

## **FOOD SECURITY AND LIVELIHOOD AMONG THE POOREST OF THE POOR, THE TRIBALS IN ODISHA**

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### **ABSTRACT**

*In the third world including India, a sizeable proportion of population is starving. The most vulnerable are poorer sections of the population in States like Odisha and more particularly the Scheduled Tribe communities. They suffer, in spite of working very hard, from "food to fuel". They mostly depend on the primary activities of low productivity and market imperfections, resulting in unstable incomes. In this context, this paper seeks to analyse the food security and livelihood opportunities of the tribal communities in Odisha.*

### **Introduction**

*"For the poor and for a poor nation, there is nothing as important as Food Security."*  
-Kirit Parikh (1998).

Food security is of great concern to the developing countries like India. Consuming adequate quantity of good quality food not only makes a healthy body but also creates a healthy mind which leads

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to a healthy and efficient labour force. However, food is not adequately available to all. Many people suffer from the problem of food insecurity. Food security is defined as, 'access by all people at all times to enough food for an active, healthy life' (World Bank, 1986). The 1996 World Food Summit adopted a still more complex definition: 'Food security, at the individual, household, national, regional and global levels [is achieved] when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life', (FAO, 1996).

It is the food insecurity that causes malnutrition among the children. About half of Indian children are undernourished, more than half suffer from anaemia, and a similar proportion escapes full immunisation. This human catastrophe is not just a loss for the children concerned and their families, and a violation of their fundamental rights, but also a tragedy for the nation as a whole. A decent society cannot be built on the ruins of hunger, malnutrition and ill-health (Dreze, 2007).

The recent global data on hunger released by the UN's FAO: States that the number of chronically hungry people has increased by 40 million in 2008. The number of people affected by chronic hunger, currently estimated as 963 million. Up to 93 per cent of them live in developing countries. Nearly 20 per cent of the chronically hungry people in the World live in India (UN/FAO,

2008). In the third world including India, a sizeable proportion of population is starving. Hunger, mainly arising out of chronic poverty is caused less due to lack of food supply but more due to inability of people to buy food. The most vulnerable are the poorer sections like ST communities living in States like Odisha.

The problem of food insecurity is basically not found in all sections of the people, rather it is mostly confined to certain marginalised sections. As Prof V S Vyas (2004), pointed out, the classes where food insecurity is highest are the agricultural labourers, marginal farmers and the tribal people. The two main groups that are socially and economically disadvantaged in India are the scheduled castes (SCs) and the scheduled tribes (STs). The STs have been socially and economically disadvantaged due to their isolation both geographically as well as culturally from the mainstream population. Habitation in remote difficult terrains, stigmatisation and corporatisation of forest lands and the lack of alternative investment opportunities in their communities have led to the tribal to depend on wage labour and subsistence agriculture (Chakrovorty and Dand, 2006)<sup>1</sup>.

Development at the aggregate level offers little or no relief to the poor, as growth is hardly percolating down to the vulnerable sections to eliminate 'chronic' poverty and hunger. Therefore there is strong need for public action to eliminate poverty and starvation. State action for the elimination of

hunger can take different forms; food production, food distribution, income and employment evolution on a regular basis, relief operation in the form of employment for wages in kind or cash, provision for healthcare and epidemic control, etc., through expansion of productive activities (Dreze and Sen, 1989). Though the reasons why people are hungry differ, there is no disagreement that poverty is the root cause of chronic hunger. So there are various approaches to attack poverty in developing countries all over the world (Bardhan, 1996).

To ensure food security and thereby contain malnutrition, two programmes, viz (i) public distribution system (PDS) (ii) supplementary nutrition programme have been implemented. The PDS is an effective instrument for maintaining price stability and for equitable distribution of essential commodities to consumers, particularly to those belonging to the weaker sections (Odisha Development Report, 2004). It has played an important role in ensuring food security and reducing poverty. But various studies (Khera, 2008; Swaminathan, 2003 and others) find that the introduction of Targeted Public Distribution System (TPDS) in 1997 from the universal Public Distribution System (PDS) and dividing the population into two categories, Above Poverty Line (APL) and Below Poverty Line (BPL) has resulted into many problems. Three of them worth mentioning are (a) lowering of off take-of PDS ration (b) wastage of public money due to leakages (c) excluding the needy population and resulting thereby a huge welfare loss.

## Methodology

The study is based on primary data on the response of 100 households of six tribal villages of two gram panchayats of Gajapati district of Odisha in the year 2007-08. A multistage sampling procedure was adopted, starting from the selection of district, block, villages and households. The selection of Gajapati district (Rayagada block) which is situated in southern part of Odisha was known for its backwardness and Naxalism in almost all respects (with HDI of 28th, among the 30 districts). Moreover, it was a district, dominated by tribal population (more than 50 per cent of the total population). Finally, the malnutrition index calculated by Food Insecurity Atlas of Orissa (2002) was highest in the district. The data were collected from six villages of two gram panchayats: Dombarda (Jholasahi, Scindhiba and Munusingh) and Jolanga (Raida, Kadambatal and Arongojhola). To collect the data two methods were adopted, in all the villages of Jolanga and in one village of Dombarda (Munusingh), census method was adopted. It is because the number of households were very small, varying from some fifteen to thirty per village. Those villages were situated in different parts of hills, without any proper connectivity, electricity, schools, etc.

The total percentage of literate people in the study region is 44.7. All the households are tribal and particularly they belong to Sabar tribe<sup>2</sup>, though some of them have converted to Christianity. The average size of landholding per HH combined in both the villages is 1.85 acre, and no HH owns land more than five acres<sup>3</sup>.

Table 1 gives a comparative picture of Gajapati district, with the State and also with the concerned block (Rayagada under which the study villages fall) wherever possible in respect to various social and economic indicators. In almost all respects, except the gender ratio, Gajapati district lags behind the State and similarly, the studied block in the district. The percentage of NSA in the district is only 20.51 per cent of the total size of the district, which is even lower in the block, 13.03 per cent, because of the hilly-terrain

nature of the region. The district also falls behind in the industrial scene, where the percentage of persons employed in organised sectors is only 0.01 and the percentage of gross value of output in organised sectors is only 0.005 in Odisha in 1998-99. It is important to note here that the percentage of BPL families (1997, BPL census) in Orissa is 56.01 per cent, where as it is 61 per cent in Gajapati and even higher in Rayagada block, but if we take the same for the STs, it stands even higher at 79.96 per cent.

**Table 1 : Socio-Economic Profile of the District**

Socio-economic criteria	Odisha	Gajapati (District)	Rayagada (Block)
Total Population	36804660	518837	64731
Proportion of rural population	85.00	89.81	100
Proportion of SC population	16.53	7.50	-
Proportion of ST population	22.13	50.78	-
Female-male ratio (per 1000 males)	972	1031	1067
Rural literacy rate (total)	63.08	41.26	-
Female	50.51	28.42	-
Male 75.35	54.71	-	-
Percentage of total workers (main and marginal)	38.79	53.11	56.73*
Percentage of net sown area (2003-04)	36.4	20.51	13.03
Percentage of irrigated area, out of total net sown area (kharif)	36.91	32.91	2.33
Area under cereal (rice) of total net sown area, in (2002-03)	75.23	42.01	48.37

(Contd...)

**Table1 (Contd...)**

Socio-economic criteria	Odisha	Gajapati (District)	Rayagada (Block)
Govt forest area of total geographical area (2003-04)	37.33	57.08	
Percentage of persons employed in organised sectors (1998-99)	100	0.01	
Percentage of gross value of output in organised sectors (1998-99)	100	0.005	
Percentage of villages electrified (2003-04)	77.00	50.04	
Percentage of BPL families (1997, BPL census)	56.01	61.00	63.00**

Sources: Population-census, 2001, Agriculture-Directorate of agriculture and food production (2000-01), Orissa and DAO,Gajapati (2000-01),Forest-Principal, chief conservator of Forests, Orissa, Industry-Annual Survey of Industry Electricity-Gridco, Orissa, BPL-BPL census, Panchayati Raj Department.

Note-\*of Paralakhemundi tehsil , \*\*79.96, only among the tribals.

### Consumption Pattern of HHs in the Study Area

Table 2 shows that the average number of meals taken in the villages is only 1.41 per day<sup>4</sup>. Whereas the average number of meals taken by a person in Odisha is 2.66 a day (NSSO,61st) which is 1.25 meals higher than the meals consumed by the tribal in that region. In both the villages, 59 per cent of HHs is able to take only one meal daily, whereas only 41 per cent manage to take only two or more than two meals a day.

The per capita-per day consumption of rice is only 368 gm in the villages. Comparing it with the per capita availability of rice (in gram), it is about 462 gram in

Odisha (NSSO 61st) which is, 94 grams higher than the tribal consuming rice per day. The per capita per day consumption is not only lower than the State average but also lower than the minimum requirement of 370 gms of cereal per person per day recommended by the ICMR in 1990 (Swaminathan,2003). But in case of pulses the per capita-per day consumption of pulses in the villages is 31gm, which is much higher than what is consumed in Odisha (16 gm). On the other hand the per capita-per day availability of vegetables in both the villages is 55 gm which is 126.5 gms lower than the State average (NSSO, 61st)<sup>5</sup>.

**Table 2 : No. of Meals in a Day and Per Capita Expenditure on Rice**

Villages	No. of Meals (in %)		Per capita per day rice consumption(in grams)	Per capita Expenditure on Food (Monthly/₹ )
	One	Two and above		
Dombarda (HHs)	69.70 (23)	30.30 (10)	373	32
Jolango (HHs)	53.73 (36)	46.27 (31)	365	30
Combined (HHs)	59 (59)	41 (41)	368	31

**Table 3 : Average Per Capita Gross Income and Expenditure on Cereal and the Share of Cereal in Total Income**

Category	Villages	Monthly Per capita Gross Income (MPCGI) in ₹	Monthly Per capita Expenditure on cereal (rice) in ₹	Share of cereal (rice) in total income
Never in any jobs	Dombarda	142.23	69.05	48.54
	Jolanga	170.63	66.34	38.87
	Comined	160.54	66.35	41.32
Regular job holders	Dombarda	971.71	100.91	10.38
	Jolanga	924.72	107.31	11.60
	Comined	945.25	104.51	11.05
Total	Dombarda	315.15	73.71	23.39
	Jolanga	271.92	72.28	26.58
	Comined	286.09	72.45	25.32

Table 3 divides the monthly per capita gross income, expenditure and the share of cereal in total income on three categories. The Monthly Per capita Gross Income among the non-job holders (who composed 84 per cent of the total sample HHs) is only ₹ 160.54 which is about six times higher than the job holders. The per capita expenditure on rice among the non-job holders is ₹ 104.51. These figures indicate a significant difference in the share of rice in total income, for example for the non-job holders it is as high as 41.32 per cent, whereas for the job holders it is about four times lower at 11.05 per cent. But according to NSSO, (61st) for the STs in rural areas of Odisha the per capita expenditure on rice is quite higher than the sample HHs with ₹ 99.17, which is only 34.92 per cent of their total expenditure<sup>6</sup>. This indicates the extent of economic backwardness among the HHs where they are struggling to spend on the most basic necessities of life. It is the desperate need for food for their survival, which compels them to spend a lion's share of their income (Gross Income) on the most basic need of existence. In such a situation it could be well imagined about their level of education, health, housing and other basic amenities. The Engels law says that, at lower level of income, people usually consume food items and as the income level goes up they diversify the income from food to non-food items and to education and health. The tribal communities are so poor that they almost finish all their income in the consumption of food and left out with nothing for other consumption. Even after

spending almost all in the food items they do not even feed themselves adequately. On the other hand, lack of education and health deprives them from their inter-generational and occupational mobility.

Table 4, clearly indicates the months of hunger among the HHs in a year. There are basically four different phases of extent of hunger among the HHs. The first phase is conceptualised as low hunger months, the second phase as mild hunger months, the third phase as high hunger months and the fourth phase as extreme hunger months.

The first phase of hunger that is called "Low Hunger Months" includes January, February and March. In those months only 1 per cent of HHs of both the villages' combined get insufficient food. It is mainly because of availability of employment opportunities in those months, particularly public works initiated by the government authority, which gives them necessary income to get access to food.

The second phase of hunger that is "Mild Hunger Months" mainly spreads across July, August and September. In the month of July only seven per cent of the HHs, in August only eight per cent of the HHs and in September only 17 per cent of the HHs suffer from insufficient food. It is mainly because of two reasons; income generated through selling of agricultural products like cashew and pine-apple and the saving generated from that income. Another significant reason is the availability of some forest products like

mango, jackfruit, orange, banana, etc. In the rainy season poor households mostly depend on forest to collect various kinds of leaves and wild fruits that are available (Food Insecurity Atlas, 2002).

**Table 4 : Percentage of HHs Not Getting Sufficient Foods in Various Months in a Year**

Months	Dombarda	Jolango	Combined
January	3	0	1
February	3	0	1
March	3	0	1
April	6	28	21
May	9	28	22
June	12	26	22
July	18	1.49	7
August	21	1.49	8
September	30	7	17
October	63	62	63
November	66	73	71
December	48	40	43
Not in any months	18	16	17

The third phase, which is called the "High Hunger Months" extends over April, May and June. In those months about 22 per cent of the HHs combined from both the villages suffer from hunger. The reason here might be due to low availability of employment opportunities through public work. But the availability of fruits like mango, jackfruit, orange and banana insulate them

from further worsening of the situation. People consume Saag -green leafy vegetables, as the rice intake goes down.

The fourth and the severe phase of hunger called "Extreme months of Hunger"; includes October, November and December. Combined in both the villages 63 per cent of HHs in October, 71 per cent of HHs in November and 43 per cent of HHs in



December suffer from hunger. This is mainly because of lack of employment opportunities since employment opportunities through public works are run only after the Khariff season. During these months, public works such as roads and bridge construction and other works also come to an end, resulting in the loss of daily wage employment. Whereas in those months people in other parts of Odisha work as

agricultural labourers and keep earning wages, but in that region paddy is hardly cultivated, so they are deprived of both availability of private agricultural work and public works. On the other hand, the savings generated from the sale of agricultural products run over by that time and hardly any forest products available during that time.

**Table 5 : Reasons for Not Getting Sufficient Food by the HHs in Percentage**

Reasons	Dombardo	Jolanga	Combined
No saving	6.06 (2)	1.49 (1)	3 (3)
No employment	0	1.49 (1)	1 (1)
Non-availability of forest product	3.03 (1)	1.49 (1)	2 (2)
No saving and no employment	15.15 (5)	10.44 (7)	12 (12)
No saving and non-availability of forest products	0	1.49 (1)	1 (1)
No employment non-availability of forest products	3.03 (1)	1.49 (1)	2 (2)
No saving, no employment and non-availability of forest products	42.42 (14)	47.76 (32)	46 (46)
Total	69.69 (23)	65.65 (44)	67 (67)

Note: Figures in bracket indicate number of households.

Table 5 substantiates the above facts, by showing that, in the villages 67 per cent of the HHs responded that the hunger is caused because of all these three reasons. It is also important to note that forest product plays an important role in solving the food insecurity problem of the HHs.

### **Theoretical Understanding of Hunger**

The reason for not having sufficient food is a combination of various factors: lack of saving, lack of employment and unavailability of forests products. The last factor is related to nature and can't be touched upon. The previous two factors are

the reasons for both the failure of 'ownership entitlement' and 'exchange entitlement'<sup>7</sup>. Sen (1981) argues, starvation is the characteristic of some people not having enough food to eat not because lack of availability of food, but because of 'entitlement' failure. A person's ability to avoid starvation will depend both on his ownership and on the exchange entitlement mapping that he faces. There is failure of ownership entitlement because of the geographical locations of the tribal community living in the hilly regions that deprive them of good quality fertile soil, not suitable for better agriculture. However, their ownership entitlement is further reduced in the failure of 'exchange entitlement' or marketing process of their product because of buyer's monopoly, inadequate road connectivity to urban centres and lack of storage facility. After failing to generate sufficient income from agriculture, they look for certain employment opportunities outside agriculture. It is further restricted because of 'capability deprivation' like low literacy rate, lack of skills and knowledge. On the other hand, employment opportunities are limited because of inadequate availability of public works and wage rate.

Thus, the food insecurity of the tribal community ultimately is a cause of failure of all kinds of livelihood. Livelihood is defined as comprising the capabilities, assets and activities required for a means of living (Chambers and Conway, 1992). Eliss (1998) defines livelihoods in terms of a whole range of activities that households undertake for maximising their well-being. The ability to pursue different livelihood strategies is in fact determined by capabilities and assets of people<sup>8</sup>. They try to diversify their livelihood with an intent of survival, which is the goal of the poorest and not for stabilisation of their income or growth as argued by Unni (2000). Livelihood diversification, thus, is 'the process by which rural families construct a diverse portfolio of activities and social support capabilities in their struggle for survival and in order to improve their standards of living' (Ellis, 1998, p.4). Even after diversifying to many other activities they are unable to defeat the situation of hunger.

### **Coping Strategy**

It is already known that there is wide-scale hunger in most of the months in a year. Different communities would have different indigenous coping mechanisms to mitigate the effects of drought or hunger.

**Table 6 : Coping Strategy of the HHs to Avoid Insufficient Food in Percentage**

Strategies	Dombardo	Jolanga	Combined
Migration	0	0	0
Consume inferior items (course, roots, etc)	27.27 (9)	16.41 (11)	20 (20)
Borrow from others	0	0	0
Migration and consume inferior items	33.33 (11)	38.80 (26)	37 (37)
Migration and borrow from others	0	0	0
Consume inferior items and Borrow from others	3.03 (1)	1.49 (1)	2 (2)
Migration, consume inferior items and borrow from others	9.09 (3)	7.46 (5)	8 (8)
<b>Total</b>	<b>72.06 (24)</b>	<b>64.16 (43)</b>	<b>67 (67)</b>

Note : Figures in bracket indicate number of households.

In the villages there are basically two ways of dealing with hunger like, consumption of inferior food items (tubers, fibres, fruits and several forms of minor millets), and borrowing from neighbours. More importantly the food insecurity is so severe that a single strategy fails to solve the problem, so much so that the HHs have to resort to a combination of strategies. In those villages 67 per cent of the HHs rely on all these strategies (separately or combined) to cope with hunger<sup>9</sup>. Migration to urban areas enables people to tide over the lean months and earn just enough for their subsistence. But in that region almost there is no migration because the mobility of the tribal is very less.

### Conclusion

The study indicates that the severity of hunger varies in different seasons of the year among tribal communities in Odisha.

The impact is clearly reflected in the study where the households of tribal communities fail to secure two square meals a day. It is found that some 59 per cent of people go to bed simply by taking only a single meal a day, compensated with some sorts of liquid made out of two coarse cereals. The per capita per day foodgrain consumption is only 349 grams, which is about 100 grams lower than that of the average for Odisha. The low per capita food

consumption is because of low per capita expenditure i.e. only ₹ 126, which is about half of the average for Odisha, but the percentage of income spent on food is 91 per cent (55 per cent in Odisha). The main reasons for the inadequate food intake are lack of saving, lack of employment opportunities and non-availability of forest products during certain months. Sen (1981) calls it the failure of 'entitlements', whereas according to Ellis (1998), it is failure of livelihood. Thus, there is an urgent need to improve their entitlements or livelihood and evolve appropriate hunger mitigation strategies to ensure food security among the tribal communities of Odisha.

### Notes

1. The head count ratio of the percentage of the population below the poverty line among STs was 48.81 per cent in 1993-94 and 48.02 per cent in 2000-01 for the rural sector giving rise to a poverty gap of almost 20 per cent with the non-SC/ST population (Sundaram and Tendulkar, 2003).
2. The meaning of Sabar in Oriya means the people whose profession is hunting of wild animal and birds (with traditional weapons like archery) and feeding themselves.
3. It is because in the hilly region the possession of land is very small. Another important finding from that region is that there is no much inequality in the distribution of land as found in other parts of Odisha. For example, in the category of small farmers (0.00 – 1.00 acre), 42 per cent of HHs own land of 19.44 per cent, whereas the same figures (below 1 hect) are 66.3 per cent and 30.09 per cent for Gajapati and 54.08 per cent and 20.68 per cent for Odisha. On the other hand in the category of semi-medium (2.51 -5 acre) 23 per cent of HHs own 45.1 per cent of land whereas, the same figures for medium and large farmers (more than 4 hect) combined is that of 2.4 per cent of HHs own 15.5 per cent of land and 4.5 per cent HHs own 20.1 per cent of land. The quality of land is such that, it is not suitable for paddy cultivation, and better suited for items like pineapple, cashew, turmeric, etc., Moreover, they do not own the legal land right by the time of survey. Very often they follow slash and burn method to make land suitable for agriculture.
4. Their food intake pattern is such that only few percentage of people could afford to take rice and some sorts of pulses or vegetables, but the majority do not have the luxury to two meals a day: so what they do is in the morning and in the noon they survive only by taking a sort of liquid, locally called jau, which is prepared by adding powder of two coarse grain, called swalpa and mandia with boiled water adding little salt.

5. It is because the pulses they consume are mostly grown by themselves locally, called - *kandulu* and *burbudi*, and they hardly depend on the market for that. The main source of vegetables for them is the weekly market or Haat. So only for a day or two their food intake includes the vegetables purchased in the market, in rest of the days they rely on various types of leafy vegetables, tubers and roots, spinach, etc., available in the forests.
6. The share of expenditure on cereal (₹ 83.88) to total expenditure (₹192.58) in Odisha (rural) for the 0-235 MPCE class is 38.51 per cent; whereas for the share of expenditure on cereal (₹ 138.13) to total expenditure (₹ 1011.58) in Odisha (rural) for the 890-1155 MPCE class is 13.86 per cent.
7. Exchange entitlement is defined by Sen (1981, p.3) as the set of alternative bundles of commodities that he can acquire in exchange for what he owns.
8. Capabilities include human capital, i.e., the skills, knowledge, ability to labour and good health, while assets include both material and social resources. Natural capital like land and economic capital (cash, credit/debt, savings, and other assets including basic infrastructure and production equipment and technology) provide the base for livelihoods. Social resources include networks, social relations and social claims and affiliations upon which people draw when pursuing different livelihood strategies requiring coordinated actions.
9. The DFID and Praxis (1998) in their study of Bolangir district found that during drought the consumption pattern of the poor people also shifts to non-conventional food items. People's dependence on rice as staple food dealing in the wake of droughts and shifts mainly to tubers, leaves, fibres, fruits, and several forms of minor millets. Daily food intake is also reduced from thrice to twice and even to one skimpy. The ultimate stress-coping mechanism is to migrate from the village to nearby urban areas in search of employment. During prolonged droughts rice is used for several times. It is tied to a cloth and dipped in boiling water. Pieces of Mahua flowers are added to the boiling water with smell of rice. The syrup thus prepared is consumed. The rice tied in the cloth is reused the next day. This cycle continues till rice totally loses its character.

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