of Oraon Female.

Table 6.32 structure of stable population for santals, Mundas and Oraons.

Age groups	Santal		Munda		Oraon	
	♂	♀	♂	♀	♂	♀
0-4	15.28	15.56	15.86	16.11	16.46	16.99
4+ - 15	24.42	25.10	24.67	24.78	26.09	26.49
15+ - ↓ 21	7.79	8.26	7.54	7.51	8.41	8.36
21 - 40	27.34	27.75	26.92	26.81	26.10	26.20
40+ - 60	20.67	19.33	20.44	20.30	18.66	17.99
60+ ↑	4.49	4.01	4.58	4.48	4.27	3.97

Table - 6.33 Census population for the Santals, Mundas and Oraons at Hili Block.

Year	Census Population		
	Santal	Munda	Oraon
1995	2393	2588	1428
1996	2437	2606	1448
1997	2482	2667	1477
1998	2524	2709	1492
1999	2550	2787	1506
2000	2582	2803	1526

Table - 6.33 and fig. 6.16, 6.17 & 6.18 shows the trend of population growth of the Santals, Mundas and Oraons at Hili Block from 1995-2000 significantly gradual increase are seen for the Communities. Immigration among the Santals, Mundas and Oraons are nil. On the other hand, the traditional socio-political systems of the above mentioned communities do not accept marriage with the non-tribals. They (Santal, Munda, Oraon) do not accept marriage with each other and any participant in such an union would be ostracized. This taboo is old as the Santals, Mundas and Oraons and had a significant role in preventing cultural and genetic changes of the communities.

It is obvious from the study of different demographic characteristics that since 1995 the tribal (Santal, Munda, Oraon) population growth was influenced by various social and environmental components.

6.4.14 Functional Involvement of Tribals as per age - sex classes :

For convenience, the functional involvement of the tribals (Santals, Mundas, and oraons) of different age groups were broadly divided into four categories :

- (i) Domestic / household activities - included all domestic and household works.

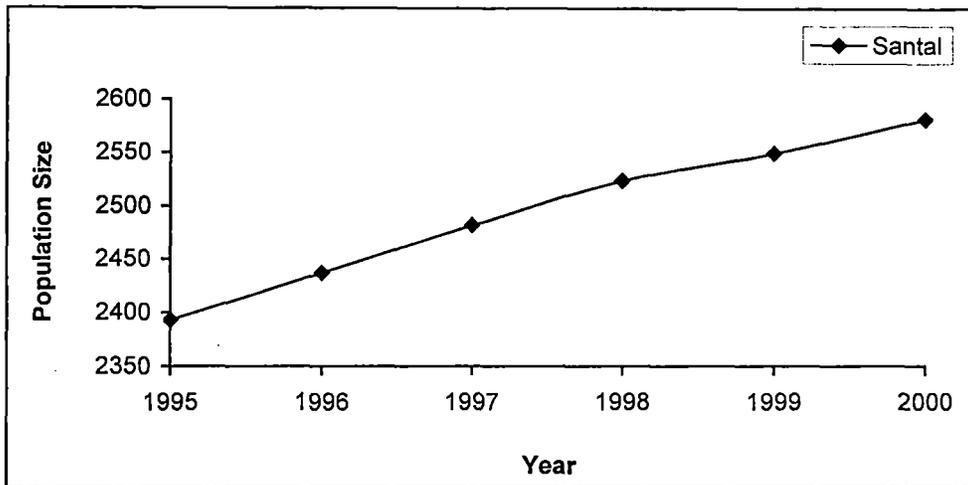


Fig. 6.16 : Population growth trend of the Santals at Hili lock.

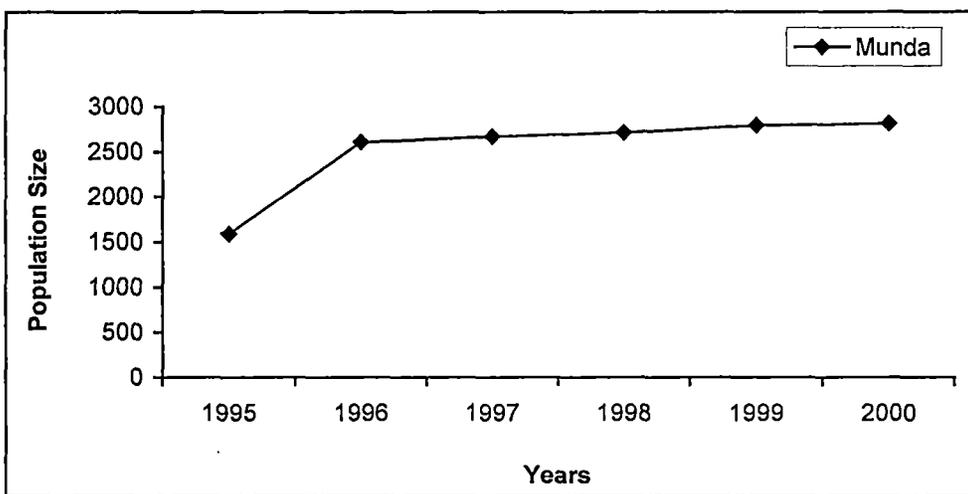


Fig. 6.17 : Population growth trend of the Mundas at Hili lock.

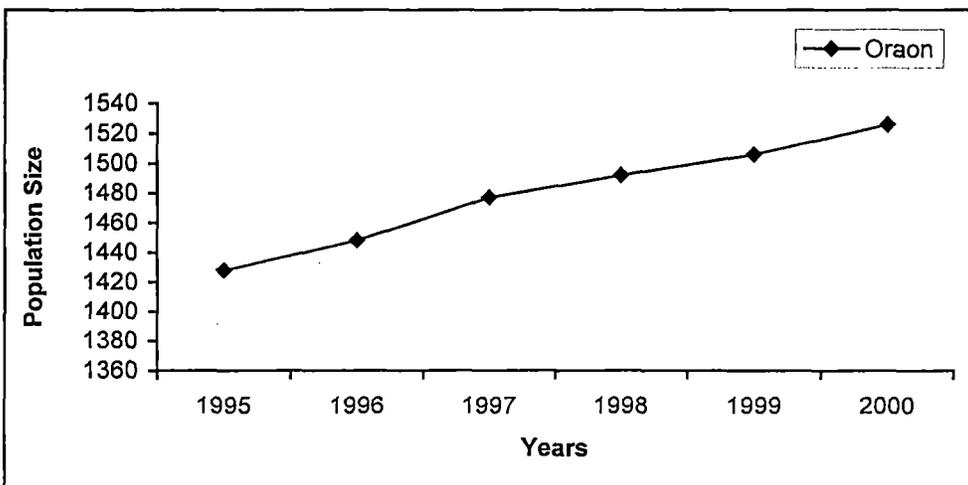


Fig. 6.18 : Population growth trend of the Oraons at Hili lock.

- (ii) Economic activities included agriculture, labour, hunting, fishing, gathering etc.
- (iii) Socio-political mainly involved activities pertaining to traditional political system, gram panchayet etc.
- (iv) Socio-cultural included religious and other community functions and ceremonies such as - marriage, naming of the newly born, sowing of seeds, harvesting etc.

Table 6.34, 6.35 & 6.36 presents the functional involvement of the santals, Mundas and Oraons separately for both males and females. The tribal children of 5+ - 12 years age groups performed some domestic / household and economic works through helping their adult members. School attendance among the Oraons were higher than the santals and Mundas in the 5+-15 years age groups. Percentage of higher education i.e., Madhymik, graduation was considerably higher among the Santals than the Mundas and Oraons. But in general percentage of literate persons were found to be higher in number in the Oraons (21-24%) than the Santals (18.02%) and Mundas (20.42%) [Table 3a.]

Table - 6.34 Division of work among different age groups in Santal Society (1996-97)

Status	Age groups	Domestic/ house hold works		Economic/ subsistence works		Socio Political		Socio Cultural	
		M	F	M	F	M	F	M	F
Infancy	0-1	0	0	0	0	0	0	0	0
Childhood	1+ - 15								
Early childhood	1+-15	0	1	0	0	0	0	0	0
Childhood	5+ - 12	1	1	2	1	0	0	0	0
Late Childhood	12+ - 15	1	2	3	3	0	0	0	0
Adolescence	15+ - 18	2	4	3	4	0	0	0	0
Adult hood:									
Early youth	18+ - 25	3	4	4	4	1	1	1	1
Late youth	25+ - 35	3	4	4	4	3	1	3	1
Grown up	35+ -55	2	4	3	3	4	0	3	2
Old ages	55+↑	2	2	2	2	4	0	4	1

Degree of involvement :

0 - Nil; 1 = assistance only; 2 = assistance 75%, independently 25%; 3 = assistance 50%, independently 50%, 4 = 100% independently.

Table 6.35 Division of work among different age groups in Munda Society (1996-97)

Status	Age groups	Domestic/ house hold works		Economic/ subsistence works		Socio Political		Socio Cultural	
		M	F	M	F	M	F	M	F
Infancy	0-1	0	0	0	0	0	0	0	0
Childhood	1+ - 15								
Early childhood	1+ - 5	0	0	0	0	0	0	0	0
Childhood	5+ - 12	1	2	1	1	0	0	0	0
Late Childhood	12+ - 15	1	2	2	3	0	0	0	0
Adolescence	15+ - 18	3	4	3	4	0	0	0	0
Adult hood:									
Early youth	18+ - 25	4	4	4	4	1	1	1	1
Late youth	25+ - 35	4	4	4	4	3	2	3	2
Grown up	35+ - 55	2	4	3	3	4	0	4	2
Old ages	55+↑	2	2	2	2	4	0	4	1

Degree of involvement :

0= Nil; 1 = assistance only; 2= assistance 75%, independently 25%; 3 = assistance 50%, independently 50%; 4= 100% independently.

Table - 6.36 Division of work among different age groups in Oroan society (1996-97)

Status	Age groups	Domestic/ house hold works		Economic/ subsistence works		Socio Political		Socio Cultural	
		M	F	M	F	M	F	M	F
Infancy	0-1	0	0	0	0	0	0	0	0
Childhood	1+ - 15								
Early childhood	1+ - 5	0	0	0	0	0	0	0	0
Childhood	5+ - 12	1	2	1	1	0	0	0	0
Late Childhood	12+ - 15	1	2	2	1	0	0	0	0
Adolescence	15+ - 18	2	4	3	3	1	1	0	1
Adult hood:									
Early youth	18+ - 25	3	4	3	4	1	1	0	1
Late youth	25+ - 35	3	4	4	4	3	2	1	2
Grown up	35+ - 55	2	4	3	3	4	2	3	2
Old ages	55+↑	2	2	2	2	4	0	4	1

Degree of involvement :

0- Nil; 1 = assistance only; 2 = assistance 75%, independently 25%, 3= assistance 50%, independently 50%; 4= 100% independently.

6.5 Education :

Table - 6.37 and Fig - 6.19 presents data on number and percentage of levels of education among the three communities. Table - 6.38 and Fig - 6.20 show number and percent of individuals at different levels of education in various income groups. It is observed that there is a clear correlation between education level and income group. For example, the present tribals in the 30,000/- above categories were 10.1, 25.7, 53.7 and 64.5 in the primary level, grade VIII, Madhyamik and graduate levels. Similarly, below 10,000/- category percent tribals in the different educational classes were 46.4, 27.6, 8.0 and 3.0.

Table - 6.37 Total number and % of literate individuals among the santals Mundas and Oraons.

Education Level	Santal		Munda		Oraon	
	No	%	No	%	No	%
Primary	258	10.13	378	13.56	226	15.00
VIII grade	131	5.14	140	5.03	48	3.19
Madhyamik	57	2.24	40	1.44	39	2.59
Graduation	13	0.51	11	0.39	07	0.46
Total	459	18.02	569	20.42	320	21.24

Table - 6.38 Number of individuals at various levels of education in different income groups among the three communities.

Education level	Community	No. in different income groups per annum (in Rupees).			Total
		Below 10,000/-	10,000 - 30,000/-	Above 30,000/-	
Primary	Santal	112	111	35	258
	Munda	180	178	20	378
	Oraon	108	86	32	226
Total		400 (46.4)	375 (43.5)	87 (10.1)	862
VIII Grade	Santal	46	46	39	131
	Munda	29	89	22	140
	Oraon	13	14	21	48
Total		88 (27.6)	149 (46.7)	82 (25.7)	319
Madhyamik	Santal	4	23	30	57
	Munda	3	20	17	40
	Oraon	4	09	26	39
Total		11 (8.0)	52 (38.2)	73 (53.7)	136
Graduate	Santal	Nil	3	10	13
	Munda	Nil	3	08	11
	Oraon	01	4	02	07
Total		01 (3.0)	10 (32.3)	20 (64.5)	31

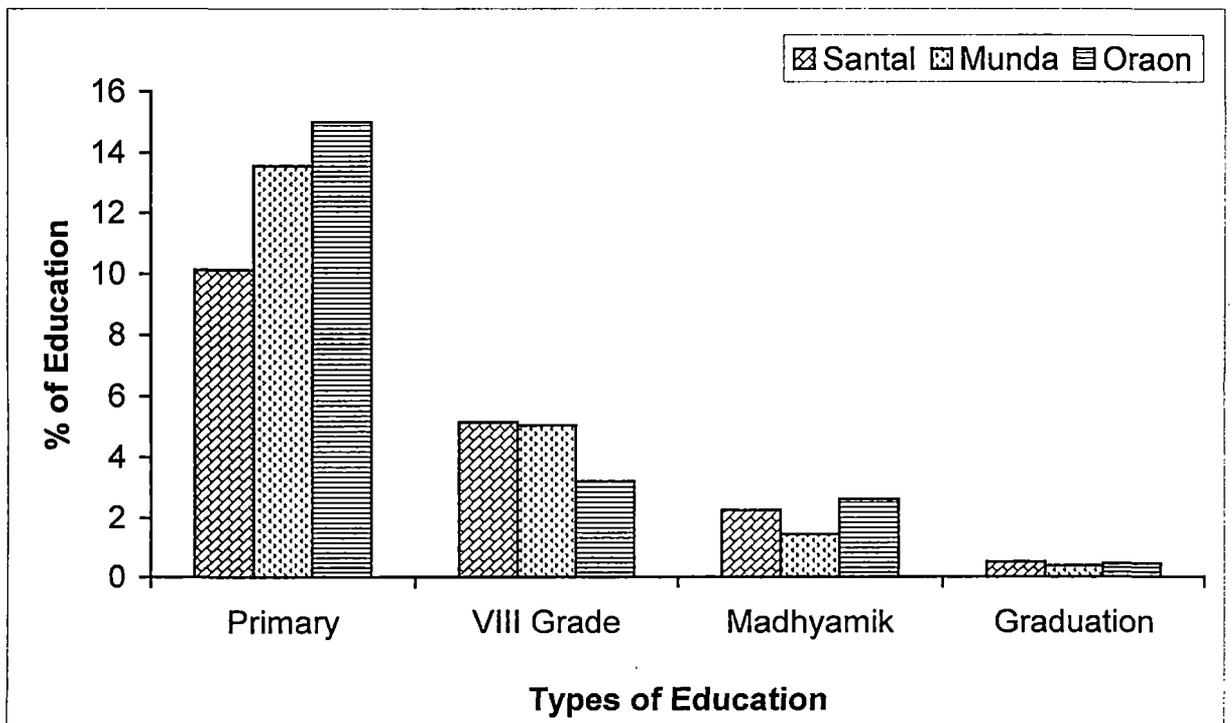


Fig. 6.19 : Percentage of education of the Santal's, Munda's and Oraon's at Hili Block.

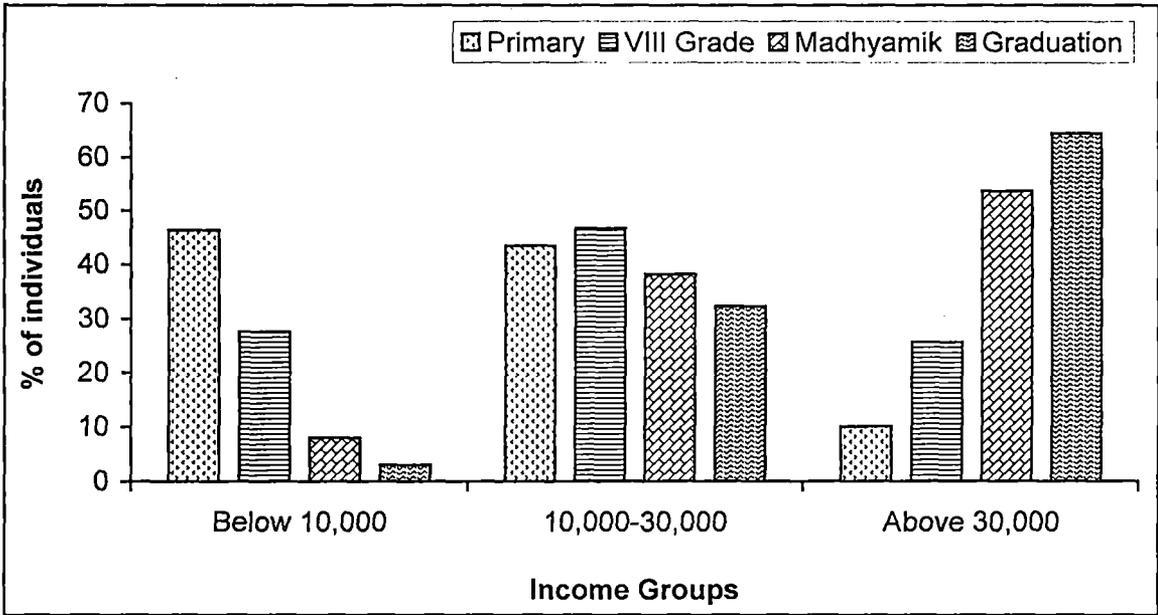


Fig. 6.20 : Percentage of individuals at different levels of education in various income groups in 2000.



An Oraon family near their house.



An affluent Munda family poses for the snap with a Bamboo grove in the background.



Folk medicine man in front of his house with his family.