

**ACCESS TO BASIC HEALTH CARE SERVICES BY RURAL SCs AND STs:
A CASE STUDY OF TWO VILLAGES OF BALANGIR DISTRICT OF ORISSA**

Sachita Nanda Sa¹ and G.Sridevi²

Abstract

The study examines the accessibility of basic health care services to the SCs and STs in Orissa during 2009 using the field survey data. In 1978 World health organization (WHO) stated that “attainment by all citizens of the world by the year 2000 of a level of health that will permit them to lead a socially and economically productive life (World Health Organisation, 1979)”. India too has been attempting towards this end. But most surprisingly the state of Orissa has been lagging behind others in achieving the goal of “health for all” and still the health care services are most backward and inadequate in this region. The health indicators are not same in all over the state and it is more severe in the inlands region of Orissa. The people of this region specifically SC and ST are in a worst condition due to poor health services. The specific objectives of the study are (i) to determine the factors responsible for poor health status of SC and ST households in two villages of Gudvela block of Balangir district in Orissa, and (2) to look into the accessibility of basic health care services provided to infant and mother of SC and ST households of the two villages. The study uses a Logit Regression Analysis in order to determine the health status of the people of SC and ST households in the study area. The study is based on field survey data at the time of analysis.

Key words: Basic health, health indicators, Health status, survey data analysis, Logit regression analysis

JEL Classification: C12, C21, I11, I18

Introduction:

Health is a fundamental human right and a worldwide social goal. Health is necessary for the realization of basic human needs and to attain the status of a better quality of life (WHO, 1979). The issue of health is of great importance both from the point of view of individuals and nation as well. The WHO declaration on “Health for all”

¹ Research scholar, Department of Economics, University of Hyderabad, Email- sachitanandasa@gmail.com

² Assistant Professor, Department of Economics, University of Hyderabad, Email- gummadi645@yahoo.co.in

in 1979, has led most of the governments including developed and less developed countries to give much more priority to their health care system through higher allocation and better utilisation of resources in order to improve the quality of health care services. India too has been attempting towards this end. The major hindrances that India is facing are inadequate allocation of resources for health sector, rapid population growth, inefficient use of resource allocated and lack of public consciousness about their own health. Health being a state subject in Indian federal system, different states in the country have been trying to meet the WHO health goal through utilization of resources. In case of Orissa the health care services are one of the most backward and inadequate in this region. Orissa is one of the most backward states in India and still 47 percent of its population live below poverty line (Economic survey 2009). Regarding the various health indicators, Orissa is being the worst performer state in India especially in Infant mortality rate (around 79), Death rate (10.73%), Life Expectancy (Rural-56% and urban-64.7), malnutrition (underweight above 50%), maternal mortality(367/100000 population), morbidity (higher than the national average) and accessibilities and utilization of public health care facilities(<20%) (Economic Survey 2009 and Human Development Report 2004, Orissa).

The above mentioned health indicators are not same in all over the state and it is more severe in the inlands (south western and KBK region-Kalahandi, Balangir and Koraput) region of Orissa. In 2001, five out of the eight KBK districts had an IMR of more than 100 (IIPS estimates based on census 2001). The people of this region specifically SC and ST are in a worst condition due to poor health services. Needless to say, due to their long years of isolation and inhabitation in the inaccessible forest areas in a primitive economic set up of food gathering and subsistence farming, the tribal in the schedule area are yet to be integrated with the mainstream development process of post independent India (ICMR Buletin, 2003). Also in the exploitative and oppressive caste system of Hindu society the SC comprising the ex-untouchable population of India are yet to be brought at par with the general category population in their socio-economic development status (Baraik, V. K and P.M Kulkarni, 2006). Till today health services provided to people have continued to be urban oriented and neglect the rural area. Different professional groups define the

concept of health in different ways. The most widely accepted definition of health given by World Health Organization (WHO 1948), quoted in FRCH (1987) is as follows.

“Health is a state of complete physical, mental and social well being and not merely an absence of disease or infirmity” this definition contains all components of welfare in terms of physical, mental and spiritual side of life.

There exists a strong correlation between health and development. Their degree of association is bidirectional in which health influences economic development and in turn is influenced by the development process. A major channel responsible for health development, especially in a developing country is through the government financing and provisioning of essential health care services. The role of the government in providing adequate health services which are accessible and affordable to all sections of its population is of critical importance. Most of the health problems exist among the poorer sections of the population which needs some kind of an intervention from the government. Poverty, malnutrition and economic backwardness that prevail among these groups make them vulnerable to diseases of various kinds making their lives miserable. The expenditure which is incurred both by the Government as well as by the households on health care is considered to promote directly or indirectly to human welfare (Overholt and Saunders, 1996). Health care systems are designed to meet the health care needs of target populations. There are a wide variety of health care systems around the world. In some countries, the health care system planning is distributed among market participants, whereas in others planning is made more centrally among governments, trade unions, charities, religious, or other co-coordinated bodies to deliver planned health care services targeted to the populations they serve. Healthcare in India is the responsibility of constituent states and territories of India. Central government efforts at influencing public health have focused on the five year plans, on coordinated planning with the states, and on sponsoring major health programs. Government expenditures are jointly shared by the central and state governments.

Though in India we have a significantly large public health sector, the larger private health sector mostly for curative care completely weakens the former presence.

Various micro studies right from the 1944 onwards shows that the share of the private sector in health care expenditure has always been around 80 percent of total health expenditure (Duggal R 1991). Most of the health care provision in the country comes from the private sector, which accounts 82 percent of out-patient care and 56 percent of non-delivery hospitalization (WHO Report, 2003). As such out of pocket expenditure accounts for the largest component of the total health expenditure (around 85 percent) (CII and mc kinsay 2002). India's public expenditure on health is below 1 percent of GDP which is below the average international level among middle income nations and the share of GDP also fell during the last decade. However we have found that, as a proportion of GDP, public expenditure on health has remained largely stagnant during the last decade and needs attentions. Because of such inadequacy of public spending in recent years, private expenditure on health has steadily increased which are leading to inter-regional and inter-personal inequalities across the country.

2: Review of Literature

This chapter gives a brief overview of selected studies on availability and accessibility of basic health care services with a view to understand the issue involved and identify the appropriate methodology for this study. These studies are related to various aspects of health like social and economic inequality in health and nutrition by different sections of the society, maternal and child health, household and government health spending and lastly utilization of health care services in India. Some studies are related to health conditions of the people and provision of health services in Orissa. The literature on the issue of health care accessibility is very limited and those available mostly address the theoretical and policy aspects of accessibility to health care services. Klinoubol (1997) empirically found that the close location of health centre and cheaply available health care services enhances the accessibility of rural health care services to the rural masses. The quality of health care in terms of infrastructure, personal, basic adult and child health services has large and significant effect on demand. Regarding the choice between price and quality, the choice is more pronounced with quality than with distance or price (Alderman H and Victor Lavy, 1996). From the review, For example, [Roy, T.K and at al. (2004), Sen, G. and et al (2002), Joe, and Mishra et al (2008), Radhakrishna R and

C.Ravi (2004), Sambhamoorthi, and Thimothy, et al, (2004), Pandey, and Roy, et al (2004)] focus on social and economic inequality in health and nutrition by different sections of the society. Other studies [Das R K and Dasgupta et al. (2000), Kulkarni M K(1992),] concentrated with the aspects of maternal and child health, Some other studies [Sanyal S K (2000) , Berman P and Rajeev Ahuja (2008), Bhat R and Nishant Jain (2004)] explains household and government health spending, and studies like Purohit B C and Tasleem A Siddiqui (1994), Lindelow M (2008), Srinivasan, K. and S K Mohanty (2008), Alderman H and Victor Lavy (1996), Berman, and Sisler et al. (1989), Nayar K R (1997), Bhat R (2000), Baluch M and Saima shahid (2004) look into the utilization aspects of health care services .There are some literatures which deal with different health related problems in Orissa by Swain, S. (2008), and Padhi, S. (2001). It is known that earlier researchers had dealt with the issue of supply side of health services and studied the various health related problems and indicators for the different social and economic sections and neglected the demand side, particularly the accessibility of health care services of the SCs and STs. The present study attempts to explore the factors which are responsible for the poor accessibilities of health care and for the poor health status of the SCs and STs in the backward region of Orissa.

These two communities are the most socially and economically neglected and particularly in case of accessibility of health care services, their performance is very poor (see Baraik, V. K and P.M Kulkarni, 2006). Further, even few studies that were done for Orissa could not address the above issue. One of the reasons could be the lack of government intervention in case of health services towards these people. The objective is to identify an appropriate methodology, which can be used for evaluating the factors which are responsible for the poor health care accessibilities and ultimately for the poor health status by the SC's and ST's in the backward region of Orissa.

The present study attempts to deal with accessibility of health care services and health status of SC and ST communities from the two villages of Gudvela block of Balangir district in Orissa. This place is selected as the study area because no research work has yet been done on health related issues here. The specific objectives dealt with in the study are:

(1) To determine the factors responsible for poor health status of SC and ST households in two villages of Gudvela block of Balangir district in Orissa.

(2) To look into the accessibility of basic health care services provided to infant and mother of SC and ST households of the two villages.

Hypothesis

(1) Low income, illiteracy and lack of health care facilities are the major determinants of poor health standard of SC and ST households of this region.

(2) The SC and ST households have very low accessibility to basic health care services in rural areas of the region under study.

Data and Methodology

To articulate the above objective the present study would like to use both secondary and primary data. Keeping the level of accuracy in mind, maximum dependence will be on primary data, from the field through household survey. The secondary sources are (1) district health statistics (2) Orissa health statistics, (3) economic survey of Orissa from which others health data can be collected.

Thus the unit of the analysis of the present study are the SC and ST households. Here total sixty households are surveyed purposively from the two villages. The selection of household is done on the basis of having children below five years of age. It is done so as it will show the status of maternal and child health.

A Logit model will be used in order to determine the health status of these people. Here health status being taken as the dependent variable and the factors which are effecting are taken as independent variables or control variables. The independent variables are income of the household, education of the head of the family, medical facilities within the locality and Assets holding of the households (in terms of Land) others which include demographic and socio-economic factors.

Health status (HS) = F {Income (TI), Education (ED), Medical set up (MF), Assets holding (AS), and others (U)}

3: Health Status in Orissa

Orissa is one of the poor states in the country, where economic growth in recent years has not been adequate to bring a significant reduction in poverty. Still, 47.15 percentage of the people lives below the poverty line which is highest in the country (Orissa Human Development Report, 2004). Orissa has one of the worst set of health indicators in the country as per the WHO reports. It has rated as one of the miserable state so far the health care is concerned. Public expenditure on health is not so impressive, while the number of national programmes is large, the financing is not; neither does the state spend anywhere close to the required amounts for its health services. It has been found that a squeeze in budgetary allocation to the health sector through the second half of the 1990s. The health budget as a percentage of GSDP steadily declined during the first half of the 1990s. It had gained some ground thereafter but the level of the early 1990s has not been reached (Orissa Human Development Report, 2004). Regarding the state expenditures on health, family welfare, water supply, and sanitation in 1999-2000 prices (per capita) as ratios of GSDP and total expenditure has decreased over the years. As a state of welfare India, Orissa is under obligation to provide economical and efficient health services to its citizen. Although the health care system in the state has improved remarkably over the years, communicable and nutrition related diseases continue to be a major problem mostly in the tribal and backward regions as well as in the remote rural areas.

As per the Register General of India source, the estimated birth rate in Orissa lies much below as compared to other bigger states. In 2007, the estimated birth rate in Orissa was 21.5 percent as against 23.1 percent at all India level. The birth rate in rural and urban Orissa was 22.4 percent and 16.1 percent respectively. The crude birth rate is 22.3 percent as per SRS report 2005. The death rate in Orissa, during 2007 was highest among all the states and Union Territories i.e. 9.2 as against 7.4 at all India level (Economic survey 2007-08, GoO). Though the infant mortality in Orissa has declined considerably

from 83 in 2003 to 71 in 2007, it is still highest at all India level. The infant mortality rate in rural Orissa was 73 while in urban Orissa it was 52 (Economic Survey 2008-09, GoO). The situation is particularly worse off in the tribal dominated districts (which includes the KBK districts) of the state. In 2001, five out of the eight KBK districts had an IMR of more than 100 (IIPS estimates based on census 2001). In 1997, the state had an MMR of 367, which was lower than the MMR for the country as a whole (408). But it was changed in 2001-03; the maternal mortality in India during this period was 301 per 100000 live births as against 358 in Orissa (Economic Survey 2008-09, GoO). There is an improvement in case of Life expectancy at birth from 58.6 years for male and 58.7 years for females in 1999-2003 to 60.3 for male and 62.3 for female during 2001-05. The projected level of life expectancy at birth in Orissa is 64.3 for male and 67.3 for female during 2011-15 as against 67.3 for male and 69.6 for female at all India level (Economic survey 2008-08, GoO). In general, the rates of morbidity and mortality are high in the state. In 2003, the state accounted for more than a fifth of the malaria cases and a third of the malaria deaths reported in the country. The state also had the highest prevalence rate of leprosy among the major states in India, and an incidence of tuberculosis that is about 60 percent above the national average (GoO, 2005).

The high levels of IMR and MMR in the state are caused by two important factors: low access to effective health care facilities and high levels of malnourishment (GoO 2004). As per the 58th round of National Sample Survey Organisation (NSSO) survey on village-level facilities, about 63 percent of the villages in the state are more than 5 km away from a sub-centre/dispensary (as compared to 36 percent at the national level). Despite this problem of access, there has been no addition to health facilities (allopathic) in the last ten years. Apart from long distances to the health facilities that limit access, the status of infrastructure, staff, equipment and supply of drugs therein is one of the worst in the country. The low access partially results from a severe shortage of allopathic doctors in the state. The ratio of doctor population in the state is as low as 1:7440 relative to the national average of 1:2000 (Economic Survey 2008, GoO). Additionally, the low access to health facilities is coupled with high levels of malnourishment in the state. The state has one of the highest percentages of malnourished children in the country (National Human Development Report, 2001). In general, the low

health achievements in the state can be attributed largely to poor access to health facilities and the high levels of malnourishment in the state. The situation is further worsened by the poor state of water supply and sanitation.

Regarding the service and health outcomes NFHS -3(2005-06) results for Orissa show that mothers received antenatal check-ups for 60.9 percent of births but it was 79.2 during NFHS-2. It clearly shows that the coverage of Antenatal care has declined over the years from 1998-99 to 2005-06. RCH data shows only 33% of pregnant women consume two iron folic acid tablets regularly in Orissa. RCH data reveals that more than 70% of pregnant women received two or more TT injections in Orissa. 83% of pregnant women taken two or more TT injections in Cuttack district whereas in Malkangiri only 50% of the pregnant women taken two or more TT injections. Coverage is substantially lower for births to scheduled-tribe mothers (56%) than for births to mothers in all other caste and class groups (77 - 84%) (Patel, A.M. & Asha Hans, 2004). In case of institutional deliveries the performance is some extent satisfactory (NFHS-1,2,and 3). Despite the high infant mortality rate, the coverage of the immunization programme of the government also appears to be falling, if one compares the figures for 2000-01 and for 2004-05 to 2007-08. For example, in 2000-01, 9.16 lakh doses of polio vaccine were used; this fell down to 8.20 lakh doses in 2004-05 and it further falls to 7.99 in 2007-08. The NFHS survey also clearly shows a declining trend in case of Polio vaccines. Like wise Polio, in case of DPT and BCG also the coverage of these vaccines is declining over the period between 2003-04 to 2007-08 (Economic survey, 2009, GoO). Apart from the above vaccines, other vaccines like TT (PW), Measles, DT, TT (10years), and TT (16 years) shows a increasing coverage although the percentage of those vaccines are falls slightly as compare to the year 2006-07. In a state where poverty is widespread, nutrition levels are low in general and health indicators are poor, ensuring food security assumes special significance. Among the two programmes like Mid-day Meal and Public Distribution System, Mid-day Meal seems to be working well and the benefits are also noticeable. On the other hand PDS falls short of expectations on several counts. Therefore government should take necessary steps for the proper implementation of these programmes to achieve proper nutritional status and food security (GoO).

Balangir district situated in the western part of the state and it is one among the three “KBK” districts of Orissa. Although the health care system in the state has improved remarkably over the years, the tribal and backward regions as well as in the remote rural areas are far away in achieving the required amount of health care services. Still health care system is very poor in the KBK region of Orissa (GoO). The health care system in Balangir district is very poor as compare to the other districts of Orissa. By the end of 2004 -05, there were three hospitals, five dispensaries, 8 CHC, 45 primary health centres (both old and new), and one mobile health unit and maternity care centre in the district providing curative health services (District Statistical Handbook 2005, Balangir, Directorate of Economic and Statistics, GoO). As per the Orissa development Report 2004, physical accessibility to health care facility is concerned, it is one of the worst condition in the district with at least 40% of the population having to travel more than five kilometer to reach the nearest health facilities, then in the coastal districts.

Among the Blocks of Orissa, Gudvela Block is one of the backward blocks in the ‘KBK’ region of Orissa. Health care facilities are very poor in this block as compare to other blocks in the district. It is in the last position as compare to health care facilities are concerned (District Statistical Handbook 2005, Balangir). In so far as the treatment of the patients are concerned it comes last in comparision to other blocks. Most of the patients are going to district hospital or private health centre for their treatment. Due to this situation, people of this block are suffering a lot for their health problem. For more serious case like delivery and child health, people have to go more than 60 k.m to 70 k.m to reach district hospital. The study areas cover two villages namely Laitara from Jamut Panchayat and Buromal from Samra panchayat where SCs and STs constitute above 70% of the total population. Buromal is the closest to Tusra health centre and Laitara is far away around 25 k.m from Gudvela PHC and 45 k.m away from Tusra health centre.

Health care accessibility is thus relevant to the study because it provides a background that should be reflected in analyzing the factors which are responsible for the poor health status of SCs and STs and the relative accessibility of health care services by these people. In short due to lack of health care facilities, socio-economic constraint and lack of government intervention, the health status of the people’s like SC’s and ST’s remain poor in the district and also in the State.

4: Health Status of SC and ST Households in the Study Area

The existing studies have examined the health status of the deprived sections (SCs and STs) based on infant mortality, life expectancy, maternal mortality, morbidity, fertility etc. but the accessibility aspect of the health care services by these sections (SCs and STs) have not been explained in the context of Orissa. The objective of the present study is to analyse the health status of the SC and ST households having children below five years of age, and for this purpose household is taken as the sample unit. The important reason for selecting the households is to show the status of maternal and child health, which are important in determining the health status of the study area. All the variables like income, health expenditure, food expenditure, unless otherwise specified, are calculated and listed on annual basis.

In the present study area the size of the households in Buromal villages ranges from three members to eleven members. Thus the average size of the households for SC and ST are around four and five members respectively (see Table-4.1). On the other hand in case of Laitara village the size of household ranges from three members to nine members. Thus in Laitara village the average size of the households for SC and ST are around five members. The data shows that, the percentage of illiterate is more than the percentage of literate for both categories in both the villages. It is above 50 percent in Buromal village and is above 55 percent in Laitara village. Regarding the occupation of the households, maximum people in the study area are depending on the manual. In the study villages the householders are mostly landless as out of 60 households only 21 households have lands and the rest do not have land. The above study shows that the average land holdings of SC households in both the villages are 6.66 dismil where as for ST these land holdings are 54 and 283.33 dismil respectively. It is known that out of 60 households, 50 households have BPL card which means above 80 percent of the households are falling under below poverty line. The income of the households in the study area ranges annually from Rs 9000 to Rs 50000 (see Table-4.2).

The table 4.3 shows the average expenditure of the households on different items such as expenditure on food, health, education, clothing and other items. The data analysis shows that SCs are spending more on food as compare to STs in the study area. This is because the income levels of SCs are very less as compared to STs. Regarding the

expenditure on health, both the SC and ST communities of Buromal village are spending more on health as compare to the SC and ST families of Laitara village. In case of health care expenditure as a percentage to total expenditure, STs are in a good position as compared to SCs in the study area. The average expenditure on education by SCs and STs in Buromal village becomes Rs 700 and Rs 506 respectively which are around 3 percent and 2 percent expenditure on education as a percentage to their total expenditure. On the other hand in case of Laitara village all the Households belonging to both categories are in a same expenditure level. Here educational expenditure of all the households is below Rs 1000. The average educational expenditure of SCs and STs in this village are Rs 186.66 and Rs 213.33 which are just around 1 percent of expenditure as a percentage to the total expenditure by the households. From the above analysis, it is known that the Buromal village is in a better position regarding educational expenditure as compared to Laitara. From the analysis it is known that households from Buromal village are spending more on clothes and other items in comparison to the households of Laitara village.

From the over all analysis the households from Buromal village are in a better position as compared to the Laitara village in all aspects of expenditure such as food, health, education, clothes and others. The average total expenditure shows that households are spending more than their average total income except the SC households of Buromal village .Households from these two villages are meeting their extra expenditure or unforeseen expenditure either through borrowing money from money lenders or relatives and at the time of repay they are being charged by a high rate of interest. So due to the low level of income people are finding difficulties in fulfilling their basic needs in the study area.

4.1: Modeling on Health Status

As stated earlier, the main aim of the study is to understand the factors responsible for the poor health status of SCs and STs in the study area. In this section an attempt is made to estimate the health status of SCs and STs in the two villages from the Gudvela block of Orissa. As it was stated in the previous section that a sample of sixty households, thirty from each village (consisting of 15 SC's and 15 ST's) was collected to

analyse the health status of the households. Information about the factors affecting the health status such as income, education level, and health care expenditure, Assets holdings, health facilities, and sanitary facilities etc.were collected from sample households. Estimation is based on sample data; (both qualitative and quantitative data) were collected for the above analysis. Here we have an attempt to look into the health care access of SCs and STs by considering the health status of the sample households. For this we have used the Binomial Logit model, the dependent variable is health status .Logit model is used when the dependent variable is dichotomous. The model is as follows.

Model:

$$L_i = \ln \left(\frac{P_i}{1 - P_i} \right) = \beta_1 + \beta_2 TI_i + \beta_3 ED_i + \beta_4 MF_i + \beta_5 AS_i + U_i$$

Where $P_i = 1$, if the health status is good and
 0 , if it is bad.

β_1 = intercept term

β_2 = coefficient of the total income (annual) of the family.

β_3 = coefficient of the educational qualification of the head of the household

β_4 = coefficient of health care facilities.

β_5 = coefficient of assets holding (in terms of land) of the families

U_i = error term.

Here Total income (TI), and assets holding (AS), Education level(ED) and health care facilities (MF)

Education(ED)

Here educational qualification is divided into literate and illiterate, if the head of the household is literate then the score as one and if illiterate then zero.

ED = 1 = if literate
 0 = otherwise

Health Care Facilities (MF)

Like education, Health care facilities are grouped into two types like good and bad. If the health care facilities are good then the score will be one and if it is bad then zero.

MF = 1= if it is good and easily accessible
 0 = if it is bad.

Before estimating the health status model, we have to be first clear about the score allocated to the dependent variable. Here health status is given the score as one or zero based on different indicators like income of the household, education of the head of the household, physical distance of the health centre, number of visits to health centre, number of times of anti-natal care, provision of iron and folic acid tablets, type of anti-natal care, post natal care, number of medical supervisions of delivered mother, place of delivery, complete set of immunisation , birth distance, number of still-born babies , type of removing umbilical cord and sanitary facilities. By looking into the above factors score is given .Taking into account the data collected through the field survey it is clear that maximum number of families fall below poverty line in terms of income. From the sixty households surveyed, thirty household are from Buromal village and another thirty are from Laitara village. Out of the thirty households from Buromal village eighteen households have got the score one that means they have better health status and other twelve have got score zero. On the other hand, in case of Laitara village out of thirty families, only six households have got score one and rest households have got zero score. The above analysis shows that people from Buromal village are somehow better in health status in comparison to Laitara village. If we take into account all the sixty households from the two villages we can find that only twenty four households have better health status and the remaining thirty six households have poor health status.

Estimated Results of the Health Status Model

| Table 4.14: estimated results of total health status | | | |
|--|-------------|-------------|-------------|
| Variable | Coefficient | z-Statistic | Prob. |
| C | -11.0023 | -3.3141 | (0.0009)*** |
| TI | 0.0003 | 2.4786 | (0.0132)*** |
| MF | 3.313 | 3.0197 | (0.0025)*** |
| ED | 2.2789 | 2.0626 | (0.0391)** |
| AS | 6.97E-06 | 0.7079 | 0.479 |
| LR statistic | 49.6592 | | |
| Prob (LR stat) | 0.0000. | | |
| Mc Fadden R-squared | 0.6148 | | |

*** denotes significant at 1 % level

** denotes significant at 5% level

* denotes significant at 10% level

C = Constant

TI = Total income (annually)

MF = Health care facilities

ED = educational status of the head of the household

AS = assets holding of the family (in terms of land)

Table-4.5 represents the estimated values of the above variables. It can be seen that all the Logit variable coefficients are positive which show the positive effects of these variables on the health status. But, all the variables are not significantly affecting the health status of the people. It can also be seen that only total income of the household, the educational status of the head of the household and Health Care facilities are significantly affecting the health status the people in the study area. Here in the health status model, the total income and medical facilities are significant at 1% percent level and educational status is significant at 5% percent level. The coefficient of total income of the household 0.0003 shows that if there is one unit increase in income level, there are 0.0003 unit changes in the health status of the household. Similarly, the coefficient of the medical facilities 3.313 indicates that if there is one unit increase in medical facilities, the health

status is increased by 3.313 units. The coefficient of the education 2.2789 indicates that there is increase in health status by 2.2789 units if there is rise in education by one unit. The estimated LR statistic is highly significant with very less probability value 0.0000, indicates that together all the variables are significantly determining the health status of people in the study area. Here the Mc Fadden R-squared is 0.6148, which is significant in the health status model. Only the assets (AS) variable is not significantly affecting the health status of the people but it has some positive impact as its coefficient is 6.97 which is positive. So from the above analysis, it is clear that medical facilities, income of the households and educational status of the head of the household are significantly affecting the health status of the families in the study area as a whole.

The analysis shows that in both the cases SC households are in a worst position as compared to the ST households. It is well known that the health status is good and concentrated only in Buromal village as compare to Laitara village. The important reasons are in Laitara village SC families are very poor and illiterate in comparison to Buromal village and their habitants are away from the health centre. On the other hand, in Buromal village, both SC and ST have good education, better income and most importantly, it is closest to the health centre. In this village although some households are very poor and illiterate, they can easily access the health care services because of located nearby health centre. Thus the people from high income category, literate people and village closest to the health centre have better access to health facilities then people from low income category, illiterate people and village distance to the health centre. So from the above analysis it is seen that, more than 60 percent of the households belonging to SC and ST communities are in the bad health status condition which is very high as compared to the other communities of the population. Thus the health status of the households as a whole is very poor in the Laitara and Buromal village and the staple reason for this are: illiteracy, low income and lack of health care facilities.

5: Health Care Accessibility of Children and Women in the Study Area

This chapter deals with the accessibility of health care services to females and infants in the Gudvela block of Balangir District in Orissa. If the mother and children of a

household are having a good access to basic health care services then it will indicate that the over all health status of the household is also good. There are various health services like Antenatal care and types (number and timing of antenatal care visit), Tetanus Toxoid vaccination and iron and folic acid tablets, Condition of delivery and birth, Immunisation of children, post-natal care, medical supervision during pregnancy etc. The present study made an attempt to show the health care accessibility of children and women in the study villages based on the above components of maternal and child health services. The analysis is based on two steps first village wise accessibility of health care services to children and women and second overall accessibility of health care services as a whole in the study area. First we will look into the accessibility of health care services to children and women in Buromal village (which is close to the medical centre). Table 5.1 shows that, in Buromal village out of 15 SC households, 11 households are from Rs10000-Rs20000 income group (annual), two households are from Rs20000-Rs30000 income group and the other two households are above Rs30000 income group. We will look into the different indicators of health care accessibility by the 15 SC households and then the same is done for other 15 ST households.

From the detail analysis of health care accessibility, it is seen that four households (each group two households) from the last two income level (Rs 20000-Rs 30000 and Rs 30000 & above) have cent percent access in all the components of health services except medical supervision but it was very low in case of the Rs 20000 to Rs 30000 income group. Out of 11 households from this category, only three households have three and more times ANC, three households have two times ANC and no ANC was availed by rest five households, for TT, iron and folic acid consumption, five households have completed the required doses and the rest have not completed the required doses although they have taken the tablets from the health servant. In case of medical supervision during pregnancy, only three households have consulted to the physician and the rest have not consulted any physician and for postnatal care only three households availed two and more times PNC services, two households have availed one time PNC services and no PNC was availed by rest six households. Regarding the place of delivery and child immunisation, four household's delivery took place in health facilities and rest seven households at home and parent's home and for immunisation five household have

completely immunized their children and the remaining six families have not completely given the required amount of vaccines to their children.

Similarly for ST community, out of 15 households nine households are from Rs 10000 to Rs 20000 income group, four households are from Rs 20000 to Rs 30000 income group and the rest two households are from Rs 30000 & above income group. Now we will look into the accessibility of all the components of health services for ST community. For Antenatal care out of 15 ST households eleven households' availed ANC services for three or more than three times, two households availed two times ANC and no ANC was availed by the other two households. Similarly for Tetanus Toxioid (TT), iron and folic acid consumption, 13 households have completed the required amount of TT, iron and folic acid consumption and the other two households have not completed the required amount. In case of medical supervision during pregnancy, six households have consulted to the physician and the other nine households have not consulted any physician and for postnatal care ten households availed two and more times PNC services, and no PNC was availed by rest five households. Regarding the place of delivery it is found that in case of 13 household's delivery of the children takes place in health centre while in case of other two households delivery has taken place at home. So far as child immunisation is concerned, it is found that, twelve household have completely immunised their children and rest three households have not completely given the required amount of vaccines to their children.

Now we will look into the health care accessibility of child and women in Laitara village (which is far away from the health centre). From the table 5.2 it is known that out of 15 SC households, three households are from below Rs 10000 income group, 9 households are from Rs10000-Rs20000 income group, two households are from Rs20000-Rs30000 income group and one household is above Rs30000 income group. We will look into the different indicators of health care accessibility by the SC and ST households. In case of antenatal care services, out of 15 SC households, one household availed the ANC for three and more than three times, no ANC was availed by six households, six households availed two times ANC services and the remaining two households availed one time ANC services. For the consumption of TT, Iron and Folic acid tablets, only one household has completed the required amount of iron and folic acid

consumption and the rest fourteen households have not completed the required amount. In case of medical supervision during pregnancy, five households have undergone medical supervision and the other ten households do not have any medical supervision. In case of post-natal care services, one household availed PNC for two and above two times, no post-natal care was availed by eight households and the rest six households availed only one time PNC services. Regarding the delivery status, only two households have safe delivery and rest 13 households have non-institutional delivery such as at own home, parents home and others. In case of immunisation status, two households have completely immunised their child for all the dangerous diseases and the rest 13 households have not given the required amount of vaccines to their children.

On the other hand in case of the ST category, out of 15 households three households are from Rs10000 to Rs20000 income group, ten households are from Rs20000 to Rs30000 income group and rest two households are from Rs30000 & above income group. Now we will look into the accessibility of all the components of health services for the ST category. For Antenatal care out of 15 ST households, five households availed ANC services for three and more than three times, another five households availed two times ANC, only one household availed one time ANC and no ANC was availed by the rest four households. Similarly for TT, iron and folic acid consumption, 6 households have completed the required iron and folic acid consumption and the rest nine households have not completed the required doses. In case of medical supervision during pregnancy, five households have consulted to the physician and the rest ten households have not consulted to any physician and for postnatal care ten households availed no PNC services, and the rest five households availed two times and above two times of PNC services. Regarding the place of delivery and child immunisation, only four households opted for having delivery at health centre and the rest eleven households chose the home as the right place for delivery and for immunization six households have completely immunised their children and the rest three households have not completely given the required amount of vaccines to their children.

In case of SC category in the study area only eight households have better access to all the components of health care services and the rest have very poor access. On the

other hand in case of ST category sixteen households have better access to all the components of health care services.

Table 5.3 shows the over all accessibility of health care services to children and women in the two villages as a whole. Similarly in the village wise health care accessibility, here also the total income of the household and the components of health care services are divided identically as mentioned above. The data shows that, in the study area out of 60 households (consisting of both SCs and STs from the two villages) only three (5 percent) households are from below Rs10000 income group, 32 (53 percent) households are from Rs10000 to Rs20000 income group, eighteen (30 percent) households are from Rs20000-Rs30000 income group and rest seven (around 12 percent) households are above Rs30000 income group. Now, we will look into the different indicators of health care accessibility by all the 60 households in the study area both as a percentage and in absolute terms. In case of antenatal care services, out of 60 households, 24 households (40 percent) availed the ANC for three and more than three times, sixteen households(around 27 percent) availed two times ANC services, three households(5 percent) availed one time and no ANC was availed by rest 17 households(around 29 percent) .For the consumption of TT, Iron and Folic acid tablets, 29 households(48.33 percent) have completed the required amount of TT, iron and folic acid consumption and rest 31 households(51.66 percent) have not completed the required amount. In case of medical supervision during pregnancy, only 22 households (36.66 percent) have medical supervision or consulted a physician for their health and the rest 38 households (63.33 percent) have not consulted to any physician or any medical supervision. Similarly for post-natal care services, 23 households (38.33 percent) availed PNC for two or more times, no post-natal care was availed by 29 households (48.33 percent) and the rest eight households (13.33 percent) availed only one time PNC services. Regarding the delivery status, 27 households (45 percent) have safe delivery and the rest 33 households (55 percent) have non-institutional delivery like at own home, parents home and others. For immunisation status 29 households (48.33 percent) have completely immunised their child for all the dangerous diseases and the other 31 households (51.66 percent) have not given the required vaccines to their children.

From the above analysis of health care accessibility, it is known that seven households from the Rs 30000 & above income level, eight household from Rs20000 to Rs30000 income level and the rest nine households from Rs10000 to Rs20000 income level have better access in all the components of health services except medical supervision. But most interesting thing is that, out of this 24 households (whose accessibilities are good) from all the income categories, 18 households are from Buromal village and the rest six are from Laitara village. It is seen that the health care accessibilities in all the components of maternal and child health are relatively less as compared to the non-accessibility of the above health services. The SC and ST households in Buromal village are better than that of Laitara village so far as the components of health care services are concerned. But as a whole in the study area, out of 60 households 36 households (60%) have no access and the rest only 24 households (40%) have access to the basic health service. From the above study, it is known that health care accessibility of children and women are very poor or low in the study area as a whole.

6: Conclusions

The study shows that the health status of SC and ST households in the study area is very poor and the staple reason for this are: illiteracy, low income and lack of health care facilities. In this section first we will look into the major findings and then the policy recommendations of the present study.

6.1: Major findings of the study

- As regards the village wise accessibility of health services Buromal village is in a better position than Laitara village.
- Regarding the accessibility between SCs and STs as a whole, the accessibility of health care services by the STs are more than the SCs in the study area as a whole.
- But as a whole in the study area, 60 per cent households have no access and the rest 40 per cent have access to the basic health services. From the above study, it is found that health care accessibility of children and women are very poor or low in the study area a whole.
- Health care facilities are also very poor in the study area. Health institution is situated at a mean radial distance of more than 20 km from that of another. At the

same time there is also severe shortage of Government health service providers in this area.

- Income of the households, education level of the head of the households and medical facilities are significantly affecting the health status of the households. So the factors we hypothesized in our study having greater influence on the poor health standard come true.

Policy Recommendations:

- Plan efforts both at government and organizational level should be combed out to strengthen the educational and health infrastructure system in the rural areas.
- Education should be made free to the SC and ST people till higher secondary level.
- More employment opportunities should be created. To increase the employment opportunities in the study area the NREGS programme should be made broad based and implemented properly.
- Medical facilities should be provided to the people at the doorsteps so that morbidity and mortality figures are brought under control.
- There should be emphasis on the Public Private Partnership (PPP) approach so that the large gap in the field could be filled up.
- Different agencies should be involved to raise awareness among the illiterate people of the region.
- Health expenditure as percentage of State Domestic Product should be increased so that per capita availability to the people in terms of health care facilities will give them better access in this region.

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APPENDIX

Table 4.2: Socio-Economic Characteristics of SC and ST Households in the Study Villages

| Socio-economic characteristics | Buromal | | Laitara | |
|--|------------|------------|------------|------------|
| | SC | ST | SC | ST |
| (1) Education | | | | |
| Illiterate person | 35(53.03%) | 39(51.31%) | 48(55.8%) | 47(59.49%) |
| Literate person | 31(46.96%) | 37(48.68%) | 38(44.18%) | 32(40.50%) |
| (2)Occupation | | | | |
| Farmer | – | – | – | 8(29.62%) |
| Laborers | 16(80%) | 22(100%) | 20(100%) | 19(70.37%) |
| Services | 4(20%) | – | – | – |
| (3) Average income of the household | 20933.33 | 20600 | 15066.66 | 23266.6 |
| (4) Average land holdings of the household | 6.66 | 54.00 | 6.66 | 283.33 |
| (5) Card holders | | | | |

| | | | | |
|-----------------------|----|----|----|----|
| APL Card holders | 1 | 2 | 1 | – |
| BPL Card holders | 13 | 11 | 11 | 15 |
| Antodaya Card holders | 1 | 2 | 3 | – |

Note: Land holding in terms of dismal
Note: Income - Annual Basis (Rupees)
Note: 100 dismil = 1 acre of land

Source: Field survey, May 2009
Note: Figure in the bracket denotes percentages

Table 4.3: Average Expenditure of the Households in the Study Villages

| Average Expenditure of the households on various items(Annually) | Buromal | | Laitara | |
|--|---------------------|----------------------|----------------------|---------------------|
| | SC | ST | SC | ST |
| Food | 13840 (69.8%) | 13553.33 (65.23%) | 11893.33 (78.48%) | 16860 (71.15%) |
| Health | 2246.66 (11.33%) | 2826.66 (13.60%) | 1173.33 (7.74%) | 2580 (10.88%) |
| Education | 700 (3.53%) | 506.66 (2.43%) | 186.66 (1.23%) | 213.33 (0.9%) |
| Clothing | 2213.33 (11.17%) | 2726.66 (13.12%) | 1453.33 (9.59%) | 3266.66 (13.78%) |
| Other expenses | 813.33 (4.10%) | 1166.66 (5.61%) | 446.66 (2.94%) | 773.33 (3.26%) |
| Average Total Expenditure | 19813.32 | 20779.97 | 15153.31 | 23693.32 |
| Average Total Income | 20933 | 20600 | 15066.67 | 23266.67 |

Note: Expenditure – Annual Basis (Rupees)
Note: Figure in the bracket denotes percentages

Source: Field Survey, May 2009

| 5.1: Health care accessibility of children and women in Buromal village (both SCs and STs) | | | | | | | | | | | | | | | | |
|--|-------------------|----------------|---|----|-------------|------|----------|-----|----------------|---|----|----------|------|--------------|------|---------|
| Income (Rs.) level | No.of families | Antinatal Care | | | TT & I & FA | | MS | | Postnatal Care | | | Delivery | | Immunisation | | |
| | | 1 | 2 | ≥3 | No | (C.) | Not (C.) | Yes | No | 1 | ≥2 | No | Safe | unsafe | (C.) | Not(C.) |
| 10000 to 20000 | 11 | - | 3 | 3 | 5 | 5 | 6 | 3 | 8 | 2 | 6 | 3 | 4 | 7 | 5 | 6 |
| 20000 to 30000 | 2 | - | - | 2 | 2 | - | - | 1 | 1 | - | - | 2 | 2 | - | 2 | - |
| 30000 & above | 2 | - | - | 2 | 2 | - | - | 2 | - | - | - | 2 | 2 | - | 2 | - |
| Sub-total (SC) | 15 | - | 3 | 7 | 5 | 9 | 6 | 6 | 9 | 2 | 6 | 7 | 8 | 7 | 9 | 6 |
| 10000 to 20000 | 9 | - | 2 | 6 | 1 | 8 | 1 | 4 | 5 | - | 3 | 7 | 2 | 2 | 7 | 2 |
| 20000 to 30000 | 4 | - | - | 3 | 1 | 3 | 1 | 2 | 2 | - | 3 | 4 | 4 | - | 3 | 1 |
| 30000 & above | 2 | - | - | 2 | - | 2 | - | - | 2 | - | 1 | 2 | 2 | - | 2 | - |
| Sub-total (ST) | 15 | - | 2 | 11 | 2 | 13 | 2 | 6 | 9 | - | 10 | 5 | 13 | 2 | 12 | 3 |
| Total (SC+ST) | 30 | - | 5 | 18 | 7 | 22 | 8 | 12 | 18 | 2 | 17 | 11 | 21 | 9 | 21 | 9 |

Source: Field Survey, May, 2009

* 1= one time AC

(C.)= completed

I & FA= Iron and Folic acid tablets

* 2= two time AC

Not (C.)=Not completed

*≥3=three and above three times

No= No AC

| 5.2: Health care accessibility of children and women in Laitara village (both SCs and STs) | | | | | | | | | | | | | | | | |
|--|--------------------|----------------|----|----|-------------|-------|-----------|-----|----------------|---|----|----------|------|--------------|------|---------|
| Income (Rs.) level | No. of families | Antinatal Care | | | TT & I & FA | | MS | | Postnatal Care | | | Delivery | | Immunisation | | |
| | | 1 | 2 | ≥3 | No | Comp. | Not comp. | Yes | No | 1 | ≥2 | No | Safe | unsafe | (C.) | Not(C.) |
| Below 10000 | 3 | 2 | 1 | - | - | 0 | 3 | 2 | 1 | 2 | - | 1 | - | 3 | NA | 3 |
| 10000 to 20000 | 9 | - | 5 | - | 4 | 0 | 9 | 2 | 7 | 4 | - | 5 | 1 | 8 | 1 | 8 |
| 20000 to 30000 | 2 | - | - | - | 2 | - | 2 | - | 2 | - | - | 2 | - | 2 | - | 2 |
| 30000 & above | 1 | - | - | 1 | - | 1 | - | 1 | - | - | 1 | - | 1 | - | 1 | - |
| Sub-total (SC) | 15 | 2 | 6 | 1 | 6 | 1 | 14 | 5 | 10 | 6 | 1 | 8 | 2 | 13 | 2 | 13 |
| 10000 to 20000 | 3 | 1 | 1 | - | 1 | - | 3 | - | 3 | - | - | 3 | 1 | 2 | - | 3 |
| 20000 to 30000 | 10 | - | 4 | 3 | 3 | 4 | 6 | 3 | 7 | - | 3 | 7 | 2 | 8 | 4 | 6 |
| 30000 & above | 2 | - | - | 2 | - | 2 | - | 2 | - | - | 2 | - | 1 | 1 | 2 | - |
| Sub-total (ST) | 15 | 1 | 5 | 5 | 4 | 6 | 9 | 5 | 10 | - | 5 | 10 | 4 | 11 | 6 | 9 |
| Total (SC+ST) | 30 | 3 | 11 | 6 | 10 | 7 | 23 | 10 | 20 | 6 | 6 | 18 | 6 | 24 | 8 | 22 |

Source: Field Survey, May, 2009

* 1= one time AC

(C.)= completed

I & FA= Iron and Folic acid tablets

* 2= two time AC

Not (C.)=Not completed

* ≥3=three and above three times

No= No AC

| 5.3: Total Health care accessibility of children and women in the study area (both SCs and STs) | | | | | | | | | | | | | | | | | |
|---|-----------------|----------------|-------|----|-------------|-------|-----------------|-------|----------------|------|------|----------|------|--------------|------|---------|---|
| Income (Rs.) level | No. of families | Antinatal Care | | | TT & I & FA | | Medical sp.sion | | Postnatal Care | | | Delivery | | Immunisation | | | |
| | | 1 | 2 | ≥3 | No | Comp. | Not comp. | Yes | No | 1 | ≥2 | No | Safe | unsafe | (C.) | Not(C.) | |
| Below 10000 | 3 (5) | 2 | 1 | - | - | 0 | 3 | 2 | 1 | 2 | - | 1 | - | 3 | - | 3 | - |
| 10000 to 20000 | 32 (53) | 11 | 9 | 11 | - | 13 | 19 | 9 | 23 | 6 | 9 | 17 | 13 | 19 | 13 | 19 | - |
| 20000 to 30000 | 18 (30) | 4 | 8 | 6 | - | 9 | 9 | 6 | 12 | - | 8 | 10 | 8 | 10 | 9 | 9 | - |
| 30000 & above | 7 (11.6) | - | 7 | - | - | 7 | - | 5 | 2 | - | 6 | 1 | 6 | 1 | 7 | - | - |
| Total (SC+ST) | 60 | 3 | 16 | 24 | 17 | 29 | 31 | 22 | 38 | 8 | 23 | 29 | 27 | 33 | 29 | 31 | - |
| Percentage | 100 | 5 | 26.66 | 40 | 28.33 | 48.33 | 51.66 | 36.66 | 63.33 | 13.3 | 38.3 | 48.3 | 45 | 55 | 48.3 | 51.6 | - |

Source: Field Survey, May, 2009

