

## AUDITING GENDER EQUALITY AMONG SANTHALS

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**ABSTRACT:** *There is a slim line of demarcation between 'being different' and 'being unequal'. The latter one is a hierarchical model, often associated with the concept of superiority / inferiority and is thus socially value loaded. In order to investigate gender differences in activity patterns, health and nutritional status of Santhals, a cross-sectional sample of 800 Santhals from Bankura district of West Bengal was collected. Santhals of this area belong to low socio-economic class. In terms of nutritional intake, no gender differentials are evident. Both men and women take their meals together at least twice a day, sharing every preparation equally. Analysis of BMI suggests that Santhals are either 'Underweight' or 'Normal weight', but are rarely 'Overweight' and almost never 'Obese'. Such a distribution of BMI might be due to their low socio-economic conditions. Both men and women do most of the agricultural work together, except ploughing, which is tabooed for women. Generally, women do relatively higher level of physical and muscular activity, which is evident in their greater Mesomorphic component than men in body physique.*

**Keywords:** *Gender differences. Health and activity patterns. Nutrition. Santhals.*

### INTRODUCTION

In all the human groups there are some differences between the role of men and women, some of them accrue from the differences between their anatomies. Every culture, however, gives a meaning to these differences in its own way by explaining how these two sets of people should relate to one another and to the world at large. Gender differences, thus caused, show tremendous variations from one society to the other.

Gender differences are as old as human culture that might have arose from the biological differences during the early stages of human evolution. In the ancient past, hominid males were about twice the size of females, as they are today among certain species like gorillas, orangutans and baboons. With human evolution, however, the biological differences between the two sexes were radically reduced. Thus, whatever biological basis was there for the gender role difference largely disappeared. But, cultures have maintained some differences of gender roles ever since. These differences are far greater in some societies than in others. Paradoxically, gender differences are more marked in the mainstream or so called civilized societies than they are among food-foraging peoples whose ways of life are more like those of our late Stone Age ancestors. In most of the societies, men enjoy higher status but in some cases women may also enjoy higher status. Gender inequality may sometimes be seen in societies that are not otherwise stratified. In such cases men and women are always physically as well as conceptually separated from one another, causing gender stratification.

Division of labor by sex is a common characteristic of all human societies. However, this kind of division of labor cannot be explained simply and solely as a consequence of male strength or female reproductive biology. Instead of looking for biological imperatives to explain the sexual division of labor, a more prudent strategy would be to examine the kinds of work done by men and women in the context of specific societies. In other words, gender based roles can be activity specific. Each and every society is divided into three kinds of activities. The first that can be done by men; second that can be done by women and the third kind of activity that can be done by either without loss of face. In the last kind however, there may be preference of gender performing the task. The rules that who will perform what kind of work are more rigid in some societies than others. In simpler societies, overlapping of gender specific activity patterns are more, as suggested by earlier investigators.

In this framework, Haviland (1990) has identified two different configurations, one featuring flexibility and sexual integration, another featuring rigid segregation by sex. The flexible/integrated pattern is seen most often among food foragers and subsistence farmers. In such societies, up to 35 per cent of activities are performed by both sexes with almost equal participation. In addition, those tasks considered appropriate for one sex are occasionally performed by the other, without loss of face, as and when the situation so warrants. On the other hand, sexually segregated societies are those in which almost all work is rigidly defined as either masculine or feminine, so that men and women rarely engage in joint efforts of any kind. This pattern is frequently seen in pastoral nomadic, intensive agricultural and industrial societies, in which men's work keeps them outside the home for much of the time.

Gender differences in health and nutrition, partially could be due to biological difference as well as difference in nutritional intake as a result of difference in physical activities. In addition, these differences can be the result of intra-household resource allocation processes (Bolin *et al.*, 2001). Although health is primarily a function of nutritional status, other factors like the availability, quality and cost of health care services, living standards, sanitary conditions, the quality of drinking water and even psychological stress are important (Case, 2002). Sen (2005) observes that there are systematic disparities in the freedom that men and women enjoy in different societies and these disparities are often not reducible to differences in income or resources. While different wages or payment rates constitute an important part of gender inequality in most societies, there are many other spheres of differential benefits, e.g. in the division of labor within the household, in the extent of care or education received, in liberties that different genders are permitted to enjoy. Studies on gender inequality among indigenous populations of India suggest certain interesting consequences. For example, some tribal societies of West Bengal show a declining trend in sex ratio in line with other mainstream societies (Tisdell, 2002). In most of the tribal societies, social status of women has become as low as that in the larger Indian societies (Xaxa, 2004). According to previous investigators (Basu Mullick, 2000), the increasing tendency towards growing inequality in gender relations among Indigenous societies of India, are more pronounced in societies that have integrated with mainstream Indian societies.

Hence, keeping these objectives in mind a cross-sectional study is conducted on Santhals, a small, close knit, endogamous tribal population from West Bengal. The present paper aims to investigate gender differences in activity patterns, health and

nutritional status of Santhals focusing on whether these differences lead to gender inequality.

## MATERIALS AND METHODS

In order to study gender differences, a cross-sectional sample of 800 randomly selected Santhals, consisting 400 men and 400 women, were surveyed from villages of Ranibandh block of Bankura district, West Bengal. The selection of the district, block and the villages was based on Multi-stage random cluster sampling. For information regarding educational status of the Santhals, data were collected randomly from 800 men and 800 women of presently surveyed area. Men ranged in age from 40 years to 87 years with a mean age of 57.5 years, whereas women ranged in age from 35 years to 83 years with a mean age of 48.6 years. Date of birth of subjects was recorded by asking them. Decimal age of each subject was calculated by subtracting the date of birth of the subject from the date of data collection, using Decimal Age Calendar (Tanner *et al.*, 1969).

Ranibandh is one of the 22 Community Development Blocks of the district Bankura. The total land area of the block is 428 km with a population density (244 per sq. km), the lowest as compared to the other blocks. The total population of the block is 1,08,591. The sex ratio of Ranibandh of 964 is the highest as compared to the other blocks and is also higher than that of the district, as well as the state average. The total number of tribal population of this block is 49,321 out of these 24,912 are males and 24,409 are females.

On examination of mating pattern, it was identified that Santhals of Ranibandh strictly follow the rule of tribal endogamy and clan exogamy. They also have the preference of bringing brides from the same village or from the neighboring villages with a marital distance not more than 15 km. Hence, on the basis of nature of mating pattern, this tribe could be considered as a Mendelian population.

According to Guha's (1944) racial classification, Santhals are Proto-Australoid that arrived in India soon after the Negritos. They are the largest tribe to retain an aboriginal language, known as *Santali*, belonging to Austro-Asiatic, sub-family of the Austric family. This language is closely related to *Mundari* as well as *Ho*, *Korku*, *Savara* and *Gadaba* languages spoken by smaller tribes (Culshaw, 1949).

The Santhals have been living in southern and western part of the West Bengal for at least five hundred years. It was found that some of the Santhal villages in Bankura district were over three hundred years old. They live in tropical environment, which is humid and hot. Their habitational places are generally covered with forest and hills that are intercepted by streams and springs. In some parts, there are ranges of low hills, while in others, the conical shaped hills rise abruptly from the undulating plains. Most part of the countryside is covered with the *Sal* forest that contributes to the well being of the dwellers. The area in the plain is characterized with the lateritic reddish soil.

The primary occupation of the Santhals is agriculture, though food gathering and hunting are their important subsidiary occupations. Familiarity with animal husbandry contributes marginally to their livelihood. Santhals are expert hunters who hunt a variety of games that are available in the surrounding forests. They fish in river, ponds and other water-logged areas with the help of nets, traps and bow and arrows. They also do fishing with the help of poisonous plants.

Monogamous marriage system is the most prevalent one among Santhals, though polygynous marriage system is also found in some cases. There are seven accepted forms of marriages or *Bapla*. The Santhals are divided into 12 exogamous totemic clans, locally known as *Paris*. These are: (1) *Hansda*, (2) *Marndi*, (3) *Soren*, (4) *Hembrom*, (5) *Tudu*, (6) *Kisku*, (7) *Murmu*, (8) *Baske*, (9) *Besra*, (10) *Pauria*, (11) *Chore* and (12) *Bedea*. *Pauria*, *Chore* and *Bedea* clans are on the verge of extinction and not even a single member of these three clans was found during the present study.

Gender differences in health status among Santhals were investigated through both subjective and objective measures of health and physical fitness. The objective measures were body mass index (BMI) and body physique. The subjective measures were based on questions about major chronic or minor health problems faced by them in last three years. In addition, subjects were interviewed to obtain information regarding their education, activity patterns, dietary intake and morbidity pattern in last three years. Ten anthropometric measurements were taken on each subject, following standard methods (Martin and Saller, 1957; Tanner *et al.*, 1969). These measurements were: Body weight, Height vertex, Bicondylar humerus, Bicondylar femur, Mid upper arm circumference, Mid Calf circumference, Skinfold at triceps, Skinfold at subscapula, Skinfold at suprailliac and Skinfold at calf.

On the basis of the formula given by Martin and Saller (1957), Body mass index was calculated, which is the percentage ratio of the weight to height. Body mass index =  $[\text{Weight (kg)}/\text{Height}^2 \text{ (cm)}] \times 100$ . Later, each subject was categorized by using the classification of National Institute of heart, lung and blood, US ([www.americanheart.org](http://www.americanheart.org), 2005): Underweight =  $<18.5$ ; Normal weight =  $18.5 - 24.9$ ; Overweight =  $25.0 - 29.9$ ; Obese Class I =  $30.0 - 34.9$ ; Obese Class II =  $35.0 - 39.9$ ; Obese Class III =  $40.0 \geq$ . Anthropometric somatotyping was calculated and rated, using Heath and Carter's method (Carter, 1980; Heath and Carter, 1967). Mean Sex Difference Index (MSDI) was calculated using the following formula, which is  $\text{MSDI} = (M_1 - M_2) / \{(M_1 + M_2) / 2\}$ , where,  $M_1$  is the variable mean of males and  $M_2$  is the variable mean of females. In statistical analysis, Mean, Standard error and Coefficient of variations were estimated for somatotype components using computerized statistical software, SPSS and MS Excel. Chi-square and t- tests were calculated, using SPSS software, to examine the sex differences in Body mass index (BMI) and Somatotype components respectively.

## RESULTS AND DISCUSSION

Analysis of the gender differences in socio-economic characteristics, BMI and Body physique among Santhals of Bankura are presented here. Dietary habits of the Santhals are presented in Table 1. Their staple diet is rice and they generally don't take wheat-based preparations. Majority of them (80.6%) take meals thrice a day, whereas some of them (15.0%) take meals twice a day and only a few (3.8%) have meals four times a day. Pulse intake on regular basis is rare among the Santhals. Consumption of pulses is restricted mostly to three (31.1%) or two (33.0%) days a week, with a negligible percentage of them consuming it daily (6.1%). Some of them (21.5%) even intake pulse only once in a week. One of the prime reasons behind the dearth of pulses in this population is that Santhals do not cultivate pulses; instead they purchase it in cash (not through barter system, which they do in case of green vegetables and rice) from market. As milk is scarce, consumption of milk is almost nil in this community. They usually neither

consume milk nor they put it in tea and leave it for cows to feed their calves. Although they relish non-vegetarian food, they can ill afford to devour these on regular basis. Consequently, they consume fish or meat only once (70.1%) or twice (22.3%) a month. Only a few can afford to consume non-vegetarian food thrice (4.5%) or four (3.1%) times a month. Therefore, their daily meals consists boil rice and green vegetables. They don't purchase fruits from the market, but collect them from forest. Thus, the consumption of fruits depends on the season. From the glimpse of nutrition intake of Santbals it is apparent that in general they are nutritionally deprived and are malnourished. However, from the information based on intra-household allocation of food and nutrition, it is evident that Santbals do not discriminate between men and women on this ground and as a result no evidence of gender inequality is observed. At least twice, all the household members take their meals together after distributing every preparation equally. Hence, this visible nutritional deprivation is due to their low socio-economic status and not because of any gender inequality at household level.

**Table 1**  
**Dietary Habits of the Santbals**

	<i>Dietary habits</i>	<i>No.</i>	<i>%</i>
Meals taken per day	Once	2	0.6
	Twice	60	15.0
	Thrice	323	80.6
	Four times or more	15	3.8
Pulse intake/week	One day	94	21.5
	Two days	138	33.0
	Three days	132	31.1
	Four days	37	8.3
	Seven days	28	6.1
Meat or Fish/month	Once	280	70.1
	Twice	89	22.3
	Thrice	19	4.5
	Four times or more	12	3.1

The distribution of Santbals according to their primary occupations is represented in Figure 1. The majority (72.5%) of the Santbals are self-cultivator cum wagers. Santbals falling under this category own only a small piece of cultivable land, which is generally not sufficient to sustain livelihood. Therefore, to substantiate, they work as daily wage laborers in the construction sectors or in the land of affluent people. A sizable number (18.7%) of them are self-cultivators, who have required amount of cultivable land to maintain their subsistence pattern. Some of them (6.8%) serve the government, whereas for a small percentage (1.5%) of Santbals daily wage is the only source of income, as they do not own any land. A negligible percentage (0.5%) of this population is in business. Further, the role of gender in occupational status and activity patterns of Santbals is assessed. Santbal men, who are self-cultivators, carry out all the agricultural activities and animal husbandry. Women of these households, in addition to assisting men folk in agricultural activities and animal husbandry, perform all the household work that includes collection of fodder and fuel, for which they often travel 10-15 km up and down. Besides, women from the household of daily wagers go to work in construction

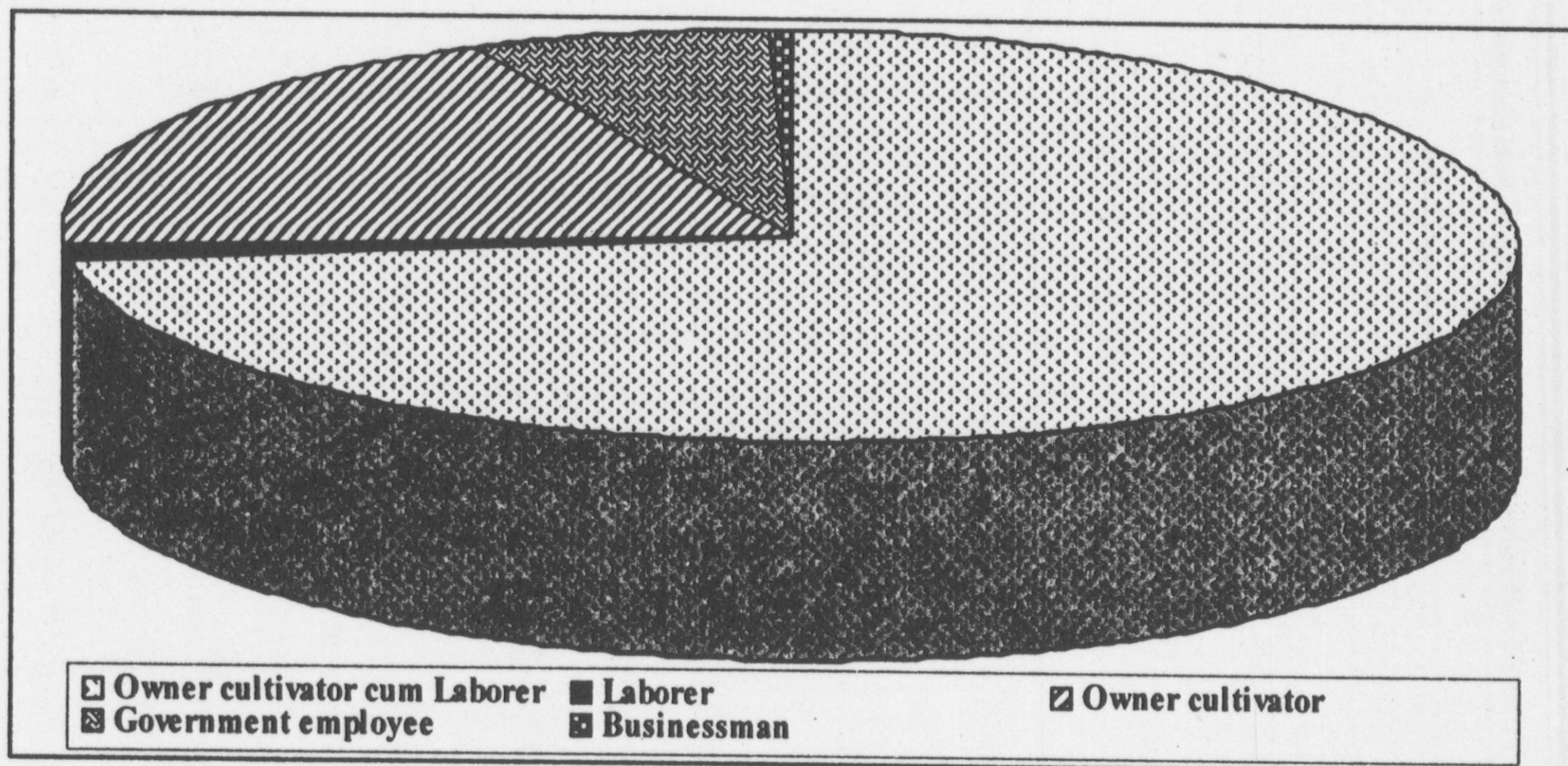


Figure 1: Distribution of Santhals, by Primary Occupation

area or to other affluent people's cultivable land with their husbands, participating equally to earn their daily wage. Thus, it is evident from the above results that women of this community play equal role in household income or activity patterns with the men folk.

Educational status of Santhals is examined both in older and younger generations, to identify changing role of gender among the adult Santhals over the period of time in their educational system (Table 2). In older generation, majority (87.5%) of Santhal women and less than half (43.5%) of the men are illiterate. Most of the men from this generation have formal education and are qualified up to primary (18.8%), followed by lower secondary (18.3%) and secondary (14.0%), against negligible percentage of women having formal education up to primary (5.0%), lower secondary (1.8%) or secondary (0.5%). Both men and women from younger generation are better educated as compared to the older generation. In this context, development in education of women from younger generation is surely admirable. Majority of the Santhal women from this generation have formal education and most of them are qualified up to lower secondary (28.5%), primary (20.0%) or secondary (13.3%) level. A sizable percentage of men from younger generation are qualified up to secondary (36.3%), followed by lower secondary (24.8%) and higher secondary (11.8%) level. In addition, six women twenty-nine men are graduates and there is one male doctor. However, statistically significant difference is evident in the level of education between Santhal men and women ( $\chi^2 = 242.8$ ;  $P < 0.05$ ). Although it is apparent that Santhal men are better educated than the women, but with time, women of this community are having more opportunities and thus not far behind from men in achieving their formal education. Moreover, as compared to women from other tribal populations of India, Santhal women are better in terms of education, as percentage of literacy is considerably higher in Santhals (40.9%) than that among Jaunsari (34.8%), Raji (16.7%), or Bhattara (3.1%). Although as compared to the literacy rates of India (Men 75.9% and Women 54.2%) and West Bengal (Men 77.6% and Women 60.2%) these are lower among Santhal men (74.9%) and women (40.9%), but it is

**Table 2**  
**Distribution of Education Among Santhals, by Sex**

Educational level	Men						Women					
	18-35 years		35-90 years		Total		18-35 years		35-90 years		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Illiterate	27	6.8	174	43.5	201	25.1	123	30.8	350	87.5	473	59.1
Literate	6	1.5	22	5.5	28	3.5	13	3.3	21	5.3	34	4.3
Primary (1 <sup>st</sup> - 5 <sup>th</sup> )	46	11.5	75	18.8	121	15.1	80	20.0	20	5.0	100	12.5
Lower secondary (5 <sup>th</sup> - 8 <sup>th</sup> )	99	24.8	73	18.3	172	21.5	114	28.5	7	1.8	121	15.1
Secondary (8 <sup>th</sup> - 10 <sup>th</sup> )	145	36.3	56	14.0	201	25.1	53	13.3	2	0.5	55	6.8
Higher secondary (10 <sup>th</sup> - 12 <sup>th</sup> )	47	11.8	0	0.0	47	5.9	11	2.8	0	0.0	11	1.4
Graduate / Post graduate / Professional	30	7.6	0	0.0	30	3.8	6	1.5	0	0.0	6	0.8
Total	400	100.0	400	100.0	800	100.0	400	100.0	400	100.0	800	100.0

Gender differences ( $\chi^2 = 242.8$ ;  $df = 6$ ;  $P < 0.05$ )

significantly higher than the literacy rates of Ranibandh block (Men 68.2% and Women 37.7%) and Bankura district (Men 62.0% and Women 38.0%) of West Bengal (Census 2001). The reason for comparatively higher percentage of women literacy among Santhals might be due to the fact that they do not discriminate between man and woman in accomplishing their formal education and believe in giving equal opportunity to their children of either gender. Santhals are not even skeptical about higher education of women, as it is apparent from the present study.

Morbidity pattern of Santhals for last three years, based on the questionnaire related to their health problems is presented in Table 3. The investigation reveals that men of this society are more disease prone than women. Major diseases like bronchitis, leprosy, jaundice or pneumonia are observed only in men and there is not even a single case from women. However, occurrence of malaria is higher in women (43.2%) than in men (33.9%). High prevalence of malaria in this population, as compared to other illness, could be because of the preponderance of mosquitoes in their inhabited forest area. Tuberculosis is conspicuously more prevalent in Santhal men (21.7%) than in women (4.1%), could be because most of men smoke whereas only a few women smoke. Higher incidence of arthritis in women (5.9%) than in men (3.1%) might be because of the difference in their posture specific activity patterns. Although gender differences in nutritional status are not evident during the present research, gender differences in morbidity pattern could be result from biological or genetic factors. For treatment, Santhals always first consult the village Shaman. If he fails, then only they consult doctors in primary health centers, which are distributed all over the block with the main center being located at Ranibandh.

**Table 3**  
**Morbidity Pattern of Santhals, by Sex**

Name of the ailments	Men		Women		To'al	
	No.	%	No.	%	No.	%
Bronchitis	3	1.2	0	0.0	3	0.7
Asthma	11	4.3	4	2.4	15	3.5
Cold and cough	38	15.0	25	14.8	63	14.9
Typhoid	22	8.7	20	11.8	42	9.9
T.B.	55	21.7	7	4.1	62	14.7
Malaria	86	33.9	73	43.2	159	37.6
Diarrhea	11	4.3	5	3.0	16	3.8
Chicken pox	11	4.3	16	9.5	27	6.4
Phylaria	1	0.4	4	2.4	5	1.2
Arthritis	8	3.1	10	5.9	18	4.3
Leprosy	1	0.4	0	0.0	1	0.2
Jaundice	1	0.4	0	0.0	1	0.2
Epilepsy	3	1.2	4	2.4	7	1.7
Piles	1	0.4	1	0.6	2	0.5
Pneumonia	2	0.8	0	0.0	2	0.5
Total	254	100.0	169	100.0	423	100.0

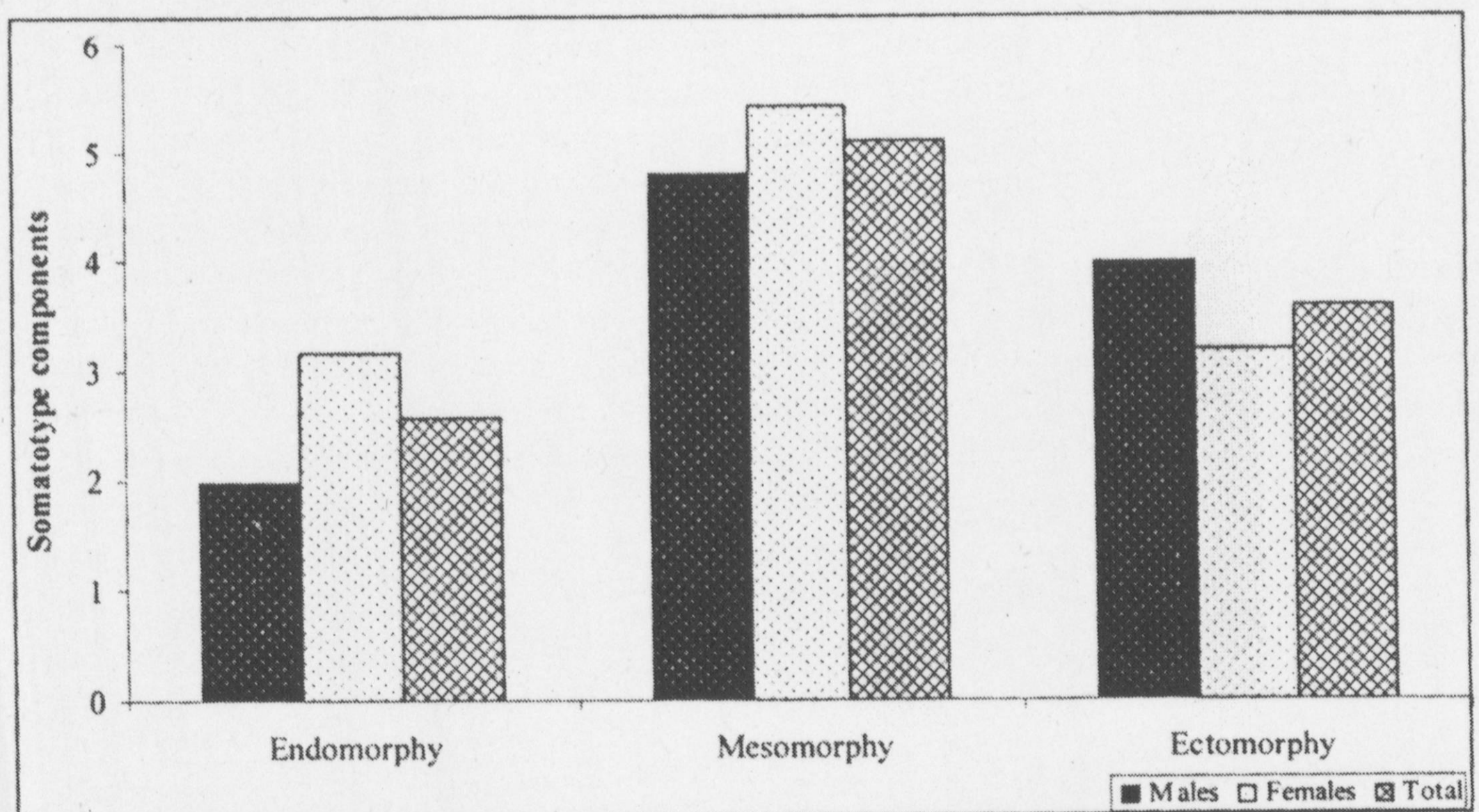
Body physique is one of the important objective measures to examine the health status of a population. Both Santhal men and women are predominately Mesomorphic in their body physique (Table 4). Of the other two components of somatotype, Ectomorphy

dominates over Endomorphy in men, whereas, they are co-dominant in women (Figure 2). Interestingly, sex differences in the variability in Mesomorphic and Endomorphic components are marginal, whereas in Ectomorphy it is much higher in women than in men. Mean sex difference index suggest relatively greater Endomorphy and Mesomorphy in women, while higher Ectomorphy in men. Sex differences are statistically significant ( $P < 0.05$ ) in all the three components of somatotype among Santahals. The subsistence pattern of Santahals compelled them to do lots of muscular activity in their day-to-day life, irrespective of gender. As a consequence they have highly developed and strong muscle mass, apparent from the predominance of Mesomorphic component in the body physique of both men and women. Relatively higher Endomorphic component in women and comparatively greater Ectomorphic component in men might be due to the difference in their genetic structure (Sidhu *et al.*, 1985; Roy and Pal, 1997). Comparatively higher Mesomorphic component in women than in men is perhaps because of the extra-strenuous works performed by the women than their counterpart men. As mentioned earlier, Santahal men basically carry out the agricultural activities and animal husbandry.

**Table 4**  
**Somatotype Components, by Sex**

Somatotype Components	Mean	Men		Women			Sex Difference	
		S.E.	C.V.	Mean	S.E.	C.V.	MSDI	T - value
Endomorphy	1.98	0.05	49.22	3.16	0.08	48.73	-0.46	14.16*
Mesomorphy	4.81	0.06	25.86	5.43	0.07	24.26	-0.12	7.38*
Ectomorphy	3.98	0.08	34.42	3.17	0.08	49.50	0.23	8.23*

\*  $P < 0.05$  MSDI = Mean Sex Difference Index.



**Figure 2 : Somatotype Components, by Sex**

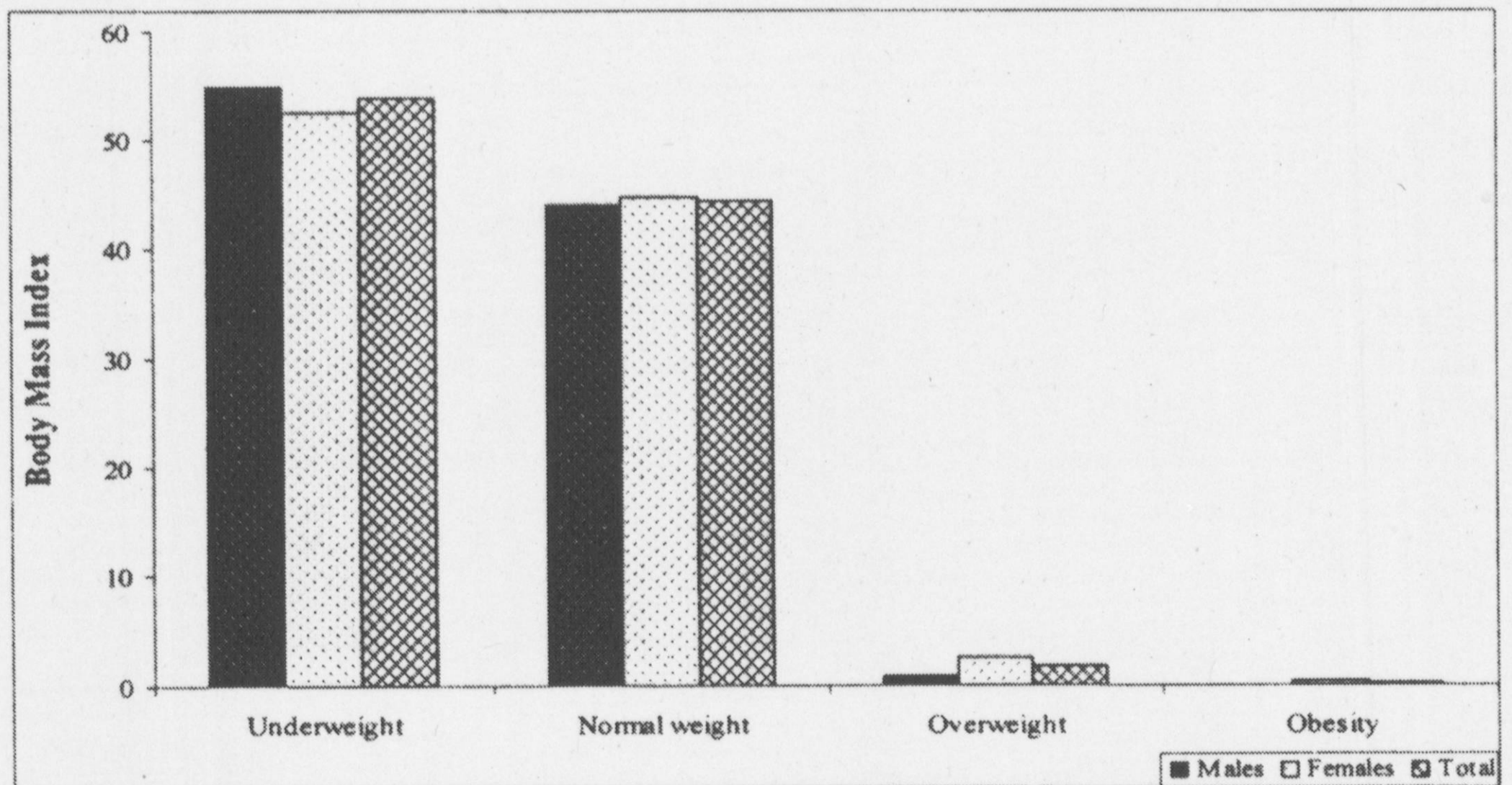
Women on the other hand, in addition to supporting their husbands in agricultural activities and animal husbandry, perform all the household work that includes collecting fodder and fuel from far off places. Previous studies have established that gender difference in body physique is due to the combined effect of genetics, physical growth, maturation, body composition, nutrition and environment (Heath *et al.*, 1961; Eiben *et al.*, 1986; De Garay *et al.*, 1974; Stepnicka *et al.*, 1976; Carter and Parizkova, 1978; Stini, 1979 and Malik *et al.*, 1986).

One of the crucial measures to study the health and fitness of a population is body mass index (BMI). Body mass index (BMI) among Santhals of Bankura is presented in Table 5 and Figure 3. Prevalence of 'Underweight' is observed in both Santhal men (55.0%) and women (52.5%). Nearly equivalent percentage of men (44.0%) and women (44.7%) are 'Normal weight' in this population. Only a negligible percentage of Santhals are 'Overweight', where, as compared to men percentage of 'Overweight' women is slightly higher. In addition, one obese woman is found during this survey. Overall, Santhal women have higher BMI than their counterpart. However, gender difference in body mass index is statistically non-significant at 5% probability level. Therefore,

**Table 5**  
**Body Mass Index, by Sex**

Body Mass Index	Men		Women		Total	
	No.	%	No.	%	No.	%
Underweight	220	55.0	210	52.5	430	53.8
Normal weight	176	44.0	179	44.7	355	44.3
Overweight	4	1.0	10	2.5	14	1.8
Obese Class I	0	0.0	1	0.3	1	0.1
Total	400	100.0	400	100.0	800	100.0

$$\chi^2 = 3.752 (P > 0.05) \text{ df} = 2$$



**Figure 3: Body Mass Index, by Sex**

the results suggest that in general Santhals of Bankura are somewhat malnourished as evident from their BMI. Women are marginally better off than their men counterpart, which could be due to certain biological factors. Therefore, there is no marked gender difference, except for the one that has biological basis.

Thus, from the socio-economic profile of Santhals, it is apparent that, in general, they belong to low socio-economic class. They cannot afford to consume fish, meat or pulses on regular basis, even though they relish them. Their daily meals consists boil rice and green vegetables. Santhals mostly reside in *kaccha* and single storied houses with a room and a kitchen. They use forest wood as fuel and kerosene lamp to light. Although the literacy level and educational level is higher in Santhal men, the difference between men and women is fast diminishing. Even in higher education they are now less hesitant and resistant to send their daughters to relatively far off places. Further, the examination of gender differences among Santhals, especially in their nutrition and health status indicates that women from this society are not deprived nutritionally or in health care services. Gender roles in household production, food production and processing are clearly demarcated and thus specialized, e.g. women cannot plough the paddy field or men do not go to collect fuel and fodder. However, Santhal women put in, on an average, 14 hours of active work every day, while men work for 11 hours every day. Santhal women work in fields, forests, homes and markets. Despite that, no gender inequality is noticed in health and nutrition in this population. Specifically, Body physique, BMI and morbidity record of men and women suggests that women are comparatively more muscular, physically fit, strong and less prone to diseases than men. Overall, the phrase "Separate but equal" (Haviland, 1990) accurately describes relations between the genders among Santhals, with members of neither gender being dominant nor submissive to the other. Hence, though there are gender differences among Santhals in terms of their activity patterns, body physique, nutrition and health status, these differences need not necessarily lead to gender inequality.

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