



## A study of population structure among Bhoska tribals of Northern India

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### Abstract

Present study conducted on 400 Bhoska households of Himalayan Foothill and Tarai area (200 households each) Northern India, delineates the structure of the population on the basis of variables like composition of age and sex, socio-economic pursuits, educational and marital status, fertility and mortality trends. Analysis of data indicates that the Bhoksas of both the area have more or less similar population composition despite slight variations observed in terms of almost each traits due to a bit diverse natural niche. It is also noted in the study that the population variables and rates of natural increase of both the Bhoska groups are appreciably influenced by the socio-economic factors.

### **Introduction:**

It is generally agreed that the structure of a population is, however, complex and manifested in a series of biological and socio-culture characteristics. Some structures of population resemble with that of another population than some structures differ. This is found oftenly true especially in the case of neighbour populations, where there is possibility of high level of biological and cultural exchange (Harison and Boyce, 1972). It is likely that there is structural heterogeneity within the population due to inflow and outflow of genes as well as of cultural traits. Harison et al (1972) opines that determinants of structure are innumerable and broadly classified as biological and cultural factors. Cultural factors can certainly be independent of biological variety in population structure. Thus socio-cultural characteristics and their implication on age and sex composition, fertility, mortality trends of the population are of vital concern in considering the dynamics of any population.

### **The People:**

Bhoska, a Scheduled Tribe of Uttar Pradesh (now in Uttaranchal) has the unique socio-cultural history. They inhabit mainly the Tarai area of the Nainital district and Foothill area of Dehradun district. In addition, they are also scattered over a little area of Bijnor and Paurhi Garhwal districts. Few Bhoska villages are also situated in the neighbour state of Himachal Pradesh. However, the largest concentration are inhabited either in the Tarai area of Nainital district of Kumaun region or in the Foothill area of Dehradun district of Garhwal region in the state, making two large separate pocket of the population.

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A close scrutiny of social organization and mating system of the Bhoksas reveals that there are at least two breeding isolates within them viz. the Tarai and Foothill Bhoksas. Flow of genes is regulated within their own group by endogamy. Both Foothills (also called Mahre Bhoksas) and Tarai Bhoksas consider it beneath their dignity to marry their daughters with one another. Thus, currently there is no genetic linkage between these two groups of Bhoksas who are the products of centuries breeding in isolation (Singh and Shukla, 1990, Singh, 1992). Ethnographic history indicates that the population is an emigrant group who came from outside the state. It is believed that they have settled initially at a place called *Banbasa* in the Tarai area of Kumaun region. It was at a later stage that a split group from the initial settlement further migrates and scattered over Doon valley area of Himalayan Foothill (Crooke, 1896, Elliot, 1896).

Topographically Foothill area appears between the river Yamuna and Siwalik Hills and Haridwar region. Major parts of this area are plain valley between Himalayan and Siwalik hills. Climate of Foothill region is moderately cold. Summer is pleasant and winter is rather chilly. Temperatures vary between 1.3° C and 41.1° C in the whole calendar year. Normal annual rainfall of this area is 21835 mm. but its amount differs from place to place. On the other hand, in the Bhabhar and Tarai area's temperature is relatively high. The minimum and maximum temperatures are 7.5° C and 42.1° C respectively. The normal annual rainfall is 51.3'. This area is notorious for unhealthy climate because various water borne and infectious diseases used to be broke out. Although both *Rabi* and *Kharif* crops are cultivated in the Foothill and Tarai area, but soil of both the area is different. The soil of Tarai area is swampy and alluvial; hence it is more fertile as compared to the Foothill area. Tarai Bhoksas own comparatively more landholdings. Their diets are also supplemented by the variety of fishes available in numerous ponds, small lakes and in rivers and by the flesh of many wild small animals of the dense and swampy forest. Thus, it is noted that although Tarai Bhoksa group inhabit slightly unhealthy climate (region which is known as belt of malaria and small pox), but they are rather more well to do in terms of nutritional view point as compared to their another counterpart (Atkinson, 1883, Cunnigham, A, 1906, Census of India, 1981).

#### **The Objectives:**

In view of aforementioned heterogeinic distribution of the population and slightly diverse environmental niche of the Tarai and Foothill areas, there is much scope for an intensive population survey. In accordance with this view, present study is conducted with the following objectives:

- (i) To delineate the structure of both the Bhoksa populations in terms of composition of age and sex comparatively.
- (ii) To find out socio-economical characteristics of both the groups in relation to the population structure and environment.
- (iii) To decipher the trends of fertility and mortality of Tarai and Foothill Bhoksas and it's bearing on population increase and also to put the data of the present study together with the census figures of Indian population.

#### **Material and Methods:**

In order to collect demographic informations door-to-door survey of 400 households of Bhoksas (200 Hs of Tarai Bhoksas and 200 Hs of Foothill Bhoksas) was conducted randomly in 17 villages of Tarai area of Nanital district and 8 villages of Foothill area of Dehradun district as shown in Table 1. It covers 6-6634% of the total Bhoksa population (42801 individuals according to Census of India, 1991). For having variety of data, some villages from road side and some from amongst those situated to the interior areas, were randomly selected. Special care was taken to estimate the correct ages of the people. This was done

relatively on the basis of chronology of the events, rituals, festivals, crops of the area. Informations were collected by employing research tools like, interview schedule, geneology, case study and observation. In the last phase of the field work, about 10% of total schedules were repeated to estimate the error involved in the recall method.

**Table 1: Villagewise Distribution of the Bhoksa Households Surveyed and their Proportion of the Village Population (1981)**

District	Development Block	Villages	No. of Household surveyed	Village Population	Proportion of Sample %
Nainital (Tarai & Babhar area)	1. Bajpur	1. Beriadaulat	11	855	2.75
		2. Haripura	10	127	2.50
		3. Barahami	09	369	2.25
		4. Bannakhera Khod	09	799	2.25
		5. Bhikhampuri Mandirwali	10	243	2.50
	2. Gadarpur	6. Bhajpuri Kulha	09	2951	2.25
		7. Buxaura	17	240	4.25
		8. Kopa Kripali	07	1456	1.75
		9. Khempur	12	671	3.00
	3. Kashipur	10. Semalpuri	17	133	4.25
		11. Bazawala	04	49	1.00
	4. Ramnagar	12. Pipalsana	31	235	7.75
		13. Lalitpur	20	163	5.00
		14. Lalpuri	04	163	5.00
		15. Numberdarpuri	15	130	3.75
		16. Rajpur Chhota	12	102	3.00
		17. Rajpura Bada	02	163	0.50
Tarai area	4. Blocks	17 Villages	200	8696	50.00
Dehradoon (Foothill area)	1. Vikas Nagar	1. Dandawala	06	49	1.50
		2. Sekhuwala	40	242	10.00
		3. Sabhawala	52	578	13.00
		4. Pirwala	09	115	2.25
		5. Ghero (Tiperpur)	30	809	7.50
		6. Devtawala	14	78	3.50
	2. Doiwala	7. Hoshiyarpur	25	206	6.25
		8. Garhimaichek	25	211	6.25
Foothill area	2 Development Blocks	8 Villages	200	2288	50.00
Total	6 Development blocks	25 Villages	400	10984	100.00

### Sex Composition:

Age and sex are the universal categories for the analysis of population structure. Sex and age are always relevant in every culture and society throughout the world. Children are born only by females in fecund ages and the probability of mortality within a year is greater among children than in young adults. One of the principal mode of defining demographic rates, is, therefore to relate such demographic events to births and deaths.

Sex wise distribution of the population by age has been observed in 400 households belonging to twenty five villages divided in two groups i.e. Bhoksa belonging to Tarai-Bhabhar area and Foothill area (200 households each) has been shown in Table-2. This table reveals that Tarai Bhoksas comprise 52.6% males and 47.4% females. It is clear from the table that the highest percentage of females is noted in the younger age group (0-9 years) while it is minimum in the older age groups. These figures give an over all sex ratio of 899 females per thousand males. However, this ratio is much lower when corpored with Census of India, 1991 for general population (927 females per 1000 males).

**Table : 2**  
**Sexwise Age Composition Among Tarai And Foothill Bhoksa Tribals**

Age Group	Tarai Bhoksa						Foothill Bhoksa					
	M		F		M		F		M		F	
	F	%	F	%	F	%	F	%	F	%	F	%
0 - 4	105	6.3	100	6.0	205	12.3	73	6.1	83	6.9	156	13.0
5 - 9	121	7.3	125	7.5	246	14.8	102	8.6	87	7.3	189	15.9
10 - 14	109	6.5	106	6.4	215	12.9	84	7.1	81	6.8	165	13.9
15 - 19	87	5.2	74	4.4	161	9.6	67	5.65	62	5.23	129	10.98
20 - 24	92	5.5	69	4.1	161	9.6	63	5.3	44	3.7	107	9.0
25 - 29	84	5.9	61	3.7	145	8.7	54	4.6	41	3.4	95	8.0
30 - 34	47	2.8	60	3.6	107	6.4	30	2.5	34	2.9	64	5.4
35 - 39	62	3.7	55	3.3	117	7.0	45	3.8	30	2.5	75	6.3
40 - 44	44	2.6	25	1.5	69	4.1	34	2.9	12	1.0	46	3.9
45 - 49	24	1.4	23	1.38	47	2.8	18	1.5	16	1.3	34	2.8
50 - 55	21	1.26	23	1.38	44	2.6	16	1.3	15	1.26	31	2.56
55 - 59	23	1.38	22	1.32	45	2.7	16	1.3	16	1.3	32	2.6
60 - 64	21	1.26	15	0.9	36	2.2	10	0.8	7	0.59	17	1.39
65 - 69	17	1.00	12	0.7	29	1.7	10	0.8	9	0.75	19	1.55
70 +	20	1.2	20	1.2	40	2.4	13	1.09	14	1.18	27	2.28
Total	877	52.6	789	47.4	1666	100	635	53.5	551	46.5	1186	100

The Foothill Bhoksa or Mahre Bhoksas of Garhwal, on the other hand, comprise 53.5% males and 46.5% females. It is further noted that males are always more numerous than females except in 0-4, 30-34 and 70 years age groups. The sex ratio works out to 867 females per thousand males. It is also much lower as compared to the general Indian population (Census of India, 1991). A comparison of the Bhoksas of two regions indicates that the males are preponderant in both areas yet females have a slightly higher percentage in Tarai areas.

This preponderance of males over females may be due to various biological, cultural, psychological and ecological factors. Sons are given more attention resulting into a better chance of their survival. On the contrary, daughters are not properly cared for, their ailments are sometimes overlooked and sometime not properly treated resulting into lesser chance of their survival.

#### **Age Structure :**

It has been pointed out by Hawley (1959, 364) that the age structure of a population is a product of birth, death and migration rates that have operated over a period of three to four generations. It is noted that the percentage of persons is increasing gradually from 0-4 to 5-9 and just after 10-14 age group. However, it decreases from 65-69 years. The main age categories 0-14, 15-44, 45-60 and 61+ years reflect differences in the two Bhoksa groups. The dependent younger population (0-14 years) is larger in the Tarai area Bhoksa (666) than the Foothill area (510). Same trend is found for dependent age population which is 69 and 46 individuals respectively. In the category of economically active age groups of the population there is a remarkable difference between Tarai and Foothill Bhoksas. Economically active population (15-64 years). has a higher number in Tarai area (932) than in the Foothill area (631). On the other hand, age pyramid made on the pooled data clearly indicates presence of higher proportion of individuals in the younger groups than the older one (Figure 1).

**Mean Age :**

A statistical evaluation of the mean age (all age group combined) by sex is presented in Table-3. The mean age evaluation clearly indicates that generally the Bhoksa populations have irrespective of the sexes, a similar chance of survival in both the Tarai and Foothill regions (Tarai Bhoksa 23.795+ 0.78055 and Foothill Bhoksa 23.025+1.1101). However, in both the regions males accounts for a slightly higher mean age as compared to the females indicating that males are able to cope up with the environmental situation in a better way than their females. It is further noted that the male Bhoksas of Foothill area differ slightly from the Tarai one in terms of the individual age records as they account for the higher standard deviation.

**Table : 3**  
**Mean Age Of Bhoksas Population**

Group	Statistical Evaluation			
		Mean	SE	S.D.
<b>Tarai Bhoksa</b>				
Male	877	24.34	± 0.70791	± 22.7413
Female	789	23.25	± 0.8532	± 22.7413
M + F	1666	23.795	± .78055	± 33.354
<b>Foothill Bhoksa</b>				
Male	635	23.95	± 1.1933	± 30.0711
Female	551	22.10	± 1.0270	± 24.1079
M + F	1186	23.025	± 1.1101	± 27.0895
Pooled	2852	23.41	± 0.9454	± 30.2218

**Index of Ageing and Dependency Ratio:**

Index of ageing means per cent load of the aged population (65+) on the younger group 0-14 years (Karmel, 1941). The index is higher among both the males and females of Tarai Bhoksa (11.04 and 9.67 respectively) than the that of the Foothill Bhoksa (8.88 for males and 5.18 for females). This means that there are more persons of the younger age group belonging to Foothills than the younger group of Tarai Bhoksa, whereas members of older group are slightly higher in the Tarai group than that of Foothill. The index of ageing for pooled sample of the general Bhoksa tribal population works out to 8.93.

The dependency ratio refers to the per cent age load of dependent population (0-14 + 65+ age groups) on the economically active group (15-64 years age group) (Table-3). The table shows that there are more economically active members in Tarai section of Bhoksa than in the Foothill. The dependency ratio is lower in Tarai group (78.86) in comparison to Foothill Bhoksa (86.53). Females in both the groups have a higher dependency ratio than the males (i.e. 85.01 and 95.31 per cent for females whereas 73.66 and 79.66 per cent for males among Tarai and Foothill Bhoksa groups respectively).

**Table : 4**  
**Population Categories, Sex Ratio, Index Of Ageing And Dependency Ratio**  
**Among Bhoksa Tribals**

Population	Age Group	Tarai Bhoksa				Foothill Bhoksa				Pooled Sex Ratio
		M	F	M + F	Sex Ratio	M	F	M + F	Sex Ratio	
<b>Dependent Children</b>	<b>0 - 14</b>	335	331	666	988.0	259	251	510	969.1	978.5
<b>Active Population</b>	<b>15 - 64</b>	505	427	932	945.2	354	277	631	782.5	814.0
<b>Dependent aged</b>	<b>65 +</b>	37	32	69	864.8	23	13	36	565.2	715.0
<b>Total No.</b>	<b>All ages</b>	877	789	1666	899.6	635	551	1186	867.7	883.6
<b>Index of Ageing</b>		11.04	9.67	10.36	--	8.88	5.18	7.06	--	8.93
<b>Dependency Ratio</b>	--	73.66	85.1	78.86	--	79.66	9531	86.53	--	81.96

**Table : 5**  
**Family Size among Bhoksas**

Number of Person in Family (Family Size)	Tarai Bhoksa		Foothill Bhoksa		Total Bhoksa	
	Frequency	Percentage	Frequency	Percentage	F	%
<b>0 - 3</b>	9	4.5	25	12.5	34	8.5
<b>4 - 6</b>	68	34.0	108	54.0	176	44.0
<b>7 - 9</b>	72	36.0	54	27.0	126	31.5
<b>10 +</b>	51	25.5	13	6.5	64	16.0
<b>Total</b>	200	100	200	100	400	100.0
<b>Mean</b>	7.71±	0.213	5.70±	0.236	6.75	0.225

**Table : 6**  
**Frequency of Family Type among Tarai and Foothill Area Bhoksa Population**

Family Type	Tarai Bhoksa		Foothill Bhoksa		Pooled
	Household Frequencies	Percentage	Household Frequencies	Percentage	
<b>1. Non-Familiar Household</b>	03	1.5	01	0.5	4
<b>2. Nuclear Families</b>	86	43.0	122	62.0	208
<b>3. Extended Family</b>	111	55.5	77	38.5	188
<b>Total</b>	200	100.00	200	100.00	400

### Family Size :

Size of the family is an important social variable as it effects the economic prosperity of the family and in turn their nutritional status. In view of its overall significance and analysis of the Bhoksa family size (as presented in Table 6), it is observed that a Bhoksa family may have as low as 3 members to as high as more than 10 individuals. The distribution of the family size indicates that while among the Foothill Bhoksas families having 4-6 individuals are quite common. As many 54% family adhere to this norm of 4-6 individuals per family. This is followed by 27.0% families having 7-9 members. A lower frequency of 6.5% families have over 10 individuals. On the other hand, among the Tarai Bhoksas this generally ranges from 7-9 individuals accounting for 72% of the families which are more or less equal to the families having 4-6 individuals (68%). It is further noted that while the Foothill Bhoksa have much lower 6.5% families having 10 individuals but the Tarai Bhoksas have one fourth of the total (25.5%) families having more than 10 individuals. Thus on the whole it is quite clear that

Foothill Bhoksa families are comparatively smaller with a mean value of  $5.78 \pm 0.236$  individual per family as compared to  $7.71 \pm 0.213$  individuals in a family of Tarai Bhoksas. Thus, on an average a Bhoksa family is characterized by having at least 6 or more than 6 individuals as its number. This is certainly higher than the current norm of family size in India.

#### Family Type :

Majumdar and Madan (1956) have pointed out that family is not only biological, social and functional unit but also is a group of deliberately formed association. The composition of the family differs in space and time. Its primary group comprises husband, wife and their unmarried children which is referred to a Nuclear Family. However, in the event this nuclear is remain incomplete such households are called as Non-familiar households. On the other hand, if the nucleus of the family is extended by the addition of certain closely related Kins then it is referred to as Extended family. An Extended family includes extension in both side vertically and horizontally.

In view of the above a three-fold classification of the Bhoksa families is given in Table 7. It is quite clear that among the Tarai Bhoksas as many as 55% households fall in the category of Extended family. This is followed by 43% Nuclear family and only 1.5% households are non-familiar households. On the other hand, Foothill Bhoksas are characterized by Nuclear family having as many as 62% households followed by only 38.5% households which are classified as Extended family. Just one household included in the sample could be classified into Non-Familiar households.

**Table : 7**  
**Couples Per Family Among Bhoksas**

Couple Numbers	Tarai Bhoksa		Foothill Bhoksa		Total	
	Household Frequency	Percentage	Household Frequency	Percentage	F	%
0	1	0.5	5	2.25	6	1.5
1	116	58.0	152	76.0	268	67.0
2	49	24.5	36	15.5	85	21.25
3	21	10.5	6	3.00	27	6.75
4 +	13	6.5	1	0.5	14	3.5
Total	200	100.00	200	100.00	400	100.00

Thus, the Extended families are more preponderant among the Tarai Bhoksas, whereas the Foothill Bhoksas generally have the Nuclear family (62%) a close knit group.

#### Frequency Of Couple In A Family :

The number of couples in a family determine the growth and size of the population. When the composition is examined in term of the number of couples per family, it is noted that Foothill Bhoksa households are characterized by a single couple (76%). There are only 18.5% household having 2 or 3 couiples and incidently just one household is noted to have 4 couples. On the other hand, Tarai Bhoksa's situation is slightly different, even one couple is more preponderant among them (noted in 58% households). There are over 49% households having 2-3 or more couples. When the Bhoksas of both the regions are pooled together, it is found that on an average Bhoksa households are characterized by the preponderance of a single couple (67.0%). This is followed by the households which have 2 or 3 couples (28.0%). The Bhoksa households having more than 4 couples are 3.5% only.

### Educational Status :

Educational facilities provided in the Bhoksa areas by the Government and Non-Government Organizations are not adequate. Even the Govt. of India has planned to provide free education along with free lodging and Board arrangement but these facilities have not been fully awaited by the Bhoksas. The Non-Government Organization including the voluntary agencies have set up school up to the 8<sup>th</sup> standard (Junior High School) both in the Tarai and Foothill areas. In the Tarai area of Nainital district, there are 12 Junior High School, 5 Higher Secondary School, 2 Inter Colleges and one Degree College. In addition, the primary level school (Basic) launched by the Government of India as well as by the Voluntary Agencies are numerous. Such basic schools are usually available within a distance of 1-3 Kms. from a Bhoksa village. It is noted that the Foothill area has lesser number of educational institutions. There are 6 Junior High School, 3 Higher Secondary School and 2 Inter Colleges at this area (i.e. Vikasnagar and Doiwala). However, for higher education one has to approach the college at the district headquarters i.e. Dehradun. Though basic school are numerous in the official record yet many of them are non-functional.

Thus, in spite of the meagre facility for formal education in the Bhoksa area, they do not have interest to get it. As they are settled agriculturists, they supplement their income by using their children in their daily pursuits including the collection of food from the forest, fishing, hunting, wood-gathering and sericulture. Perhaps because of this reason, they do not encourage their children for formal education.

While conducting the demographic survey for the purpose of the study all those persons who were just able to read and write were considered literate. However, children below 5 years age were excluded from this counting of literate in accordance with the procedure adopted during the Census operation.

It is quite apparent from the Table 8 that the rate of literacy among the Bhoksas worked out to 12.62% which is quite low as compared to general literacy rate in the country. However, looking at the Bhoksas situation, it is noted that the rate of literacy is higher in the males as compared to their females. Hardly 1.78% of the Bhoksa females were literate at the time of the survey. The male Bhoksas have a higher rate of literacy (23.45%) as compared to their females.

**Table : 8**  
**Status Of Education Among The Two Groups Of Bhoksa**

Educational Categories	Tarai Bhoksa			Foothill Bhoksa		
	Male	Female	M + F	Male	Female	M + F
1. Illiterate	73.09	97.88	85.48	80.02	98.56	89.29
2. Just literate (can read & write)	13.93	1.50	7.72	10.89	1.08	5.99
3. Primary	7.56	0.38	3.97	6.07	.36	3.22
4. Junior High School	4.56	0.12	2.34	1.94	--	0.97
5. High School	0.60	0.12	0.36	0.97	--	0.34
6. Intermediate	0.24	--	0.12	0.16	--	0.08
7. Graduate	0.12	--	0.06	0.16	--	0.08
8. Technical Education	0.12	--	0.06	0.16	--	0.08

A groupwise comparison of the Bhoksas indicate that the Tarai Bhoksas (both male and female) have a higher literacy rate (14.52%) as compared to their counterpart in the Foothill area of Dehradun (10.79%). In the category of literate a majority may be classified into the just literate who can read and write only (i.e. 7.72% in the Tarai Bhoksas and 5.99 in the Foothill Bhoksas). Very few Bhoksas seem to have gone up to the level of Junior High School. However, in the Foothill area none of the female Bhoksa received the education up to Junior



High School level. There are only two males (i.e. one in the each group) who have studied up to the Graduate level. Two males (one in each group) have also received technical education.

This variation in the two sexes may due to the existing belief among the older Bhoksas that the ultimate aim of school education is getting jobs and since females are not supposed to get jobs, hence a lower rate of literacy among females. As for the variation in the two groups, it may be due to the economical status, as Tarai Bhoksas are more well off in comparison to their counterpart in the Foothill area, the youngsters among Foothill Bhoksas are supposed to help in the daily economic pursuits of their parents, hence a more lower rate of literacy among Foothill Bhoksas.

Thus, it may be stated that the rate of literacy among the Bhoksa is much poorer (12.62%) as compared to the state of Uttar Pradesh (41.0%) and that of India in general (52.21%). The training of the Bhoksa children is a by-product of other activities rather than a specialized cultural process, and is effected by a progressive participation of the growing individuals in adult pursuits. A Bhoksa family, the domestic institution is the important transforming agency who trains individuals in so far as their beliefs, behaviour, personal hygiene and dietary habits etc., are concerned. Changes in attitudes and behaviour are securely instituted in the household unit. Much of their education (informal) is acquired by imitation of, or participation in, a series of the acts of the elders.

#### **Occupation:**

In order to make an arrangement of the primary occupational categories of the total working population and also the burden of non-workers each and every member of 400 households included in sample was enquired about his or her occupations. It is significant to note that there are substantially higher number of non-workers as compared to workers. The work participation rate is higher in the Tarai Bhoksa male (44.35%) as compared to their females (25.6%). Among the Tarai Bhoksa males 448 persons were classified as non-workers and 389 person as workers. Where as among the females, there are 202 workers and 587 non-workers. On the other hand, the Foothill Bhoksas include 277 workers and 358 non-workers among the males, while 209 workers and 242 non-workers among the females. The rate of work participation is higher (37.93%) among the females of Foothill Bhoksas as compared to the females of Tarai Bhoksa. However, on pooling the sample of the two Bhoksa groups, it is further noted that the proportion of non-worker Bhoksas is higher as compared to that of the worker Bhoksas indicating low rate of work participation (37.87%). When it is compared with the General Work participation rate of the State of Uttar Pradesh, it is noted that the work participation rate among Bhoksa is slightly higher as compared to the State.

**Table : 9**  
**Sexwise Distribution Of The Bhoksa's Occupations**

Occupational Level	Tarai Bhoksa			Foothill Bhoksa		
	M Frequency	F Frequency	Total Frequency	M Frequency	F Frequency	Total Frequency
<b>Cultivation</b>	<b>220 (56.6)</b>	<b>--</b>	<b>220 (37.2)</b>	<b>109 (39.4)</b>	<b>1 (0.5)</b>	<b>110 (22.5)</b>
<b>Agriculture Lab.</b>	<b>80 (20.6)</b>	<b>5 (2.5)</b>	<b>85 (14.4)</b>	<b>79 (28.5)</b>	<b>10 (4.8)</b>	<b>89 (18.3)</b>
<b>Fishing/Forestry</b>	<b>15 (3.9)</b>	<b>35 (17.3)</b>	<b>50 (8.5)</b>	<b>10 (3.6)</b>	<b>45 (21.5)</b>	<b>55 (11.3)</b>
<b>Household Industry/Animal Husbandry</b>	<b>3 (0.8)</b>	<b>95 (47.0)</b>	<b>98 (16.6)</b>	<b>1 (0.4)</b>	<b>55 (26.3)</b>	<b>56 (11.5)</b>
<b>Artisan/Craftmen</b>	<b>8 (2.1)</b>	<b>2 (1.0)</b>	<b>10 (1.7)</b>	<b>3 (1.1)</b>	<b>1 (0.5)</b>	<b>4 (0.8)</b>
<b>Construction</b>	<b>3 (0.8)</b>	<b>--</b>	<b>3 (0.5)</b>	<b>4 (1.4)</b>	<b>--</b>	<b>4 (0.8)</b>
<b>Trade &amp; Transport</b>	<b>4 (1.0)</b>	<b>--</b>	<b>4 (0.7)</b>	<b>2 (0.7)</b>	<b>--</b>	<b>2 (0.4)</b>
<b>Service</b>	<b>21 (5.4)</b>	<b>--</b>	<b>21 (3.6)</b>	<b>5 (1.8)</b>	<b>--</b>	<b>5 (1.0)</b>
<b>Sericulture/Animal</b>	<b>12 (3.1)</b>	<b>55 (27.2)</b>	<b>67 (11.3)</b>	<b>49 (17.7)</b>	<b>85 (40.7)</b>	<b>134 (27.6)</b>
<b>Other</b>	<b>23 (5.9)</b>	<b>10 (5.0)</b>	<b>53 (5.6)</b>	<b>15 (5.4)</b>	<b>13 (6.2)</b>	<b>28 (5.8)</b>
Total worker	389 (44.35)	202 (25.6)	591 (34.97)	277 (43.62)	209 (37.93)	486 (40.77)
Total non-workers	448 (55.65)	587 (74.4)	1035 (65.03)	358 (56.38)	342 (62.0)	700 (59.23)
Total	877	789	1666	635	551	1186

**Table : 10**  
**Distribution Of Lands Among Bhoksa Families**

Lands in Acre	Tarai Bhoksa		Foothill Bhoksa	
	Frequency	Percentage	Frequency	Percentage
<b>Land less</b>	<b>17</b>	<b>8.5</b>	<b>66</b>	<b>32.5</b>
<b>Upto 5</b>	<b>121</b>	<b>55.5</b>	<b>134</b>	<b>66.0</b>
<b>6 - 9</b>	<b>40</b>	<b>20.0</b>	<b>3</b>	<b>1.5</b>
<b>10 +</b>	<b>32</b>	<b>16.0</b>	<b>--</b>	<b>--</b>
Total	200	100.00	203	100.00

**Table : 11**  
**Bhoksa Family Income Distribution**

Income Range (in Rs.)	Mean Value (m)	Tarai Bhoksa		Foothill Bhoksa		Pooled PCI
		Frequency	Per capita income	Frequency	Per capita income	
<b>0 - 400</b>	<b>200</b>	<b>86</b>	<b>3.25</b>	<b>124</b>	<b>4.0</b>	<b>3.625</b>
			<b>10.5</b>		<b>13.5</b>	<b>12.000</b>
			<b>31.25</b>		<b>65.0</b>	<b>48.125</b>
			<b>45.5</b>		<b>66.5</b>	<b>56.000</b>
<b>400 - 800</b>	<b>600</b>	<b>97</b>	<b>58.5</b>	<b>66</b>	<b>78.75</b>	<b>68.625</b>
			<b>68.75</b>		<b>27.5</b>	<b>48.125</b>
			<b>123.5</b>		<b>42.25</b>	<b>82.875</b>
			<b>67.5</b>		<b>30.0</b>	<b>48.750</b>
<b>800 - 1200</b>	<b>1000</b>	<b>17</b>	<b>29.75</b>	<b>10</b>	<b>21.25</b>	<b>25.500</b>
			<b>28.5</b>		<b>23.25</b>	<b>25.875</b>
			<b>22.0</b>		<b>--</b>	<b>11.000</b>
			<b>22.0</b>		<b>--</b>	<b>11.000</b>
Total		200	489.00	200	372.5	430.75

It is observed that a larger proportion of the population is engaged in the cultivation or agriculture work followed by the agriculture labours among the worker Bhoksas, Sericulture

and the household industry (i.e. rope making, basketry work etc.) are usually done in the house. Few of them have taken recourse to animal husbandry, fishing/forestry, artisan/craftsmen as their main occupation. Few of them engaged in building construction, trade and transport and service as their main occupation.

**Land Ownership:**

It is clear from the Table 11 that over 90% of Tarai Bhoksas have agricultural land under their ownership. On the other hand, among the Foothill Bhoksas those having lands do not exceeds beyond 67.5%. In other words, a very few proportion of the Tarai Bhoksas (8.5%) are landless as compared to their counterpart in the Foothill area (32.5%). It is further noted that the Tarai Bhoksas are richer in having more lands as compared to the Foothill Bhoksas. There are 55.5% Tarai Bhoksas having lands up to 5 acres. Another 20% have lands up to 10 acres and 16% Tarai Bhoksas have lands beyond 10 acres. On the other hand, among Foothill Bhoksas a fairly high proportion of the 66% have land up to 5 acres. And just 1.5% Foothill Bhoksas have lands. This account makes clear that Foothill Bhoksas are comparatively, poorer in so far as the land holding is concerned. At the same time the proportion of landless Bhoksas is appreciably higher in the Foothill group as compared to their counterpart of the Tarai area.

**Per Capita Income:**

According to the estimate given in a Report of National Census, the pooled income of all family/household members is divided by the number of family units gives the per capita income. A family unit is defined as a number of individual above 12 years + all members below 12 years considered as a half unit.

Thus on the basis of above estimate, the per capita income of each family/household was calculated which works out to 372.50 Rs. per annum for the Foothill Bhoksa and 489.00 Rs. per annum for the Tarai Bhoksas. On pooling the two Bhoksa groups, it is approximately 430.75 Rs. per annum as the per capita income which is much lower than the general per capita income in India, 2001. When the formula are described according to the Income range, it is noted that there are most of the households who has it average income below the Rs. 400 per annum. Groupwise comparison reveals that a majority of the households among the Foothill Bhoksas belong to the lower per capita income range (i.e. 0-400) followed by the middle per capita income range (400-800). There is a least number of households which fall under the relatively high per capita income range (800 +). On the other hand, among Tarai Bhoksas, there is a preponderance of the households which belong to the middle per capita income range closely followed by the households having lower per capita income range. The households belonging to the high per capita income range among the Tarai Bhoksas are slightly in higher number as compared to their counterpart of the Foothill area.

Thus, it is clear from the above details that the Foothill Bhoksas are not economically well off as compared to the Bhoksas of Tarai area.

**Marital Status :**

An accurate classification of the population by marital status presents serious difficulties, mainly due to the definition of 'married'. Couples living in a consensual union may or may not report themselves as 'married'. A second source of uncertainty regarding this arises from 'separation' which may be *de fact* or *de jure*. In order to avoid such confusion in the present study, 'separated' have been put with 'divorced' and not with 'married'. These marital status categories, namely, Never Married, Married, Widowed, Divorced or Separated have been used following the Census of India (1991), which includes another category - 'Unspecified', this additional category has not been used as practically in all cases in the village marital status contions were specified.

**Table : 12**  
**Marital Status Among Tarai Bhoksa**

Age Group	Never Married				Married				Widowed				Seperated/Divorced			
	M	F	T	%	M	F	T	%	M	F	T	%	M	F	T	%
0 - 4	105	100	205	12.3	--	--	--	--	--	--	--	--	--	--	--	--
5 - 9	121	125	246	14.76	--	--	--	--	--	--	--	--	--	--	--	--
10 - 14	109	106	215	12.9	--	--	--	--	--	--	--	--	--	--	--	--
15 - 19	76	53	129	7.74	11	21	32	1.92	--	--	--	--	--	--	--	--
20 - 24	49	13	62	3.72	43	55	98	5.88	--	--	--	--	--	--	--	--
25 - 29	17	0	17	1.02	65	59	124	7.44	1	2	3	0.18	1	1	2	0.12
30 - 34	--	--	--	--	45	56	101	6.05	1	3	4	0.24	1	1	2	0.12
35 - 39	2	--	2	0.12	52	49	101	6.06	5	2	7	0.42	3	4	7	0.42
40 - 44	--	--	--	--	30	20	50	3.00	11	5	16	0.96	3	--	3	0.18
45 - 49	--	--	--	--	20	23	47	2.82	4	--	4	0.24	2	--	2	0.12
50 - 54	--	--	--	--	16	14	30	1.80	1	7	8	0.48	4	--	4	0.24
55 - 59	--	--	--	--	15	16	31	1.86	6	6	12	0.72	2	--	2	0.12
60 - 64	--	--	--	--	13	8	23	1.38	6	7	13	0.78	2	--	2	0.12
65 +	--	--	--	--	10	9	19	1.14	10	11	21	1.26	--	--	--	--
Total	480	410	890	53.42	329	329	658	39.5	51	43	94	5.64	18	6	24	1.44

Table 12 shows that the percentage of never married persons is highest among both the groups. There are 53.42 and 57.25 per cent unmarried persons. The proportion of married individuals are 39.5 per cent and 39.29 per cent persons existing in Tarai and Foothill villages of Bhoksas. The percentage of spinster (Widow/widower) is 5.64 in Tarai area whereas it is 3.2 per cent in Foothill group. The number of separated persons are lowest in both the Bhoksas groups. The decline in Frequency of never married persons can be seen from age group of 10-14 years (12.9%) to 25-29 years (1.02%) from the later age group of 15-19 to the percentage of never married declines gradually and ultimately diminishes at the age group of 30-34 years.

As the frequency of never married person declines the frequency of married persons rises, indicating that more and more persons get married as they proceed towards the age group of 15-19 years. Highest peaks, 7.44 and 6.15 per cent of married persons among the Tarai and Foothill Bhoksas respectively are in age group of 20-29. The frequency of married person first increases from age group of 10-14 to 20-29 and then there is a gradual decline with an exception among Foothill Bhoksas population where a steeple is clearly observed at the age level of 35-39 years. However, it may be noted that among the Bhoksas a majority of married persons belong to the age group of 20-39 years. Widowed Bhoksas belonging to age of 35 years and above are numerous. A majority of separated divorced person among the Bhoksa population belongs to the age group of 35-54 years. When a comparison is made between the two sexes, it is noticed that a high percentage of males are never married (30.36%) than the females (24.65%) among them.

**Age At Marriage :**

The details of age at marriage of the Bhoksas in the two areas for two sexes separately are given in table-14. A close scrutiny of the table makes immensely clear that lowest age when a male person gets married in the Bhoksa community fall in the age group 13-15 years.

**Table : 13**  
**Marital Status Among Foothill Bhoksa**

Age Group	Never Married				Married				Widowed				Seperated/Divorced			
	M	F	T	%	M	F	T	%	M	F	T	%	M	F	T	%
0 - 4	73	83	156	13.15	--	--	--	--	--	--	--	--	--	--	--	--
5 - 9	102	87	189	15.93	--	--	--	--	--	--	--	--	--	--	--	--
10 - 14	83	75	158	13.32	--	01	01	0.08	--	--	--	--	--	--	--	--
15 - 19	45	24	69	5.81	22	30	52	4.38	--	--	--	--	--	--	--	--
20 - 24	29	05	34	2.86	34	39	33	6.15	1	--	1	0.08	2	--	2	0.16
25 - 29	32	07	39	3.28	21	34	55	4.63	2	--	2	0.16	1	--	1	0.08
30 - 34	--	--	--	--	27	34	61	5.14	1	--	1	0.08	--	--	--	--
35 - 39	--	--	--	--	44	30	74	6.23	4	3	4	0.32	--	--	--	--
40 - 44	--	--	--	--	33	13	46	3.87	4	3	4	0.32	--	--	--	--
45 - 49	--	--	--	--	17	12	29	2.44	1	8	9	0.75	--	--	--	--
50 - 54	--	--	--	--	15	14	29	2.44	7	2	9	0.75	--	--	--	--
55 - 59	--	--	--	--	09	05	14	1.18	2	1	3	0.25	--	--	--	--
60 - 64	--	--	--	--	08	08	16	1.35	3	8	3	0.25	--	--	--	--
65 +	--	--	--	--	10	06	16	1.35	3	8	11	0.93	--	--	--	--
Total	386	293	679	57.25	233	233	466	39.29	13	25	38	3.2	3	--	3	.24
Total Tarai Bhoksa	480	410	890	53.42	329	329	658	39.5	51	43	94	5.66	18	6	24	1.44
Total Foothill Bhoksa	386	293	679	57.25	233	233	466	39.29	13	25	38	3.2	3	--	3	.24
Tarai Bhoksa	866	703	1569	55.33	562	562	1124	39.40	64	68	132	4.43	21	6	27	0.84

However among Foothill Bhoksas a comparatively higher mean age at marriage is noted than the Bhoksas of Tarai area. On pooling the data the mean age at marriage works out to  $18.80 \pm 0.368$  for the Bhoksas.

**Fertility and Mortality:**

Fertility and mortality determine the size, growth and structure of any population. They, in reference to specific phenotypes and genotypes in a population are the manifestation of the selection process and are highly influenced by the socio-cultural, economical and environmental factors. Table-15 reveals that child/women ratio and child birth index both are higher in Tarai Bhoksa as compared to Foothill counterpart because of comparatively large family size, landholdings and better economic conditions in Tarai Bhoksa group. Since methods of family planning are comparatively more accepted by Tarai Bhoksas because of their better status of literacy and economy. Average age at the first conception among Tarai mothers are relatively higher. Percentage of never pregnant abortion and still birth, mother in Tarai women also higher either due to rather more acceptance of family planning or due to genetic environmental anomalies present in the area.

**Table : 14**  
**Frequency Distribution Of Bhoksa Couples By Their Age At Marriage**

Category	Male		Female		M + F
	No.	Percentage	No.	Percentage	
1. Tarai Bhoksa					
<b>Less than 13</b>	--	--	7	02.13	7

13 - 15	19	05.78	105	31.91	124
16 - 18	109	33.13	130	39.51	239
19 - 21	131	39.82	65	19.76	196
22 - 24	39	8.81	18	5.17	47
25 - 27	225	07.60	3	9.12	28
38 +	6	1.82	1	0.30	7
Total	329	100.00	329	100.00	658
Mean SE	18.95 ± 0.3415		16.98 ± 0.4265		17.92 ± .384
2. Foothill Bhoksa					
Less than 13	--	--	--	--	--
13 - 15	03	01.30	54	23.48	57
16 - 18	35	01.52	70	30.43	105
19 - 21	103	44.78	87	37.83	190
22 - 24	42	18.26	16	6.96	58
25 - 27	39	16.96	2	0.87	41
28 +	8	3.47	1	0.43	9
Total	230	100.00	230	100.00	
Mean SE	21.38 ± 0.2461		17.98 ± 0.3933		19.68 ± 3197
Pooled Bhoksas	20.17 ± 0.2938		17.98 ± 0.3195		18.80 ± 0.368

Table : 15

## Reproductive Performance Of Women Among Bhoksa Tribals

Variables	Tarai Bhoksa	Foothill Bhoksa	Pooled Bhoksa
No. of women who became pregnant	334	246	480
Never pregnant	39	28	67
Average age of first conception	19.24 ± 1.45	18.47 ± 1.2	18.88 ± 1.33
Live birth	1542	1047	2589
Child birth index	3.86	3.55	3.72
Child women per 1000	694.6	595.9	647.7
Abortion/still birth	32	24	67
Percentile acceptance of family planning	13.95	11.42	12.69

Percentage of never pregnant women, abortions and still birth are low in Foothill Bhoksas because of better environmental conditions.

**Table : 16**  
**Certain Measures Of Fertility And Mortality Among Bhoksa Tribals**

Population	Fertility Rate		Mortality Rate	
	C.B.R. (Per 1000)	G.F.R. (Per 1000)	C.D.R.	I.M.R.
<b>Tarai Bhoksa</b>	<b>39.63</b>	<b>191.16</b>	<b>16.86</b>	<b>204.55</b>
<b>Foothill Bhoksa</b>	<b>35.41</b>	<b>175.59</b>	<b>13.21</b>	<b>169.49</b>
<b>Pooled</b>	<b>37.52</b>	<b>183.38</b>	<b>15.04</b>	<b>187.02</b>

Table-16 depicts the fertility and mortality trends in terms of rates like CBR, GFR, CDR and IMR etc. which are significant indicators of population. It is noticed that Crude Birth Rate (CBR) is higher among Tarai Bhoksas than the Foothill Bhoksas. A similar trend is noted in the case of General Fertility Rate (GFR) due to the better economy of Tarai Bhoksas. In case of age specific fertility, percentage of live birth is rather lower in the minimum and maximum age of reproductive period of Tarai Bhoksa women (Table 17). Since male child is rather highly preferred in Bhoksa Tribe, so male child birth is higher in all ages of Bhoksa mothers except the early age groups (15-19, 20-24, 25-29 years) of Foothill Bhoksa women.

**Table : 17**  
**Age Specific Fertility Rate Among Bhoksas**

Age Group	Tarai Bhoksa			Foothill Bhoksa		
	M	F	Age Specific General Fertility	M	F	Age Specific General Fertility
10 - 14	--	--	--	--	--	--
15 - 19	27.0	13.5	40.5	--	16.1	16.1
20 - 24	101.4	144.9	246.3	68.2	136.4	204.6
25 - 29	163.9	131.1	295.0	97.6	73.2	170.8
30 - 34	100.0	66.7	166.7	205.8	117.6	323.4
35 - 39	72.7	54.5	127.2	33.3	100.0	133.3
40 - 44	80.0	--	80.00	--	--	--
45 +	43.5	43.5	87.0	--	--	--

**Table : 18**  
**Age Specific Mortality Rate (October 1988-October 1989)**

Age Group	Tarai Bhoksa			Foothill Bhoksa		
	M	F	M+F (General)	M	F	M+F (General)
0 - 1	200	172.4	186.44	200	235	218.6
0 - 4	19.05	--	9.76	27.4	24.1	25.6
5 - 9	16.05	--	8.1	9.8	--	5.3
40 - 44	22.7	--	14.5	--	--	--
50 - 54	47.6	43.5	45.5	--	--	--
60 - 64	47.6	--	27.8	100	142.9	117.6
65 - 69	58.8	--	34.5	200	222.2	210.5
70+	350	200	275	284.6	285.7	333.3

Crude Death Rate (CDR) and Infant Mortality Rate (IMR) are higher among Tarai Bhoksas than the Foothill Bhoksas. Both the measures of mortality indicates relatively higher rates among Tarai Bhoksa solely because unhealthy environmental conditions present in the area as compared to the surroundings of Foothill counterparts. A similar trend is also noticed in age specific mortality rates (Table-18).

Thus, it is clearly found that Tarai Bhoksas have rather higher rates of fertility on one hand, and on the other, they have moderate rate of mortality because of relatively better conditions of economy and better situations of environment. Hence, it makes the crude rate of natural increase of Tarai Bhoksas moderately greater (22.20 per 1000) than the Foothill Bhoksas (17.73 per 1000) who are experiencing poor nutritional status and unhealthy economic conditions.

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