An analysis of health status of Orissa in specific reference to health equity

Abstract

Orissa is one such state in India which is stained with poor socio-economic status of the inhabitants. Lower income, poor housing facility, lack of education and discrimination are some of the factors that contribute to the poor living standard including the poor health status of the people in the state, although, the degree of contribution of these factors in deciding the living standard of people vary across social and ethnic groups. In brief, the statistics presented in this report indicate a marked disparity in the health status of people among various social and economic groups that includes the disparities by caste/ethnicity, gender, education or income, disability, or various geographic localities where people reside.

CTRAN Consulting

A1/A2, Lewis Plaza, Lewis Road, BJB Nagar,
Bhubaneswar,
Orissa – 751014, India
Telephone: +91-674-3245544
Tele Fax: +91-674-2432695

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Technical and Management Support Team (TMST), Orissa Health Support Project (OHSP)

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It was our pleasure to prepare this health equity status paper and we hope that the analysis carried out in this report would help the people of this state, policy makers, health providers, support agencies and others to know the health inequity existing between advantaged and disadvantaged populations in Orissa.

Ashok Kumar Singha
Satyanarayan Mohanty
CTRAN Consulting, Bhubaneswar

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ABBREVIATIONS

ANC	Antenatal Care	JSY	Janani Surakhya Yojana
ARI	Acute Respiratory Infection	MDG	Millennium Development Goal
AWW	Anganawadi Worker	MMR	Maternal Mortality Rate
BMI	Body Mass Index	NFHS	National Family Health Survey
CBR	Crude Birth Rate	NPCB	National Program for Control of Blindness
CHC	Community Health Center	NRHM	National Rural Health Mission
CPR	Contraceptive Prevalence Rate	NSDP	Net State Domestic Product
CSDH	Commission of Social Determinants of Health	NSS	National Sample Survey
DHH	District Headquarter Hospital	NVBDCP	National Vector Borne Disease Control Program
DLHS	District Level Health Statistics	OBC	Other Backward Classes
DOTS	Directly Observed Treatment Short Course	OSACS	Orissa State AIDS Control Society (OSACS)
EMCP	Enhanced malaria control program (EMCP)	PAP	Proportion of Ailing Persons
EQA	External Quality Assessment	PHC	Primary Health Center
FSI	Food Security Index	RCH	Reproductive Child Health
GoI	Government of India	RDT	Rapid Diagnostic Treatment
HDI	Human Development Index	RNTCP	Revised National TB Control Program
ICDS	Integrated Child Development Scheme	SBA	Skill Based Assessment
ICMR	Indian Council of Medical Research	SC	Scheduled Caste
IEC	Information Education & Communication	ST	Scheduled Tribe
IFA	Iron Folic Acid	TB	Tuberculosis
IMCP	Intensified Malaria Control Program	TBA	Trained Birth Attendant
IMNCI	Integrated Management of Neo Natal Childhood illness	TFR	Total Fertility Rate
IMR	Infant Mortality Rate	WHO	World Health Organization
IUD	Intra Uterus Device		

"The primary object of development - for any country and for the world as a whole - is the elimination of 'un-freedoms' that reduce and impoverish the lives of people. Central to human deprivation is the failure of the capability to live long and healthy lives. This is much more than a medical problem. It relates to handicaps that have deep social roots."

Amartya Sen
Nobel Prize winner in Economics in 1998

Health Development Goals

Goals set under Orissa Vision 2010 – A health strategy	
Target	**By Year**
Eradicate polio and yaws	2005
Eliminate leprosy	2005
Eliminate lymphatic filariasis	2015
Achieve zero level growth of HIV/AIDS	2007
Reduce mortality by 50% of on account of TB, malaria, other vector and water borne diseases	2010
Reduce prevalence of blindness to 0.5%	2010
Reduce IMR to 45/1000 and MMR to 100 / 100,000	2010

Goal set for 11th Five Year Plan of Government of India
Indicators
Reducing Maternal Mortality Ratio (MMR) to 1 per 1000 live births.
Reducing Infant Mortality Rate (IMR) to 28 per 1000 live births.
Reducing Total Fertility Rate (TFR) to 2.1
Providing clean drinking water for all by 2009 and ensuring no slip-backs
Reducing malnutrition among children of age group 0–3 to half its present level
Reducing anemia among women and girls by 50%.
Raising the sex ratio for age group 0–6 to 935 by 2011–12 and 950 by 2016–17

Goal set under National Population Policy 2002				
Indicators	**National Population Policy 2002**		**Status of Orissa**	
	Target	**By Year**	**Status**	**Year**
Fertility	Reaching the replacement level of TFR of 2.1	During 2011 – 2016	2.4	2005-06

Millennium Development Goal (MDG)				
Indicators	**Millennium Development Goal (MDG)**		**Status of Orissa**	
	Target	**By Year**	**Status**	**Year**
Child Mortality	Reduce the mortality rate of children under five by two thirds.	2015	90.6%	2005-06
Maternal Mortality	Reduce the maternal mortality rate by three quarters.	2015	358/ 1,00,000	2001-03
HIV/AIDS	Stop and reverse the spread of HIV/AIDS.	2015	1/ 1,00,000 11835 HIV + 1045 AIDS	2000-01 2008 2008
Malaria and other major diseases	Stop and reverse the incidence of malaria and other major diseases.	2015	Malaria-8,132/ 1,00,000 TB – 418 / 1,00,000 Leprosy–124/ 1,00,000	2000-01

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EXECUTIVE SUMMARY

1. Genesis of health equity status paper

Orissa which is one of the most backward states in India recognizes the need of addressing health inequity existing in the state. Since the state has maximum percentage of socio-economically disadvantaged population, the disparities among the different sections of population are quite prominent. In view of this, the Orissa health Sector Plan (OHSP) aims to achieve equity in health outcomes and has a key focus on access and utilization of services by vulnerable and marginal groups including women, schedule caste (SC) and schedule tribe (ST) populations. It aims at delivering accountable and responsive health care to reduce maternal mortality; infant and child mortality; reduce the burden from infectious diseases; under-nutrition and nutrition-related diseases and disorders. Therefore, the study on perception of marginalized people and service providers about health equity was conducted so that appropriate health equity strategy for the state could be developed and adopted. The study was carried out by CTRAN Consulting with the support from Technical Management & Support Team (TMST) to OHSP.

One of the tasks under the study was to develop a health equity status paper for Orissa based on desk review of data related to equity like DLHS, NFHS, SHDR, etc. The present report is the outcome of this desk review or analysis of secondary data carried out on health status of people in Orissa in specific reference to health equity.

2. Concept of Health Equity

The word equity is used in Social, Economic, Psychological, Legal, Political, Architecture and Business contexts. Generally the term equity can refer to ***"the state, quality, or ideal of being just, impartial, and fair"***. That means equity is not same as equality. Treating everything or everybody same is termed as equality whereas equity is regarded as something being fair or just. In other words, equitable approach emphasises the ever increasing gap between rich and poor; haves and have-nots; privileged and marginalised; impervious and vulnerable; advantaged and disadvantaged; etc. through being equitable or fair or just in distribution of resources, access to services, provision and delivery of services.

As far as health sector is concerned, World Health Organization (WHO) defines equity as "the systematic differences in health that are judged to be avoidable by reasonable action they are, quite simply, unfair" is labelled as inequity in health. In other words, equity in health means the absence of differences in health that are unnecessary, avoidable, unfair and unjust. Equity in health essentially focuses on improving health status of the disadvantaged population which would be considered as equitable when the same is compared with the advantaged.

3. Determinants of Health

The health of people is determined by two key factors: i) the conditions in which people live and ii) the health care that the people get. In the social environment where the people live-in, the following factors could be some of the key determinants of health e.g. Housing, Education, Transportation, Access to services, Physical Environment, Socioeconomic status/position, Discrimination by social grouping, Social or environmental stressors, etc. Particularly in the context of Orissa, this is one such state in India which is stained with poor socio-economic status of the inhabitants. Lower income, poor housing facility, lack of education and discrimination are some of the factors that contribute to the poor living standard including poor health status of the people in the state.

4. The State of Orissa: An overview

- Geographically Orissa extends from 17^0 49'N to 22^0 34'N latitude and from 81^0 29'E to 87^0 29'E longitude on the eastern coast of India.
- It is one of the richest states in terms of resources but has the largest number of poor people in the country - a paradox.
- The mountainous portions of Orissa cover about three-fourths of the entire state and hence determine the economic standard of the state. These mountainous portions have undulating topography and are mostly inhabited by tribal.
- The high plateau is within the mountainous areas with an average elevation of 300-600 meters.
- The population of Orissa, which was 316.60 lakh in 1991, has increased to 368.05 lakh in 2001 exhibiting a decennial growth rate of 16.25 percent.
- The State comprises of 3 revenue divisions, 30 districts, 58 sub-divisions, 171 tehsils, 314 community development blocks, 6234 gram panchayats and 50,295 villages.
- According to the Census, 2001 nearly 85% of the total population lives in rural areas. Scheduled Castes and Scheduled Tribes population in the State, as per 2001 Census, was 60.82lakh and 81.45lakh respectively.
- STs with 62 tribes account for 22.21% and SCs with 95 castes make-up 16.12% of the total population of the State.
- Orissa has the largest percentage of tribal population among the Indian States barring the north-eastern States viz. Nagaland, Meghalaya, Manipur and Tripura.
- The male and female literacy rates of Orissa are 75.3% and 50.5% as compared with 75.26% and 53.67% for males and females, respectively for all India.
- The literacy rate among SCs and STs stands at 55.53% and 37.37% respectively. The literacy level of females among tribal is quite low at only 23.4% and among SCs is as low as 40.3%.
- The southern districts have lower illiteracy. Proportions of tribal population are also high in these districts. Coastal, central and northern districts (except Mayurbhanj) have higher illiteracy rate.
- Between the years 1993-94 and 2004-05, the state economy has grown at a meagre rate of five percent per annum as compared to 7% in case of Gujarat and Karnatak.
- Orissa ranks 17^{th} among the 17 major states of the country as far as poverty ratio is concerned that means Orissa occupies last position among all the major states of the country with 46.8% people lives below the poverty line. The per capita income of the state is only Rs. 5985/- which positions Orissa just before the state (Bihar) that ranks last among all the major states.
- The poverty ratio in southern region is highest followed by the northern region.
- Compared to Coastal region (27.4%), the poverty ratio in southern region (72.7%) is at least two and half times and in northern region (59.1%) is at least two times higher.
- Most importantly the percentages of people below poverty line have gone up in southern and northern regions.
- The poverty ratio among the STs is exorbitantly high across all regions in the State followed by SCs. Thus, STs followed by SCs are from the economic point of view are highly vulnerable groups in Orissa.
- The status of districts in terms of Food Security Index (FSI) reported in the Food Security atlas of Orissa clearly shows that the all most all the districts in the southern and northern region in Orissa are either extremely or severely food insecure.

5. Health status of Orissa in specific reference to health equity

Health vs. Human development

- The value of Human Development Index (HDI) for the state as a whole is 0.579. This may be regarded as a somewhat medium level of human development.
- Of the three components of HDI of Orissa, the education index has the highest weight (0.723) whereas the health index has the lowest weight (0.468) and the income index (0.545) lies in between.
- The health index of districts in the state ranges from as low as 0.006 to as high as 0.782, showing wide disparity between districts.

- The districts which have lowest HDI ranks viz. Malkangiri, Kandhmal, Gajapati, Koraput, Nabarangpur, etc. have much lower health index in comparison to their income and education index.
- Districts which have occupied highest HDI ranks viz. Khurda, Jharsuguda, Cuttack, Sundergarh, etc. have highest health index apart from better income and education index.
- Thus, good health of people is an essential indicator for attaining better human development.

Life Expectancy

- As far as life expectancy of males and females at birth is concerned, Orissa figures in the bottom three states of India, just ahead of Assam and Madhya Pradesh.
- For the year 2001-06 years, the life expectancy of males and females at birth in Orissa stands at 60.05 and 59.71 years respectively which is much below the country average of 63.87 and 66.91 years
- When the females in Orissa were enjoying relatively better life expectancy at birth as compared to male persons for 1997-01 years, reverse trend is observed in the years 2001-06, which necessitates immediate attention of government.
- Of the ten districts which have life expectancy below the state average, seven districts viz. Gajapati, Malkangiri, Balangir, Raygada, Kendujhar, Kandhmal and Sundergarh have large number of ST and SC population in together.
- On the other side, Puri, Cuttack, Dhenkanal, Jharsuguda, Debagarh, Sambalpur, Bhadrak, Nayagarh, Baleswar and Bargarh are the districts where people even enjoy better life expectancy than the national average.

Death rates and mortality status

- The Death Rates in Orissa is highest in the country which stands at 9.2 as against 7.4 of the country as a whole that is at least 2 points below the national death rate.
- The death rate status of rural Orissa (9.5) is more distressing as compared to its urban areas (7.0).
- Orissa along with Madhya Pradesh and Assam have highest death rates among the bigger states in the country and occupy bottom three positions as far as death rate is concerned.
- The death rates between 1997 and 2007 year shows reduction in death rates by 1.7 point which is second highest among all the states in the country.
- Females in Orissa enjoy lower death rate (8.8) as compared to males (9.5) in Orissa but in both the cases the rate is highest in comparison to other states in the country.
- The state again ranks second from last with 71 infant deaths recorded per 1000 live births.
- The infant deaths recorded in the state is at least five to six times higher to that of Kerala where the number of infant deaths was only 13 per 1000 live births in the year 2007.
- Although the number of deaths that have declined i.e. from 96 (in year 1997) to 71 (in 2007) in Orissa is highest among the bigger states in the country, the rate of such decline is quite sluggish which comes to a reduction of only two deaths per year in 1000 live births.
- The number of infant deaths in rural Orissa is staggering high at 73 as compared to 52 infant deaths per 1000 live births in the urban areas of the state.
- When 70 male infants per 1000 live births died in 2007, the state recorded little higher i.e. 72 deaths of female infants during the same period.
- Within first one month of birth or during neo-natal period, the mortality rate is highest (45.4) as compared to post-neonatal period (19.3).
- Besides such high infant mortality, the under-five mortality rate in the state is also accounted to be very high which stands at 90.6 under five deaths per 1000 live births.
- Especially among the STs, the under five mortality is astoundingly high at 136.3 per 1000 live births as compared to 91.8 among SCs, 83.5 among OBCs and 64.2 among other castes.
- Whether it is neonatal, postnatal, infant, child and under five, the mortality rate among STs is higher than any other caste groups followed by SCs and then the OBCs.
- The disparity in mortality rates among caste groups and more specifically the higher mortality among STs and SCs clearly signifies caste wise in-equity in enjoying better health status in the state.
- Data clearly indicates that better the economic status less the mortality rates among the people. The lowest and second lowest groups in the wealth quintile experience highest mortality.
- The IMR and under five mortality rates among non-educated class are about 85.3 and 122.5 respectively.

- All the tribal dominated districts viz. Gajapati, Malkangiri, Balangir, Kendujhar, Rayagada, etc. have high IMR.
- Especially in Gajapati and Malkangiri district, the IMR is 121 and 117 which is outrageously high in the state.
- Kendrapada district which is located in the coastal belt of the state has also high IMR (97/1000).
- The MMR of the state is 358 per one lakh live births.

Morbidity status

- In Orissa the number of ailment reported per 1000 persons in rural areas (77) is higher than the urban areas (54).
- In Orissa only 2.8% children under five are with symptoms of ARI as against the national average of 5.8%.
- Among the states in the eastern region of the country, Orissa shows low percentage of ARI as compared to West Bengal (13.0%), Bihar (6.8%) and Jharkhand (5.2%).
- Marginal differences between rural (2.7%) and urban (3.1%) children; and between male (3.0%) and female children (2.6%) are found with regard to ARI.
- The percentage of children under age five from other (general) castes is highest as compared to STs (1.9%), SCs (2.6%) and OBC s (2.3%).
- Children in the highest (3.8%), fourth (4.7%) and Middle (3.7%) wealth quintiles are more likely to have symptoms of ARI as compared to children in lowest (2.4%) and second (1.4%) wealth quintiles.
- Less percentage (13.7%) of children belongs to ST communities suffered from fever as compared to SCs (17.8%), OBCs (14.8%) and others (17.2%).
- Orissa contributes 23% of malaria cases, 40 % of PF cases and 50% of malaria deaths of the country.
- More than 60% population of the State is living in the malaria high risk areas, particularly in the tribal districts.
- The tribal communities constitute nearly 8% of the total population of the country; they contribute 25% of the total malaria cases and 15% of total P. Falciparum cases.
- Only 12% children under five had diarrhoea in Orissa. The percentage of children had diarrhoea in rural areas (12%) is slightly more than the urban areas (10.3%).
- Among the different caste groups, higher percentage of children from SCs (14.9%) and STs (12.2%) had diarrhoea as compared to OBC (9.6%) and others (11.1%).
- More percentage of children belongs to lowest (13.9%) and second (11%) wealth quintiles had diarrhoea.
- Orissa exhibits prevalence of Tuberculosis (TB) (i.e. 418 per 1, 00,000 population) below the national average (i.e. 445 per 1, 00,000 population).
- The prevalence of TB in Orissa is comparatively very less to other states in the eastern region viz. Bihar (797), Jharkhand (659) and West Bengal (605) of the country.
- Within the state, the prevalence of TB among men (516) is much higher to that of women (323).
- Further, in comparison to men (291) and women (193) in urban areas of the state, the prevalence of TB among men (564) and women (349) of rural residents is quite high which is even higher than the national average.
- Both in rural and urban areas TB is found highest among the people above 60 years age group (914 among rural residents and 759 among urban residents).
- The prevalence of diabetes among the men and women of 35-49 years age group is at least 7 to 8 times higher in case of men and 4 to 5 times higher in case of women to that of the people in the age group of 20-34 years.
- The prevalence of diabetes is found to be lowest among the ST people (i.e. 335 men and 61 women) in comparison to OBC (i.e. 2007 men and 510 women).
- Also important to observe here, that the prevalence of diabetes among the people in the highest wealth quintile is found to be significantly high (i.e. 3308 men and 2058 women) to that of any other groups.
- 2353 men and 3281 women in the 35-49 years age group suffer from Asthma followed by 1335 men and 2394 women from 20-34 years age group and 512 men and 1738 women from 15-19 years age group.
- Women from the highest wealth quintile group and also women belong to general castes show significantly higher prevalence of Asthma as compared to the other groups in the wealth quintiles and caste groups.
- In case of men, substantially higher number of SCs suffers from Asthma as compared to STs, OBCs and Others.
- 11,835 HIV positive cases were detected in the state by the end of December 2008. Of them, 1045 were full blown AIDS cases. The AIDS in Orissa has so far claimed 828 lives. Sexual transmission is said to be the main cause for spread of the disease in the state.
- While 82.86% were infected by sexual transmission of the virus, 8.91% children got it from their parents and 2.67% through unhygienic syringes.

Nutritional status

- Almost half of the children under five in Orissa are stunted or chronically malnourished (45%) and Underweight (40.7%). About 19.5% children are wasting or acutely malnourished.
- Against 46.5% chronically malnourished children in rural areas, only 34.9% are observed in urban areas.
- Similarly 42.3% underweight and 20.5% acutely malnourished children are found in rural areas as compared to 29.7% and 13.4% in urban areas respectively.
- Very high percentages of children belonging to ST and SC communities are malnourished. Particularly, the higher incidence of wasting or acutely malnourished in STs (27.6%) is of major concern.
- Wealth quintile wise distribution of malnourished children clearly endorses the fact that children belonging to lower wealth quintiles have poor nutritional status as about 59.6% children are chronically malnourished, 24% are acutely malnourished and 53.3% are underweight.
- About 55.9% men and 44.9% women in the age group of 15-19 years are thin. Then after 19 years of age, the percentage of thin men and women starts dropping.
- However, the percentage of women adults enjoying better nutritional status with the age improves in a very sluggish rate as compared to men.
- The percentage of thin men drops from 55.9% in the age group of 15-19 years and settles at 30.9% by the time they reach 40-49 years age group.
- There is a 15% decline in the percentage of thin men observed where as only 5% decline is observed in case of women reached from the age of 15 to 49 years which make women more vulnerable to men as far as nutritional status is concerned.
- The percentage of thin men and women are highest among the SCs and STs. Like children under five, the adult men and women in the lowest and second wealth quintile enjoy poor nutritional status.
- Among young children, the anaemia percentage of Orissa (65.0%) is just below the national average (69.5%) but far from states like Goa (38.2%), Manipur (41.1%) and Kerala (44.5%).
- Within Orissa, the percentage of young children with anaemia is quite high among STs (80.1%) and especially among those who are in the lowest wealth quintiles (75.0%).
- Gender wise more percentage of female children (66.6%) is anaemic as compared to male children (63.5%).
- The 1.6% children who are severely Anaemia are more susceptible to a high degree of morbidity and mortality among young children
- Against 33.9% of men almost double i.e. 61.2% women are anaemic.
- As compared to other caste groups, the percentage of anaemia among ST adults is highest i.e. 53.6%.
- Wealth quintiles wise, 49.6% adults belong to the lowest wealth quintile are anaemic as compared to only 19.5% in case of highest wealth quintiles.
- In rural areas around 10% more anaemic adults live as compared to urban areas.

Fertility

- In Orissa the TFR is 2.4 births per women which are below the national average of 2.7 births per women. The TFR of Orissa has almost reached the replacement level where as in states like Bihar (4 births), Uttar Pradesh (3.8 births) and Meghalaya (3.8 births) the TFR is almost double the replacement level.
- In the urban areas of the state, the TFR has already reached below the replacement level (1.89 births) where as in the rural areas it is still above the same (2.48 births).
- The TFR among lowest and second wealth quintiles is as high as 3 and 2.45 births per women respectively.
- Against the higher economic groups, the TFR of lowest economic group is almost double i.e. 1.58 against 3 births per women.
- Caste wise break-up shows that STs have highest TFR of 3.14 births per women followed by SCs (2.3 births) and OBCs (2.25 births) and other castes (2.01 births).
- The TFR among the people who are not educated is highest i.e. 3.13 births per women followed by those who have completed below 5 years (2.24 births), 5-9 years (2.01 births) and 10 years or more (1.89 years) of education.
- The Crude Birth Rate (CBR) of Orissa (i.e. 22.1 births per 1000 people) is also below the national average (23.1 births per 1000 people).

- Most important to mention, Orissa has not recorded any changes in the CBR status from the year 1998-99 (22.1 births) to 2005-06 (22.1 births) where as the change was registered from the year 1992-93 (26.5 births) to 1998-99 (22.1 births)
- CBR of urban areas of the state is at least less of 5 births per 1000 population to that of rural areas.
- Surprisingly, the CBR in rural areas has increased from the year 1998-99 (22.4 births) to 2005-06 (23 births) instead of declining.

Family Planning

- The mean number of any methods, including modern and traditional methods known to currently married men is highest i.e. 6 methods per person followed by 5.3 methods known to currently married women.
- The mean number of methods known to never married women comes to only 3.8 per person as compared to 4.8 methods known to never-married men.
- In comparison to the national rate of 56%, the CPR of Orissa is 51% (at least 5% below the national CPR).
- In rural areas, the current use of contraception stands at only 43.6%.
- Among the different modern methods, the female sterilisation is widely adopted by different caste groups, residence, education and wealth quintiles.
- The female sterilisation adopted by STs is little low i.e. 23.3% as compared to other caste groups.
- An inter district analysis of the use of modern contraception indicates that there are three districts viz. Kandhmal, Baudh and Kalahandi where the percentage of use of modern contraception is much below 30%.
- In nine out of thirty districts of Orissa the percentage of use of modern contraception is between the ranges of 30% to 35%.
- The unmet need of currently married women in rural areas (15.4) is higher than the urban areas (12.5).
- Comparing the demand vs. unmet need, it is clear that the STs in comparison to other caste groups have more unmet need (17.8) as against their demand (52.9) for family planning.
- Lowest and middle economic group in the wealth index have higher unmet need for family planning i.e. 17.1 and 17.5 respectively.
- An inter district analysis shows that in seven out of thirty districts viz. Sonepur, Kalahandi, Nuapada, Debagarh, Kendrapara, Bargarh and Ganjam the unmet need is more than two times of the state average in Orissa.

6. Status of Health Care

- Highest percentages of people in rural (78.8%) and urban (62.2%) areas are dependent on public medical sector followed by private medical sector (19.9% in rural areas and 37.3% in urban areas).
- In the rural areas, the main provider of health care among the public medical sector is PHC/CHC. About 60.8% people in rural areas depend on PHC/CHC for health care.
- Lowest percentages of children in Nabarangpur were given diarrhoea (0.0%) and ARI (15.8%) treatment.
- Very negligible percentage of households in rural areas (0.6%) has been covered by a health scheme/insurance which is slightly high in urban areas (7.7%).
- Maximum i.e. 10.4% households in the highest wealth quintiles have been linked with a health scheme/insurance in comparison to only 0.3% households in lowest wealth quintiles.
- Maximum i.e. 57.6% in the state had a live birth by a doctor.
- 41% women manage their own source or sources available in their village for conducting the deliveries which could be the factor for high IMR and MMR status of the state.
- Greater percentage of women in ST (i.e. 22.1%) and in lowest wealth quintiles (i.e. 18.6%) had a live birth without any ANC provider.
- In tribal dominated districts like Malkangiri, Bolangir, Kandhmal and Koraput lowest percentages of mothers had at least 3 ANC visits where as the districts in the coastal part of the state viz. Jagatsinghpur, Khurda and Cuttack more percentages of mothers had three ANC visits.
- With regard to place of delivery, almost 64% births take place at home and only 36% births at a health facility.
- The percentage of birth taking place at home in rural areas is as high as 68.1% as compared to only 36.5% in urban areas.
- On the other side, although 63.1% births in the urban areas take place in a health facility the percentage is as low as only 31.3% in rural areas.

- As low as 11.7% births in STs take place in health facilities and 17.3% of their births are likely to be assisted by health personnel as compared to 60.4% and 66.9% in case of other castes respectively.
- Likewise, only 15% births of lowest wealth quintiles as against 86.1% births of highest wealth quintile take place in a health facility.
- As low as 23.2% births of lowest wealth quintile as against 90.1% births of highest wealth quintile are likely to be assisted by health personnel.
- The institutional birth in districts which are demarcated by the constitution of India as scheduled area viz. Malkangiri, Nabarangpur, Koraput, Rayagada and Gajapati is below 20% where as in district like Jagatsinghpur almost 80% institutional birth was recorded.
- The percentage of Delivery at home & other places assisted by a Doctor/ Nurse/ LHV/ ANM in districts viz. Malkangiri, Nabarangpur, Koraput, Rayagada, Mayurbhanj, etc. is even below 5% which clearly portrays the in-equitable health care delivery in the state.
- Highest wealth quintiles (64.9%) are more likely to be vaccinated as compared to children in the lowest wealth quintiles (38.9%).
- Likewise ST children (30.4%) are less likely to be vaccinated as compared to children from OBC (59.4%) and other caste group (58%).
- In districts like Rayagada, Malkangiri and Nabarangpur the percentage of fully immunised children stands at only 26.8%, 35.1% and 38.2% respectively.
- On the other side, districts viz. Baleswar, Jajpur, Jagatsinghpur and Sonepur have above 80% children fully immunised.
- Half of the children below 71 months (47.5%) are to receive supplementary nutrition. More than 70% mothers are left out from the counselling services. About 44% children below 59 months are not weighed.
- The percentage of children who attends early childhood care and pre-school education is only 27.7%.
- About women of 55.5% SCs and 39.5% STs have not received supplementary food during pregnancy. The percentage is even higher during lactation period when 69.9% STs and 64.6% STs have not received the same.

7. Challenges Ahead

The high degree of inequity that exists among different categories of population points out two important areas, which the State needs to look in for addressing the health inequities in Orissa. The first important area is obviously within the health sector itself. Within this, both supply and demand side of health needs to be addressed through appropriate health seeking and health care interventions respectively. The other important area in which the state needs to work out is in terms of integration of health sector with other sectors such as education, transportation and communication, livelihood promotion, etc. In view of this, the following are some of the challenges that Orissa needs to overcome in order to improve the health status of the inhabitants in the state:

- Social status more specifically the caste wise health inequity is quite visible. The general castes population are more privileged as compared to the SCs and STs which necessitates caste specific measures.
- The geographical remoteness or inaccessibility is another crucial factor which needs to be looked in while strategising the health services in those areas.
- The inequity between educationally deprived and educationally superior people also needs to be addressed. Since education is one of the key factors that influence the health seeking behaviour of people, appropriate measures in terms of BCC, IEC, IPC, etc. need to be initiated.
- Likewise, economic deprivation plays a significant factor in widening the equity gaps among economically different sections of the population. This is one such area that requires attention of service providers in health as well as other sectors of development such as livelihood, finance, insurance, etc.
- There is also underutilization of health services owing to social, cultural, and economic factors. Some of the problems include difficult terrain, location disadvantage of health facilities, unsuitable timings of health facilities, lack of Information, Education, and Communication (IEC) activities, lack of transport, etc.
- Keeping all the above factors into account, the overall efficacy of the health care provisioning in terms of logistics, manpower deployment, infrastructures, etc. needs to be improved.

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1. An analysis of Health Status of Orissa in specific reference to Health Equity

1.1 Genesis of Health Equity Status Paper

With regard to the health status of people in India, some dramatic differences are marked within and between the states of the country. Whether it is life expectancy, death rates, mortality rates, morbidity status, etc.; the health differences especially by caste, gender, localities, education background, wealth, etc. are found to be quite significant. Orissa which is one of the most backward states in India recognizes the need of addressing health inequity existing in the state. Since the state has maximum percentage of socio-economically disadvantaged population, the disparities among the different sections of population are quite prominent. In view of this, the Orissa Health Sector Plan (OHSP) aims to achieve equity in health outcomes and has a key focus on access and utilization of services by vulnerable and marginal groups including women, schedule caste (SC) and schedule tribe (ST) populations. It aims at delivering accountable and responsive health care to reduce maternal mortality; infant and child mortality; reduce the burden from infectious diseases; under-nutrition and nutrition-related diseases and disorders. The OHSP also intends to develop strategy and action plan to integrate ways to address social exclusion including gender inequity across the program. Thus, to develop the equity strategy paper for the state there was a felt need to assess the available evidences / experiences in the context of existing program, people's perception and provider's perception in relation to equity. In view of this, the study on perception of marginalized people and service providers about health equity was conducted. The study was carried out by CTRAN Consulting with the support from Technical Management and Support Team (TMST) to OHSP.

One of the tasks under the study was to develop a health equity status paper for Orissa based on desk review of data related to equity like DLHS, NFHS, SHDR, etc. The present report is the outcome of this desk review or analysis of secondary data carried out on health status of people in Orissa in specific reference to health equity. This report has been structured into the following seven sub-sections:

i) Genesis of health equity status paper

ii) Health equity concept

iii) Determinants of health

iv) Socio-economic and demographic overview of Orissa State

v) Health status of Orissa in specific reference to health equity

vi) Current health care initiatives in the state

vii) Health equity challenges for the state

1.2 Concept of Health Equity

Prior to understanding health equity, it is important to understand the meaning of equity. In fact, equity has number of different meanings. The word equity is used in Social, Economic, Psychological, Legal, Political, Architecture and Business contexts. Generally the term equity can refer to ***"the state, quality, or ideal of being just, impartial, and fair"***. That means equity is not same as equality. Treating everything or everybody same is termed as equality whereas equity is regarded as something being fair or just. 'Being alike or equal' and 'being fair or just' are the two different approaches and concepts. Thus, equity is distinct from the word equality. For example, equal distribution of public resources between rich and poor is what is regarded as equality. But, equitable or fair distribution of public resources between rich and poor is termed as equity. Based on the need and requirement, the poor person gets or deserves more shares of the public resources than the rich person.

Of late, whether it is health or education or economic development, the policy makers, development workers, public servants, national and international agencies, etc. are increasingly realising the need of being fair or equitable in order to lift the standard of living of the people who are in the bottom of the pyramid. Against this backdrop, the concept of equity gets worldwide recognition and the emphasis is being on bridging the ever increasing gap between rich and poor; haves and have-nots; privileged and marginalised; impervious and vulnerable; advantaged and disadvantaged; etc. through being equitable or fair or just in distribution of resources, access to services, provision and delivery of services.

> "Poorer people live shorter lives and are more often ill than the rich. This disparity has drawn attention to the remarkable sensitivity of health to the social environment."
>
> Source: Social Determinants of Health, The Solid Facts. World Health Organization, 2003

As far as health sector is concerned, the concept of equity is not different to what has been deliberated in the above paragraphs. According to World Health Organization (WHO) "the systematic differences in health that are judged to be avoidable by reasonable action they are, quite simply, unfair" is labelled as inequity in health. In other words, equity in health means the absence of differences in health that are unnecessary, avoidable, unfair and unjust. Further reflection on this indicates that the focus of equity in health is bringing down health differentials to the lowest extent possible. While the health opportunities that are created recognizes the need for actualization of health for all, the use of such opportunities and resulting health outcomes are observed

to be different to different individuals given their potential and the social-economic-political-cultural environment that surrounds an individual. In other words, equity in health implies that everyone has a fair opportunity to attain their fullest health potential without being disadvantaged by their social, economic, cultural or political identity; and / or geographic location. Statistics indicate that people in advantageous position better access these opportunities as compared to disadvantaged people resulting poor health outcomes particularly among the disadvantaged who are deprived and less available to such opportunities (a detailed analysis of health statistics on the same is presented in the following pages of this report). Thus, equity in health essentially focuses on improving health status of the disadvantaged population which would be considered as equitable when the same is compared with the advantaged.

1.3 Determinants of Health

The health of people is determined by two key factors: i) the conditions in which people live and ii) the health care that the people get. Aptly quoted in the report of Commission of Social Determinants of Health (CSDH), "traditionally, societies have looked to the health sector to deal with its concerns about health and disease. Certainly, mal-distribution of health care – not delivering care to those who most need it – is one of the social determinants of health. But the high burden of illness responsible for appalling premature loss of life arises in large part because of the conditions in which people are born, grow, live, work, and age – conditions that together provide the freedom people need to live lives they value" (Sen, 1999; Marmot, 2004).

Social Determinants of Health

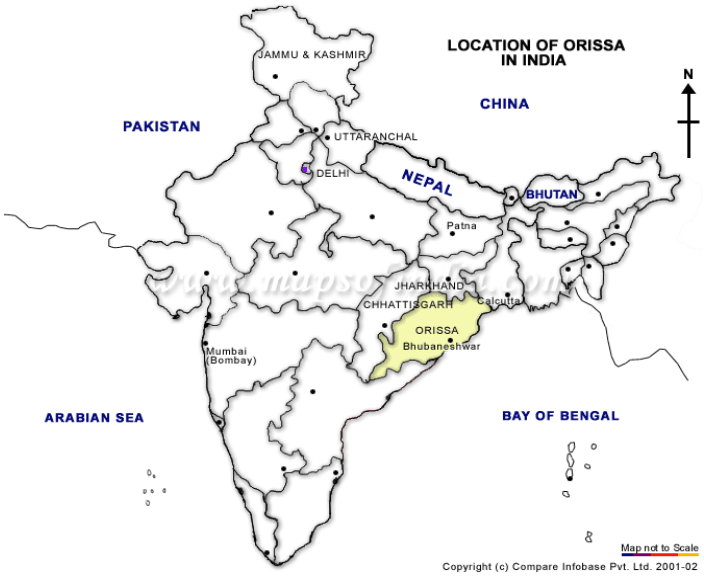
- Income
- Housing
- Education
- Transportation
- Access to services
- Physical Environment
- Socioeconomic status/position
- Discrimination by social grouping
- Social or environmental stressors

•Source: www.cdc.gov/sdoh

The CSDH also acknowledges that living conditions of people, themselves are the results of the structural conditions or drivers that prevail within the countries in the form of policies and programs; health care provisions; economic and political arrangements; etc. that together is responsible for majority of the people who do not enjoy good health which is biologically possible. In brief, the various structural drivers and the living conditions that together determine the health of people.

In the social environment where the people live-in, the factors as presented in the box could be some of the key determinants but not limited to, which contribute to or detract from the health of individuals and communities.

In specific reference to Orissa, this is one such state in India which is stained with poor socio-economic status of the inhabitants. Lower income, poor housing facility, lack of education and discrimination are some of the factors that contribute to the poor living standard including poor health status of the people in the state. This can be more clear from the statistics presented in the following sections of this report that the degree of contribution of these factors in deciding the living standard of people of Orissa vary across social and ethnic groups. From the same, one would clearly gather an understanding on the existence of marked disparity in the health status of people among various social and economic groups that includes the differences occur by gender, caste/ethnicity, education or income, disability, or various geographic localities where people reside.



In a state like Orissa, the Geographic location of inhabitants apart from the above factors acts as one of the key social determinants of health which has a direct linkage with the physical environment of the state. As experienced, that the people especially located in the inaccessible areas face more problems in accessing health services. As far as Orissa is concerned, a significant portion in the state comprises of hilly tracts and thick forest areas especially in the southern, western and northern belt that create inaccessibility due to lack of transportation and communication facilities. Particularly, the forest inhabitants more specifically the Scheduled Tribes (ST) in the state face serious challenge to grab the fruits of development initiatives due to inaccessibility and remoteness of their habitations.

Orissa is also known for its cultural diversity. People residing in the state are from 95 castes, 62 tribes and are from three to four main religious groups. Their tradition and cultural upbringing varies across caste/ethnic and religious groups some of which has direct bearing on health related practices and behaviours. All this diversity pose daunting task for the service providers in the state to plan and deliver appropriate health services.

The factors or determinants outlined in the box (presented in the previous page) coupled with lack of appropriate actions to address these factors decide the health status of the people residing in the state. In the following section of this report an attempt has been made to identify and appreciate such diversity in the health status of the people residing in the state in specific reference to various equity factors so that appropriate strategy and actions can be initiated. But before getting into the same, the present report gives an overview on the State of Orissa with an idea to get an understanding specifically on the socio-economic and demographic features of the inhabitants which have some significant bearing on the health status of people living in the state.

1.4 The State of Orissa: An Overview

1.4.1 Geo-Physical Characteristics

Geographically Orissa extends from 17^0 49'N to 22^0 34'N latitude and from 81^0 29'E to 87^0 29'E longitude on the eastern coast of India. West Bengal in the northeast, Bihar in the north, Orissa in the West, Andhra Pradesh in the south and Bay of Bengal in the east bound the state. It is one of the richest states in terms of resources but has the largest number of poor people in the country - a paradox.

As per physiographical character of the State, Orissa can be divided into three broad regions. These are i) Coastal plain, ii) Middle mountainous country and the plateau and iii) The Rolling uplands. The coastal plain, the fertile green tract, is better known as the 'rice bowl of Orissa' and stretch westwards from the Eastern coast of India, and run from the river Subarnarekha in the North East to the River Rushikulya in the South east. The mountainous portions of Orissa cover about three-fourths of the entire state and hence determine the economic standard of the state. These mountainous portions have undulating topography and are mostly inhabited by tribal. The high plateau is within the mountainous areas with an average elevation of 300-600 meters. The rolling uplands are lower in elevation and they vary between 150 and 300 metres.

The rivers of Orissa are non-perennial in character, as none of them are snow fed. Most of these rivers originate from the adjoining Chotanagpur and Amarkantak Plateau and drains into the Bay of Bengal. The rivers originating from the Eastern Ghats are small. Mahanadi, the largest river of the State facilitates irrigation and Hydro-electric Power Generation.

1.4.2 Climate

The entire state lies in the Tropical Zone and is subject to high temperature. Being in the belt of medium pressure it has medium rainfall with moderate variation in the different parts of the state. Orissa, on the eastern seaboards of India, enjoys a tropical monsoon type of climate most of the other parts of the country. Orissa has a mean annual temperature of 26^0C. The summer temperature ranges between 33^0C o 38^0C and increase from the coastal plains to the inland districts. During the monsoon period, the normal rainfall for the state is 1482mm, July and August being the rainiest months. The State is also divided into ten agro-climatic zones with varied characteristics. Its land can be classified into three categories: low (25.6%), medium (33.6%) and up-lands (40.8%).

1.4.3 Administrative Division

According to the 2001 census, the total land area of Orissa is 155,700 sq. km. which is about 4.7% of the total land area of the country and houses 3.58% of the country's population. The population of Orissa, which was 316.60 lakh in 1991, has increased to 368.05 lakh in 2001 exhibiting a decennial growth rate

of 16.25 percent. The State comprises of 3 revenue divisions, 30 districts, 58 sub-divisions, 171 tehsils, 314 community development blocks, **6234** gram panchayats and 50,295 villages.

1.4.4 Demographic Features

The population of Orissa, which was 316.60 lakh in 1991, has increased to 368.05 lakh in 2001 exhibiting a decennial growth rate of 16.25 percent. The density of population, which was 203 per sq. km. in 1991, has increased to 236 per sq. km. in 2001. According to the Census, 2001 nearly 85% of the total population lives in rural areas. Scheduled Castes and Scheduled Tribes population in the State, as per 2001 Census, was 60.82lakh and 81.45lakh respectively. STs with 62 tribes account for 22.21% and SCs with 93 castes make-up 16.12% of the total population of the State. Orissa has the largest percentage of tribal population among the Indian States barring the north-eastern States viz. Nagaland, Meghalaya, Manipur and Tripura.

There are about 62 Scheduled Tribes in the State. In other words about one in every four citizens in Orissa is a tribal and they form a major minority. They are exerting a dragging effect on the economy of the state. The tribes are concentrated in areas of high relief and high slopes, which sociologically suit their environment. Their distribution pattern shows two distinct tracts of tribal concentration, the south-west tract and the north east tract. The former consists of districts Kandhamal, Gajapati, Rayagada, Koraput, Malkangir, Nawarangapur, and Nawapara while the latter constitute the districts of Mayurbhanj, Keonjhar, Sundergarh and Sambalpur.

There are 95 Scheduled Castes classified in Orissa as per the Indian constitution. Indian society is stratified on the basis of caste. People in the lower rung of the caste system are also in the bottom of the ladder of socio-economic development. The state average of SC population is 16.20 percent. The areas having better agricultural activities are also having higher proportion of SC population. In Orissa, the SC population is mainly concentrated along the Mahanadi River system and its delta. Mahanadi delta region is popularly known as the rice bowl of Orissa. Malkangir is the only district, which has higher concentration of both Scheduled Castes and Scheduled Tribes.

1.4.5 Culture

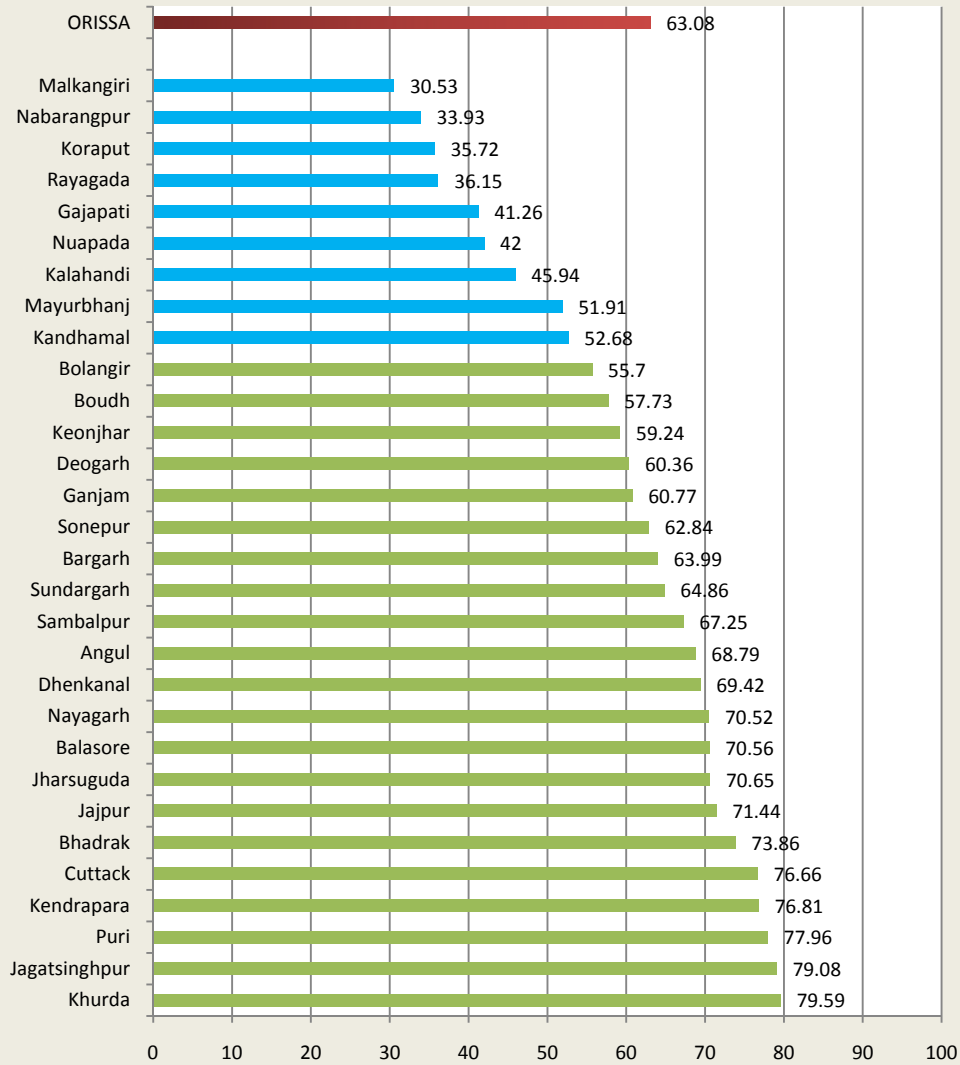
Orissa has a rich cultural heritage. Situated at the confluence of North and south, the state has assimilated the culture of both, forming a unique identity of its own. Orissa is the land of lord Jagannath,

whose heritage is intimately connected, with the social, cultural and religious life of the people of Orissa. Jainism, Islam and Christianity have all had a considerable impact on the people of Orissa in different periods. The cultural identities of the states tribal people who constitute about a quarter of the state's population have contributed different hues to the cultural landscape of the state.

1.4.6 Literacy / Educational Level

On the literacy front, the achievement has been noticeable, as the literacy rate has increased from 49.09% in 1991 to 63.08 percent as per Census 2001 as against an increase from 52.10 % to 64.8% at the national level during the same period. Although this improvement in literacy is more pronounced in the case of females than males, female literacy level continues to be substantially lower than male literacy level. According to Census 2001, the male and female literacy rates of Orissa are 75.3% and 50.5% as compared with 75.26% and 53.67% for males and females, respectively for all India. Female literacy continues to be an area of concern despite notable achievement during last decade. Similarly the literacy rate among SCs and STs is also a major concern for the state which stands at 55.53% and 37.37% respectively. The literacy level of females among tribal is quite low at only 23.4% and among SCs is as low as 40.3% in 2001. In fact, the level of its literacy in a region or state determines the quality of population. The higher the level of literacy, greater

Figure 1 Literacy (%) Level



is the efficiency of the labour force. The southern districts have higher illiteracy. Proportions of tribal population are also high in these districts. Coastal, central and northern districts (except Mayurbhanj) have lower illiteracy rate. As against State literacy rate of 63.08%, districts like Malkangiri 30.53%, Nawarangpur 33.93% and Koraput had only 35.72% literate. These tribal districts which have high illiteracy level, also exhibit unfavorable health indicators as can be referred from the analysis done in the next section of this report. The level of literacy / educational of people also affects the other socio-economic indicators of the state.

1.4.7 Occupations

As per 2001 Census, the total workers in the State account for 142.76lakh constituting 38.79% of the total population of the State. Out of the total number of workers, main workers accounted for 67.2%. The main workers comprise of cultivators (35.8%), agricultural labourers (21.9%), household industries workers (4.2%) and other workers (38.1%). The proportion of male workers to male population and female workers to female population in 2001 stood at 52.5% and 24.7% respectively. Apart from main workers, there were 46.87 lakh marginal workers in the State constituting 32.8% of the total workers. Out of 46.87 lakh marginal workers, 8.12 lakh (17.3%) were cultivators, 29.01 lakh (61.9%) agricultural labourers, 2.97 lakh (6.3%) workers engaged in house-hold industries and 6.76 lakh (14.4%) were other workers. Vulnerability of the state comes from a high level of dependence on agriculture which is least diversified, a paddy dominated mono-cropped system that does not give enough to farmers and highly disaster prone because of repeated cyclones and floods.

1.4.8 Economic Growth vs. Poverty

Orissa ranks lowest among the major states in terms of its economic growth is concerned. Between the years 1993-94 and 2004-05, the state economy has grown at a meager rate of five percent per annum as compared to 7% in case of Gujarat and Karnatak (Source: National Accounts Statistics).

Due to lack of growth in the state's economy, Orissa is regarded as one of the poorest states in the country. This can be substantiated from the fact that Orissa ranks 17th among the 17 major states of the country as far as poverty ratio is concerned that means Orissa occupies last position among all the major states of the country with 46.8% people lives below the poverty line. The per capita income of the state is only Rs. 5985/- which positions Orissa just before the state (Bihar) that ranks last among all the major states.

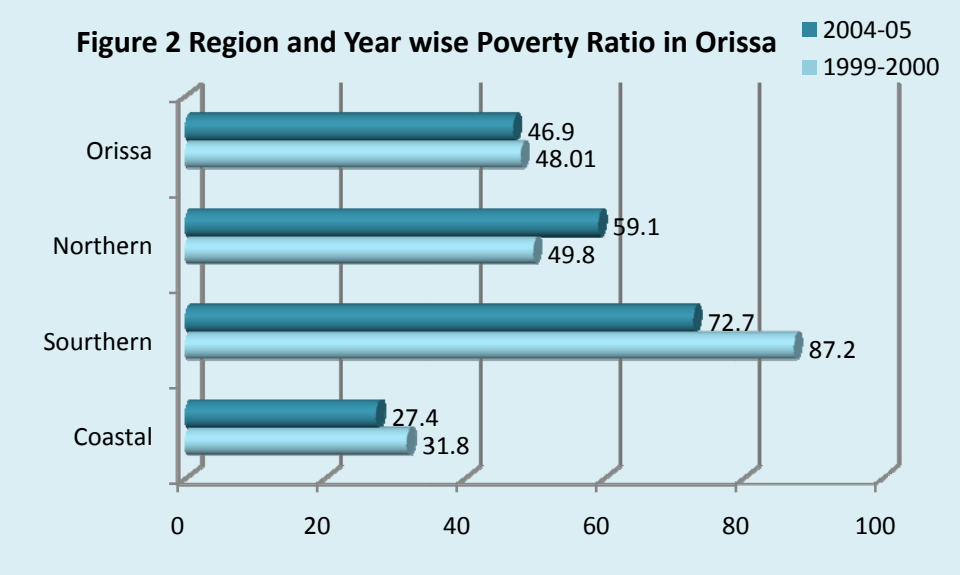
Table 1 Net State Domestic Product and Poverty Ratio of Major states in India

State	NSDP (TE 2004-05)		Per Capita Income (TE 2004-05)		Poverty Ratio (2004-05)	
	'000million Rs.	Rank	Rs.	Rank	%	Rank
Andhra Pradesh	911	5	11080	8	11.2	2
Assam	181	17	6281	15	22.8	8

Table 1 Net State Domestic Product and Poverty Ratio of Major states in India						
State	NSDP (TE 2004-05)		Per Capita Income (TE 2004-05)		Poverty Ratio (2004-05)	
	'000million Rs.	Rank	Rs.	Rank	%	Rank
Bihar	320	14	3609	17	42.1	15
Chhatishgarh	309	15	7678	12	40.8	14
Gujarat	835	7	14850	4	19.1	6
Haryana	349	13	14897	3	13.6	4
Jharkhand	218	16	7273	14	46.3	16
Karnatak	703	11	12563	6	20.8	7
Kerala	811	9	11565	7	13.2	3
Madhya Pradesh	835	7	7666	13	36.9	13
Maharashtra	2951	1	15567	2	29.6	11
Orissa	**461**	**12**	**5985**	**16**	**46.8**	**17**
Punjab	723	10	15611	1	9.1	1
Rajasthan	888	6	8788	11	18.7	5
Tamilnadu	1511	4	12719	5	22.8	9
Uttar Pradesh	1876	2	8809	10	33.4	12
West Bengal	1705	3	10992	9	28.6	10

Source: NSDP and Per Capita income computed from CSO various years, Poverty Ratio – Planning commission poverty estimates, computed from NSS 61st Round, 2004-05

As reported in the Food Security Atlas of Orissa, the trend in the poverty ratio over the last three decades in the state is disappointing. The decline in the percentage points per year has been much lower than the national average. It declined by less than 0.3 percent points in rural and 0.5 percent in urban Orissa.



Further analysis of poverty by regional concentration in Orissa indicates that the poverty ratio in southern region is highest followed by the northern region. Compared to Coastal region (27.4%), the poverty ratio in southern region (72.7%) is at least two and half times and in northern region (59.1%) is at least two times higher. Most importantly the poverty analysis

in a ten years gap of regions shows that the percentages of people below poverty line have gone up in southern and northern regions.

Table 2 Region wise poverty ratio (%) by caste/ethnic groups for rural Orissa, 2004-05

Region	ST	SC	OBC	Others	All
Southern	82.8	67.2	64.7	44.1	72.7
Northern	72.8	64.4	48.6	33.9	59.1
Coastal	67.7	32.8	24.4	19.0	27.4
Rural Orissa	75.8	49.9	37.1	23.5	46.9
Rural India	44.7	37.1	25.8	17.5	28.1

Source: Calculated from unit level data, NSS 61st round, 2004-05, based on URP

The statistics presented in Table 2 shows that the poverty ratio among the STs is exorbitantly high across all regions in the State followed by SCs. Thus, STs followed by SCs are from the economic point of view are highly vulnerable groups in Orissa.

1.4.9 Food Security status of Orissa

The economic vulnerability of people also significantly affects the food security status of the people in those regions which in turn acts as a key factor in terms of making them highly vulnerable as far as health and nutrition is concerned. The status of districts in terms of Food Security Index (FSI) reported in the Food Security atlas of Orissa clearly shows that the all most all the districts in the southern and northern region in the state are either extremely or severely food insecure.

Table 3 Status of Districts in Terms of Food Security Index (FSI)

Extremely Insecure			Severely Insecure			Moderately Insecure			Moderately Secure			Secure		
District	FSI	Rank	District	FSI	Rank	District	FSI	Rank	District	FSI	Rank	District	FSI	Rank
Kandhamal	.247	30	Koraput	.336	26	Dhenkanal	.420	14	Kendrapara	.516	9	Bhadrak	.594	3
Gajapati	.304	29	Sundargarh	.343	25	Jharsuguda	.446	13	Jajpur	.518	8	Puri	.596	2
Rayagada	.313	28	Mayurbhanj	.351	24	Ganjam	.456	12	Balasore	.528	7	Jagatsinghpur	.624	1
Nabarangpur	.322	27	Malkangiri	.353	23	Sonepur	.458	11	Bargarh	.529	6			
			Sambalpur	.362	22	Nayagarh	.461	10	Khurdha	.538	5			
			Deogarh	.366	21				Cuttack	.553	4			
			Baudh	.379	20									
			Keonjhar	.389	19									
			Angul	.390	18									
			Nuapada	.392	17									
			Kalahandi	.399	16									
			Balangir	.409	15									

Source: Food Security Atlas of Orissa, 2008

1.5 Health Status of Orissa in specific reference to Health Equity

In this section, an attempt has been made to analyse the findings of various health studies that have been carried out at national and regional level. Including a comparative analysis between Orissa and other states, an effort has been made to bring out the health in-equities by districts, by castes / ethnic groups, by education, by wealth quintiles, by age groups, etc within the state. Various health parameters that have been included for analysis are: Human Development Index (HDI) vs. Health Index; life expectancy; death rates and mortality; morbidity; nutritional status; fertility; family planning; health care status and initiatives; etc. Key challenges that the people of Orissa confront with regard to attaining better health have been summarised at the end of this report.

1.5.1 Health vs. Human Development

Health is one of the important indicators that decide the human development of a nation or state. According to State Human Development Report, Orissa, 2004, "the value of Human Development Index (HDI) for the state as a whole is 0.579. This may be regarded as a somewhat medium level of human development. Of the three components of HDI, the education index has the highest weight (0.723) whereas the health index has the lowest weight (0.468) and the income index (0.545) lies in between". An inter district analysis of HDI rank of Orissa presented in Table 4 clearly shows a wide disparity between lowest and highest HDI rank districts with regard to the health status of inhabitants in those districts. The health index of districts in the state ranges from as low as 0.006 to as high as 0.782.

Table 4 Health, Income, Education and Human Development Index of Districts in Orissa

District	Health Index	Income Index	Education Index	HDI Value	HDI Rank
Malkangiri	0.122	0.497	0.491	0.37	30
Kandhamal	0.006	0.516	0.645	0.389	29
Gajapati	0.173	0.558	0.561	0.431	28
Koraput	0.218	0.539	0.535	0.431	27
Nabarangpur	0.34	0.453	0.516	0.436	26
Rayagada	0.25	0.547	0.531	0.443	25
Keonjhar	0.34	0.547	0.704	0.53	24
Boudh	0.423	0.497	0.688	0.536	23
Jajpur	0.333	0.499	0.786	0.54	22
Balangir	0.468	0.504	0.666	0.546	21
Ganjam	0.404	0.532	0.718	0.551	20
Jagatsinghpur	0.288	0.549	0.833	0.557	19
Balasore	0.442	0.466	0.77	0.559	18
Bargarh	0.449	0.517	0.727	0.565	17
Sonepur	0.474	0.492	0.731	0.566	16
Nayagarh	0.462	0.485	0.766	0.571	15
Nuapada	0.692	0.47	0.582	0.581	14
Sambalpur	0.436	0.59	0.742	0.589	13
Dhenkanal	0.468	0.534	0.773	0.591	12
Kalahandi	0.763	0.471	0.585	0.606	11
Kendrapara	0.596	0.466	0.815	0.626	10
Mayurbhanj	0.782	0.489	0.647	0.639	9

Table 4 Health, Income, Education and Human Development Index of Districts in Orissa					
District	**Health Index**	**Income Index**	**Education Index**	**HDI Value**	**HDI Rank**
Bhadrak	0.673	0.463	0.803	0.646	8
Puri	0.622	0.527	0.823	0.657	7
Angul	0.481	0.748	0.76	0.663	6
Deogarh	0.776	0.532	0.698	0.669	5
Sundargarh	0.692	0.618	0.74	0.683	4
Cuttack	0.686	0.587	0.813	0.695	3
Jharsuguda	0.635	0.757	0.773	0.722	2
Khurda	0.724	0.639	0.845	0.736	1
Orissa	**0.468**	**0.545**	**0.723**	**0.579**	
Source: State Human Development Report, Orissa, 2004					

Also it is clear from Table 4 that the districts which have lowest HDI ranks viz. Malkangiri, Kandhmal, Gajapati, Koraput, Nabarangpur, etc. have much lower health index in comparison to their income and education index. On the other side, the districts which have occupied highest HDI ranks viz. Khurda, Jharsuguda, Cuttack, Sundergarh, etc. have highest health index apart from better income and education index. Thus, good health of people is an essential indicator for attaining better human development.

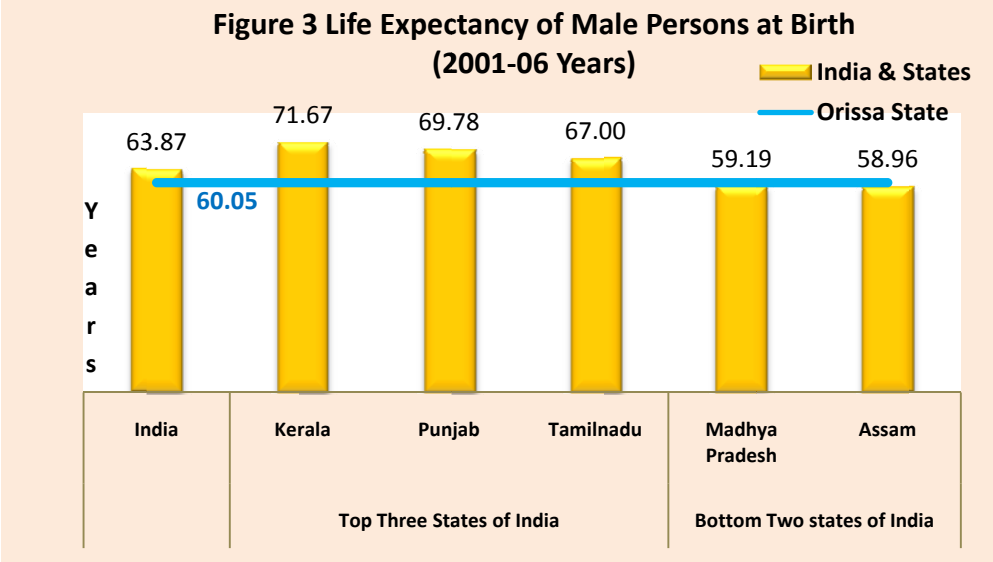
1.5.2 Life Expectancy

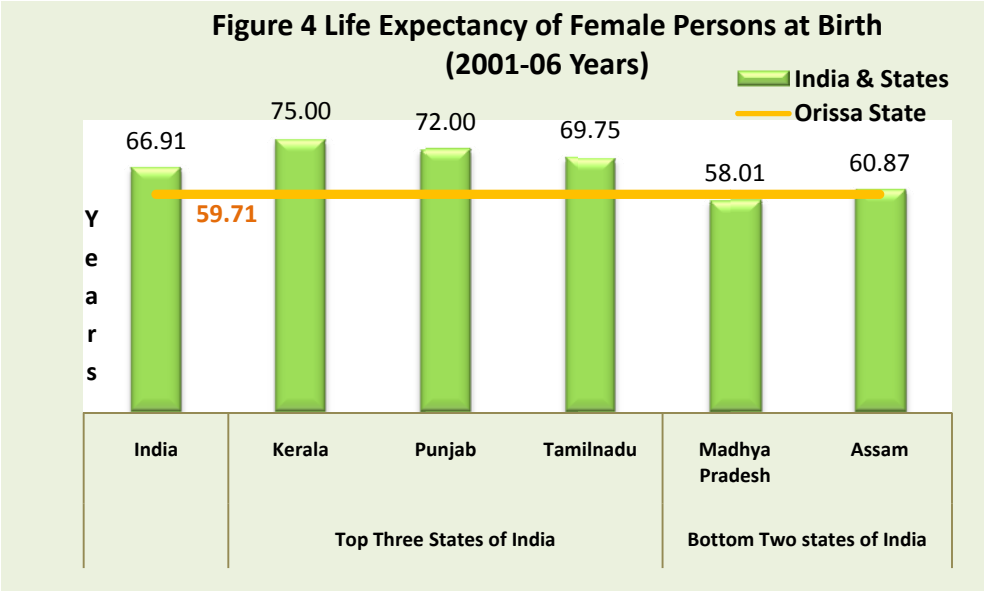
'Life expectancy' is the average number of additional years a person could expect to live if current mortality trends were to continue for that person's life. 'Life expectancy at birth' is the number of years a newborn infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life.

Table 5 Life Expectancy at birth in India, Orissa and Other states				
	1997-01		**2001-06**	
	Male	**Female**	**Male**	**Female**
India	61.30	63.00	63.87	66.91
Top Three States				
Kerala	70.80	76.20	71.67	75.00
Punjab	67.20	69.30	69.78	72.00
Tamilnadu	64.10	66.10	67.00	69.75
Bottom Three States				
Orissa	**58.00**	**58.20**	**60.05**	**59.71**
Madhya Pradesh	56.70	56.40	59.19	58.01
Assam	57.60	57.80	58.96	60.87
Source: Ministry of Health & Family Welfare, GOI				

As far as life expectancy of males and females at birth is concerned, Orissa figures in the bottom three states of India, just ahead of Assam and Madhya Pradesh. For the year 2001-06 years, the life expectancy of males and females at birth in Orissa stands at 60.05 and 59.71 years respectively which is much below the country average of 63.87 and 66.91 years for males and females respectively. Most importantly, when the average female persons at country level live at least three more years as compared to male persons, the trend is just reverse in Orissa where the female

persons are expected to live fewer years i.e. 59.71 as compared to 60.05 years of male persons. Although there is not a very significant difference of life expectancy between male and females in Orissa, the trend of females living comparatively less years is not observed at the country level as well as in other states of India except Madhya Pradesh as shown in Table 5.

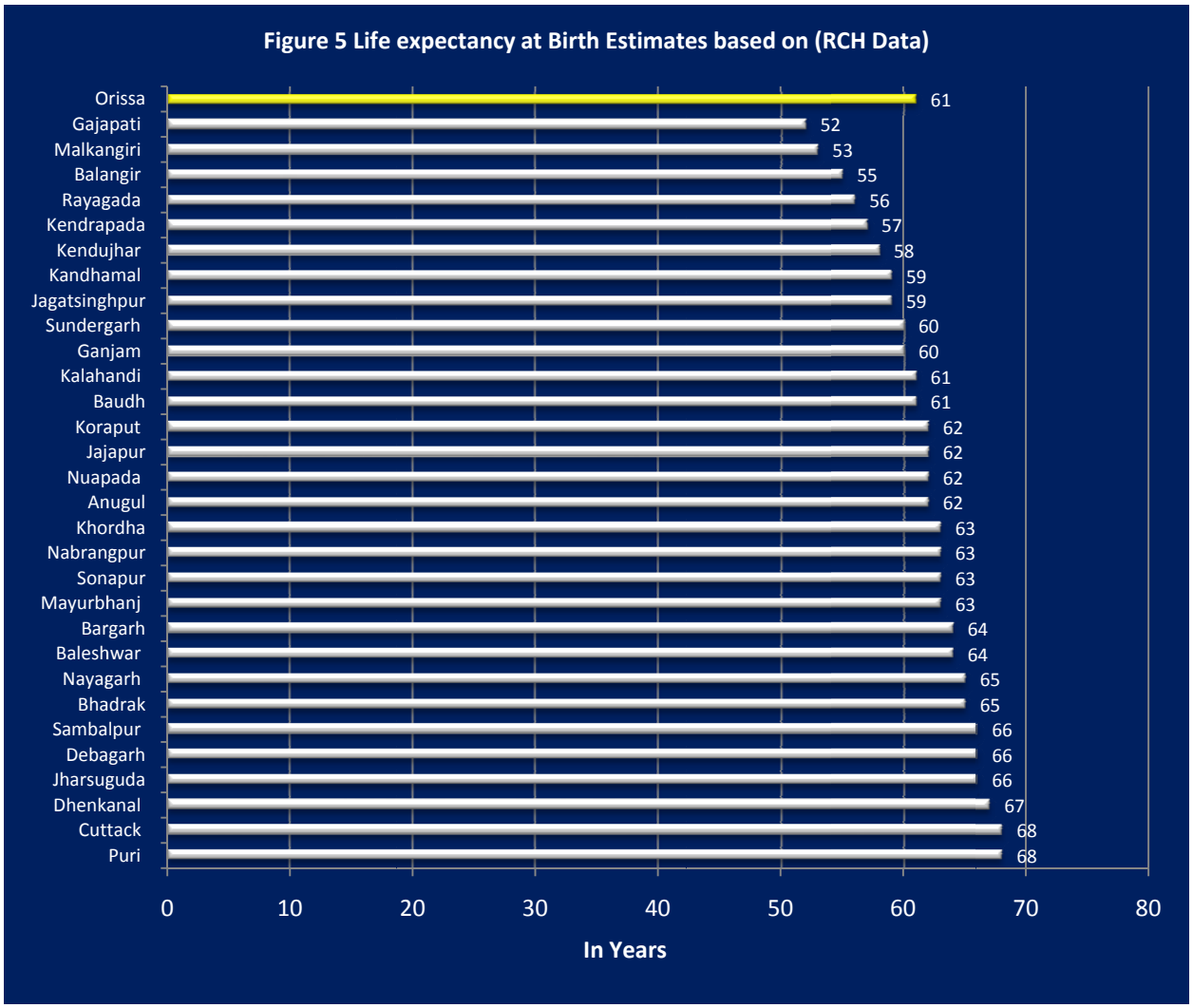




The year wise comparison between males and females in Orissa shows that there is a sluggish rate of increase i.e. only one year of increase was registered for the period 2001-06 against the years 1997-01 whereas the country as a whole and state like Tamilnadu could improve their life expectancy of about two to three years. More important to notice that when the females in Orissa were enjoying relatively better life expectancy at birth as compared to male persons for 1997-01 years, reverse trend is observed in the years 2001-06, which necessitates immediate attention of government. Figure 3 and 4 indicates that the females and males are expected to live less years (a total of 7.21 and 3.82 years less respectively) as compared to the national average of life expectancy for same groups.

Further, Orissa as compared to states like Kerala and Punjab is far behind in improving the life expectancy of people in the state. More than the disparity between the life expectancy of male and female persons in the state, the disparity between people living in Orissa and other states like Kerala,

Punjab and Tamilnadu is significant. Corresponding to these figures, the Census data for year 2001 also makes clear that only 5.26% of people above 65 years of age lives in Orissa whereas the percentage is at



least 2% higher in the state like Kerala i.e. 7.23% and 1% higher in Punjab i.e. 6.25% which may be due to the better standard of living of the people and better health care facilities and provisions available in these states.

The present report apart from making interstate comparison has made an attempt to present the district wise variations in life expectancy within Orissa state in Figure 5. As clear from the same figure that of the ten districts which have life expectancy below the state average, seven districts viz. Gajapati, Malkangiri, Balangir, Raygada, Kendujhar, Kandhmal and Sundergarh have large number of ST and SC population in together. Due to hilly tracts with good forest coverage and large in-accessible zones, ensuring health care delivery is the biggest challenge faced in these districts. On the other side, Puri, Cuttack, Dhenkanal, Jharsuguda, Debagarh, Sambalpur, Bhadrak, Nayagarh, Baleswar and Bargarh are the districts where people even enjoy better life expectancy than the national average. More importantly, it is interesting to note that these districts have less forest coverage with more accessible zones and less tribal population.

1.5.3 Death Rates and Mortality status

Whether it is death rates or infant mortality or maternal mortality, Orissa figures in the bottom three to six states in the country. According to Sample Registration System (SRS), 2007 the **Death Rates** in Orissa is highest in the country which stands at 9.2 as against 7.4 of the country as a whole, that is at least 2 points below the national death rate. State like West Bengal which is bordering Orissa on the northern side has death rate of 6.3 which is at least three points below the state of Orissa. Further to mention that the death rate status of rural Orissa (9.5) is more distressing as compared to its urban areas (7.0). More upsetting is the fact that Orissa ranks last among the states in the country for both rural and urban areas.

Table 6 also shows that Orissa along with Madhya Pradesh and Assam have highest death rates among the bigger states in the country and occupy bottom three positions as far as death rate is concerned. If the social and cultural profiles of these three states are taken into account, one would mark some resemblances between these states that are e.g. large number of ST / SC population, highest forest covered area with high degree of inaccessible zones, etc. which could have posed some major challenges in order to decrease the death rates in the state. These could be some of the factors for why West Bengal has fewer death rates as compared to Orissa.

Table 6 Death Rates in India, Orissa and Others states, 1997 & 2007

	Total		Rural		Urban	
	1997	2007	1997	2007	1997	2007
India	8.9	*7.4*	9.6	8	6.5	6
Top Six States						
Delhi	5.4	4.8	5.4	5.2	5.4	4.7
Jammu & Kashmir	5.4	5.8	5.6	6	4.4	4.9
West Bengal	7.7	6.3	7.9	6.3	7.2	6.4
Haryana	8	6.6	8.3	7	6.9	5.7
Maharashtra	7.3	6.6	8.6	7.3	5.4	5.7
Kerala	6.2	6.8	6.3	6.9	6.1	6.4
Bottom Three States						
Orissa	**10.9**	**9.2**	**11.3**	**9.5**	**7.5**	**7**
Madhya Pradesh	11	8.7	11.7	9.4	7.7	6.2
Assam	9.9	8.6	10.3	9.1	5.9	5.7

Source: SRS, 1997 and 2007

However, if the death rates between 1997 and 2007 year (i.e. of about ten years gap) is compared, Orissa has not shown dismal result in reducing the death rates despite all the difficulties that the state is socio-culturally and naturally bestowed with. During this period, Orissa could reduce the death rate by 1.7 point which is second highest among all the states in the country.

Table 7 Death Rates in rural and urban areas of India, Orissa and Other states, 2007

	Total			Rural			Urban		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
India	7.4	8	6.9	8	8.5	7.4	6	6.5	5.4
Top Six States									
Delhi	4.8	5	4.5	5.2	5.7	4.6	4.7	4.9	4.5
Jammu & Kashmir	5.8	6.2	5.3	6	6.5	5.6	4.9	5.4	4.4
West Bengal	6.3	6.9	5.6	6.3	6.9	5.6	6.4	7.1	5.6
Haryana	6.6	7.6	5.5	7	8.1	5.8	5.7	6.4	4.8
Maharashtra	6.6	7.2	6.1	7.3	8	6.6	5.7	6.2	5.2
Kerala	6.8	7.8	5.9	6.9	8.1	5.9	6.4	6.9	6
Bottom Three States									
Orissa	**9.2**	**9.5**	**8.8**	**9.5**	**9.7**	**9.3**	**7**	**8.2**	**5.8**
Madhya Pradesh	8.7	9.2	8.1	9.4	9.9	8.8	6.2	6.7	5.6
Assam	8.6	8.7	8.5	9.1	9	9.2	5.7	6.8	4.6

Source: SRS, 2007

The figures presented in Table 7 also put Orissa last among the list of bigger states in the country as far as death rates among males and females are concerned. Although females enjoy lower death rate (8.8) as compared to males (9.5) in Orissa but in both the cases the rate is highest in comparison to other states in the country.

Table 8 Infant Mortality Rate in India, Orissa and other states, 1997 & 2007

	Total		Rural		Urban	
	1997	**2007**	**1997**	**2007**	**1997**	**2007**
India	71	55	77	61	45	37
Top Five States						
Kerala	12	13	11	14	15	10
Maharashtra	47	34	56	41	31	24
Tamil Nadu	53	35	58	38	40	31
Delhi	35	36	34		35	
West Bengal	55	37	58	39	43	29
Bottom Three States						
Uttar Pradesh	85	69	89	72	66	51
Orissa	**96**	**71**	**100**	**73**	**65**	**52**
Madhya Pradesh	94	72	99	77	57	50

Source: SRS, 1997 & 2007

Even worrisome is the **Infant Mortality Rate (IMR)**[1] in Orissa. The state again ranks second from last with 71 infant deaths recorded per 1000 live births. As per the statistics given in table 8 that the infant deaths recorded in the state is at least five to six times higher to that of Kerala where the number of infant deaths was only 13 per 1000 live births in the year 2007.

[1] Infant mortality rate is the number of infants dying before reaching one year of age, per 1,000 live births in a given year.

Although the number of deaths that have declined i.e. from 96 (in year 1997) to 71 (in 2007) in Orissa is highest among the bigger states in the country, the rate of such decline is quite sluggish which comes to a reduction of only two deaths per year in 1000 live births. The number of infant deaths in rural Orissa is staggering high at 73 as compared to 52 infant deaths per 1000 live births in the urban areas of the state.

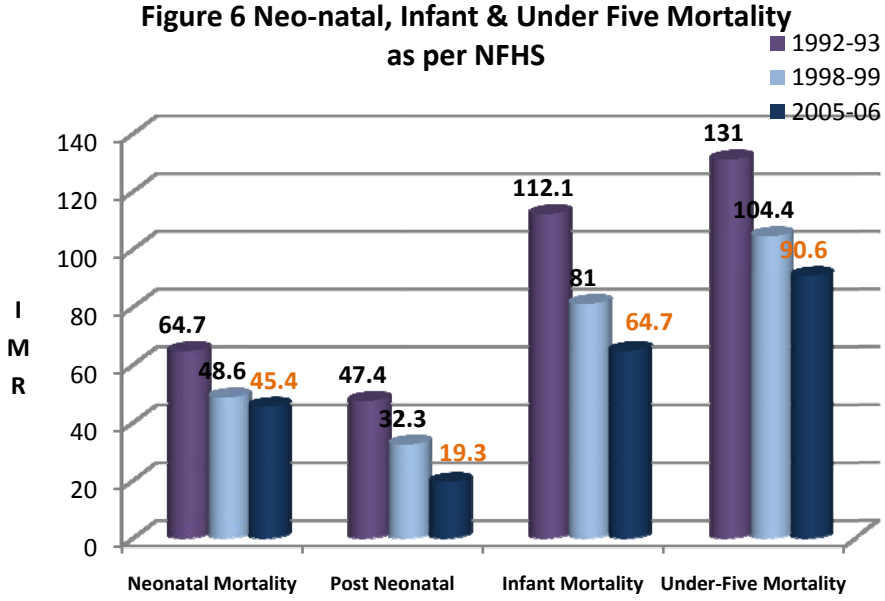
Table 9 Infant Mortality Rates in rural and urban areas of India, Orissa and other states, 2007

	Total			Rural			Urban		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
India	55	55	56	61	60	61	37	36	39
Top Five States									
Kerala	13	12	13	14	13	14	10	9	11
Maharashtra	34	33	35	41	41	42	24	21	26
Tamil Nadu	35	34	36	38	38	39	31	30	33
Delhi	36	36	36						
West Bengal	37	36	37	39	38	39	29	29	29
Bottom Three States									
Uttar Pradesh	69	67	70	72	71	74	51	50	51
Orissa	**71**	**70**	**72**	**73**	**72**	**74**	**52**	**49**	**55**
Madhya Pradesh	72	72	72	77	77	77	50	50	51
Source: SRS									

There is as such not a very significant difference between male and female infant deaths recorded in the state. As shown in Table 9 that when 70 male infants per 1000 live births died in 2007, the state recorded little higher i.e. 72 deaths of female infants during the same period. Irrespective of minimal differences between male and female deaths, the overall infant mortality rate of the state portrays a dismal health scenario of the state.

Here, the report has also made an attempt to bring out the **Neo-natal, Post-neonatal, Infant and Under Five Mortality** figure reported by NFHS in various years. As such there is not a big difference marked between NFHS and SRS data as far as IMR is concerned (64.7 and 71 respectively). However, most importantly the NFHS data shows that the death within first one month of birth or during neo-natal period is highest (45.4) as compared to post-neonatal period (19.3). Besides such high infant mortality, the under-five mortality rate in the state shown in the figure 6 is also accounted to be very high which stands at 90.6 under five deaths per 1000 live births.

Figure 6 Neo-natal, Infant & Under Five Mortality as per NFHS



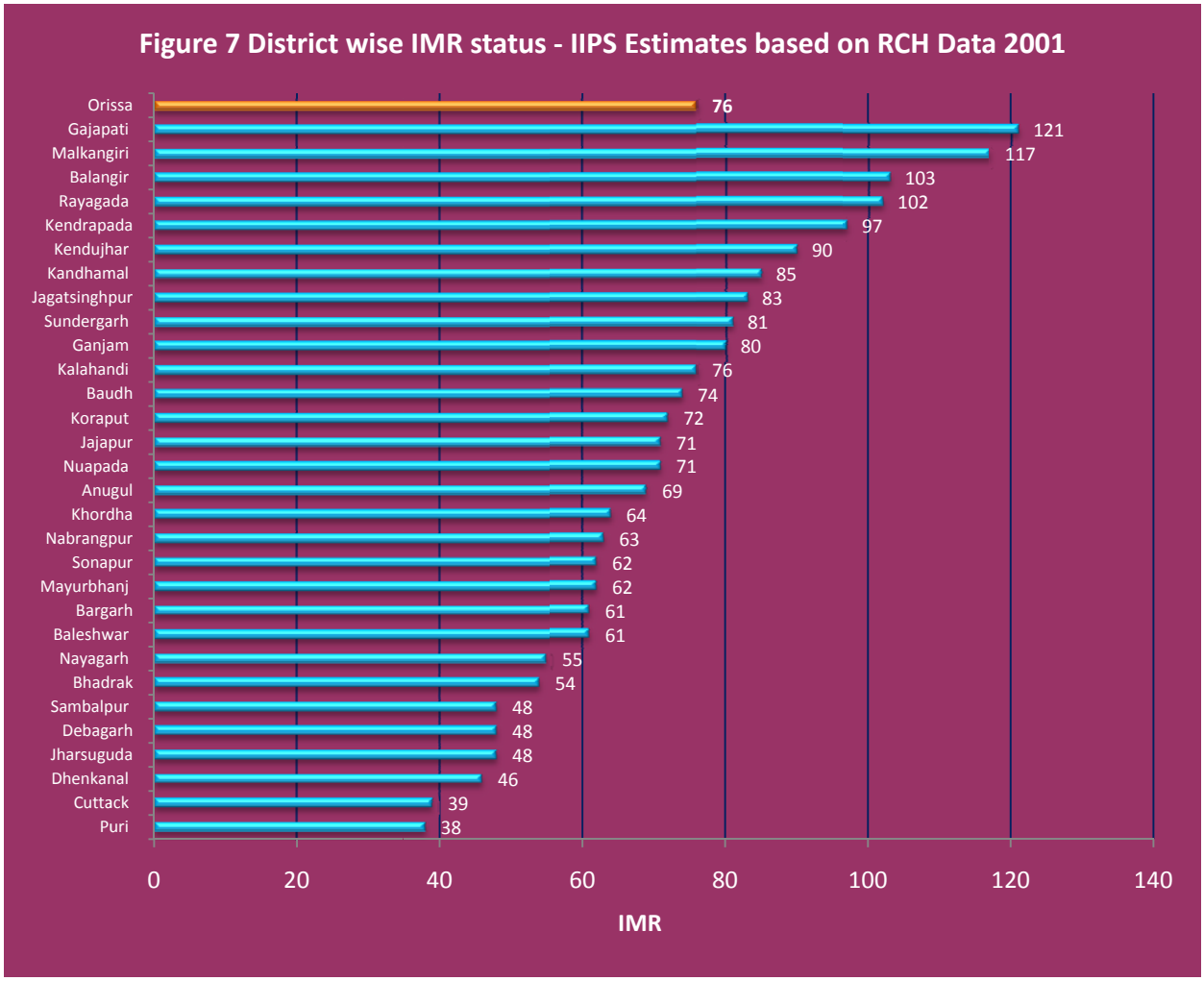
Further review of the NFHS data indicates that there is significant disparity in neonatal, post-neonatal, infant and under-five mortality rates by different caste groups, wealth groups and education. Caste wise break-up of mortality figures indicate that the percentage of mortality among STs and SCs is highest as compared to other castes. Especially among the STs, the under five mortality is astoundingly high at 136.3 per 1000 live births as compared to 91.8 among SCs, 83.5 among OBCs and 64.2 among other castes. Whether it is neonatal, postnatal, infant, child and under five, the mortality rate among STs is higher than any other caste groups followed by SCs and then the OBCs. The disparity in mortality rates among caste groups and more specifically the higher mortality among STs and SCs clearly signifies caste wise in-equity in enjoying better health status in the state.

Table 10 Neonatal, Post-Neonatal, Infant, Child and Under Five Mortality in Orissa, 2005-06

Background Characteristics	Neonatal Mortality	Postnatal Mortality	Infant Mortality	Child Mortality	Under Five Mortality
Caste/Tribe					
Scheduled Caste	46.4	27.2	73.7	19.5	91.8
Scheduled Tribe	54.0	24.7	78.7	62.5	136.3
Other Backward Caste	52.5	13.5	66.0	18.8	83.5
Others	31.7	21.4	53.1	11.7	64.2
Wealth Index					
Lowest	51.6	28.2	79.8	42.3	118.7
Second	53.0	20.3	73.2	27.4	98.6
Middle	33.5	18.1	51.7	14.0	64.9
Fourth	42.5	8.8	51.4	15.1	65.7
Highest	26.0	2.3	28.3	0.0	28.3
Education					

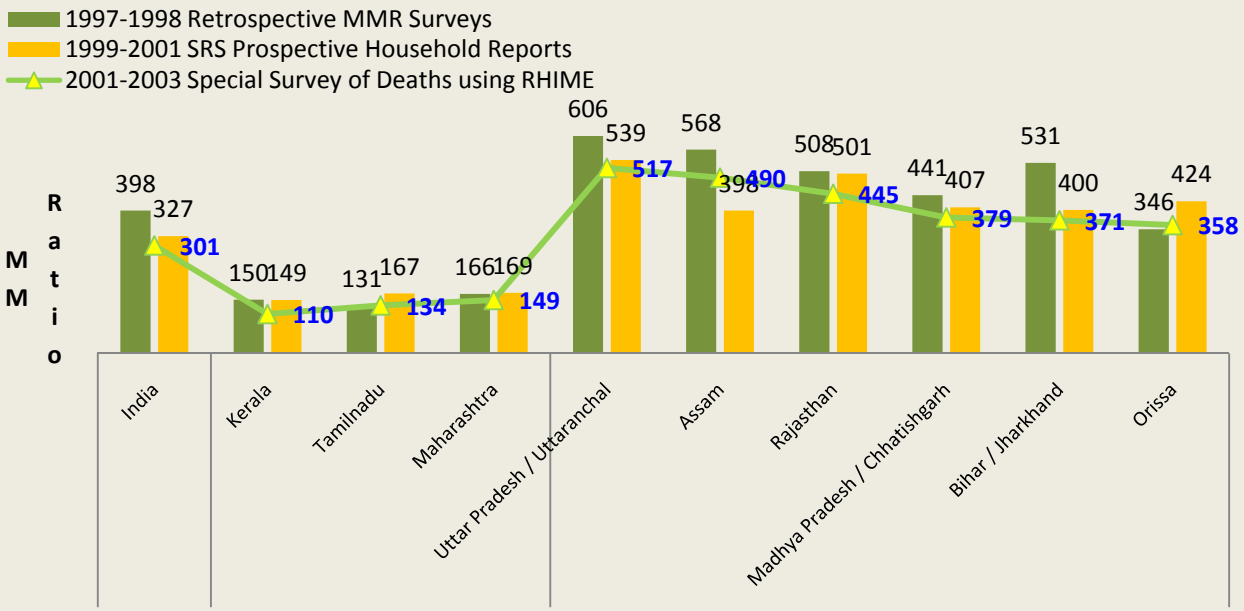
Table 10 Neonatal, Post-Neonatal, Infant, Child and Under Five Mortality in Orissa, 2005-06					
Background Characteristics	**Neonatal Mortality**	**Postnatal Mortality**	**Infant Mortality**	**Child Mortality**	**Under Five Mortality**
No Education	54.2	31.1	85.3	40.7	122.5
<10 years of complete	39.8	12.4	52.2	17.0	68.3
10 or more years complete	31.7	3.0	34.7	8.0	42.4
Source: NFHS, 2005-06					

Table 10 also indicates wealth quintile wise disparity in neonatal, post-natal, infant and under-five mortality among the people in Orissa. The data clearly indicates that better the economic status less the mortality rates among the people. In all the different mortality rates indicated in the table, the lowest and second lowest groups in the wealth quintile experience highest mortality. Apart from castes and wealth, education of people also matter for the same. As evident from the table 10, there is significantly higher occurrence of mortality among un-educated class as compared to among people those who have completed 10 or more years and less than 10 years of education. The infant mortality and under five mortality rates among non-educated class are about 85.3 and 122.5 respectively.



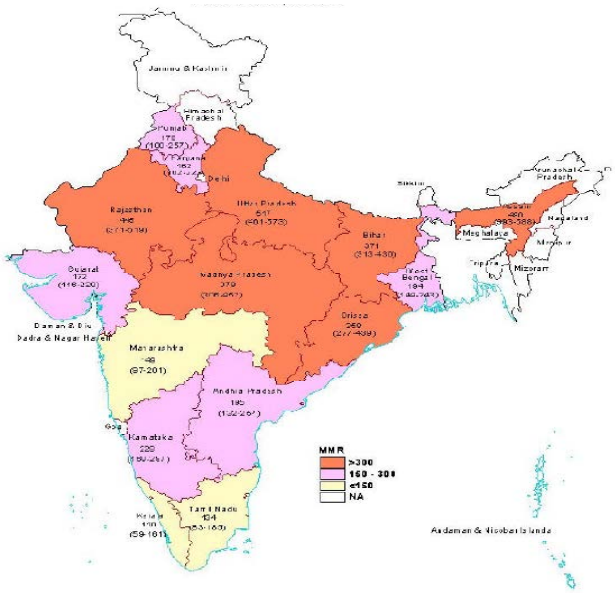
District wise IMR status estimated by IIPS based on RCH data 2001 indicates that almost all the tribal dominated districts viz. Gajapati, Malkangiri, Balangir, Kendujhar, Rayagada, etc. have very high IMR (Figure 7). Especially in Gajapati and Malkangiri district, the IMR is 121 and 117 which is outrageously high in the state. Kendrapada district which is located in the coastal belt of the state has also IMR of 97 deaths per 1000 live births. However, districts like Puri and Cuttack in the same region could reduce their IMR to below 40.

Figure 8 Maternal Mortality Ratio (MMR)



Note: The data presented in the above graph shows some year to year fluctuations due to three different study approaches adopted by SRS. Hence, the report does not make much attempt to make a detailed comparative analysis. Nevertheless, the figures of different studies give a broad picture of the MMR status of states.

Orissa also figures among all the bigger states in the country with highest **Maternal Mortality Ratio (MMR)**. As indicated in the map, the MMR of the state is 358 per one lakh live births. According to various surveys conducted by Sample Registration System (SRS), the MMR of Orissa in 1997-98 was 346 which surprisingly went high in 1999-2001 to 424 and then in 2001-03 the figure drops to 358 per one lakh live births in the state. Although Uttar Pradesh recorded highest MMR i.e. 517 per one lakh live births, the MMR of Orissa put the state in only sixth rank from the last among the bigger states of the country. Compared to states like Kerala and Tamilnadu, the MMR of Orissa is at least three times higher.



A special survey on health carried out by SRS in year 2001-03 in the eastern region of the country brings out the causes of such high maternal death in the following order: hemorrhage (37%), sepsis (11%), abortion (10%), obstruction (5%) and hypertension (4%).

1.5.4 Morbidity status

Morbidity means the state, quality, or instance of being morbid. It can be referred as the rate of disease or proportion of diseased persons in a given locality. In order to measure the Level of Morbidity, National Sample Survey gives estimation on prevalence of morbidity. According to NSS, it is termed as Proportion of Ailing Persons (PAP), measured as the number of persons reporting ailment during a 15-day period per 1000 persons for some broad age-groups.

Figure 9 Proportion of Ailing Persons, June 2004

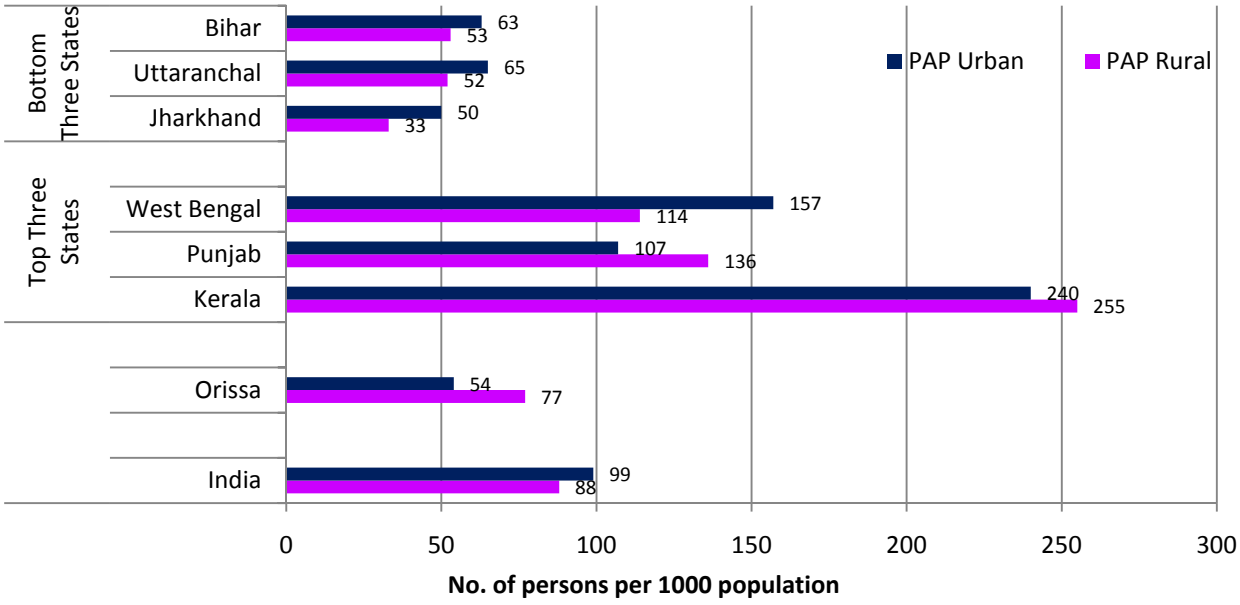


Figure 9 shows the number of persons reported ailment in selected states and in India as a whole during 60th round of NSS i.e. in January – June 2004. In Orissa the number of ailment reported per 1000 persons in rural areas (77) is higher than the urban area (54) which means more people in rural areas of the state experience ailments as compared to the urban areas in the state. The national average of PAP shows reverse trends where more number of urban people (99) suffer from ailments in comparison to the rural people (88) in India. Whether it is in rural or urban areas, the comparison of reported ailments between the national average and Orissa indicates that Orissa has less number of ailments in both the areas. As discussed earlier that the states like Kerala, Punjab and West Bengal have less IMR, MMR, Death Rates and High Life Expectancy but it is interesting to observe from the Figure 9 that these states have higher number of ailments reported per 1000 persons in both rural and urban areas. However, the number of persons reported ailment in states like Orissa, Bihar, Uttaranchal and Jharkhand is quite less, which is contrary to the IMR, MMR, Death Rates and Life Expectancy in these states. This may be explained due to under-reporting certainly not a better health status as corroborated in the health index.

Acute respiratory infection (ARI) is one of the leading causes of childhood morbidity and mortality throughout the world. Early diagnosis and treatment with antibiotics can prevent a large proportion of deaths caused by ARI (NFHS-3, India Report). In Orissa only 2.8% children under five are with symptoms of ARI as against the national average of 5.8%. Among the states in the eastern region of the country, Orissa shows low percentage of ARI as compared to West Bengal (13.0%), Bihar (6.8%) and Jharkhand (5.2%).

Table 11 Children under age five with symptoms of ARI, Fever and diarrhea in Orissa, 2005-06

Background Characteristics	Children Under Age Five		
	% with symptoms of ARI	% with Fever	% with Diarrhoea
Sex			
Male	3.0	16.0	12.5
Female	2.6	15.6	11.0
Residence			
Urban	3.1	15.6	10.3
Rural	2.7	15.8	12.0
Caste/Tribe			
Scheduled Caste	2.6	17.8	14.9
Scheduled Tribe	1.9	13.7	12.2
Other Backward Caste	2.3	14.8	9.6
Others	4.4	17.2	11.1
Wealth Index			
Lowest	2.4	14.4	13.9
Second	1.4	17.9	11.0
Middle	3.7	14.1	9.0
Fourth	4.7	19.9	9.8
Highest	3.8	16.5	9.9

Source: NFHS, 2005-06

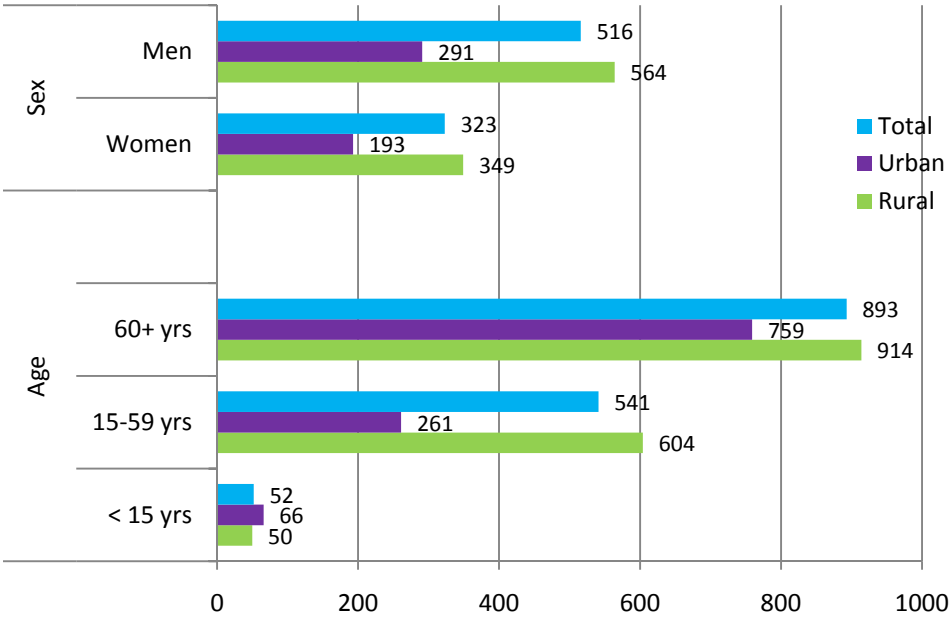
Within Orissa, Table 11 shows only marginal differences between rural (2.7%) and urban (3.1%) children; and between male (3.0%) and female children (2.6%) with regard to ARI. Caste wise break-up shows that the percentage of children under age five from other (general) castes is highest as compared to STs (1.9%), SCs (2.6%) and OBC s (2.3%). Table 11 also shows that children in the highest (3.8%), fourth (4.7%) and Middle (3.7%) wealth quintiles are more likely to have symptoms of ARI as compared to children in lowest (2.4%) and second (1.4%) wealth quintiles.

Fever is a major manifestation of malaria and other acute infections in children. Malaria and fever contribute to high levels of malnutrition and mortality. While fever can occur year round, malaria is more prevalent after the end of the rainy season. For this reason, temporal factors must be taken into account when interpreting fever as an indicator of malaria prevalence. Since malaria is a major contributory cause of death in infancy and childhood in many developing countries, the so-called presumptive treatment of fever with anti-malarial medication is advocated in many countries where malaria is endemic (NFHS-3, India Report). Similar to ARI, there is marginal difference between children under five in rural and urban areas; and between male and female children suffered from fever. It is important to find that less percentage (13.7%) of children belong to ST communities suffered from fever as compared to SCs (17.8%), OBCs (14.8%) and others (17.2%). This figure seems to be contradictory to the experience that the forest dwellers more specifically the STs are more likely to get malaria than the others.

According to Orissa Vision 2010 document, **Malaria** is the foremost public health problem of the State. Orissa contributes 23% of malaria cases, 40 % of PF cases and 50% of malaria deaths of the country. More than 60% population of the State is living in the malaria high risk areas, particularly in the tribal districts. In the document on 'health status of primitive tribes in Orissa' published in ICMR bulletin, the tribal communities constitute nearly 8% of the total population of the country, they contribute 25% of the total malaria cases and 15% of total P. Falciparum cases. Various epidemiological studies and Malariometric surveys carried out in tribal population including primitive tribes reveal a high transmission of P. Falciparum in the forest regions of India, because malaria control in such settlements has always been unattainable due to technical and operational problems. The Orissa Vision 2010 also states that malaria problem in the tribal areas of the State is more but since the last few years the trend analysis of malaria indicates that the incidence of malaria, particularly of PF cases is increasing in the non-tribal areas of the State as well.

Diarrhoea is one of the single most common causes of death among children under age five worldwide. Deaths from acute diarrhoea are most often caused by dehydration due to loss of water and electrolytes. Nearly all dehydration-related deaths can be prevented by prompt administration of rehydration solutions (NFHS-3, India Report). Overall, only 12% children under five had diarrhoea in Orissa. The percentage of children had diarrhoea in rural areas (12%) is slightly more than the urban areas (10.3%). Among the different caste groups, higher percentage of children from SCs (14.9%) and STs (12.2%) had diarrhoea as compared to OBC (9.6%) and others (11.1%). As also clear from the Table 11 that more percentage of children belong to lowest (13.9%) and second (11%) wealth quintiles had diarrhoea.

Figure 10 Prevelance of Tuberculosis in Orissa, 2005-06



Prevalence estimates of Tuberculosis (TB), Diabetes, and Goitre/ Thyroid problems undertaken by NFHS during 2005-06 are presented in Table 11 and Figure 10. Tuberculosis has re-emerged as a major public health problem in many parts of the world, often as a concomitant illness to HIV/ AIDS. Tuberculosis, once known as the 'White Plague', is contagious and spreads through droplets that can travel through the air when a person with the infection coughs, talks, or sneezes. Today, TB is a leading cause of death among people who are HIV-positive. Worldwide, an estimated one-third of the nearly 40 million people living with HIV/AIDS are co-infected with TB. In most developing countries, TB would continue to be a serious health threat even in the absence of HIV/AIDS due to the public health challenges posed by poverty, high illiteracy, and poor sanitation (NFHS-3, India Report).

Orissa exhibits prevalence of **Tuberculosis (TB)** (i.e. 418 per 1, 00,000 population) below the national average (i.e. 445 per 1, 00,000 population). The prevalence of TB in Orissa is comparatively very less to other states in the eastern region viz. Bihar (797), Jharkhand (659) and West Bengal (605) of the country. Arunachal Pradesh in the northeast has highest prevalence of TB (1,111) which is three times higher to that of Orissa.

Within the state, the prevalence of TB among men (516) is much higher to that of women (323). Further, in comparison to men (291) and women (193) in urban areas of the state, the prevalence of TB among men (564) and women (349) of rural residents is quite high which is even higher than the national average. Age group wise analysis indicates some interesting fact that both in rural and urban areas TB is found highest among the people above 60 years age group (914 among rural residents and 759 among urban residents).

Diabetes is a non-communicable disease, commonly known as 'sugar' illness. A person has diabetes when the body fails to produce or properly use insulin to convert sugar, starch, etc., into energy (NFHS-3, India Report). Table 12 shows that the prevalence of diabetes among the men and women of 35-49

years age group is at least 7 to 8 times higher in case of men and 4 to 5 times higher in case of women to that of the people in the age group of 20-34 years. The prevalence of diabetes is found to be lowest among the ST people (i.e. 335 men and 61 women) in comparison to OBC (i.e. 2007 men and 510 women). Also important to observe here, that the prevalence of diabetes among the people in the highest wealth quintile is found to be significantly high (i.e. 3308 men and 2058 women) to that of any other groups. When it comes to the lowest wealth quintile groups, the trend of prevalence of diabetes is observed to be just reverse that means very less prevalence among the lowest wealth quintiles (i.e. 114 men and 145 women).

Table 12 Number of persons age 15-49 per 100,000 who have suffered from the following health problems in Orissa, 2005-06

Background Characteristics	Number of persons age 15-49 per 100,000 who have suffered from the following health problems in Orissa, 2005-06					
	Diabetes		Asthma		Goitre or other thyroid disorder	
	Men	Women	Men	Women	Men	Women
Age						
15-19	0	134	512	1738	0	268
20-34	356	282	1335	2394	178	281
35-49	2663	1289	2353	3281	106	560
Caste/Tribe						
Scheduled Caste	1575	430	2486	2154	0	360
Scheduled Tribe	335	61	1675	1546	0	124
Other Backward Caste	2007	510	620	2044	0	91
Others	930	931	1870	3832	400	772
Wealth Index						
Lowest	114	145	1851	1882	0	398
Second	1655	0	1241	2456	0	129
Middle	497	713	1240	2773	0	285
Fourth	2005	949	2515	3013	504	375
Highest	3308	2058	660	3717	330	756
Source: NFHS, 2005-06						

Asthma, also known as reactive airway disease, is a chronic respiratory disease that affects the lungs. Asthma is often mistaken for TB due to the similarity of symptoms (NFHS-3, India Report). As compared to men, the number of women patients suffering from Asthma is highest in all the age groups given in Table 12. However, whether it is men or women, the number of Asthma cases goes up with age. As

shown in Table 12, 2353 men and 3281 women in the 35-49 years age group suffer from Asthma followed by 1335 men and 2394 women from 20-34 years age group and 512 men and 1738 women from 15-19 years age group. Women from the highest wealth quintile group and also women belong to other (general) castes show significantly higher prevalence of Asthma as compared to the other groups in the wealth quintiles and caste groups. In case of men, substantially higher number of SCs suffers from Asthma as compared to STs, OBCs and Others.

Similar to Asthma, more number of women show **Goitre/Thyroid** problem across all the age groups given in Table 12. Goitre is usually caused by an iodine deficiency and it leads to an enlargement of the Thyroid Gland. In many cases, there are no symptoms apart from the appearance of a swelling in the neck. With the increase in age, the prevalence of goitre is also observed to be more. It is important to find that there is absolutely no incidence of goitre in men of SCs, STs and OBCs; and in groups of lowest, second and middle wealth quintiles.

The magnitude of the burden of other diseases more specifically the communicable or infectious diseases can be assessed from the Health Statistics of Orissa presented in the last section of this chapter. According to the same, the prevalence of **Leprosy** is far from elimination and the prevalence of **Filariasis** and **HIV** infections is increasing. As per OSACS data, 11,835 HIV positive cases were detected in the state by the end of December 2008. Of them, 1045 were full blown AIDS cases. The AIDS in Orissa has so far claimed 828 lives. Sexual transmission is said to be the main cause for spread of the disease in the state. The OSACS survey revealed while 82.86% were infected by sexual transmission of the virus, 8.91% children got it from their parents and 2.67% through unhygienic syringes.

Apart from communicable diseases, the Orissa burden of disease study reported 22% of morbidity being due to non-communicable diseases and 16% due to accidents and injuries. More prevalent non-communicable diseases include mental ill health; cancers; genetically linked blood disorders; diabetes; cardiovascular diseases including rheumatic fever / heart disease; chronic bronchitis and asthma; oral including dental diseases; ophthalmic / eye disorders; accidents and Injuries. An ICMR study found a prevalence of 8% **Cardiovascular Diseases** including hypertension, coronary artery disease and rheumatic heart diseases: in the population of Orissa, with higher rates among males than females and lower rates among tribal people. An estimated 15lakhs people in Orissa have the **Blood Disorders** trait or the disease. Thalassemia and Sickle Cell Anemia are two common genetically linked blood disorders in Orissa. Based on ICMR study, the former is prevalent in coastal districts and the latter in western districts including Kandhamal.

1.5.5 Nutritional Status and Anaemia

Adequate nutrition is critical to child development. The period from birth to two years of age is important for optimal growth, health, and development. At this age, children are particularly vulnerable to growth retardation, micronutrient deficiencies, and common childhood illnesses such as diarrhoea and acute respiratory infections (ARI). Similarly, malnutrition in women and men can result in reduced productivity, slow recovery from illnesses, increased susceptibility to infections, and a heightened risk of

adverse pregnancy outcomes. A woman's nutritional status has important implications for her health as well as the health of her children. A woman with poor nutritional status, as indicated by a low body mass index (BMI), short stature, anaemia, or other micronutrient deficiencies, has a greater risk of obstructed labour, having a baby with a low birth weight, having adverse pregnancy outcomes, producing lower quality breast milk, death due to postpartum haemorrhage, and illness for herself and her baby (NFHS-3, India Report).

Stunted and wasting are also termed as **Chronically Malnourished and Acutely Malnourished** respectively. Almost half of the children under five in Orissa are stunted or chronically malnourished (45%) and **Underweight** (40.7%). About 19.5% children are wasting or acutely malnourished. Table 13 shows that there is hardly any difference between the percentage of malnourished children in Orissa and India. However, Orissa is far behind the states like Kerala and Goa where there are least percentage of children are either stunted or wasting or underweight.

Table 13 Nutritional Status of Children in India, Orissa and Other states, 2005-06

Background Characteristics	Stunted (height-for-age)	Wasting (weight-for-height)	Underweight (weight-for-age)
India	48.0	19.8	42.5
Orissa	**45.0**	**19.5**	**40.7**
Top two states			
Kerala	24.5	15.9	22.9
Goa	25.6	14.1	25.0
Within Orissa State			
Sex			
Male	43.6	20.6	39.4
Female	46.4	18.5	41.9
Residence			
Urban	34.9	13.4	29.7
Rural	46.5	20.5	42.3
Castes			
Scheduled Caste	49.7	19.7	44.4
Scheduled Tribe	57.2	27.6	54.4
Other Backward Caste	40.8	17.8	38.1
Others	33.6	12.8	26.4
Wealth Index			
Lowest	59.6	24.0	53.3

Table 13 Nutritional Status of Children in India, Orissa and Other states, 2005-06			
Background Characteristics	**Stunted (height-for-age)**	**Wasting (weight-for-height)**	**Underweight (weight-for-age)**
Second	41.9	18.9	41.2
Middle	39.7	15.4	32.6
Fourth	20.5	17.6	21.3
Highest	13.2	6.6	10.2
Source: NFHS, 2005-06			

Within Orissa, it is clearly evident from the table 13 that malnourishment is more pronounced in rural areas as compared to urban areas. Against 46.5% chronically malnourished children in rural areas, only 34.9% are observed in urban areas. Similarly 42.3% underweight and 20.5% acutely malnourished children are found in rural areas as compared to 29.7% and 13.4% in urban areas respectively. Table 13 also shows that very high percentages of children belonging to ST and SC communities are malnourished. Particularly, the higher incidence of wasting or acutely malnourished in STs (27.6%) is of major concern. Wealth quintile wise distribution of malnourished children clearly endorses the fact that children belonging to lower wealth quintiles have poor nutritional status as compared to people in the higher wealth quintile groups. In the lowest wealth quintiles, about 59.6% children are chronically malnourished, 24% are acutely malnourished and 53.3% are underweight.

Table 14 Nutritional Status of Adults in Orissa, 2005-06						
Background Characteristics	**Body Mass Index**					
	Thin		**Normal Weight**		**Overweight / Obese**	
	Men	**Women**	**Men**	**Women**	**Men**	**Women**
Age						
15-19	55.9	44.9	41.7	52.8	2.4	2.3
20-29	32.8	42.5	62.8	53.5	4.4	4.0
30-39	31.5	39.2	62	51.6	6.5	9.2
40-49	30.9	39.1	59.1	49.1	10.0	11.8
Residence						
Urban	27.2	28.6	58.5	53.7	14.3	17.7
Rural	37.8	44.1	58.2	51.7	4.0	4.2
Caste/Tribe						
Scheduled Caste	44.8	50.8	49.7	45.1	5.5	4.1
Scheduled Tribe	38.9	51.3	60.4	47.3	0.7	1.4
Other Backward Caste	33.9	39.3	60.8	53.4	5.3	7.3

Table 14 Nutritional Status of Adults in Orissa, 2005-06						
Background Characteristics	**Body Mass Index**					
	Thin		**Normal Weight**		**Overweight / Obese**	
	Men	**Women**	**Men**	**Women**	**Men**	**Women**
Others	28.6	31.7	60.1	57.6	11.3	10.7
Wealth Index						
Lowest	44.1	54.4	54.9	44.6	1.0	1.0
Second	35.9	46.3	61.9	50.3	2.2	3.4
Middle	35.2	35.0	60	60	4.8	5.0
Fourth	28.9	30.1	65.7	59.4	5.4	10.5
Highest	18.8	16.3	49.8	56.7	31.4	27.0
Total	**35.7**	**41.4**	**58.3**	**52**	**6.0**	**6.6**
Source: NFHS, 2005-06						

As clear from Table 14 that the malnourishment in children under five continues in the same proportion until they cross the age of 19 or adolescence period. During the NFHS survey in 2005-06, it was found that about 55.9% men and 44.9% women in the age group of 15-19 years are thin. Then after 19 years of age, the percentage of **Thin men and women** starts dropping. However, the percentage of women adults enjoying better nutritional status with the age improves in a very sluggish rate as compared to men. Table 14 makes it clear that the percentage of thin men drops from 55.9% in the age group of 15-19 years and settles at 30.9% by the time they reach 40-49 years age group. There is a 15% decline in the percentage of thin men observed where as only 5% decline is observed in case of women reached from the age of 15 to 49 years which make women more vulnerable to men as far as nutritional status is concerned. On the other side, the percentage of **Obese/Overweight** persons increases with the age.

Caste wise comparison shows that the percentage of thin men and women are highest among the SCs and STs. Like children under five, the adult men and women in the lowest and second wealth quintile enjoy poor nutritional status. On the other side, only 1% obese/overweight persons are found in the lowest wealth quintile groups where as substantially high percentage i.e. 31.4% men and 27% women belonging to highest wealth quintile are found obese/overweight.

Anemia is characterized by a low level of hemoglobin in the blood. Hemoglobin is necessary for transporting oxygen from the lungs to other tissues and organs of the body. Anemia in young children and women is a serious concern. Especially among young children, it can result in impaired cognitive performance, behavioural and motor development, coordination, language development, and scholastic achievement, as well as increased morbidity from infectious diseases (NFHS, India Report, 2005-06).

Table 15 Prevalence of Anemia in Children (6-59 months)				
Back ground Characteristics	Anaemia Status by haemoglobin level			
	Mild (10.0-10.9 g/dl)	Moderate (7.0-9.9 g/dl)	Severe (<7.0 g/dl)	Any Anaemia (<11.0 g/dl)
Sex				
Male	27.7	34.5	1.4	63.5
Female	30.3	34.6	1.8	66.6
Residence				
Urban	29.0	22.7	2.2	53.9
Rural	28.9	36.2	1.5	66.6
Castes / Tribes				
Scheduled Caste	25.3	35.7	2.5	63.5
Scheduled Tribe	29.6	48.2	2.2	80.1
Other Backward Caste	29.4	28.0	1.4	58.7
Others	30.8	26.9	0.5	58.2
Wealth Index				
Lowest	29.5	43.0	2.6	75.0
Second	25.5	34.9	1.3	61.7
Middle	27.9	24.8	0.2	53.0
Fourth	35.6	24.3	1.1	60.9
Highest	26.0	15.7	0.0	41.7
Total	**28.9**	**34.5**	**1.6**	**65.0**
Source: NFHS, 2005-06				

Among young children, the anaemia percentage of Orissa (65.0%) is just below the national average (69.5%) but far from states like Goa (38.2%), Manipur (41.1%) and Kerala (44.5%). Within Orissa, the percentage of young children with anaemia is quite high among STs (80.1%) and especially among those who are in the lowest wealth quintiles (75.0%). Sex wise more percentage of female children (66.6%) is anaemic as compared to male children (63.5%). The 1.6% children who are severely Anaemia are more susceptible to a high degree of morbidity and mortality among young children.

Table 16 Prevalence of Anemia in Adults								
Back ground Characteristics	Women				Men			
	Mild (10.0-11.9 g/dl)	Moderate (7.0-9.9 g/dl)	Severe (<7.0 g/dl)	Any Anaemia (<12.0 g/dl)	Mild (12.0-12.9 g/dl)	Moderate (9.0-11.9 g/dl)	Severe (<9.0 g/dl)	Any Anaemia (<13.0 g/dl)

Table 16 Prevalence of Anemia in Adults								
Back ground Characteristics	**Women**				**Men**			
	Mild (10.0-11.9 g/dl)	**Moderate (7.0-9.9 g/dl)**	**Severe (<7.0 g/dl)**	**Any Anaemia (<12.0 g/dl)**	**Mild (12.0-12.9 g/dl)**	**Moderate (9.0-11.9 g/dl)**	**Severe (<9.0 g/dl)**	**Any Anaemia (<13.0 g/dl)**
Residence								
Urban	40.2	14.2	1.6	55.9	15.8	9.2	0.7	25.7
Rural	45.8	15.0	1.4	62.3	17.7	16.8	1.3	35.9
Castes / Tribes								
Scheduled Caste	44.2	18.4	1.6	64.2	16.0	17.7	1.9	35.6
Scheduled Tribe	51.1	20.9	1.8	73.8	25.8	25.7	2.1	53.6
Other Backward Caste	44.1	12.7	1.9	58.6	14.3	10.1	1.0	25.4
Others	41.8	10.7	0.9	53.4	13.7	9.3	0.1	23.2
Wealth Index								
Lowest	48.3	18.9	1.9	69.2	24.2	24.0	1.5	49.6
Second	45.8	14.1	1.5	61.4	11.2	17.7	2.4	31.3
Middle	44.4	14.1	1.3	59.7	16.2	9.7	0.5	26.4
Fourth	39.8	12.2	0.8	52.8	13.1	6.0	0.3	19.4
Highest	39.1	7.9	0.9	47.9	14.1	5.1	0.4	19.5
Total	**44.9**	**14.9**	**1.5**	**61.2**	**17.3**	**15.4**	**1.2**	**33.9**
Source: NFHS, 2005-06								

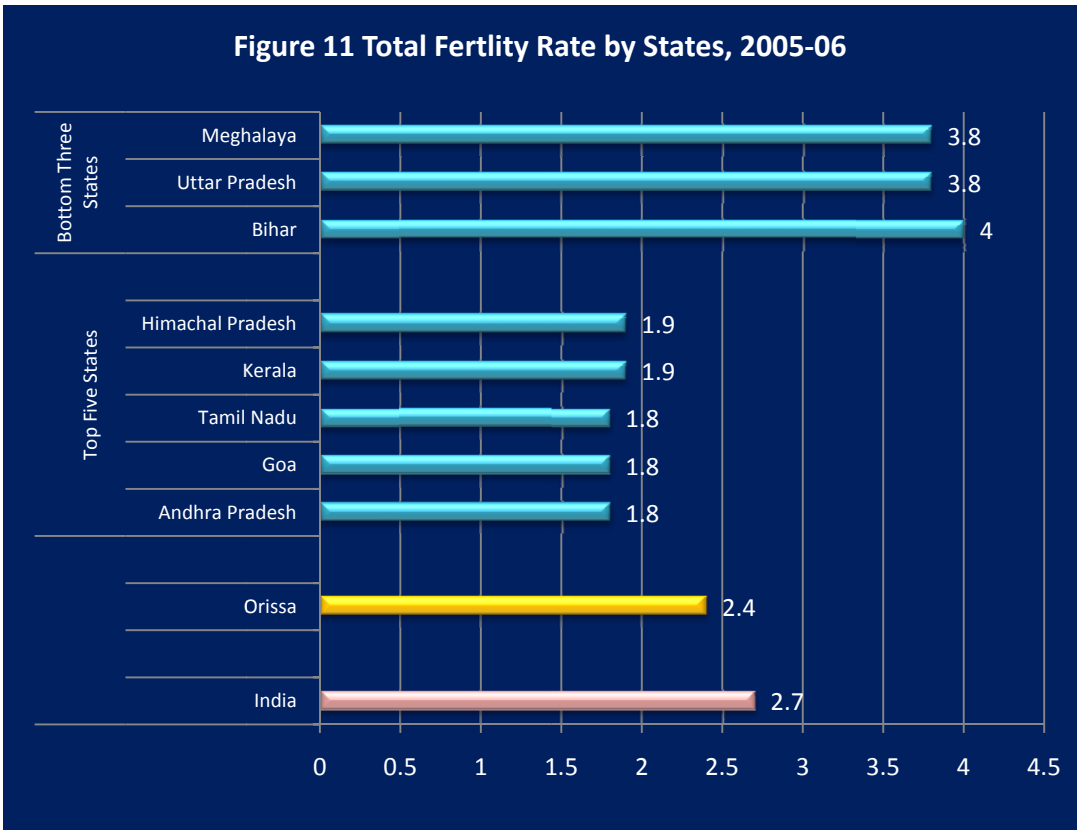
During the adult stage, there is a widening difference marked in the percentages of anaemia between men and women. From around 3% difference during child hood stage, the same reaches to as high as 28% difference in the percentages of any anaemia between men and women. As clear from Table 16, against 33.9% of men almost double i.e. 61.2% women are anaemic. As compared to other caste groups, the percentage of anaemia among ST adults is highest i.e. 53.6%. Wealth quintiles wise, 49.6% adults belong to the lowest wealth quintile are anaemic as compared to only 19.5% in case of highest wealth quintiles. In rural areas around 10% more anaemic adults live as compared to urban areas. In brief, whether among young children or adults, there is significant disparity marked in the prevalence of anaemia by sex, residence, castes and wealth.

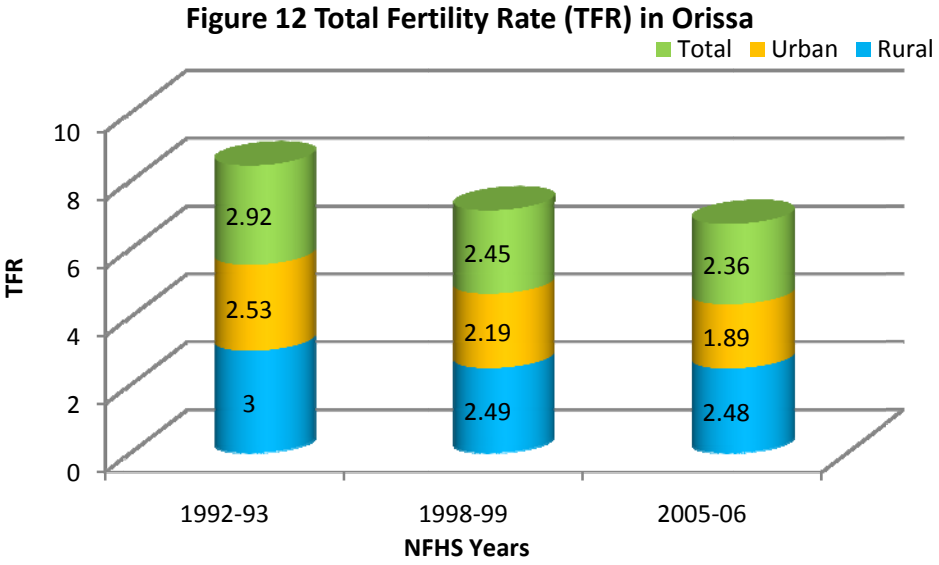
1.5.6 Fertility

Figure 11 presents **Total Fertility Rate (TFR)** estimated by NFHS in the year 2005-06 for different states and for India. In Orissa the TFR is 2.4 births per women which are below the national average of 2.7 births per women. The TFR of Orissa has almost reached the replacement level where as in states like Bihar (4 births), Uttar Pradesh (3.8 births) and Meghalaya (3.8 births) the TFR is almost double the

replacement level. States like Andhra Pradesh, Goa, Tamilnadu, Kerala and Himachal Pradesh has already achieved TFR of below replacement level ranging between 1.8 to 1.9 births per women.

In the urban areas of the state, the TFR has already reached below the replacement level (1.89 births) where as in the rural areas it is still above the same (2.48 births). Year wise comparison shows that the TFR of Orissa was 2.92 in the year 1992-93 which was reduced to 2.45 in the year 1998-99 and further reduced to 2.36 in the year 2005-06. Particularly in the rural areas, the state has recorded only .01% decline in the TFR from 1998-99 to 2005-06 which was much higher at 0.51% decline from the year 1992-93 to 1998-99.

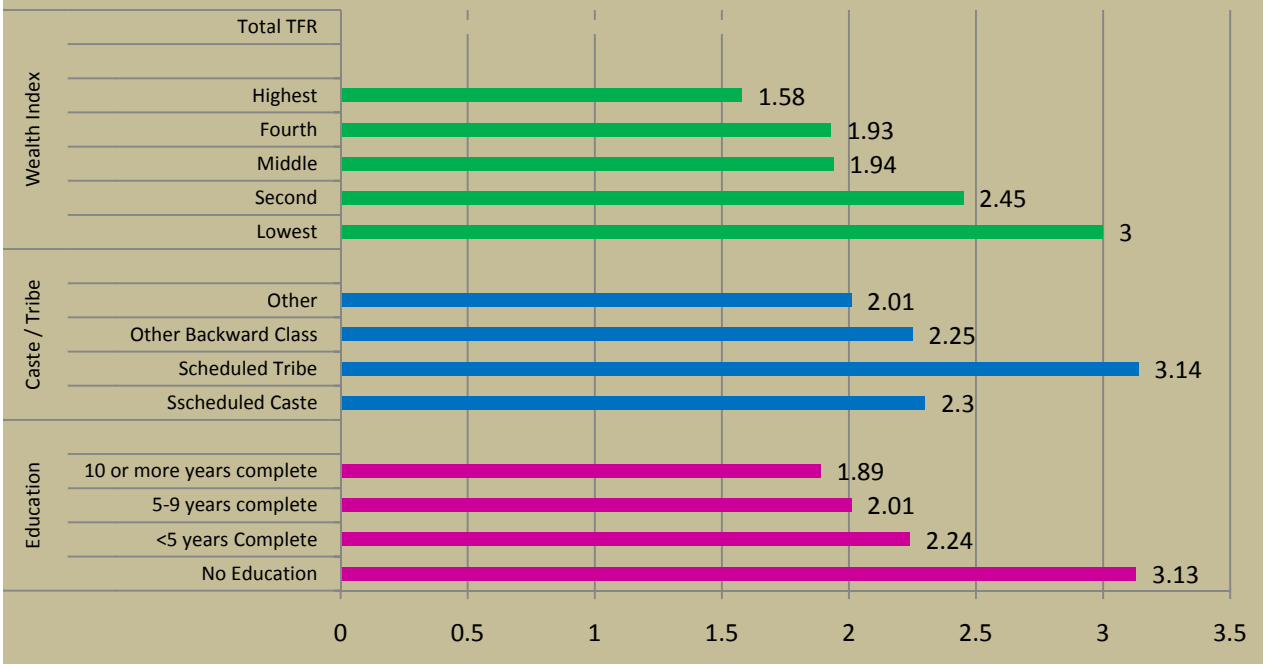




Apart from rural and urban differences, figure 13 also indicates differences in TFR by caste groups, wealth quintiles and education. As clear from the figure that

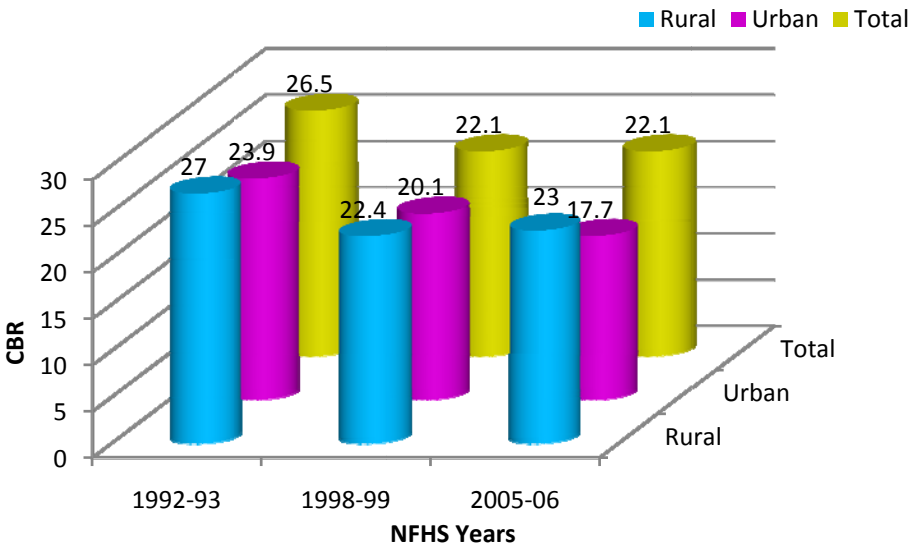
the TFR among lowest and second wealth quintiles is as high as 3 and 2.45 births per women respectively. Against the higher economic groups, the TFR of lowest economic group is almost double i.e. 1.58 against 3 births per women. There is a general perception among the lower income groups in Orissa that more children would earn them more income.

Figure 13 Total Fertility Rate (TFR) in Orissa, 2005-06



Caste wise break-up shows that STs have highest TFR of 3.14 births per women followed by SCs (2.3 births) and OBCs (2.25 births) and other castes (2.01 births). Similar is the trend observed by education of people. The TFR among the people who are not educated is highest i.e. 3.13 births per women followed by those who have completed below 5 years (2.24 births), 5-9 years (2.01 births) and 10 years or more (1.89 years) of education.

Figure 14 Crude Birth Rate (CBR) in Orissa



In congruence with the TFR figures, the **Crude Birth Rate (CBR)** of Orissa (i.e. 22.1 births per 1000 people) is also below the national average (23.1 births per 1000 people). However

in states like Kerala and Tamilnadu the CBR has come down to 16.4 births per 1000 population.

Most important to mention, Orissa has not recorded any changes in the CBR status from the year 1998-99 (22.1 births) to 2005-06 (22.1 births) where as the change was registered from the year 1992-93 (26.5 births) to 1998-99 (22.1 births), Figure 14. Comparing the rural and urban CBRs, it is clear that the CBR of urban areas of the state is at least less of 5 births per 1000 population to that of rural areas. Surprisingly, the CBR in rural areas has increased from the year 1998-99 (22.4 births) to 2005-06 (23 births) instead of declining.

1.5.7 Family Planning Status

In the National Population Policy, 2000, the Government of India set as its immediate objective the task of addressing unmet need for contraception to achieve the medium-range objective of bringing the total fertility rate down to replacement level by 2010. One of the socio-demographic goals identified for this purpose is to achieve universal access to information/counselling and services for fertility regulation and contraception with a wide range of choices (Ministry of Health and Family Welfare, 2000).

In Orissa, almost all the people are aware of the various modern contraceptive methods. There is as such no difference marked between rural and urban people; and married and unmarried people on having **knowledge of various modern contraceptive methods**. Pills, IUD and Condom are the three temporary methods promoted by government. The mean number of any methods, including modern and traditional methods known to currently married men is highest i.e. 6 methods per person followed by 5.3 methods known to currently married women. The mean number of methods known to never married women comes to only 3.8 per person as compared to 4.8 methods known to never-married men.

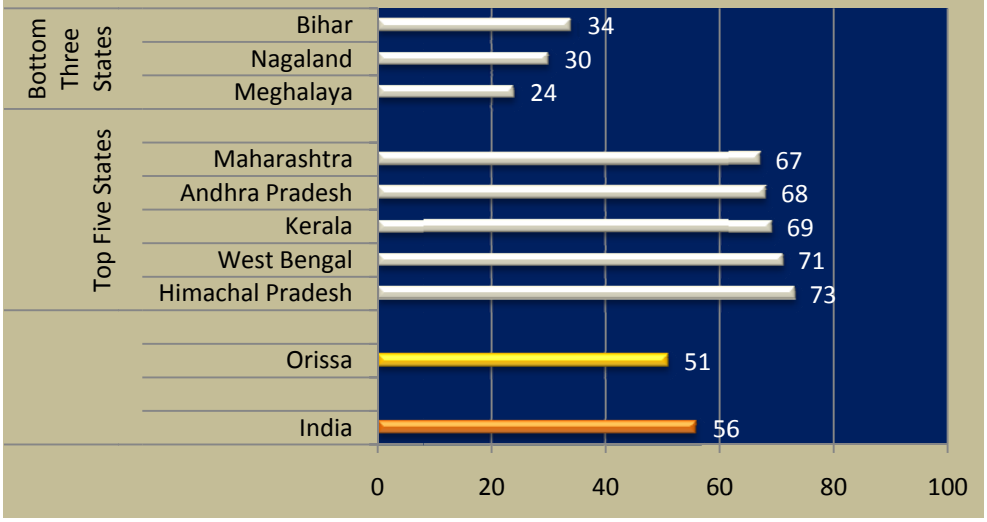
Table 17 Knowledge of Contraceptive Methods

Category of Women and Men	Total		Rural		Urban	
	Any Modern Method	Mean Number of any Methods Known by 15-49 years Age Group	Any Modern Method	Mean Number of any Methods Known by 15-49 years Age Group	Any Modern Method	Mean Number of any Methods Known by 15-49 years Age Group
All Women	98.4	4.9	98.1	4.7	99.6	6.1
Currently Married Women	99.5	5.3	99.4	5	99.9	6.7
Never Married Women	94.7	3.8	93.7	3.6	98.7	4.8
All Men	99.1	5.6	99	5.3	99.8	6.4
Currently Married Men	99.5	6	99.5	5.8	99.6	7.1
Never Married Men	98.4	4.8	97.8	4.5	100	5.6

The current level of contraceptive use, i.e., the **Contraceptive Prevalence Rate (CPR)** defined as percentage of currently married women age 15-49 years who are currently using a contraceptive

method or whose husbands are using a contraceptive method, is one of the principal determinants of fertility.

Figure 15 Contraceptive Prevelance Rate by States, 2005-06



In comparison to the national rate of 56%, the CPR of Orissa is 51% which is at least 5% below the national CPR. In states like Himachal Pradesh, West Bengal and Kerala, the CPR is as high as 73, 71 and 69 respectively. Figure 15 also shows that Orissa is much better as compared to some of the states like Meghalaya, Nagaland and Bihar where the level of contraceptive use stands at only 24%, 30% and 34% respectively.

Table 18 Current Use of Contraception in Orissa, 2005-06

Background Characteristics	Any Method	Any Modern Method	Modern Methods						
			Female Sterilisation	Male Sterilisation	Pill	IUD	Injectables	Condom /Nirodh	Other Modern Method
Residence									
Rural	49	43.6	33.7	1	6.3	0.3	0	2.2	0
Urban	59.4	50.1	30.3	1.1	10.2	1.5	0.1	6.7	0.2
Caste / Tribe									
Scheduled Caste	51.1	46.2	35.4	0.5	8.9	0.3	0.1	1.1	0
Scheduled Tribe	35.2	30	23.3	2.2	2.6	0.2	0	1.7	0
Other Backward Caste	52.6	46.6	37.1	0.5	6.1	0.3	0.1	2.4	0
Others	59.4	52.2	35.6	0.9	9.5	1	0	5	0.1
Wealth Index									
Lowest	43.1	38.6	32	1.4	4.3	0.3	0	0.7	0
Second	49.2	43.9	34.3	1.2	6	0.2	0.2	2	0
Middle	52.6	46.3	36.5	0.4	7.3	0.4	0.1	1.6	0
Fourth	61.1	53.5	35.4	0.4	11.9	0.4	0	5.4	0
Highest	64.1	52.9	26.5	1	11.4	2.1	0	11.7	0.3

Table 18 Current Use of Contraception in Orissa, 2005-06									
Background Characteristics	Any Method	Any Modern Method	Modern Methods						
			Female Sterilisation	Male Sterilisation	Pill	IUD	Injectables	Condom /Nirodh	Other Modern Method
2005-06 Total	50.7	44.7	33.1	1.0	7.0	0.5	0.1	3.0	0.0
1998-99 Total	46.8	40.3	33.9	1.7	3.0	0.8	NA	0.9	NA
1992-93 Total	36.3	34.7	28.3	3.4	0.9	1.5	0.0	0.6	NA

The current use of modern contraception by residence indicates that half of the married people between 15-49 years use modern method in urban areas which is slightly higher at 59.4% if both traditional and modern methods are counted. In rural areas, the current use of contraception stands at only 43.6%. Among the different modern methods, the female sterilisation is widely adopted by different caste groups, residence, education and wealth quintiles. The female sterilisation adopted by STs is little low i.e. 23.3% as compared to other caste groups. Hardly any use of male sterilisation is observed across various social and economic groups. Followed by female sterilisation, pill is used by married people between 15-49 years age group in Orissa.

Table 19 District wise use of modern contraception in Orissa, 2008		
District	Any Modern Method %	
	Total	Rural
Kandhamal	23.8	23.4
Baudh	25.7	24.3
Kalahandi	27.8	27.7
Gajapati	30.1	26.6
Malkanagiri	31.1	30.2
Nuapada	31.1	30.7
Nabarangapur	31.7	29.9
Debagarh	32.0	31.7
Sonapur	32.1	31.0
Nayagarh	33.1	33.4
Rayagada	33.1	28.8
Koraput	33.8	32.6
Angul	35.4	33.1
Kendrapara	35.6	35.2
Balangir	36.1	33.5
Ganjam	36.3	36.0
Keonjhar	36.5	36.0
Mayurbhanja	37.1	36.7
Sambalpur	39.0	33.9
Sundergarh	39.0	33.7

Table 19 District wise use of modern contraception in Orissa, 2008		
District	**Any Modern Method %**	
	Total	**Rural**
Jagatsinghpur	40.1	40.0
Jajpur	40.5	40.4
Bargarh	42.3	42.5
Jharsuguda	42.3	38.9
Khurda	43.3	40.0
Dhenkanal	43.5	44.2
Cuttack	46.1	46.6
Bhadrak	49.0	49.7
Puri	50.5	50.9
Baleswar	51.7	50.6
Source: DLHS, 2008		

An inter district analysis of the use of modern contraception indicates that there are three districts viz. Kandhmal, Baudh and Kalahandi where the percentage of use of modern contraception is much below 30%. As clear from Table 19 that in nine out of thirty districts in the state the percentage of use of modern contraception is between the ranges of 30% to 35%. Only four districts viz. Cuttack, Bhadrak, Puri and Baleswar have the use of modern contraception ranging between 45% to about 50% only (Table 19).

Table 20 Need For Family Planning among currently married women, 2005-06						
Background Characteristics	**Un-met Need for Family Planning**			**Total Demand For Family Planning**		
	For Spacing	**For Limiting**	**Total**	**For Spacing**	**For Limiting**	**Total**
Residence						
Rural	7	8.3	15.4	10.1	54.2	64.4
Urban	5.6	6.9	12.5	10.3	61.6	71.9
Caste / Tribe						
Scheduled Caste	6.6	7.8	14.5	12	53.5	65.5
Scheduled Tribe	7.7	10.1	17.8	9.6	43.3	52.9
Other Backward Caste	7.8	6.5	14.3	10.7	56.2	66.9
Others	5.6	8.4	14	9.1	64.2	73.3
Wealth Index						
Lowest	7.5	9.7	17.1	9.1	51.1	60.2
Second	5.2	7.8	13	7.7	54.5	62.1
Middle	8.7	8.7	17.5	13.8	56.3	70
Fourth	6	6.4	12.3	11.4	62	73.4
Highest	5.4	4.4	9.7	11	62.8	73.8

Table 20 Need For Family Planning among currently married women, 2005-06						
Background Characteristics	Un-met Need for Family Planning			Total Demand For Family Planning		
	For Spacing	For Limiting	Total	For Spacing	For Limiting	Total
Total	6.8	8.1	14.9	10.2	55.5	65.6
Source: NFHS, 2005-06						

Apart from use of contraception, statistics on the **Unmet Need** for family planning is presented in Table 21 which is an important indicator for assessing the potential demand for family planning services. Currently married women who are not using any method of contraception but who do not want any more children are defined as having an unmet need for Limiting and those who are not using contraception but want to wait two or more years before having another child are defined as having an unmet need for spacing. The sum of the unmet need for limiting and the unmet need for spacing is the unmet need for family planning.

Table 21 District wise Need For Family Planning among currently married women in Orissa, 2008						
District	Total Unmet need %		For Spacing (%)		For Limiting (%)	
	Total	Rural	Total	Rural	Total	Rural
Sonapur	37.4	38.4	11.5	11.9	25.9	26.5
Kalahandi	34.9	34.8	14.2	14.3	20.7	20.5
Nuapada	32.5	32.6	16.2	16.6	16.3	16.0
Debagarh	32.3	32.5	9.0	9.3	23.3	23.2
Kendrapara	31.2	31.4	7.6	8.0	23.6	23.4
Bargarh	30.1	30.2	10.7	11.3	19.4	18.9
Ganjam	30.1	31.0	10.9	11.3	19.2	19.7
Balangir	28.8	29.9	10.9	11.3	17.9	18.6
Jharsuguda	28.3	31.4	8.1	8.0	20.2	23.4
Kandhamal	27.8	28.7	11.1	11.4	16.7	17.3
Sambalpur	27.7	31.5	9.0	10.9	18.7	20.6
Khurda	27.2	30.7	7.9	9.6	19.3	21.1
Sundergarh	27.1	30.6	8.8	10.3	18.3	20.3
Nabarangapur	26.5	27.2	14.5	14.9	12.0	12.3
Rayagada	26.5	28.2	13.9	15.2	12.6	13.4
Jagatsinghpur	25.9	25.6	5.3	5.1	20.6	20.5
Jajpur	25.0	25.6	5.7	5.9	19.3	19.7
Dhenkanal	24.2	24.4	5.9	5.8	18.3	18.6
Malkanagiri	24.0	24.9	11.1	11.4	12.9	13.5
Angul	23.9	24.9	5.6	5.8	18.3	19.1
Nayagarh	23.8	24.4	7.8	8.1	16.0	16.3
Koraput	23.7	25.1	12.0	13.5	11.7	11.6
Keonjhar	22.8	22.9	8.5	8.7	14.3	14.2
Bhadrak	22.3	23.2	5.1	5.2	17.2	18.0

Table 21 District wise Need For Family Planning among currently married women in Orissa, 2008						
District	Total Unmet need %		For Spacing (%)		For Limiting (%)	
	Total	Rural	Total	Rural	Total	Rural
Cuttack	22.1	22.4	6.2	6.2	15.9	16.2
Mayurbhanja	21.3	21.9	8.2	8.8	13.1	13.1
Puri	20.9	22.5	6.2	6.9	14.7	15.6
Baudh	20.3	23.7	15.5	16.1	22.4	22.8
Baleswar	18.2	18.7	6.4	7.0	11.8	11.7
Gajapati	12.1	12.6	4.6	4.7	7.5	7.9
Source: DLHS, 2008						

As clear from table 21 and also the common knowledge, the unmet need of currently married women in rural areas (15.4) is higher than the urban areas (12.5). Both in rural and urban areas, there is greater demand for limiting as compared to spacing among the currently married women. Comparing the demand vs. unmet need, it is clear that the STs in comparison to other caste groups have more unmet need (17.8) as against their demand (52.9) for family planning. Similar is the case with lowest and middle economic group in the wealth index given in Table 21, they have higher unmet need for family planning i.e. 17.1 and 17.5 respectively. An inter district analysis of DLHS data of year 2008 shows that in seven out of thirty districts in Orissa VIZ. Sonepur, Kalahandi, Nuapada, Debagarh, Kendrapara, Bargarh and Ganjam, the unmet need for family is more than two times of the state average.

1.5.8 Status of Health Care

In this section, an attempt has been made to analyse the extent of availability and accessibility of health care provisions made available in the state. Table 22 shows that in Orissa highest percentages of people in rural (78.8%) and urban (62.2%) areas are dependent on public medical sector followed by private medical sector (19.9% in rural areas and 37.3% in urban areas). Comparison between rural and urban residents indicates that greater percentage of rural residents depend on public medical sector over urban residents where as more percentage of urban residents depends on private medical sector over rural residents. Wealth quintile wise break-up indicates that people in the lowest wealth quintiles depend more on public medical sector. However, a decreasing trend is observed from lowest to highest wealth quintiles with regard to dependence on public medical sector. The trend is found just reverse in case of dependence on private medical sector i.e. a decreasing trend is observed from highest to lowest wealth quintiles with regard to dependence on private medical sector.

Table 22 Source of Health Care in Orissa, 2005-06								
Sources	Residence		Wealth Index					
	Urban	Rural	Lowest	Second	Middle	Fourth	Highest	Total
Public Medical Sector	62.2	78.8	80	76.6	76.6	73.3	58.9	76
Government/Municipal Hospital	39.7	12.4	15.3	15	15.1	20.1	27.9	16.9

Table 22 Source of Health Care in Orissa, 2005-06

Sources	Residence		Wealth Index					
	Urban	Rural	Lowest	Second	Middle	Fourth	Highest	Total
Government Dispensary	2.6	2.5	3.2	1.8	1	2.5	3.8	2.5
UHC/UHP/UFWC	0.3	0.2	0.3	0.2	0.1	0.6	0	0.2
CHC/Rural Hospital/PHC	14.3	60.8	57.7	55.9	58	47.8	22.1	53
Sub-Centre	0	1.2	1.1	1.5	1.1	0.5	0	1
Anganwadi / ICDS Centre	0	1.8	2.4	1.7	0.2	0.5	0	1.5
Other Public Medical Sector	5.4	0	0.1	0.5	1.2	1.2	5	0.9
NGO or Trust Hospital / Clinic	0.1	0	0	0	0	0	0.2	0
Private Medical Sector	37.3	19.9	18	22.1	23.4	26.5	40.7	22.8
Private Hospital	3.2	1.4	1	1.8	1.6	2.6	3.3	1.7
Private Doctor/Clinic	29.4	12.7	11.1	15.5	15.3	17.7	33.5	15.5
Private Paramedic	0	0.5	0.2	1.1	0.4	0.8	0	0.5
Vaidya/Hakim/Homeopath	1.7	0.9	1.1	0.2	1.1	1.4	2.3	1
Traditional Healer	0.1	0.8	1.5	0	0.1	0	0	0.7
Pharmacy/Drugstore	1.4	2.3	2	2.2	2.6	2.5	1.3	2.1
Dai/TBA	0	0.1	0.1	0.2	0	0	0	0.1
Other Private Medical Sector	1.4	1.3	1.1	1.2	2.3	1.5	0.3	1.3
Other Source	0.2	0.3	0.6	0.2	0	0	0	0.3
Home Treatment	0.2	0.3	0.6	0.2	0	0	0	0.3
Other	0.3	0.8	1.1	1	0	0	0.3	0.7

Source: NFHS, 2005-06

In the rural areas, the main provider of health care among the public medical sector is PHC/CHC. About 60.8% people in rural areas depend on PHC/CHC for health care. In urban areas, maximum i.e. 39.7% access Government / Municipal Hospital among the public medical sector and 29.4% access private clinics/doctors among the private medical sector for health care treatment. Only 12.4% in rural areas visit municipal hospital located in the district headquarter for availing health care.

The present report has also tried to present in Table 23 the district wise variations in the percentage of children who were given treatment for diarrhoea and ARI. Table 23 shows that lowest percentages of children in Nabarangpur district were given diarrhoea (0.0%) and ARI (15.8%) treatment. Districts like Jagatsinghpur and Puri where highest percentages of children were given treatment for diarrhoea (87.8%) and ARI respectively (81.1%).

Table 23	District wise children with diarrhea and ARI who were given treatment in Orissa, 2008				
District	Children with diarrhea in the last two weeks who were given treatment (%)		District	Children with acute respiratory infection / Fever in the last two weeks who were given treatment (%)	
	Total	Rural		Total	Rural
Jagatsinghpur	87.8	87.8	Puri	81.1	80.2
Malkanagiri	86.5	86.5	Khurda	79.7	77.5
Gajapati	81.8	74.2	Baleswar	79.5	80.0
Baleswar	76.3	71.0	Sonapur	79.2	78.7
Balangir	75.7	73.1	Mayurbhanja	74.0	73.9
Bhadrak	75.5	75.5	Jajpur	73.7	74.3
Puri	74.9	77.7	Bhadrak	72.2	71.8
Nayagarh	70.2	70.2	Malkanagiri	70.7	70.7
Sonapur	70.2	70.2	Kendrapara	70.2	70.5
Keonjhar	69.9	67.2	Cuttack	70.0	68.2
Bargarh	67.3	66.3	Jagatsinghpur	69.9	68.3
Rayagada	66.3	67.6	Jharsuguda	67.0	80.4
Kendrapara	64.9	65.7	Ganjam	66.9	65.8
Ganjam	63.3	59.8	Nuapada	66.4	66.4
Angul	62.4	62.0	Gajapati	66.0	66.0
Mayurbhanja	61.7	57.1	Sambalpur	60.9	57.8
Cuttack	55.8	49.5	Baudh	59.1	59.1
Sundergarh	55.6	57.9	Nayagarh	57.1	57.8
Sambalpur	54.6	53.5	Dhenkanal	54.0	54.8
Debagarh	54.5	53.4	Kalahandi	53.9	50.4
Jajpur	54.5	54.5	Koraput	51.8	46.8
Kandhamal	53.6	52.6	Bargarh	51.5	52.2
Jharsuguda	53.0	63.7	Keonjhar	51.1	51.2
Nuapada	52.6	52.6	Rayagada	48.3	47.6
Kalahandi	51.5	49.9	Angul	48.0	44.8
Baudh	48.3	48.3	Sundergarh	45.3	44.0
Dhenkanal	45.6	47.7	Debagarh	41.6	40.2
Khurda	40.9	46.3	Kandhamal	41.3	39.9
Koraput	38.8	36.3	Balangir	30.6	30.6
Nabarangapur	0.0	0.0	Nabarangapur	15.8	15.8
Source: DLHS, 2008					

Figure 16 % of Households in which at least one member is covered by a health scheme or insurance in Orissa, 2005-06

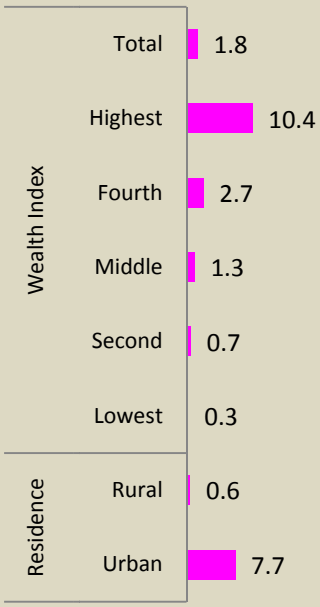
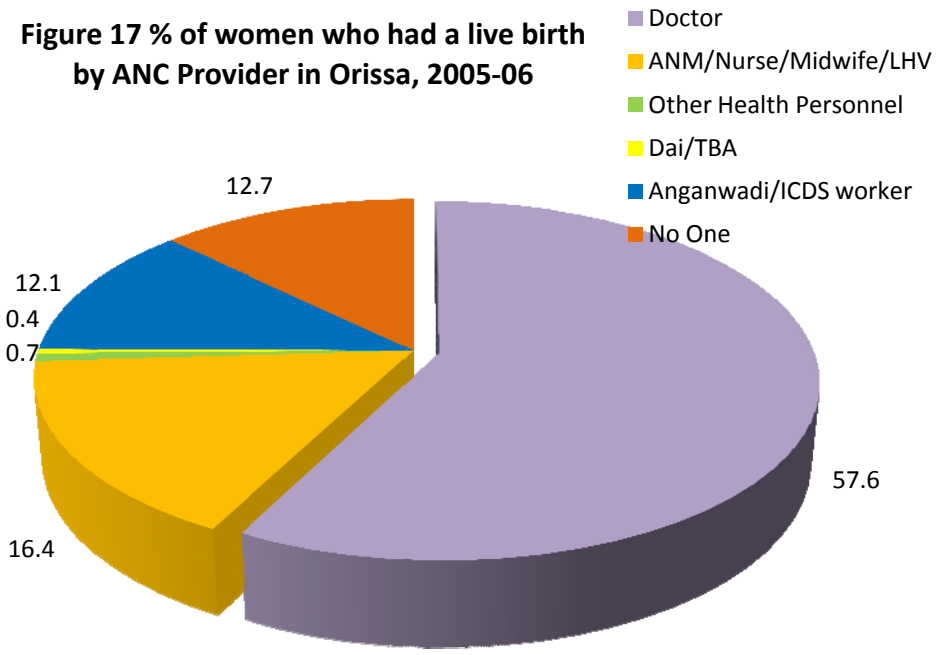


Figure 16 shows that a very negligible percentage of households in rural areas (0.6%) have been covered by a health scheme/insurance which is slightly high in urban areas (7.7%). Contrary to the need, maximum i.e. 10.4% households in the highest wealth quintiles have been linked with a health scheme/insurance in comparison to only 0.3% households in lowest wealth quintiles linked with a health scheme.

Figure 17 % of women who had a live birth by ANC Provider in Orissa, 2005-06



About 12.7% women had a live birth without the assistance of any Antenatal Care (ANC) provider. Little more than the same i.e. 16.4% had to take assistance of local Dai/TBA for a live birth. About 12.1% took assistance of AWW for a live birth who is not a trained person for conducting the deliveries. On the other side, maximum i.e. 57.6% in the state had a live birth by a doctor. However, 41% women manage their own source or sources available in their village for conducting the deliveries which could be the factor for high IMR and MMR status of the state.

Table 24 Women who had a live birth assisted by a ANC provider in Orissa						
Background Characteristics	**Doctor**	**ANM/Nurse /Midwife/LHV**	**Other Health Personnel**	**Dai/TBA**	**Anganwadi / ICDS Worker**	**No One**
Residence						
Urban	82.3	6.3	0.9	0	4.3	6.3
Rural	53.2	18.2	0.7	0.5	13.5	13.9
Education						
No Education	31.8	24.5	1.4	1	21.4	20
<5 years of complete	67.4	12.4	0	0	9.8	10.5
5-9 years complete	75.9	12.2	0.5	0	4.6	6.9
10 or more years complete	93.4	3	0	0	0	3.6
Caste/Tribe						
Scheduled Caste	52.9	19	1.2	0	14.2	12.8
Scheduled Tribe	25.8	27.3	0.2	0.7	23.9	22.1
Other Backward Caste	68.9	13.1	1.3	0.7	6.4	9.6
Others	80.1	7.6	0.5	0.3	4.7	6.8
Wealth Index						
Lowest	36.1	25.6	0.7	0.4	18.4	18.7
Second	58.3	14.6	0.4	0.9	12.7	13.1
Middle	73.2	10	0.5	0.5	8.2	7.5
Fourth	84.2	5.9	0.7	0	1.8	7.4
Highest	94.8	2.1	2.1	0	1	0
Source: NFHS, 2005-06						

As clear from Table 24 that greater percentage of women in ST (i.e. 22.1%) and in lowest wealth quintiles (i.e. 18.7%) had a live birth without any ANC provider. Almost similar percentages i.e. 23.9% in STs and 18.4% in lowest wealth quintiles had a live birth with the assistance of AWW who is not a trained person for conducting deliveries.

Figure 18 ANC Services and Information Received in Orissa, 2005-06

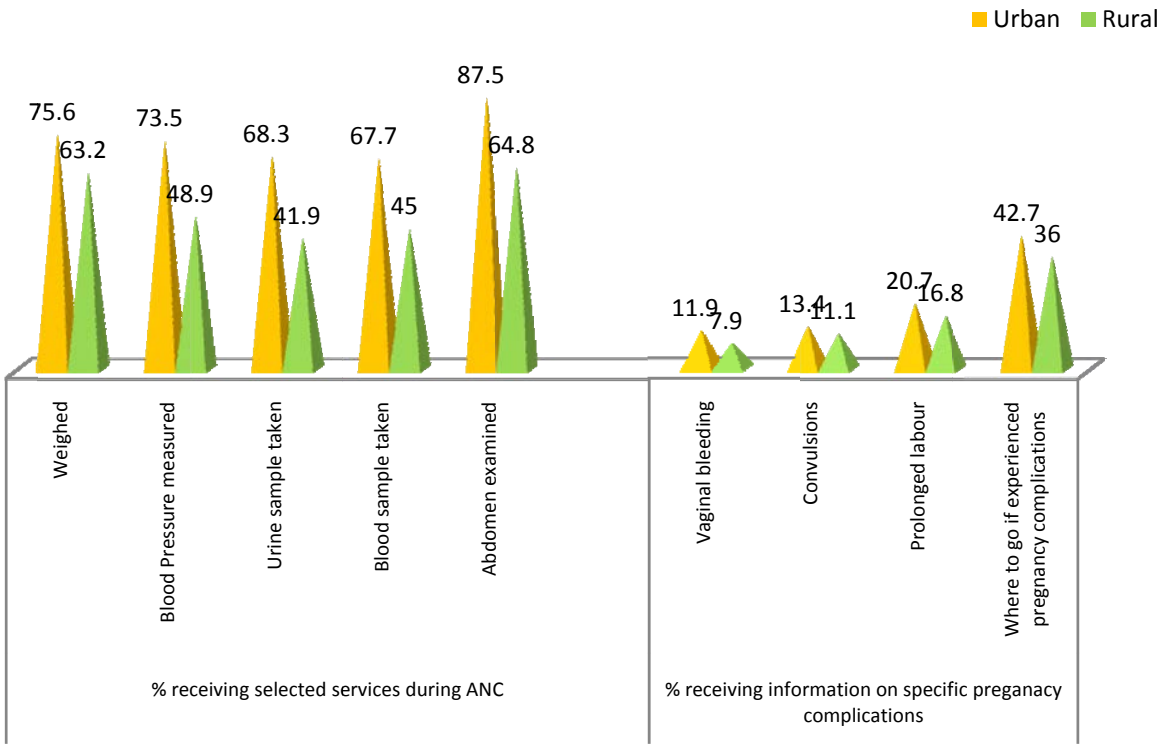


Figure 18 shows that the abdomen check-up of only 64.8% women was done followed by 63.2% women were weighed during pregnancy in rural areas. More percentage i.e. 87.5% and 75.6% of women had abdomen check-up and were weighed in urban areas respectively. Urine and blood sample were taken of 41.9% and 45% women during pregnancy respectively in the rural areas. The blood pressure of only half of the women in rural areas was measured during pregnancy.

Table 25 Source of ANC Received, 2005-06

Services / Information	Source of ANC				
	Public Sector	Private NGO Sector	Both Public and Private/NGO sector	ANC Received only at home	Total
% receiving selected services during ANC					
Weighed	62.5	83.1	70.6	42.4	65.2
Blood Pressure measured	47	86.1	62.6	24.2	52.9
Urine sample taken	40.9	74.8	62.6	13.1	46.1
Blood sample taken	43	77.4	61.8	25.3	48.6
Abdomen examined	63.8	90.7	84.9	47.4	68.4
% receiving information on specific pregnancy complications					
Vaginal bleeding	7.7	9.3	22.2	1	8.5

Table 25 Source of ANC Received, 2005-06					
Services / Information	**Source of ANC**				
	Public Sector	**Private NGO Sector**	**Both Public and Private/NGO sector**	**ANC Received only at home**	**Total**
Convulsions	11.8	10.3	15.8	5	11.5
Prolonged labour	17	19.9	23	10.1	17.5
Where to go if experienced pregnancy complications	35.6	44.7	42	31.3	37.1
Source: NFHS, 2005-06					

In total 65.2% women were weighed. Abdomen check-up of 68.4% was done. The Blood pressure measured (52.9%) and urine (46.1%) and blood samples (48.6%) were taken for only half of the women during pregnancy. Regarding information received on specific pregnancy complications, only 8.5%, 11.5% and 17.5% women were informed about vaginal bleeding, convulsions and prolonged labour respectively. Maximum i.e. 37% women were communicated on where to go if experienced pregnancy complications.

Also clear from the Table 25 that in comparison to public sector the private/NGO sector has played a major role in providing selected ANC services such as weighing, blood pressure check-up, urine and blood sample taken and abdomen examined. With regard to informing people about the pregnancy complications, the private sector has contributed better over the public sector.

Table 26 ANC Indicators of Orissa, 2005-06				
Background Characteristics	**% who had 3 or more ANC visits**	**% who received 2 or more TT injections during the pregnancy**	**% who were given IFA or bought IFA**	**% who took IFA for at least 90 days**
Residence				
Urban	77.4	89.1	84.6	41.4
Rural	59.1	82.3	82.8	32.5
Education				
No Education	45.1	74.4	75.7	25.8
<5 years of complete	63.3	83.9	82.8	28.9
5-9 years complete	73.8	91	88.3	34.3
10 or more years complete	89	95.6	96.2	61.5
Caste/Tribe				
Scheduled Caste	58.6	88.2	85.8	27

Table 26 ANC Indicators of Orissa, 2005-06				
Background Characteristics	**% who had 3 or more ANC visits**	**% who received 2 or more TT injections during the pregnancy**	**% who were given IFA or bought IFA**	**% who took IFA for at least 90 days**
Scheduled Tribe	46	73.3	76.6	31.6
Other Backward Caste	66.3	87.4	85.6	37.8
Others	74.4	86.6	84.9	36.9
Wealth Index				
Lowest	47.6	78.2	76.6	25.9
Second	64.4	80.8	84.7	31.5
Middle	67	87.7	89	33.3
Fourth	79	90.8	86.1	42.7
Highest	92.8	95.9	95.9	68
Total	**61.8**	**83.3**	**83.1**	**33.8**
Source: NFHS, 2005-06				

To know details about the degree of ANC health care made available or accessed by people, the data from NFHS for the year 2005-06 are presented in Table 26. As per the same, only 61.8% women had three or more ANC visits during pregnancy. Further break-up of this figure indicates that only 46% STs and 58.6% SCs had three or more ANC visits as compared to OBC (66.3%) and other castes (74.4%). Among the people in the lowest wealth quintiles, only 47.6% had three or more ANC visits as compared to 92.8% in case of women belong to highest wealth quintiles. From this, it is clear that wide disparity exists by caste and wealth quintiles with regard to women who had three or more ANC visits. Similar is the case with the people residing in rural and urban areas. As against 77.4% who had three or more ANC visits in urban areas, only 59.1% had the same in rural areas.

Unlike ANC, 83.3% women received 2 or more TT injections. However, the percentage among STs and among the lowest wealth quintiles is only 73.3% and 78.2% respectively as compared to other castes and other wealth quintiles. Table 26 also shows the disparity between STs and other caste groups; and between lowest and other wealth quintiles with regard to who were given IFA or bought IFA, although the overall percentage (83.1%) shows somewhat satisfying result. But very low percentage i.e. 33.8% consumed at least IFA for 90 days which is only 25.9% in cases of women in the lowest wealth quintiles and 27% and 31.6% in case of SC and ST respectively. From this finding, one would clearly make that although IFA health care service is made available to the women but the same is not utilised for which the service is delivered.

Table 27 District wise status of ANC visits and TT injection in Orissa, 2008

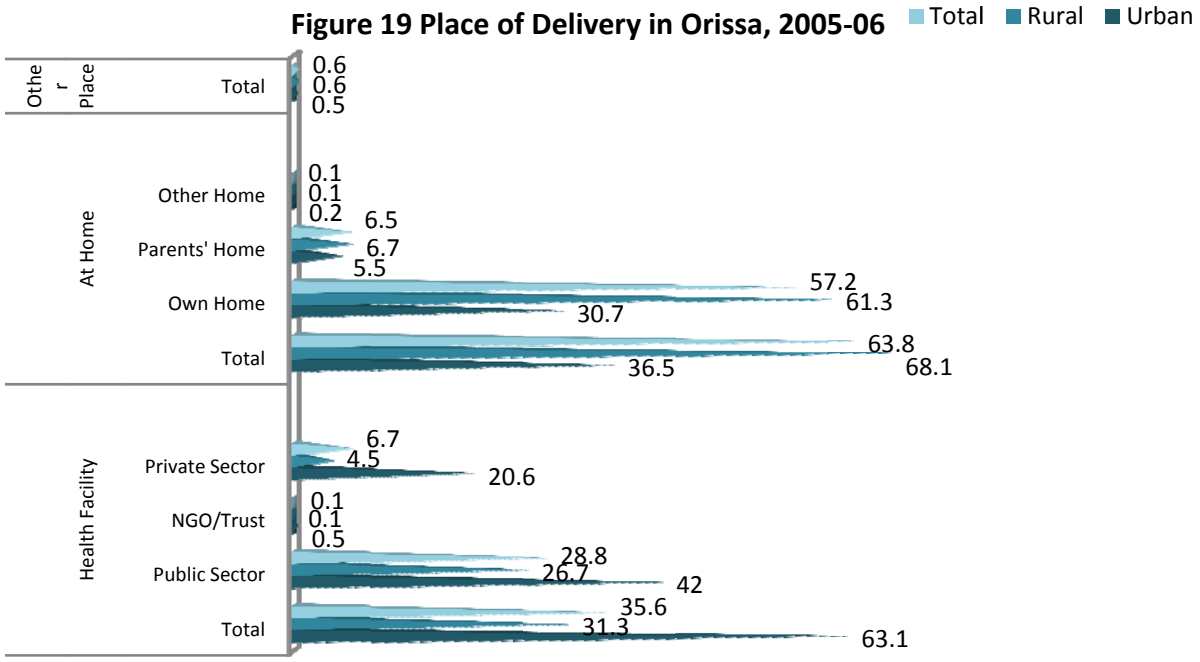
District	Mothers who had at least 3 Ante-Natal Care visit during the pregnancy (%)		District	Mothers who got at least one TT injection when they were pregnant with their last live birth/ still birth (%)	
	Total	Rural		Total	Rural
Malkanagiri	41.9	41.1	Angul	91.2	89.7
Balangir	50.2	51.4	Debagarh	93.6	93.9
Kandhamal	52.9	50.5	Gajapati	95.9	97.1
Koraput	53.1	48.1	Kalahandi	96.4	96.1
Nayagarh	55.6	54.6	Sundergarh	96.7	96.6
Keonjhar	56.8	56.1	Keonjhar	96.8	97.2
Baudh	58.5	57.5	Rayagada	96.8	96.6
Nuapada	59.4	58.7	Bargarh	96.9	97.4
Rayagada	59.4	56.9	Khurda	96.9	97.7
Debagarh	60.2	58.4	Malkanagiri	96.9	96.8
Angul	60.4	55.4	Nayagarh	97.1	97.0
Kalahandi	61.4	61.6	Jharsuguda	97.3	99.1
Sundergarh	64.1	58.4	Koraput	97.3	97.0
Bargarh	64.3	62.8	Ganjam	97.7	97.6
Bhadrak	64.7	63.4	Bhadrak	97.9	97.6
Dhenkanal	64.8	62.2	Cuttack	98.0	97.5
Kendrapara	64.9	63.1	Sambalpur	98.0	97.6
Jharsuguda	65.8	64.4	Dhenkanal	98.9	98.8
Ganjam	66.0	62.2	Mayurbhanja	99.0	98.9
Mayurbhanja	66.0	64.9	Nabarangapur	99.0	99.0
Sambalpur	67.4	58.0	Kandhamal	99.1	99.6
Baleswar	67.6	64.4	Sonapur	99.1	99.1
Jajpur	67.7	67.5	Baudh	99.2	99.5
Sonapur	71.0	69.6	Kendrapara	99.2	99.1
Gajapati	71.8	68.0	Puri	99.2	99.1
Puri	72.0	71.2	Baleswar	99.4	99.3
Nabarangapur	72.8	72.1	Nuapada	99.4	99.4
Cuttack	73.5	69.1	Jajpur	99.6	99.6
Khurda	75.9	69.1	Balangir	100.0	100.0
Jagatsinghpur	86.4	86.0	Jagatsinghpur	100.0	100.0

Source: DLHS, 2008

District wise break-up of ANC status shows, in tribal dominated districts like Malkangiri, Bolangir, Kandhmal and Koraput lowest percentages of mothers had at least 3 ANC visits where as the districts in the coastal part of the state viz. Jagatsinghpur, Khurda and Cuttack more percentages of mothers had three ANC visits. Accessibility, education and better economic status of inhabitants in the coastal belt could be some of the factors for the same. Percentage of mothers who got at least one TT injection is

above 95% across all districts in the state. However, the percentage goes down to below 80% (as seen in the previous Table 27) if two TT injection during pregnancy is taken into account.

Figure 19 Place of Delivery in Orissa, 2005-06



The major thrust of Reproductive and Child Health Programme is to encourage deliveries in proper hygienic conditions under the supervision of trained health professionals. With regard to place of delivery, almost 64% births take place at home and only 36% births take place in a health facility. The percentage of birth taking place at home in rural areas is as high as 68.1% as compared to only 36.5% in urban areas. On the other side, although 63.1% births in the urban areas take place in a health facility the percentage is as low as only 31.3% in rural areas.

Figure 20 Assistance During Delivery in Orissa, 2005-06

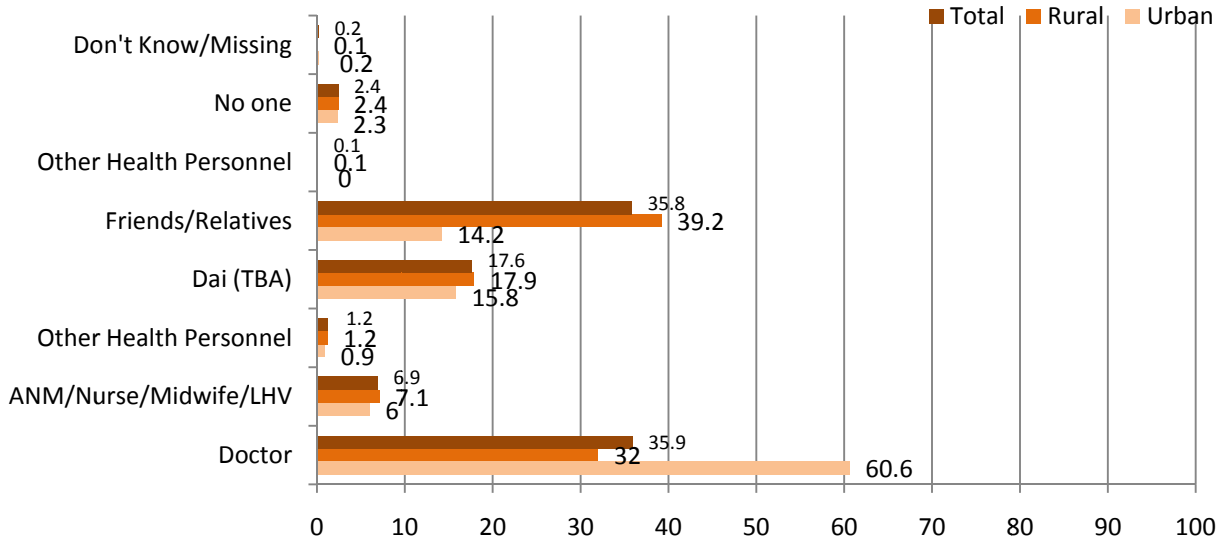


Figure 21 indicates a clear association between the place of delivery and assistance taken during delivery. Since maximum percentage of births in rural areas take place at home, as per figure 21 only 32% births are likely to be assisted by a doctor in the rural areas. On the contrary, about 39% and 18% births are likely to be assisted by friends/relatives and Dai/TBA respectively. In total, the delivery assisted by a skilled provider in rural areas is only 40.3% as against 67.4% in urban areas. From this analysis it is clear that the outreach of health care services particularly in reference to deliveries at health facilities or by a skilled provider is very low as compared to urban areas. Therefore, wide disparity in terms of outreach of health care services between rural and urban areas is visible. In other words, the benefits of health care resources have reached in-equitably to the people. As per the statistics, people those who need most have received less service.

Figure 21 Delivery Attended by a Skilled Provider in Orissa, 2005-06

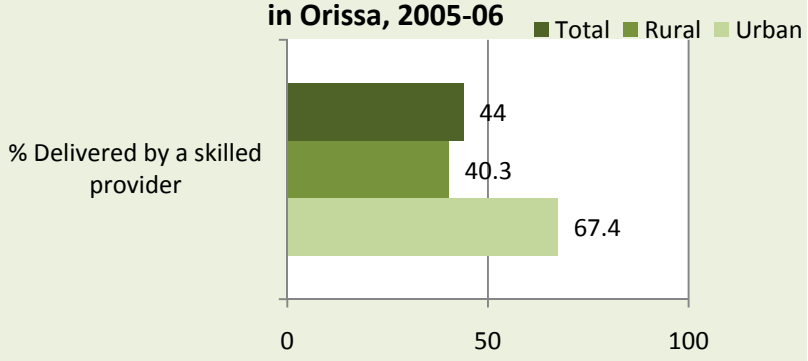


Table 28	Delivery and Post-Natal Care in Orissa, 2005-06		
Background Characteristics	**% of births delivered in a health facility**	**% of deliveries assisted by health personnel**	**% of women with a post-natal check-up**
Residence			
Urban	63.1	67.4	56
Rural	31.3	40.3	38.2
Education			
No Education	14.3	22	25.2
<5 years of complete	43.1	47.8	45.3
5-9 years complete	51.4	62.7	48.5
10 or more years complete	73.6	81.5	70.9
Caste/Tribe			
Scheduled Caste	30.2	39.1	37.3
Scheduled Tribe	11.7	17.3	25.5
Other Backward Caste	40.6	53.6	42.7
Others	60.4	66.9	56.5

Table 28	Delivery and Post-Natal Care in Orissa, 2005-06		
Background Characteristics	**% of births delivered in a health facility**	**% of deliveries assisted by health personnel**	**% of women with a post-natal check-up**
Wealth Index			
Lowest	15	23.2	28.1
Second	31.9	40.4	36.3
Middle	54.2	62.4	45.3
Fourth	66	77.5	62.9
Highest	86.1	90.1	76.7
Total	**35.6**	**44**	**40.9**
Source: NFHS, 2005-06			

This is further clear from the Table 28 that as low as 11.7% births in STs take place in health facilities and 17.3% of their births are likely to be assisted by health personnel as compared to 60.4% and 66.9% in case of other castes respectively. Likewise, only 15% births of lowest wealth quintiles as against 86.1% births of highest wealth quintile take place in a health facility. As low as 23.2% births of lowest wealth quintile as against 90.1% births of highest wealth quintile are likely to be assisted by health personnel. Not only STs, the case is also same for the SCs in the state. The state machineries need to look into such disparities and ponder on the reasons of in-equitable benefit that they provide in terms of health care services to the people of Orissa.

Table 29	District wise status of institutional birth and delivery assisted by a health personnel in Orissa, 2008				
District	**Institutional birth (%)**		**District**	**Delivery at home & other places assisted by a Doctor/ Nurse/ LHV/ ANM (%)**	
	Total	**Rural**		**Total**	**Rural**
Malkanagiri	14.8	14.0	Malkanagiri	0.7	0.7
Nabarangapur	15.9	14.1	Koraput	2.2	2.2
Rayagada	18.1	14.1	Kandhamal	2.4	2.4
Koraput	19.1	11.6	Nabarangapur	3.8	3.8
Gajapati	19.9	16.3	Rayagada	4.1	4.0
Kandhamal	25.3	24.1	Mayurbhanja	4.6	4.7
Kalahandi	27.3	24.8	Baleswar	6.9	7.7
Baudh	28.7	28.3	Keonjhar	6.9	6.1
Nuapada	28.7	27.8	Bhadrak	7.6	7.2
Keonjhar	34.3	33.3	Gajapati	8.1	7.3
Angul	40.7	35.4	Nayagarh	8.3	8.3
Sonapur	41.0	40.3	Ganjam	8.6	6.5
Bhadrak	42.8	41.7	Jajpur	8.6	8.7
Mayurbhanja	43.0	40.3	Cuttack	9.3	10.9

Table 29	District wise status of institutional birth and delivery assisted by a health personnel in Orissa, 2008				
District	Institutional birth (%)		District	Delivery at home & other places assisted by a Doctor/ Nurse/ LHV/ ANM (%)	
	Total	Rural		Total	Rural
Bargarh	43.6	42.3	Dhenkanal	10.9	11.2
Nayagarh	44.1	42.6	Angul	11.5	11.3
Debagarh	44.4	40.2	Sundergarh	12.7	14.4
Sundergarh	45.6	34.1	Baudh	12.9	12.6
Dhenkanal	46.9	44.1	Puri	15.7	15.7
Kendrapara	46.9	45.7	Jagatsinghpur	15.8	16.7
Balangir	52.1	48.9	Debagarh	18.7	19.0
Baleswar	52.4	49.2	Balangir	20.0	23.5
Ganjam	55.4	51.0	Kendrapara	20.8	21.3
Sambalpur	56.6	45.8	Kalahandi	21.0	20.8
Jajpur	61.5	61.3	Khurda	23.0	25.5
Puri	63.8	61.3	Nuapada	23.6	24.0
Jharsuguda	65.1	57.8	Sonapur	26.3	27.0
Cuttack	68.2	65.1	Sambalpur	28.6	27.4
Khurda	70.7	63.8	Bargarh	40.2	39.6
Jagatsinghpur	79.8	79.5	Jharsuguda	40.7	40.0
Source: DLHS, 2008					

Apart from socio-economic disparity, there is greater disparity observed between districts with regard to institutional birth and delivery assisted by health personnel (Table 29). The institutional birth in districts which are demarcated by the constitution of India as scheduled area viz. Malkangiri, Nabarangpur, Koraput, Rayagada and Gajapati is below 20% where as in district like Jagatsinghpur almost 80% institutional birth was recorded. The percentage of Delivery at home & other places assisted by a Doctor/ Nurse/ LHV/ ANM in districts viz. Malkangiri, Nabarangpur, Koraput, Rayagada, Mayurbhanj, etc. is even below 5% which clearly portrays the in-equitable health care delivery in the state.

Table 30	Trends in Maternal Care indicators								
Indicators	Urban			Rural			Total		
	2005-06	1998-99	1992-93	2005-06	1998-99	1992-93	2005-06	1998-99	1992-93
% who received ANC	94.8	87.7	79.9	86.3	79.7	62	87.4	80.5	64.4
% who had at least 3 ANC Visits	79.2	60.8	55.7	58	46.6	31.5	60.9	48	34.9
% who received ANC within the first trimester of pregnancy	68	50	37.3	44.3	32.3	19.1	47.5	34.1	21.6
% of births delivered in a health Facility	65.4	54.7	41.5	34.6	19	9.5	38.8	22.6	14

Table 30 Trends in Maternal Care indicators

Indicators	Urban			Rural			Total		
	2005-06	1998-99	1992-93	2005-06	1998-99	1992-93	2005-06	1998-99	1992-93
% of deliveries assisted by health Personnel	68.9	61	49.4	43	30.3	15.9	46.5	33.4	20.6

Source: NFHS

Although the year wise comparison of data presented in Table 30 on key maternal indicators shows that the government has made significant stride from year to year with regard to providing maternal care services, lot more has to be done in bridging the disparities or in-equities existing between different socio-economic groups.

Table 31 Immunization coverage in Orissa, 2005-06

Background Characteristics	BCG	DPT			Polio				Measles	All Basic Vaccinations	No Vaccination
		1	2	3	0	1	2	3			
Residence											
Urban	81.3	79.1	73.6	64.8	51.6	81.3	75.8	69.2	58.2	52.7	16.5
Rural	84	84.4	78.3	68.4	36.1	86.5	81.1	64.3	68	51.6	10.7
Education											
No Education	74.8	74.4	63.2	50.8	26.8	78.4	68.8	52.8	52	35.2	17.2
<5 years of complete	83.2	83.2	77.6	67.7	32.5	86	81.8	63.5	62.1	42.3	14
5-9 years complete	91.4	90.8	90.2	82.9	44.7	92	89.6	75.5	80.4	70	6.1
10 or more years complete	93.7	95.8	93.7	87.4	63.1	93.7	93.7	81	84.2	71.6	4.2
Caste/Tribe											
Scheduled Caste	88.7	96.3	88.7	78.4	44.3	93.4	91.6	73.6	74.7	59.5	3.7
Scheduled Tribe	71	63.5	53.3	43.2	18.9	72.3	60.8	47.3	45.2	30.4	22.3
Other Backward Caste	91.9	95.6	91.9	78.7	39.9	96.9	91.3	72.5	74.4	59.4	3.1
Others	82.8	81	77.1	71.4	52.2	80.9	79	68.2	72.7	58	15.9
Wealth Index											
Lowest	81.3	78.2	69.3	56.8	29.6	82.5	74.7	55.2	56.4	38.5	12.8
Second	78.5	87.3	80.4	75.5	34.3	88.3	84.4	71.6	71.6	56.9	10.7
Middle	89.8	88.8	88.8	76.6	34.7	89.8	85.8	75.6	79.7	68.5	10.2
Fourth	83.1	84.7	83.2	80.2	55.4	86.2	84.7	69.3	74	60.2	13.8
Highest	93.1	91.3	84.2	75.4	73.7	87.8	84.2	75.4	71.9	64.9	6.9
2005-06 Total	**83.6**	**83.6**	**77.6**	**67.9**	**38.5**	**85.7**	**80.3**	**65.1**	**66.5**	**51.8**	**11.6**
1998-99 Total	**84.7**	**80.1**	**74.8**	**61.9**	**14.6**	**88.7**	**84.8**	**68.4**	**54.0**	**43.7**	**9.4**
1992-93 Total	**63.3**	**69.0**	**63.6**	**56.3**	**2.2**	**70.3**	**64.8**	**56.7**	**40.2**	**36.1**	**28.0**

Source: NFHS

Similar results of disparities are also found with regard to vaccination of children by castes, by education and by wealth quintiles. Highest wealth quintiles (64.9%) are more likely to be vaccinated as compared to children in the lowest wealth quintiles (38.9%). Likewise ST children (30.4%) are less likely to be vaccinated as compared to children from OBC (59.4%) and other caste group (58%).

Table 32 District wise immunization coverage in Orissa, 2008

District	Children (12 - 23 months) fully immunized (BCG, 3 doses each of DPT, and Polio and measles) (%)		Children (12 - 23 Months) Who have received BCG (%)		Children (12 - 23 Months) Who have received 3 doses 0f Polio Vaccine (%)		Children (12- 23 Months) Who have received 3 doses of DPT Vaccine (%)		Children (12 - 23 Months) Who have received Measles Vaccine (%)		Children (9 - 35 Months) Who have received at least one dose of Vitamin A (%)		Children (above 21 Months) Who have received 3 doses of Vitamin A (%)	
	Total	Rural	Total	Rural	Total	Rural	Total	Rural	Total	Rural	Total	Rural	Total	Rural
Rayagada	26.8	24.0	88.3	86.7	44.5	41.5	42.0	36.6	63.2	61.2	52.5	50.1	21.1	17.8
Malkanagiri	35.1	36.4	96.8	98.5	46.5	44.5	45.8	45.6	81.2	80.5	51.2	52.7	7.2	6.0
Nabarangapur	38.2	37.5	93.7	93.7	62.3	63.0	59.4	59.0	78.7	78.4	54.3	54.0	16.6	15.8
Balangir	40.7	38.9	91.9	91.6	78.4	77.7	73.8	73.0	76.6	75.9	88.3	93.5	41.4	51.8
Gajapati	42.9	45.0	72.7	71.4	59.9	57.9	51.8	52.9	60.7	60.5	43.7	42.9	7.3	3.5
Kalahandi	43.2	42.7	82.6	84.2	59.3	58.1	50.7	50.3	68.3	67.7	72.0	71.7	35.8	34.4
Ganjam	44.1	42.4	83.2	82.4	60.3	59.4	60.6	61.5	65.9	67.8	55.2	55.0	14.0	11.4
Baudh	44.5	44.5	91.1	91.1	70.9	70.9	65.0	65.0	80.9	80.9	76.9	76.6	30.7	31.8
Nayagarh	49.2	48.8	96.9	96.8	72.0	71.8	60.9	60.6	68.0	67.8	63.0	62.6	25.9	25.3
Kandhamal	51.4	51.0	94.2	94.0	69.9	68.8	63.5	62.2	83.4	82.8	64.1	63.6	10.6	9.8
Debagarh	56.2	51.0	91.6	90.6	75.0	74.2	62.9	59.6	85.6	83.9	74.6	75.6	26.3	26.8
Nuapada	57.4	57.8	89.2	88.5	80.1	78.9	78.6	77.3	67.6	67.2	62.2	64.3	40.3	41.4
Mayurbhanja	58.2	55.3	95.9	95.6	80.4	79.1	73.2	71.4	82.9	81.7	73.2	73.2	30.4	29.6
Koraput	58.9	57.4	96.0	95.7	80.6	79.6	78.9	77.8	81.8	80.9	66.3	66.6	18.4	17.6
Keonjhar	59.5	59.4	93.2	92.4	84.7	84.0	75.8	73.4	75.7	75.4	68.0	66.8	30.0	30.3
Dhenkanal	61.5	59.2	95.2	94.8	78.9	77.0	75.1	73.9	83.5	82.0	82.5	81.1	27.7	26.8
Angul	62.0	60.5	97.3	97.0	85.6	85.1	74.9	73.3	89.2	89.0	78.3	80.5	29.1	30.8
Sundergarh	62.0	61.5	97.1	96.0	74.8	74.7	70.7	72.8	88.5	84.6	80.5	77.6	38.8	33.9
Puri	68.0	67.6	92.0	90.9	87.1	87.7	78.0	75.9	88.2	87.6	83.3	83.4	23.2	21.8
Cuttack	68.6	71.0	96.4	95.9	84.7	86.6	79.4	79.9	83.2	83.1	73.9	75.3	40.1	42.5
Bargarh	70.4	68.9	98.8	98.7	93.4	93.1	86.5	85.8	81.2	80.3	76.2	76.8	46.6	48.0
Sambalpur	70.5	75.0	98.7	98.2	82.0	83.4	81.8	82.2	86.0	88.1	77.6	76.9	41.9	43.2
Khurda	71.1	72.0	97.0	96.7	79.0	78.9	77.4	79.7	83.0	84.9	80.0	79.4	37.9	24.3
Bhadrak	72.7	71.2	98.4	98.2	90.9	90.6	81.9	80.8	85.3	84.5	70.4	68.4	20.0	16.7
Kendrapara	73.5	74.3	94.0	93.8	93.8	94.5	89.7	89.3	80.3	80.4	72.6	72.0	33.9	34.6
Jharsuguda	78.3	75.9	97.9	98.2	88.4	85.3	82.1	78.6	93.7	94.5	78.3	76.2	30.5	24.9
Sonapur	81.4	83.2	96.8	97.5	93.7	93.5	87.5	87.9	91.0	90.8	78.4	78.6	39.5	38.7
Jagatsinghpur	81.8	84.1	98.5	98.4	94.4	95.7	85.9	88.7	97.0	96.9	85.6	85.8	41.2	42.6
Jajpur	82.3	82.3	96.4	97.0	91.9	92.9	90.0	90.9	86.6	87.4	81.8	82.1	27.2	27.0
Baleswar	82.8	81.5	98.2	98.1	91.9	91.2	89.3	88.4	86.8	85.9	82.2	81.1	49.1	50.8

Source: DLHS, 2008

An inter district analysis also indicates a wide disparity among districts with regard to immunisation coverage. In districts like Rayagada, Malkangiri and Nabarangpur the percentage of fully immunised children stands at only 26.8%, 35.1% and 38.2% respectively. On the other side, districts viz. Baleswar, Jajpur, Jagatsinghpur and Sonepur have above 80% children fully immunised.

Table 33 ICDS Coverage and Utilization of ICDS Services in Orissa, 2005-06

Background Characteristics	% of 0-71m children covered by an AWC	% of 0-71m children received services from an AWC				% of 36-71m children who went for early childhood care/ preschool at an AWC	% of 0-59m children who were weighed at an AWC	% of 0-59m children whose mothers received counseling from an AWC after child was weighed
		Any Service	Supplementary Food	Any Immunization	Health Check-ups			
Sex								
Male	79.4	65.5	52.7	40.9	41.3	23.9	57.3	26.2
Female	81.5	66.1	52.4	42.4	45	32.3	54.9	33.2
Residence								
Urban	20.7	41.3	26.9	14.4	26.9	14.5	37.9	18.2
Rural	90.2	66.7	53.5	42.7	43.7	28.2	56.8	29.9
Education								
No Education	86.5	67.9	54.7	44.1	45.4	27.2	57.3	28
<5 years of complete	78.7	71.6	60.8	43.5	45.7	33.3	58.9	31.3
5-9 years complete	77.9	63.8	49.8	39.3	41.8	28.4	56.9	30.7
10 or more years complete	65.8	54.5	40.4	34.1	32.8	20	45	33.7
Caste/Tribe								
Scheduled Caste	79.8	69	58.3	44.3	41.7	32.3	60.2	31
Scheduled Tribe	83.7	69.9	62.2	43.7	51.8	27.2	61.1	27.5
Other Backward Caste	89.9	63.8	45.6	42	40.2	24.8	55.9	30.8
Others	68.3	60.4	44.3	35.8	37.1	27.8	45.7	31.3
Wealth Index								
Lowest	88.3	68	58.4	42.7	47.7	26.9	60.3	27
Second	82.3	68.6	54.5	40.5	44.8	29.5	59.3	35.1
Middle	77.6	69.4	49.7	46.3	40.5	35.2	53.7	30.4
Fourth	75.4	54.9	37.9	37.6	29.4	21.9	43.4	27.9
Highest	41.2	38.5	20.2	27	26	6.5	28.1	-
Total	**80.4**	**65.8**	**52.5**	**41.6**	**43.1**	**27.7**	**56.1**	**29.6**

Source: NFHS, 2005-06

The present report has also made an attempt to analyse the penetration or outreach of ICDS services captured by NFHS in year 2005-06. From Table 33 clear that more children and women in rural areas as against urban areas; in ST and SC communities as against OBC and other caste communities; and in lowest wealth quintiles as against highest wealth quintiles have access to various services given by ICDS. However, there are still half of the children below 71 months (47.5%) are to receive supplementary nutrition. More than 70% mothers are left out from the counselling services. About 44% children below

59 months are not weighed. The percentage of children who attends early childhood care and pre-school education is only 27.7%.

Table 34 Utilization of ICDS Services during pregnancy and while breast feeding by women

Background Characteristics	During Pregnancy				While Breastfeeding			
	No Services	Supplementary Food	Health Check-ups	Health & Nutrition Education	No Services	Supplementary Food	Health Check-ups	Health & Nutrition Education
Residence								
Urban	79.8	8.7	19.2	10.6	85.6	7.7	13.5	5.8
Rural	43.2	46	42.6	23.4	53.4	41	28.9	17.1
Education								
No Education	36.8	51.7	47.9	21.9	50.7	42.7	31.5	16.7
<5 years of complete	51.5	36.8	37.1	27.8	52.4	39.2	27.2	18.8
5-9 years complete	47.9	41.6	37.9	24.2	55.7	40.8	26.3	18
10 or more years complete	64.5	27.6	27.6	19.7	71.8	24.3	19.7	11.2
Caste/Tribe								
Scheduled Caste	39.7	44.5	47.1	23.4	52.7	40.9	31.1	16
Scheduled Tribe	32.3	61.5	53.6	26.4	46.1	50.8	35.4	18
Other Backward Caste	46.7	43.5	38.1	21.9	54.8	40.7	27.8	17.4
Others	62.2	24.2	25.9	17.7	66.9	23.6	16.9	13.4
Wealth Index								
Lowest	34.8	55.5	49.7	24.5	48.5	46.9	32.7	16.3
Second	44.6	43.6	39.6	26	52.5	40.5	29.2	20.1
Middle	57	31.1	32.4	22.2	55.9	33.8	25	21.9
Fourth	57.4	29.7	31.9	17.7	71.3	25.9	18.6	8.5
Highest	79.7	9.7	18.3	5.8	88.4	9.7	9.7	5.8
Total	**44.5**	**44.6**	**41.8**	**23**	**54.5**	**39.8**	**28.3**	**16.7**

Source: NFHS, 2005-06

The status of ICDS services during pregnancy and while breastfeeding by women is no way different as compared to the status of services provided to children. About women of 55.5% SCs and 39.5% STs have not received supplementary food during pregnancy. The percentage is even higher during lactation period when 69.9% STs and 64.6% STs have not received the same. Similar findings are also found with regard to the receipt of ICDS services by lowest wealth quintile groups and by less educated persons. The case is also not different with regard to the other ICDS services received e.g. weighing, health & nutrition education, health check-ups, etc. by women during pregnancy and while breast feeding. In brief, the degree of outreach among the vulnerable groups requires further improvement in the context of the need of such services by the vulnerable while accepting the fact that ICDS is more equitable in terms of delivery of services. As the data presented in Table 33 & 34 shows that the reach of ICDS

services is low in the case of privileged group, however, proportion of increase in the degree of outreach among the vulnerable sections needs improvement.

1.6 Current Health Care Initiatives in the State

Good health can be considered as an important livelihood asset and illness can be a major cause of impoverishment. In the health & allied sector the state of Orissa has made noticeable improvements in certain specific areas such as success in leprosy control, increase in food availability, good network of Govt. health care institutions providing free medical care and medicines. However the state has since long been unpopular for one of the highest Infant Mortality Rate(IMR) in the country but there has been a steady decline in the said rate which as per NFHS-3 (2005-06) has now come down to 65 as compared to the national average of 53. As per SRS-2004 the MMR in Orissa is 358 which is higher than the national average of 301. The state also had a sordid past with regards to malaria and leprosy diseases. However there has been fall in the deaths due to malaria from 350 in 1997 to 283 in 2004. The leprosy prevalence rate (LPR) which was 121.4 per 10,000 population in 1982 – 83 has come down very near to the national level i.e. <1 per 10,000 population that is reported 0.86 per 10,000 population, the state has almost reached the elimination status.

A lot of the fallouts in the health care delivery system are attributed to the stagnating and inadequate health infrastructure in the state as seen in the table below. The following table would highlight a comparative analysis between the existing centers and the actual as calculated as per the population needs and demands.

Table 35 Existing vs. actual health facilities

GoI Norm	Requirement	Existing	Need / Demand
Health Sub-centers			
Tribal area @ 3000 Population	2715	2689	26
Non-Tribal Area @ 5000 population	5038	3999	1039
Total	7753	6688	1065
PHC (Single Doctor PHC)			
Tribal area @ 20,000 Population	407	327	80
Non-Tribal Area @ 30,000 population	955	955	0
Total	1362	1282	80
CHC			
Tribal area @ 80,000 Population	109	67	42
Non-Tribal Area @ 5000 population	239	164	75

Table 35 Existing vs. actual health facilities			
GoI Norm	**Requirement**	**Existing**	**Need / Demand**
Total	348	231	117
Infrastructure (Building) Sub-centre			
7753	6688	2814	3874
Infrastructure (Building) PHC (Single Doctor)			
1362	1282	520	842

Source: Orissa Health Information System 2007

Looking at the gap between the existing and required health facilities / infrastructures, it can be assessed that the state has a long way to go before it can meet the targets as per the centers of health care delivery.

All is not dismal and thus in order to bring about an overall improvement in the Health Sector in Orissa, performance of the public health system is regularly been analyzed and assessed and thereafter modifications and changes are incorporated. The State has undertaken several initiatives which have helped in strengthening the health system. The State initiatives can be divided into:

- The programmatic improvement achieved under the umbrella cover of NRHM, ICDS and under various state and national health programs
- Improving the staffing
- Improving the working/ service conditions of the service providers which include the whole range of doctors, nurses and paramedics.

Specifically, the National Rural Health Mission (NRHM) is one program started in 2005 that initiated an integrated approach and effort towards the fulfillment of the Health for All Goals for the country and thus unifying the health personnel to achieve the set targets of all programs.

1.6.1 Programmatic improvement achieved under the umbrella cover of NRHM, ICDS and under various state and national health programs

i. **Improving Maternal and Child Health:** Micro Planning for FRUs and 24x7 facilities has been undertaken to identify the gaps and enable full functionalisation of health support system. For improving access to facilities the emergency referral transport scheme, **Janani Express** has been initiated in 124 health institutions. The institutional deliveries in 2007-08 have increased to 61% over 43.41% (CNAA) 2006-07. This increase is due to the successful implementation of **Janani Surakhya Yojana** and the motivation undertaken by ASHA. JSY has increased institutional deliveries in all districts and in the KBK districts (that is districts with high maternal mortality) this increase is as

high as 100% -200% in 2006-07 over 2005-06. This is indeed laudable for the State which calls for developing, strengthening and operationalizing facilities. Apart from this, skill Based Assessment (SBA) training to staff nurse ANM and LHVs to improve safe deliveries and to man both FRUs and 24X7 facilities has been one of the important initiatives taken up under NRHM. The new schemes that have been introduced in promoting safe deliveries are:

Janani Sahayata Yojana scheme aims to increase availability of delivery and new born care services through private providers for BPL families. The accredited health facility shall be reunited for the services as follows: Normal delivery/ delivery by cesarean section - Rs. 2000/-

The beneficiary shall not receive the JSY benefit, but receive a Rs. 500/- incentive to meet immediate needs.

Matru Smruti Yojana*:* Directed towards seven districts particularly Koraput, Rayagada, Nawarangpur, Malkangiri, Nuapada, Gajapati and Kalahandi with an institutional delivery below 40% with an objective to encourage families for institutional delivery and provide support for the up keep of the child in case of the mother's death. It offers a National Saving certificate or Kisan Vikas Patra of Rs.4000 in the name of the child, which shall be handed over to the father or the legal guardian.

Integrated Management of Neo Natal Childhood illness (IMNCI) is being used as a major strategy for new born care in the State. As a part of this strategy training of the providers and the health functionaries is a key element of this program. Through a cascading model different service providers in Orissa are being trained with the technical support of agencies like UNICEF and Sishu Bhavan, Cuttack. It is being done in such a manner so that a district will simultaneously be able to develop a team at all levels. This training has been taken up in 12 identified high IMR districts. The quality of training is being assured through the existing organizational set up with monitoring and supervision. Implementation has also commenced in two Districts viz. Mayurbhanj and Koraput.

Immunization: In immunization, Routine Immunization, special immunization, Mop up rounds, catch up rounds and the campaign of Hepatitis-B is being undertaken. As per the universal coverage evaluation survey of UNICEF current full immunization rate is 70.9% (2006).

Prustikar Diwas: To combat malnutrition and for effective treatment of malnourished children 15th of every month has been declared to be observed as Prustikar Diwas.

Sick New-born Care Unit Implementation: As a part of the IMNCI Sick New-born Care Unit has been established at Mayurbhanj at DHH Baripada with 15 beds (10 Intensive care beds and 5 step-down beds).

NIPI initiatives

- Establish Child Health Resource Network at state and district level
- Strengthen Routine Immunization plus (RI+ Vit.A) services
- Strengthen IMNCI implementation in state with focus on Navajyoti districts
- Strengthen implementation of Skilled Birth Attendance services in state with focus on Navajyoti districts.
- Strengthen institutional level case management of severe malnutrition and prophylactic anti helminthic treatment

ICDS Initiatives

Apart from the above, the state run ICDS program which is the holistic program for development of health & nutrition of Children (0-6 year) and pregnant women & lactating mothers. Besides it also emphasizes upon the psychological and social development of the children through preschool education. The packages of services given under ICDS are as follows. Services delivered under ICDS cover a package of 6 components as listed below.

- Supplementary Nutrition Feeding
- Health Check Up
- Pre-School education
- Immunization
- Nutrition & Health Education
- Referral Services

ICDS was launched in the year 1975 in Subdega block of Sundergarh district with 85 AWCs. Now it has been extended to 326 projects including all 314-community development Blocks and 12 Urban Local Bodies through 41697 AWCs.

For Rural and Urban Projects

Population	
400-800 -	1 AWC
800-1600 -	2 AWCs
1600-2400 -	3 AWCs
Thereafter in Multiples of 800 -	1 AWC

For Mini AWC

Population	
150-400 -	1 Mini AWC

For Tribal / Riverine / Desert, Hilly & Other difficult areas / Projects

Population	
300-800 -	1 AWC

For Mini AWC

Population	
150-300 -	1 Mini AWC

In pursuance of directives of Hon'ble Supreme Court for coverage of all SC/ST/ Minority localities, Govt. of India have revised the population criteria for Anganwadi Centre and Mini Anganwadi Centre

in 400-800 and 150-400 population respectively as given in the box for Rural & Urban Project. New Revised Criteria received from Govt. of India on 1.4.2007 and steps have already been initiated by the state to act on the order.

ii. Sexual and reproductive health of Adolescents

Adolescents (10 - 19 years) in Orissa constitute 21.16 % of the population as per Census 2001. Early marriage & pregnancy, anemia, unsafe abortion, peer pressure, exposure to vulnerable situations etc are major health concerns faced by adolescents. This calls for health interventions specific to their particular need which varies according to age, sex, marital status, class, region and culture. It is important to influence the health seeking behavior & empowering adolescents with regard to delaying the age at marriage, reducing incidence of maternal mortality and teenage pregnancy, lowering incidence of STIs and preventing the rising incidence of HIV/AIDS. Thus initiatives undertaken in the state for this vulnerable group are as follows:

The Kishori Shakti Yojana being implemented through the ICDS infrastructure of the WCD Department seeks to empower the out of school adolescent girls to enhance their self esteem and acquire skills & knowledge in terms of nutrition, health, education, literacy etc. which equip them to perform a productive adult role in society. Balika Mandals are formed for girls in the age group of 11-18 years for learning activities at the Anganwadi Centre. IFA supplementation along with de-worming interventions and health education is being provided to them. The formation of Balika Mandals has been initiated in all the 30 districts with training programme already initiated in 9 districts of the state i.e. Koraput, Nabarangpur, Malkangiri, Rayagada, Keonjhar, Sundargarh, Kalahandi, Kandhamal & Gajapati.

Department of School & Mass Education, GoO with support from NACO is implementing the Adolescent Education Programme (AEP) in high schools/junior colleges of all the 30 districts of the state. Under NACP-III, AEP peer educator clubs/Red Ribbon Clubs in high schools will be strengthened and Red Ribbon Clubs will be established in villages to provide youth oriented counseling, life skill education, recreation and guidance in a confidential and enabling environment through teachers and peer educators/link workers/community volunteers.

Nehru Yuva Kendra Sangathan (NYKS) is implementing the “Adolescent Development Programme” in 3 districts of the state, namely Koraput, Sambalpur & Ganjam. It is working for the development of adolescents by forming Teen Clubs, organizing 45 days life skills education for adolescents and holding intergenerational meetings.

Swasthya Sebika Nijukti Yojana: In order to provide quality health services to the people as well as empower the women, NRHM, Health & Family Welfare Department, Government of Orissa proposes to recruit large number of staff nurses for Government Health Institutions as well as for Medical Colleges across the state. Different Health Institutions are also in the process of being upgraded under NRHM to achieve Indian Public Health Standards norm, which require large number of

paramedical staff including staff nurse. As per an assessment, there is a shortfall of 8000-10000 staff nurses in the State at the moment. The shortage of staff nurses is acute in tribal dominated areas of the state.

In order to address the issue of meeting the growing demand of staff nurses in the State, NRHM, Health & Family Welfare Department is contemplating involvement of private sector to play an important role under Public – Private Partnership (PPP) To sponsor SC / ST Nursing students to meet the shortage of trained persons with B. Sc. Nursing as well as M. Sc. Nursing in the State especially in Tribal pockets.

iii. Implementation of National Programs

National Vector Borne Disease Control Program (NVBDCP): There are six diseases under the NVBDCP - *Malaria, Filaria, Dengue, Chikungunya, Kala-azar and Japanese encephalitis*. Malaria and filaria pose immense public health problem in the state. Malaria continues to be major cause of morbidity and mortality. These vector borne diseases are prevalent in both rural and urban areas. Mostly, the indigenous population (ST), scheduled caste (SC), BPL/lower socio-economic marginalized and disadvantaged groups of the society are affected. Recently in 2006 out breaks of chikungunya in the state embarked on with high degree of morbidity and panicky at community level. Along with chikungunya a few cases of dengue have also been reported. The dynamics of these diseases are largely determined by eco-epidemiological, socio-economic and environmental management systems. Young adults representing the economically productive section, children and pregnant women are most vulnerable, although all age groups are affected. Government of India (GOI) in its National Health Policy (2002) has pledged commitment to reduce mortality on account of malaria by 50 percent by 2010 and efficient morbidity control and elimination of lymphatic filariasis (ELF) by 2015.

The State implementation plan of Orissa on vector borne diseases control for 2008-09, addresses following vector borne diseases i.e.1) Malaria 2) Filaria 3) Chikungunya/Dengue.

Orissa contributes maximum burden due to malaria to the nation. In 2006, nearly 23 percent of cases and 17 percent of deaths due to malaria of the country have been reported from Orissa. Though most of the districts of the state report falciparum malaria, the problem is severe in southern and western districts that are predominated with tribal population. The World Bank assisted Enhanced malaria control program (EMCP) launched in 1997 was closed in December, 2005. After EMCP the program continued in the name of NVBDCP with GOI grant. In 2005-06, sixteen districts were supported by Global Funds for AIDS, TB & Malaria (GFATM) for intensified malaria control program (IMCP) in which commodity and financial assistance are being provided to accelerate malaria treatment by using second line anti-malarial, up-scaling the use of insecticide treated bed nets, behavior change communication and involvement of civil society organizations in a meaningful manner.

There is high proportion of child death due to malaria i.e. more than 50% among children below fifteen. Malaria management is now an integrated approach and some of the criteria that have been prioritized in the state are:

For tests:

Use of Rapid Diagnostic Treatment (RDT): At present RDT is used in remote inaccessible sub-centre areas with Pf more than 30 percent. Five percent of RDT is used at clinics and hospitals for emergency. Recently on a pilot basis ASHAs have been trained to function as Fever Treatment Depots (FTDs) and use RDTs in 50 blocks of 21 districts.

Microscopy centers (MC): More number of microcopy centers needs to be established and made functional at sector PHC level. This would help to manage the increased number of slide collection by ASHAs to be examined in time at a closer distance.

For treatment:

Several blocks are now showing resistance to Chloroquin. It is proposed to provide Chloroquin, Primaquin and Artesunate combination therapy (ACT) to all confirmed Pf cases diagnosed through microscopy or RDT. Cases not reported positive will be given presumptive dose with full course CQ alone.

Integrated Vector Control

Indoor Residual Spray (IRS): IRS is an important measure for transmission risk reduction. This is being applied selectively in high risk pockets with DDT and synthetic pyrethroids (SP). Around 80 lakh (60 lakh with DDT and 20 lakh with SP) population living in high risk sub-centre areas (having API >5) have been projected for IRS which will be subsequently reduced by 20% in each following year with the introduction of insecticide treated mosquito nets (ITMN). High coverage with ITMN area is a cost effective vector control measure besides providing individual protection.

Biological Control through larvivorous fish: It is proposed to release fish in 30 percent of breeding sites before the monsoon. Further to establish natural hatcheries at sub-center level and emphasized involvement of NGOs/PRIs and CBOs for maintenance of these hatcheries and release of fish at breeding sites.

Besides all these steps a much broadened Behavior Change Communication as well as political will have been enforced.

National Program for Control of Blindness (NPCB): N.P.C.B was launched in the year 1976 as a 100% centrally sponsored scheme. During 1994 to 2002 the World Bank assisted seven major States of India including Orissa. During the World Bank period the programme activities were significantly revamped. After closure of the World Bank project GOI has borne all costs of the programme.

NPCB now is focusing on eradication of blindness due to cataract, refractive errors, corneal blindness, diabetic retinopathy and blindness due to other causes.

To achieve the success in the programme it is highly essential to go to the mass to screen and identify the cases and to provide the best remedies available in the programme. Hence as a primary approach, focus on survey, motivation through various IEC activities is taken up. Besides, the School Eye Screening (SES) awareness through IEC is undertaken along with other regular eye care services.

Table 36 Year wise achievement in cataract surgery in the State of Orissa

Year	Target	Achievement	% of Achievement
2001-02	130000	86386	66
2002-03	130000	81619	63
2003-04	130000	82607	64
2004-05	130000	91509	70
2005-06	130000	101565	78
2006-07	130000	89454	69
2007-08	124000	60840 (up to Qtr.3)	49

National Iodine Deficiency Disorder Control: It started in our state since Dec'1989. It is a 100% central plan scheme. Iodine Deficiency Disorders are a group of diseases starting from a visible goitre in the neck to many a physical and mental disorder like drawf, cretin, squint, abortion, stillbirths and impaired mental functions due to low intake of Iodine in food. The aim of the programme is to prevent Iodine Deficiency Disorders like the incidence of Goitre: Physical and mental disorders cretinism & deaf mutism etc. in the state. The following activities are undertaken in this program.

- IDD / Goitre survey
- IEC Activities
  - IEC through observation of Global IDD prevention day on 21st October
  - IEC through electronic media
  - IEC through sensitization seminars
  - Public awareness camps on IDD
  - Food inspectors and Public Analyst to Govt. of Orissa's workshop on collection of salt samples and its analysis
  - Printing of IEC materials to distribute among the public to create awareness on IDD
- Analysis of Salt Samples and Urine Samples through Establishment of IDD Monitoring Laboratory

National Leprosy Eradication Program: With the reduction in the leprosy burden in the state, currently the mandates of the program are:

- Provision of high quality leprosy services for all persons affected by leprosy, through General Health Care System including referral services for complicated cases.
- Enhanced Disability Prevention and Medical Rehabilitation (DPMR) services for deformity in leprosy affected persons.
- Enhanced advocacy in order to reduce stigma and stop discrimination against leprosy affected persons and their families
- Capacity building among Health Service personal in integrated manner both in Rural and Urban areas.

Some of the new initiatives that have been taken up in this regard are:

- Training and motivation of ASHA.
- Block Leprosy Awareness Campaign-V and Urban Leprosy Sensitization & Awareness Campaign in identified (24 Rural & 14 urban areas).
- Disability Prevention & Medical Rehabilitation Clinic at Block PHC (Block PHC 314 & District Headquarters Hospital-32).
- Reconstructive Surgery Unit at District Headquarters Hospital (5).
- Reconstructive Surgery Unit in 3 Medical Colleges

Revised National Tuberculosis Control (RNTCP): The Revised National TB Control Programme (RNTCP) with DOTS (Directly Observed Treatment Short Course Chemotherapy) strategy implemented in our State in the year 1997. The objective of RNTCP is to detect 70% of infectious sputum positive TB cases and cure at least 85% of them. The project was assisted by Danida through Government of India from 1996 to 2005. The Global Fund to fight AIDS, TB and Malaria (GFATM) is providing financial and technical support to implement the programme in the State from the year 2006 to 2010 through the Government of India. The Government of India releases necessary funds to the Director of Health Services, Orissa through the Orissa State Health & Family Welfare Society. The program is implemented through 31 implementing units, 104 TB Units and 540 Microscopy centers. In addition there are 31451 DOT Providers are identified and trained under the program to give DOT to the nearby patients. The Anti TB Demonstration & Training Centre, Cuttack is functioning as a training center of RNTCP. This centre also conducts External Quality Assessment (EQA) and preparing for Drug Resistance Surveillance (DRS) under RNTCP.

As per the reports of 4th quarter 2007 the new sputum positive case detection rate is 60% and the success rate is 86%. During the year 2006 a total of 44752 TB cases have been detected and treated out of which 37630 cases have been cured & completed treatment. During the year 2007 a total of 49285 TB cases have been detected and being treated under RNTCP.

1.6.2 Improving the staffing

Steps taken to improve the availability of doctors: With 3 Medical Colleges in the Govt. sector and another 3 in the private sector which have only recently by been established, there is still a large gap in supply of doctors in the State. Therefore, the MBBS seats in the two Govt. Medical Colleges have been increased. In VSS Medical College, Burla and MKCG Medical College, Berhampur seats have been increased by 43 numbers each.

Steps taken to improve the availability of paramedics: Another major constraint is human resource in the health sector particularly availability of technical manpower. Very often, lack of trained manpower hinders the delivery of services in the health institutions. Therefore, the seats in laboratory technician course and the X-ray technician course in the three medical colleges have been doubled. There has also been a 33% increase in seats in all the 16 ANM training centers. This will lead to increase in availability of technical manpower for this sector.

1.6.3 Improve the service conditions of all service providers

Enhancement in remuneration of contractual doctors: To improve the availability of doctors, appointment of contractual doctors has been a practice in the State. To improve their overall service condition remuneration for contractual doctors has been increased keeping in view the nature of the districts.

Incentive for regular doctors: To improve the retention of doctors in the 11 remote and backward districts additional incentive for regular doctors has also been provided to the regular doctors.

Policy Decisions e.g. up-grading the entry level status of MBBS doctors from Class-II to Junior Class-I, increasing specialist allowances, restructuring of cadre for increasing promotional avenues, etc. have been taken. In addition, State Government in collaboration with OMSA (Orissa Medical Service Association) is also in the process of developing a rational transfer & deployment policy. These measures are expected to improve the motivational level of doctors and improvement in services. In the State different categories of health institutions exist. Though established under a particular population area norm, over the years they have out grown the prevailing norms. Therefore it was considered essential to reorganize the health institutions and the categories of their level of operation. A complete exercise in this regard is being undertaken to bring about re-organization and realignment of the different health units in the State.

1.7 Challenges for the State

The statistics presented in the previous sections of this report insinuate daunting tasks for the state to improve the health status of the people more specifically the status of socio-economically, geographically and educationally vulnerable groups.

The high degree of inequity that exists among different categories of population points out two important areas, which the State needs to look in for addressing the health inequities in Orissa. The first important area is obviously within the health sector itself. Within this, both supply and demand side of health needs to be addressed through appropriate health seeking and health care interventions respectively. That means the health service providers have to not only provision proper and equitable health care services to all sections and categories of population but also appropriately act on the generation of demand among those sections through proper BCC, IEC, IPC, etc. initiatives. The other important area in which the state needs to work out is in terms of integration of health sector with other sectors such as education, transportation and communication, livelihood promotion, etc. In view of this, the following are some of the challenges that Orissa needs to overcome in order to improve the health status of the inhabitants in the state.

- Social status more specifically the caste wise health inequity is quite visible. As seen in case of almost all health indicators, the general castes population are more privileged as compared to the SCs and STs. This necessitates caste specific measures, more specifically appropriate health strategies need to be adopted in taking into account the STs and SCs or for areas where concentration of STs/SCs is more. Therefore, understanding the perceptions of SCs and STs is crucial in strategising the same.

- The geographical remoteness or inaccessibility is another crucial factor which needs to be looked in while strategising the health services in those areas.

- Apart from caste and geographical location, the inequity between educationally deprived and educationally superior people also needs to be addressed. The educationally deprived sections are found to be more vulnerable as far as health status is concerned. Since education is one of the key factors that influence the health seeking behaviour of people, appropriate measures in terms of BCC, IEC, IPC, etc. need to be initiated.

- Likewise, economic deprivation plays a significant factor in widening the equity gaps among economically different sections of the population. This is one such area that requires attention of service providers in health as well as other sectors of development such as livelihood, finance, insurance, etc. Within the health sector, appropriate provisioning of health resources need to be made so that the economically deprived people those who have less affording capacity access required health services.

- The 11th five year plan clearly points out that there is underutilization of health services owing to social, cultural, and economic factors. Some of the problems include difficult terrain, location disadvantage of health facilities, unsuitable timings of health facilities, lack of Information, Education, and Communication (IEC) activities, lack of transport, etc.

- Keeping all the above factors into account, the overall efficacy of the health care provisioning in terms of logistics, manpower deployment, infrastructures, etc. needs to be improved.

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