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Population composition of a caste population (Paundra Kshatriya) living in peri-urban setting, West Bengal, India

N. L. Bhutia

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Nawang Lhamo Bhutia, Anthropological Survey of India, 27 Jawaharlal Nehru Road, Kolkata, India

E-mail: bhutianawanglhamo@gmail.com

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Nawang Lhamo Bhutia, Anthropological Survey of India, 27 Jawaharlal Nehru Road, Kolkata, India

E-mail: bhutianawanglhamo@gmail.com

ABSTRACT

Background: Structure of population is considered as internal structure of any human population with respect to different demographic variables which, usually varies from one population to another. This study deals with composition of population among the Paundra Kshatriya residing in Sonarpur area of West Bengal, India.

Design and setting: This study was undertaken among the Paundra Kshatriya, a Scheduled Caste population group of West Bengal. Altogether, 307 families were covered from Sonarpur, a peri-urban setting of North 24 Parganas district, West Bengal.

Methods: A door-to-door survey was undertaken with the help of a structured schedule. Only the Paundra Kshatriya families were considered.

Results: Males were recorded in excess number than their counterpart (Male: 640; female: 598). Mean live birth (2.50) and index of child mortality (24.15) both were considerably lower among the Paundra Kshatriya. A constriction at the base of population pyramid was noticed.

Discussion: Sonarpur being a peri-urban area enjoy nearness to urban centre, Kolkata. This might have played important role in their lifestyle, reproductive life as well as family planning, which have resulted in lower fertility and infant mortality among them.

KEYWORDS: Population Structure. Paundra Kshatriya. Peri-Urban area. Sonarpur. West Bengal

INTRODUCTION

The composition of population is the internal structure of a human population with respect to one or more demographic attributes or traits at a particular point of time. The word 'composition' in population literature is often used as a synonym of 'distribution' or 'structure' (Misra 1982).

Population structure to the demographers means the age and sex composition which they utilize for building up of the population projections. It varies in time and space as a consequence of births and deaths as well as selective migration (Reddy 1991). Composition of population within small areas or within a whole country can be changed by its fertility, mortality and residential morbidity. Side by side, the study of a population composition acts as an indicator of its current population dynamics (Chachra and Bhasin 1998).

Population is divided in our country mainly based on rural and urban setting. Size and occupation of the populations make the differences. While the rural population consists of small sized settlements, scattered over the countryside urban population is one that lives in large size settlements i.e. towns and cities. Rural area is characterized with the people who are mainly farmers, whereas the urban people are mainly engaged in non-agricultural activities such as trade, manufacturing and social services (nios.ac.in/media/documents/316courseE/ch27.pdf).

However, the population composition has been studied widely in India in different areas (Basu 1969, Ghosh 1976, Talukdar 1979, Rao 1989, Narhari 1991, Reddy 1991, Adak et al 2018 and many others) no such work is conducted in any peri-urban area to the best of author's knowledge. Hence, an endeavor has been made in the present study to deal with certain aspects of Population composition of a caste population (Paundra Kshatriya) living in a peri-urban setting, West Bengal, India.

MATERIALS AND METHODS

A Paundra Kshatriya dominated area i.e., Sonarpur, 24 Parganas, West Bengal was purposively selected and all the Paundra Kshatriya households were studied. Therefore, no specific sampling method was followed in this study. A door-to-door survey was conducted, using structured schedule. Information was collected relating to general demographic and socio-economic variables. Altogether 307 families were covered.

The Paundra Kshatriya or Pod (caste) forms the largest segment of the heterogenous population in the studied area. They are considered as disadvantaged population in terms of overall socio-economic development. They belonged to the Scheduled Caste (SC) category. The community is a combination of landowning and landless people (Singh 2008). Paundra Kshatriya residing in this area is largely dependent

on various kinds of self-engaged occupation for their subsistence economy. The males are mainly engaged in self-employment (33.85%) and different types of white-collar job (27.43%). A good number of them are also engaged in skilled (17.95%) and non-skilled job (13.85%). The females are engaged in non-skilled (4.27%), skilled (2.4%), white-collar job (3.73%) and self-employment service (2.93%) in a very low frequency. However, as expected, majority of the females are found to be engaged as housewife (86.13%) in this population (Bagchi and Adak 2012).

RESULTS

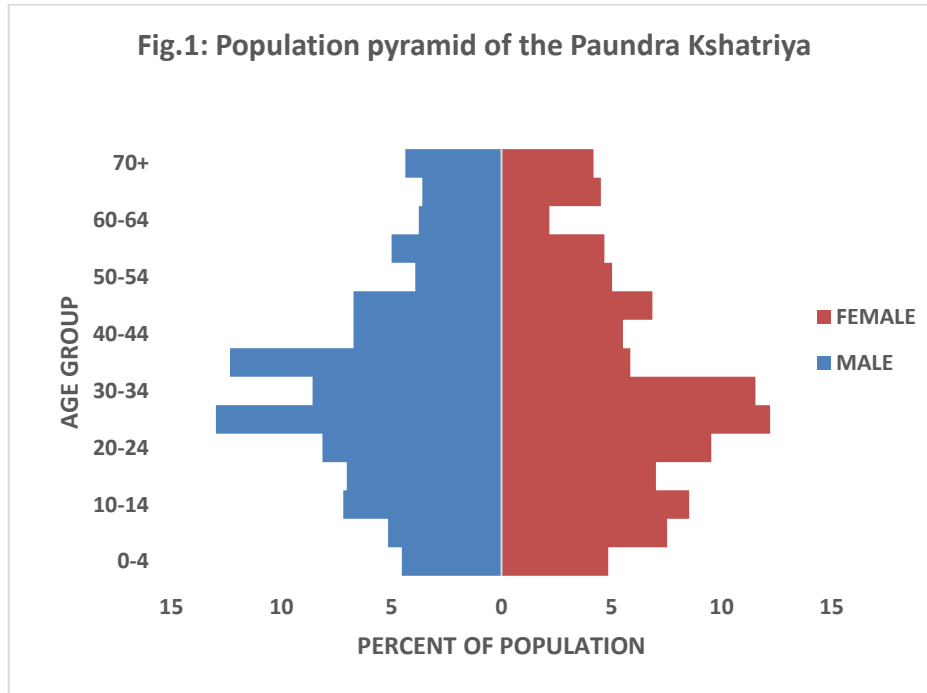
Age and sex distribution

Population differs greatly in the way their members are distributed in various age and sex category. Age and sex distribution are the building block that construct the composition of a population.

The age structure and sex distribution of the Paundra Kshatriyas of Sonarpur are presented in Table 1. Of the total 1238 population, there are 640 males and 598 females, which give the sex-ratio 934.47 females per 1000 males. About 19 percent of the total population is recorded in the pre-reproductive age group (0- 14 years), whereas in reproductive (15-49 years) and post-reproductive age groups (50 years and above) 60 and 21 percent of the total population are recorded. It appears that the number of individuals gradually decreases as age advances in this population. There is a preponderance of female individuals to male individuals in the category of pre-reproductive age group (0-14 years). However, the same is not true in reproductive (15-49 years) as well as post-reproductive age group (50 and above years). A reverse trend is perceptible in these two age category. The age-sex structure of the Paundra Kshatriya population is shown graphically in figure 1. The age structure of the studied population suggests a trend of progressive type population growth. This may readily be appreciated visually from the illustration portraying the age pyramid (figure 1). However, a constriction at the base of the population pyramid, suggesting a recent fertility decline, or increased infant mortality in the study population.

Table 1: Age-sex wise distribution of the Pundra Kshatriya

Age cohort	Male		Female		Total	
	No.	%	No.	%	No.	%
0-4	29	4.53	29	4.85	58	4.68
5-9	33	5.16	45	7.53	78	6.30
10-14	46	7.19	51	8.53	97	7.84
						18.82
15-19	45	7.03	42	7.02	87	7.03
20-24	52	8.13	57	9.53	109	8.80
25-29	83	12.97	73	12.21	156	12.60
30-34	55	8.59	69	11.54	124	10.02
35-39	79	12.34	35	5.85	114	9.21
40-44	43	6.72	33	5.52	76	6.14
45-49	43	6.72	41	6.86	84	6.78
						60.58
50-54	25	3.91	30	5.02	55	4.44
55-59	32	5.00	28	4.68	60	4.85
60-64	24	3.75	13	2.17	37	2.99
65-69	23	3.59	27	4.51	50	4.04
70+	28	4.37	25	4.18	53	4.28
						20.60
Total	640	100.00	598	100.00	1238	100.00



Sex ratio

For the present study, the sex-ratio is defined as the number of females per 1000 males. In table 2 sex-ratio values in the pre-reproductive (0-14 years), reproductive (15-49 years) and post-reproductive (50+ years) age groups are presented. Sex-ratio value is found to be highest in pre-reproductive age group (1157.41) and lowest in reproductive age group (875.0), which is followed by post-reproductive age group (931.82). The overall sex ratio is however, found to be 934.37 among the studied population. This indicates more number of males than their counterpart in this population.

Table 2: Distribution by age, sex and sex ratio in pre-reproductive,

Age groups (in years)	Male	Female	Total	Sex-ratio
Pre-reproductive (0-14 years)	108 (8.72)	125 (10.01)	233 (18.82)	1157.41
Reproductive (15-49 years)	400 (32.31)	350 (28.27)	750 (60.58)	875.0
Post-reproductive (50+ years)	132 (10.66)	123 (9.93)	255 (20.60)	931.82
Total	640 (51.70)	598 (48.30)	1238 (100.00)	934.37

Population characteristics

Some population characteristics of the Paundra Kshatriya are presented in Table 3. It reveals considerably a high index of aging (60.08). This is indicative of less mortality of the aged persons. Child

women ratio among them is 18.77, suggesting a declining trend of fertility. Total dependency ratio is found to be 43.12, while young dependency ratio is 26.94 among them.

Table 3: Population characteristics of the Paundra Kshatriya

Index of aging	60.08
Young dependency ratio	26.94
Old dependency ratio	16.18
Total dependency ratio	43.12
Child women ratio	18.77

Reproductive performance

To find out the completed family size, the Paundra Kshatriya women, who are aged 45 years and above, married once and lived continuously in wedlock till attainment of 45 years of age have been taken into consideration. Completed family size among the study population is 3.75 ± 0.21 . It is further seen that mean number of surviving children to those women is 3.43 ± 0.19 (Table 4).

Mean number of live births and surviving children of all married women by age groups have been furnished in Table 5. Mean of live births per Paundra Kshatriya mother is 2.50 ± 0.12 . It is also noticed that mean number of live births increases with advancement of age among the studied population. Mean live births increases from 1.00 ± 0.11 for the mother 20-24 years age group to 4.88 ± 0.42 for the mothers aged 60 years and above. Side by side, mean number of surviving children increases from 1.00 ± 0.11 in the age group 20-24 years to 4.21 ± 0.37 for the women 60 years and above. Like mean number of live births, in case of surviving children also the mean number increases with advancement of age.

Table 4: Completed family size

No. of mothers	No. of live births	No. of surviving children	Mean no. of live births per mother (\pm S.E.)	Mean no. of surviving children per mother (\pm S.E.)
98	368	336	3.75 ± 0.21	3.43 ± 0.19

Table 5: Number of live births and surviving children to all married women by age groups

Age groups (in years) of mothers	No. of married women	No. of live births	No. of surviving children	Mean no. of live births (\pm S.E.)	Mean no. of surviving children (\pm S.E.)
20-24	18	18	18	1.00 ± 0.11	1.00 ± 0.11
25-29	42	62	59	1.48 ± 0.10	1.40 ± 0.08
30-34	42	70	66	1.67 ± 0.13	1.57 ± 0.10
35-39	27	57	57	2.11 ± 0.25	2.11 ± 0.25

40-44	21	45	44	2.14±0.25	2.09±0.22
45-49	32	77	72	2.41±0.17	2.25±0.12
50-54	17	58	56	3.41±0.83	3.29±0.80
55-59	16	72	69	4.50±0.34	4.31±0.31
60+	33	161	139	4.88±0.42	4.21±0.37
All	248	621	580	2.50±0.12	2.33±0.14

Mortalities

Mortality plays an important role in determining the age-sex structure of a population. Reduction in mortality in infancy and early childhood results in the prolongation of lifespan, which in turn results in a 'young' age distribution. The measure of infant and child mortality used in this study was calculated following the method suggested by Garma (1983).

Average live births among the Paundra Kshatriya is 2.50 ± 0.12 per mother and mean of reproductive wastage is 0.26 ± 0.04 (Table 6). It can be mentioned that to calculate these value mothers of all ages are considered (Table 6). Indices of infant (0-1 year) and child mortality (1-4 years) among the study population are 40.26 and 24.15 respectively (Table 7). This indicates considerably a lower value.

Table 6: Record of conception, pregnancy wastage and fertility

No. of mothers	No. of conception	No. of live birth	No. of reproductive wastage	Mean reproductive wastage	Mean live births
248	685	621	64	0.26 ± 0.04	2.50 ± 0.12

Table 7: Infant and child mortality

No. of live birth	No. of infant deaths (0-1 year)	No. of child deaths (1-4 years)	Index of infant mortality	Index of child mortality
621	25	15	40.26	24.15

DISCUSSION

Sex-ratio among the study population is 934.37, indicative of considerably a greater number of males than their counterpart. Mean of live birth among them is 3.75, while the indices of infant and child mortality are 40.26 and 24.15 respectively. Lower percentage of individuals in lower age group (0-4 years) depicts two possibilities, either a recent fertility declines or increased infant mortality. The value of mean live births in different age groups corroborate the view of fertility decline in this population, However, as the index of infant mortality shows a lower value it does not corroborate the view of lesser individuals in lower age group is due to higher infant mortality. Lower child-women ratio in the study population also suggests a declining trend in fertility.

The analysis of age composition of the Paundra Kshatriya reflects the pattern of typical Indian growing population. Sex ratio of the study population found to be considerably lower in comparison with other Indian populations (like those studied by Adak and Gharami 2002, Adak 1993, Reddy 1991, Chowdhury et al. 1994, Das 1989 and many others). The mean number of live births among the Paundra Kshatriya (2.50) is also lower than many Indian populations, like Ladiya of Madhya Pradesh (Adak and Gharami 2002), Khampti of Arunachal Pradesh (Chowdhury et al. 1994), Kota of Nilgiri Hills (Ghosh1976), Bhil and Garasia of Rajasthan (Sarkar 1989) and many others.

It is to be noted that the area of present study namely Sonarpur is a peri-urban area, which is well-connected by bus as well as railway with the city Kolkata. Thus, it can be well assumed that this population is undergoing changes in their lifestyle and dietary pattern due to nearness of urban centre.

These might have played important role in their reproductive life as well as family planning, which have resulted in lower fertility and infant mortality among them.

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REFERENCES

- Adak DK. 1993. *Mortality Pattern and its Biosocial Proximates: A Study on Tribal Populations of Shillong (Meghalaya)*. Ph.D. Dissertation (unpublished), University of Gauhati, Guwahati, Assam.
- Adak DK, Baruah T, Bharati P, Kashyap P, Phukan J, Chetry P. 2018. Population Composition of the High and Low Altitude Monpa of Arunachal Pradesh. In: S. Sengupta (Ed.), *Anthropology in North East India*, pp. 115-130. Gyan Publishing House, Delhi.
- Adak DK, Gharami AK. 2001. A Study on the Population Composition of the Ladiya of Sagar District, Madhya Pradesh. *South Asian Anthropologist*, 1(2):83-89.
- Chowdhury D, Behera MC, Adak DK. 1994. Some bio-demographic aspects of the Khampti and its demographic transition. In: S Mukherjee, FI Hussain, P Chakravorty and G Das (eds.). *Demographic Profile of North East India*. pp. 103-115. Omsons Publications, New Delhi.
- Bagchi NK, Adak DK. 2012. Metabolic Syndrome in a Peri-Urban Population: The Paundra Kshatriya of South 24 Parganas, West Bengal. In: S Biswas (Ed.), *Human Health: A Biocultural Synthesis*. pp. 159-174. Concept Publishing Company Pvt. Ltd., New Delhi.
- Basu A. 1969. The Pahira: A population genetical study. *Am. J. Phys. Anthropol.*, 31:399-416.
- Chachra SP, Bhasin Mk. 1998. An anthropo-demographic study among the caste and tribal groups of Central Himalayas: 1. Population Structure. *J Hum Ecol*, 9(5): 405-416.
- Das B. 1989. Some demographic aspects among Vokkaligas of Paduvarahalli of Mysore. In: *Genetical Demography of Indian Population*, pp. 12-18. Anthropological Survey of India, Kolkata.
- Garma IOGY. 1983. Some factors associated with infant mortality in Mexico, *Infant Mortality in the Third World*. Inter Centre Cooperative Research Programme. Project no. 1: final Report. CICRED, WHO/OMS, Paris.
- Ghosh AK. 1976. The Kota of the Nilgiri Hills: A demographic study. *J. Biosoc. Sci.*, 8: 17-26.
- Misra BD. 1982. *An Introduction to Study of Population*. South Asian Publishers Pvt. Ltd., New Delhi.
- Narhari S. 1991. Population structure and genetic demography in four Yerukala groups. In: KN Reddy and DV Raghava Rao (Eds.). *Population Structure among Tribes*. pp. 187-206. Tamil University, Thanjavur.
- Population composition of India. <https://nios.ac.in/media/documents/316courseE/ch27.pdf>. Accessed on 05.01.2023.
- Rao VR. 1989. Population structure of Naik Gond of Chandrapur district, Maharashtra: A preliminary analysis. In: KS Singh (Ed.): *Genetical Demography of Indian Population*, pp. 19-30, Anthropological Survey of India, Kolkata.

Reddy KN. 1991. Population structure of Irulas of Nilgiris. In: KN Reddy and DV Raghava Rao (Eds.):

Population Structure among Tribes, pp. 1-28, Tamil University, Thanjavur.

Sarkar JM. 1989. Some demographic traits of Bhills and Garasia: A comparative study.

Singh KS. 2008. *People of India, West Bengal*. Vol. II. Kolkata, Anthropological Survey of India.

Talukdar S. 1979. Genetical Demography of two Dule Bagdi demes. *Man in India*, 59:43-69. In: KS Singh (Ed.): *Genetical Demography of Indian Population*, pp. 31-39, Anthropological Survey of India, Kolkata.