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Declining of Tribal Population: A Study on Chhattisgarh

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Abstract

The population of the STs in the state is 66.17 lakh (2001 Census) accounting for 31.76% of the total population of the state and 94.7% of which is rural in nature. The sex ratio among STs is 1012 females per 1000 males which is more favorable towards males. In terms of the concentration of ST population, the State occupies 6th position with 7.85% STs in the country. There are 42 different tribes including five Primitive Tribe Groups (PTGs) comprising about 12 lakh tribal families. Most of the natural resources including minerals are located in tribal areas. The decadal growth rate of population in the State during the period 1991-2001 is 24.3 percent, which is significantly higher than the all India rate of 21.3 percent in the same period. With the above background the present study enumerates the decadal growth rate of tribal population in Dantewada, Bijapur, Sukma, Korea and Jashpur Districts in Chhattishgarh with the help of secondary data collection. The main aim of the study was to collect information about the factors of decadal growth rate of tribal population. It is necessary to find out the causes of high decadal growth rate to facilitate the local people to stop migration and increase socio-economical development rate. Further, as noted in the paper, high decadal growth rate is found in north and south area of Chhattisgarh that is tribal zone and known as industrial zone of Chhattisgarh (North Chhattisgarh: Coal/Bauxite zone, South Chhattisgarh: Iron zone).According to observation of the study areas, the reasons of DGR (Decadal Growth Rate) may be migration, health issues, poor education, unemployment, naxalism, gender concern, discrimination, indebtedness, food security, globalization, high risk agriculture, some social and cultural issues, displacement, drought and famines and environmental imbalance etc. From some local problems and public health point of view, most of the health indicators and socio economic status are below national average and unsatisfactory. The human resources gap, poor physical infrastructure, inadequate health education and awareness, poor health-seeking behavior, and inadequate healthcare utilization compound the problem. Indicators related to health and health care delivery are outcomes of research in diverse fields other than the department of health. Putting them together and projecting them in a public health view point encourage others to focus on the neglected indicators/areas. However, further research is needed to have a clear database in this regard. It will be significant that the rural and tribal people will not go anywhere to search for survival opportunities, if they have proper livelihood and facilities at their habitat. The tribals are simple and unaware people; they need special attention by Government. Here it is not necessary to isolate them but it is the time to have familiar with them and their culture for their proper development.

Keywords: DGR-Decadal Growth Rate; PTGS-Primitive Tribe Groups.

Introduction

The declining growth rate of population in the Chhattisgarh State during the period 1991-2001 is 24.3 percent, which is significantly higher than the all India rate of 21.3 percent in the same period (*Census of India,* 2001). The demographic scenario in the state is still characterized by a very high birth and death rates. In the year 2005, the crude death rate in the state was 9.0 as against the all India average of 7.6. It is pertinent to note that, traditionally villagers, specifically the tribal, managed their affairs and resources on a sustainable basis (Roy Burman, 1993). Around 90% of tribe's populations in India were depending on land directly or indirectly for their survival while massive investment in construction of dams, power plants, industrialization and mining create wealth to the nation and employment opportunities to various people but all this is hardly of any benefit to the tribals rather it leads to their social and cultural deprivation, land alienation, destruction of environment and displacements, which is often without any rehabilitation (Krishnaji, 1991). The limited natural resource base surroundings, the tribal societies being scarce and many conflicting demands placed on it from other sectors and other areas of society reduces their availability to the tribal communities and affects their socio-cultural and economic life. In spite of all these development initiatives the tribal in tribals/rurals are still threatened by severe poverty, health problems and high decadal growth rate. A number of changes have been taking place with regard to the habitation, health and utilization of their resource and these changes in term have largely affected the life of the people without any sustainable replacement. In tribal areas these problem have assumed alarming proportion because the traditional means of obtaining socio-cultural resources are threatened (Marothia, Gauraha and Choudhary, 1995).

With the above background the present study tries to understand the decadal growth rate of tribal population in Dantewada (Bijapur, Sukma), Bastar, Korea, Surguja and Jashpur District in Chhattisgarh. The main aim of the study is to collect information about the factors of decadal growth rate of tribal population. It is necessary to find out the causes of high decadal growth rate to facilitate the local people to stop migration and increase socio-economic development rate. Further, as noted in the paper, high decadal growth rate is found in north and south area of Chhattisgarh that is tribal zone and known as industrial zone of Chhattisgarh (North Chhattisgarh :Coal/ Bauxite zone, South Chhattisgarh: Iron zone). According to observation of the study areas, the reasons of DGR (Decadal Growth Rate) may be migration, health issues, poor education, unemployment, naxalism, gender concern, discrimination, indebtedness, food security, globalization, high risk agriculture, some social and cultural issues, displacement, drought and famines and environmental imbalance etc.

It will be significant for the rural and tribal people that they will not go anywhere to search survival opportunities if they have proper facilities at their habitat. The Tribals are simple and unaware people; they need special attention by Government. Here it is not necessary to isolate them but it is the time to have familiar with them and their culture.

Methodology

Process of Data Collection

This paper has been developed by personal field experiences of researchers and extensive literature review. Secondary analysis of qualitative data are the use of existing data to find answers to research questions that differ from the questions asked in the original research because of the meager work done by the researchers/Government/NGOs/other institutions, to assess the system of declining growth rate, the process of data collection depend on secondary literature i.e. Journals, News paper, Internet, *Census report, AHS, SRS reports, NRHM and DLHS Reports* etc. Secondary data analysis has potentially important implications for qualitative researchers who seek to investigate sensitive topics within health and deep root causes, not least of which is the opportunity it offers to facilitate the training of researchers at all levels.

Area of Study

For the present study researchers consulted the secondary data of Chhattisgarh along with 6 Tribal districts namely-Kanker, Sukma, Bijapur, Dantewada, Jashpur and Korea.

Result Analysis: The Context of the Discussion

To assess the current problems which are responsible for the high decadal growth rate of population, researchers have made efforts to show the present situation of Chhattisgarh according to

relevant secondary data of literature and *Census of India, NRHM, DLHS reports* etc. The findings of the study will be utilised in putting forward various suggestions which can help the policy makers to undertake various development and welfare interventions among these tribal groups.

Socio-Economic and Health Profile of Chhattisgarh State

The population data of Chhattisgarh shows that India's population is followed by 2.11% of Chhattisgarh where the sex ratio of female (991 per 1000 males) is higher in Chhattisgarh in proportion to India (940 per 1000 males). It indicates that women are better in social position in the state. The ST population of Chhattisgarh is declining from 2001 (31.76 of total population) 2011 (30.60 of total population) to by 1.16 percent in ten years (*Census of India*, 2001 & 2011).

Table 1: Comparative Population Composition in Chhattisgarh and India

Demographic Indicators	2001		2011	
	Chhattisgarh	India	Chhattisgarh	India
Total Population (In Millions)	20	1028	26	1210
ST Population	31.76	8.2	30.60	8.6
Contribution to National Population	1.94	100	2.11	100
Sex Ratio (females per 1000 males)	989	933	991	940
Under 6 sex ratio (females per 1000 males)	975	927	964	914

Source: *Census of India, 2001 & 2011*

Table 2 shows the population and household profile of Chhattisgarh. Of the total population, 71.2% of the households have electricity. The mean of the household size is 5. Only 14.4% have piped water supply and only 17.9% have toilet facility, 65.7% of population age 7 and above are literate. 75.6% of total population in Chhattisgarh is living in Kaccha house while 83.9% are rural population who are living in Kaccha house also that indicate the poor infrastructure facility and poor economy.

Table 3 reflects indicators related to marriage and fertility. Daughters in Chhattisgarh are generally married at an early age. The mean age at marriage among women is 18.9 years and for men it is 22.8 years. About 21.3% of women and 29.1% of men in Chhattisgarh marry before they reach the legal minimum age at marriage of 18 and 21 years respectively. The crude birth rate is 23.5 per 1000 population (rural 24.4 and urban 20.2) as per Annual Health Survey Statistics 2011-2012 and DLHS-3 which shows declining from DLHS-2 by 25%. According to DLHS-3 report (2007-08) contraceptive prevalence in Chhattisgarh is 49.7% while it was 34.2% in DLHS-2 report (2002-04) which shows the higher prevalence of the uses of contraceptive (any type) among population.

About 41.3% (DLHS-3 report) of currently married women are sterilized which is higher than DLHS-2 report (34.80%) of Chhattisgarh. In contrast, only 1.8% husbands are sterilized; the use rate for Oral Contraceptive (OC) pill is only 1.7%, Intra Uterine Devices 0.6%, and condom 1.6%. The Maternal Mortality Rate of Chhattisgarh is 269 which is significantly good than DLHS-2 report where the maternal mortality rate was 335. The total fertility rate in 2002-04 (DLHS-2) is 2.7 which was high rather than 2.62 in 2007-08 (DLHS-3 report).

Table 2: Literate Population and Household Profile

Indicators	Chhattisgarh Percentage (%)			India Percentage (%)		
	Total	*Rural*	*Urban*	*Total*	*Rural*	*Urban*
Population Profile						
Population Literate age 7 year	65.7	62.2	82.7	72.2	67.2	82.9
Population Literate age 15 year	34.1	35.0	29.4	32.6	34.4	28.8
Mean household Size	5.0	5.1	4.1	5.1	5.2	4.9
Household Data						
Electricity	71.2	66.3	95.3	70.3	59.8	92.2
Toilet Facility	17.9	9.8	57.1	49.3	34.1	80.8
Kaccha house	75.6	83.9	34.4	35.5	46.4	12.9
Pucca house	10.5	4.5	39.5	32.7	19.6	60.2
Use of Piped Drinking Water	14.4	4.1	65.2	84.4	79.6	94.4

Source: DLHS-3, 2007-08

Table 3: Indicators related to Fertility and use of Family Planning Methods

Indicators	2002-04 (DLHS-2) Percentage (%)			2007-08 (DLHS-3) Percentage (%)		
	Total	*Rural*	*Urban*	*Total*	*Rural*	*Urban*
Total Fertility Rate	2.7	NA*	NA*	2.62	2.88	1.78
Maternal Mortality Rate	335	NA*	NA*	269	NA*	NA*
Crude birth rate	25	NA*	NA*	23.5	24.4	20.2
Female Sterilization	34.80	33.2	38.4	41.30	41.00	43.30
Male Sterilization	1.6	1.6	1.4	1.80	1.9	1.1
Contraceptive use (any method)	34.2	33.2	38.4	49.70	47.8	59.2
Pill	1.8	1.5	2.9	1.70	1.4	3.3
IUD	0.5	0.3	1.5	0.60	0.3	1.9
Condom	2.0	0.8	6.7	1.60	0.9	5.7

Source: DLSH-2, 2002- 04 and DLSH-3, 2007- 08NA*: Not available

According to Marothia, D.K., Gauraha, A. K. and Choudhary, V.K. (1991) States that perform better on health and education outcomes are also the states with higher HDI and thus higher per capita income but Chhattisgarh that have an IHDI below the national average 0.291% (Table 4) which means high levels of malnutrition continue to affect a large part of our child population, limiting their learning capacity and influencing morbidity and mortality ratios in the country. Our maternal mortality ratio and infant mortality rate are far too high. The incidence of anaemia among women and children is at unacceptable levels. Far too large a proportion of the population, especially in rural areas, lacks access to affordable health care. These problems need to be addressed by multiple interventions, many of which range beyond curative health care. These include dietary improvement, nutrition supplementation for children, better child care practices, and access to safe drinking water, improved sanitation, and immunization.

Table 4: Human Development Indicators

Human Development Indicators	Chhattisgarh	India
Inequality Adjusted Human Development Index Value (IHDI)	0.291	0.343
Inequality Adjusted Human Development Index Rank (out of 19)	18	
Loss in HDI due to Inequalities (%)	35.14	14.32

Source: India Human Development Report 2011, IAMR and Planning Commission

Decadal Population Growth Rate Figures for Selected Districts

Recent data (Table 5) from the Census of India 2011 that the decadal rate of growth of population of these districts is far below that of the State and Country. In Bijapur and Dantewada, it is as low as 8.76% and 11.90% respectively as compared to 22.59% for the state. It is important to understand what has led to population growth which is almost half that of the overall State. The possible explanations could be: they were not counted; They have far higher levels of mortality because of poor incomes, nutrition, health services and the ongoing conflict; and Internal displacement to other states like Andhra Pradesh, or other districts of Chhattisgarh; Land alliances by Government, semi-government and private organisations.

Table 5: Decadal Population Growth Rate Figures for Selected Districts of Chhattisgarh

Country/ State/ District	Year Percentage (%)		
	1981-91	1991-01	2001-11
All India	23.87	21.54	17.64
Chhattisgarh	25.73	18.27	22.59
South Bastar Dantedawa	17.60	14.09	11.90
Bijapur	32.06	19.30	8.76
Baster	23.27	18.18	17.83
North Bastar Kanker	23.67	18.68	15.00
Korea	-	-	12.40
Jashpur	-	-	14.65

Source: Census of India, 1991, 2001 & 2011

Table 6: Migration Rate (Per 1000 persons) of Chhattisgarh and India

Sex	Chhattisgarh Migration Rate		India Migration Rate	
	Rural	*Urban*	*Rural*	*Urban*
Male	70	330	54	259
Female	531	590	477	456
Male+ Female	295	452	261	354

Source: Census of India, 2011

Declining Growth Rate by Migration

It has been observed from table 6 that large number of educated, uneducated and illiterate tribal people from Chhattisgarh migrate to different parts of the country and metropolitan city like Delhi, Mumbai, Kolkata which are their major destinations for searching some gainful employment/casual labour in the unorganized sector and as household maids for their livelihood. As per *Census of India, 2011* data comparison between rural and urban population in Chhattisgarh, the migration rate is higher where Female: 590/1000; Male: 330/1000 and Male + Female is 452/1000 in urban population. It is also higher in India's migration rate as well as rural migration rate of Chhattisgarh is also higher (Male: 70/1000, Female: 531/1000, Male + Female: 295/1000) than average rural migration (Male: 54/1000; Female: 477/1000 and Male + Female: 261/1000) rate of India and male migration rate in 2001 was 69 which was 4.9% out of total population in 2001 Census of India, gave 2.1 % contribution in migration rate from India.

Migration for Education and Employment

The education scenario is disappointing; as the major part of the population is in the category of middle and higher secondary pass. A very small percentage of the population is opting for the higher or other technical education. It is not surprising that these states also have a shortage of institutes of higher learning. This leads to an out flow of human capital to other states/regions. However, it is noted that there is intra-state movement in the selected districts. Only 17.7 percent of migration on account of education is happening in other districts, while 80.90 percent of migration is across districts by rural to urban areas of the same state. These are the main streams of migration for education (*Government of India*, 2010b: *Migration in India*, 2007-2008, *Report No.* 533).

Table 7: Migration for Education by Current and Last Usual Place of Residence (15-32)

State	Same District		Other District		Other State		Total
	Rural	*Urban*	*Rural*	*Urban*	*Rural*	*Urban*	(Percent)
Chhattisgarh	80.90	0	17.70	0.40	1.00	0	100
Migration for employment/work by current state and location of last usual place of residence (15-32)							
Chhattisgarh	38.4	2.7	14.4	12.2	13.5	18.8	100

Source: Government of India, 2010b: Migration in India 2007-2008, Report No. 533

Factors like lower retention in higher classes, poor examination results, and lack of quality education that are responsible for poor tribal education (*Government of India*, 2010a: *Education in India*) and these major factors influence people to migrate other districts and state. Moreover, local income earning opportunities are essential to arrest the recent increase in rural out-migration. As per the *Census Data* 2011 on migration, includes migration for work, within state (13.5% rural, 18.8%), within districts (same district: 38.4% rural and 2.7% Urban) and 14.4% rural population while 12.2% urban population migrate to other districts from their birth place (*Government of India*, 2010b*: Migration in India*, 2007-2008, *Report No.* 533).

Migration against Naxalism

No doubt that there is real fear from the Maoists, from being targeted or being killed accidentally in land mines or cross fire. Tribals habitation are in forest areas where their survival rate is higher because they are forest dwellers and it's also noted that naxaly captured these areas. Due to this Naxalism fear local people are migrating from their birth place to another safe zone and this kind of migration affect their survival rate and livelihood identity. There has been displacement of tribal people yet there is enhancement of tribal population in naxlite affected camps. Moreover, the modern food habits have also affected the Tribals and there has

been change in their physical structure and behavioral patterns. There has been obvious loss of physical strength in them. The reason could be there has been imbalance between tribal life and nature due to modernization and industrialization and so on. Due to modernization and westernization, there has been migration and the tradition of Ghotul has been lost and there have been fewer activities of dance, song and play of instruments. The lack of carefree life has also affected their sexual contact, which resulted the loss of birth rates.

Migration vs. High Risk Agriculture

The overall assessment of the present agriculture in the region has two rails; high loss and high risk. Therefore, the foremost concern of the future agriculture is to minimize the element of high loss and high risk. The future agriculture should restore the quantitative and qualitative balance of all major components like soil, water, air, plants, animals and human beings in the eco-system. Agriculture, though highly praised is now becoming least preferred occupation. Future agriculture is moving towards a state of least human energy utilization. Due to various adverse factors and faults in the present economic system they are not being remunerated with adequate compensation. This area needs adequate attention to make agriculture less risky and profitable.

Table 8: Source Wise Irrigation

Source of irrigation	Area (in lakh hectare)	Percentage (%)
Canals	8.73	61.70
Tube- wells	3.83	27.07
Tanks	0.54	3.82
Wells	0.20	1.41
Other Sources	0.85	6.01
Total	**14.15**	**100**

Source: Commissioner Land Record & Settlements, Chhattisgarh, 2011-12

In Chhattisgarh region about 30% of net cropped area was under irrigation in 2011-12 whereas the average national irrigation was about 40%. The irrigation is characterized by a high order of variability ranging from 0.00% in Dantewada to 82% in Raipur. Based on an average growth trend in irrigated area, about 0.43% additional area is brought under irrigation every year as compared to 1.89% in M.P. and 1.0% in the country as a whole. Thus irrigation has been growing at a very low rate in Chhattisgarh and the pace of irrigation is so slow that it would take about 122 years to reach the 75% level of net irrigated area in Chhattisgarh with present rate of growth.

Migration vs. Impact of Globalization

The region has a large number of industries (Mineral based industries: Conventional industries; iron and steel, sponge iron, cement, thermal power generation, calcinations, aluminum extraction, cutting and polishing units (gem and dimension stones), ancillary units for and derived from the Cement and Iron industries, High-tech industry: alkali metals lithium, rubidium and cesium and other rare metals like beryllium, gallium, tantalum, niobium etc., are the raw material for the sensitive high-tech equipments, instruments and spares in the era of precision and sophistication mines (NMDC, CMDC, JVC) and other business establishments. Small businesses are affected by cutback of public subsidies, de-industrialization, and privatization of resources, minerals, electricity, transport etc. Floods of cheap imports have bankrupted many local producers and provoked widespread protests. This has further resulted in loss of job for local people. Past development phenomena has shown that most growth was largely due to intensive and extensive labour exploitation, extraction of raw materials and production of cheap manufacturing goods. The process of internationalization of capital is thus based on exploiting new frontiers and locating sites for high profits – not on developing and deepening the forces of production and has failed to overcome the tendencies towards stagnation.

Migration vs. Indebtedness

In absence of adequate livelihood support, employment, credit support and income in order to meet the basic necessities of food, cloth, medicine and other social and agricultural needs, the poor are caught in the vicious circle of indebtedness. Majority of the families in the area are indebted. Due to ignorance and illiteracy they are cheated and exploited by manipulating the records and mortgaging valuable goods against the low amount of loan. This has also become an instrument for transfer of land from tribals to non tribals which is prohibited by the law.

Migration against Poverty and Malnourishment

According to Perspective plan of Planning Commission, New Delhi (2004-05) Chhattisgarh is in 4th position in India in poverty where in rural areas 40.8% population are below poverty line and 41.2% population are in urban area. The data shows that 40.9% population in Chhattisgarh is living below poverty line.

In addition to wide scale poverty alleviation, direct investments in improving food availability and access for poor households, as well as direct targeted nutrition and health interventions to improve nutrition and mortality outcomes for young children, will be needed to raise the Indias State Hunger Index (ISHI) scores and rankings of Indian states. Table 9 shows that Chhattisgarh has high poverty headcount ratio (48.7%) as compared to India (29.8%). Child underweight contributes more than either of the other two underlying variables to the GHI score (23.3%) for India and 26.63% in Chhattisgarh state. Prevalence of underweight children under 5 years of age (47.6%) is high. Achieving rapid reductions in child underweight, however, will require scaling up delivery of evidence based nutrition and health interventions to all women of reproductive age, pregnant and lactating women, and children under the age of two years (*India State Hunger Index, 2009; IFPRI*).

Table 9: Poverty and Hunger Indicators

Indicators	Chhattisgarh	India
	Year	
	2009-10	2009-10
Poverty Headcount Ratio (%)	48.7	29.8
Total Number of Poor (in millions)	12.19	354.68
Multidimensional Poverty Headcount (%)	69.7	53.7
Number of Multidimensional Poor (in millions)	17.9	612
	2007	**2007**
Global Hunger Index (GHI)	26.63	23.3
GHI Rank of Chhattisgarh (out of 17 States)	14	-
GHI Rank of India (out of 76 Countries)		55
	2005-06	**2005-06**
Prevalence of Calorie Undernourishment (%)	23.3	20
Prevalence of Underweight Children under 5 years of age (%)	47.6	42.5
	2005	**2005**
Multidimensional Poverty Index (MPI)	0.367	0.283

Source: India State Hunger Index 2009, IFPRI.

Table 10: Nutritional Status of Ever Married Adults (age 15-49) and Children

Status	Percentage (%)		
	Total	*Urban*	*Rural*
Women whose body mass index is below normal	41.00	23.50	45.70
Men whose body mass index is below normal	31.80	17.90	35.6
Children under 3 years are stunted	45.50	32.80	47.9
Children under 3 years are Wasted	17.90	17.70	17.9
Children under 3 years are Underweight	52.10	38.90	54.6
Anemia among Children and Adults			
Children age 6- 35 months who are anemic	81.00	75.60	82.1
Ever married women age 15-49 who are anemic	57.60	50.30	59.4
Pregnant Women age 15-49 who are anemic	63.10	65.20	62.7
Ever married men age 15-49 who are anemic	26.40	17.90	28.7

Source: NFHS-3, 2005-06

Nutritional status is a major determinant of health and well being among children. Developing countries like India account for almost half of the undernourished children in the world and this is largely due to dietary deficiency in relation to the nutritional needs. Malnutrition is prevalent in the State on a large scale. Nutritional deficiency is more prevalent in Chhattisgarh in rural areas and among SC and ST women and illiterate women. Anemia is a serious problem among women in Chhattisgarh. Table 10 shows that about 41.0% women and 31.8% men had body mass index below normal. Moreover, 57.6% of ever married women and 26.4% ever married men of age 15-49 in Chhattisgarh are anemic (63.1% of pregnant women are anemic).

Chhattisgarh has one of the highest death rates amongst the states in the nation at 9.6 per 1000 and has a birth rate of 26.7 births per 1000. Some of the

diseases that affect the population of Chhattisgarh are anemia, sickle cell, malaria & typhoid. Some of the main reasons for health issues in Chhattisgarh can be identified as the degradation of natural environment, lack of health facilities, illiteracy, lack of proper nutrition and lack of proper source of employability. 48% of women in Chhattisgarh are under nourished. Nutritional deficiency is more prevalent in Chhattisgarh in rural areas and among SC and ST women and illiterate women. Overall 69% of women in Chhattisgarh have some degree of anaemia compared to all India rates of 52% and 49% in Madhya Pradesh. 26.40% of women in Chhattisgarh are moderately too severe anaemic compared with 15% in Madhya Pradesh (NFHS-3). Anaemia is a serious problem among women in every population group in Chhattisgarh with prevalence rates ranging from 54 to 86 percent across groups. Pregnant women are more 43% than non pregnant women 20- 22% anaemic (*Sample Registration System Statistical Report, 2009*).

Declining Population Growth by High Mortality and Morbidity Rate

Maternal Mortality Ratio (MMR); In India: Among women aged between 15-49 years are dying due to maternal causes per 1, 00,000 live births in 2004-2006 was 254 and in 2007-2009 was 212. In the state of Assam in 2004-2006 and 2007-2009 is 480 and 390, in Bihar/Jharkhand is 312 and 261, in Madhya Pradesh/Chhattisgarh is 335 and 269, in Orissa is 303 and 258, in Rajasthan is 388 and 318, in Utter Pradesh/Uttarakhand is 440 and 359 and in Andhra Pradesh is 154 and 134, in Karnataka is 213 and 178, in Kerala is 95 and 81, in Tamil Nadu is 111 and 97, in Gujarat is 160 and 148, in Haryana is 186 and 153, in Maharashtra is 130 and 104, in Punjab is 192 and 172 and in West Bengal is 141 and 145. Among the states of India Chhattisgarh along with Madhya Pradesh are 5th in position by higher Maternal Mortality Ratio.

Table 11: Maternal Mortality Ratio (MMR) in India and Other States

India & Major States	MMR Year 2004-06	2007-09	2010-12
India	254	212	178
Assam	480	390	328
Bihar/Jharkhand	312	261	219
Madhya Pradesh /Chhattisgarh	335	269	230
Orissa	303	258	235
Rajasthan	388	318	255
Uttar Pradesh /Uttarakhand	440	359	292
Andhra Pradesh	154	134	110
Karnataka	213	178	144
Kerala	95	81	66
Tamil Nadu	111	97	90
Gujarat	160	148	122
Haryana	186	153	146
Maharashtra	130	104	87
Punjab	192	172	117
West Bengal	141	145	136

Source: Sample Registration System Statistical Report, 2004-06, 2007- 09 and 2010-12 http://censusindia.gov.in/vital_statistics/SRS_Bulletins/MMR_release_070711.pdf

Table 12: MMR/ Mortality Percentage in Tribal Women at Tertiary Level of Care in Bastar, Chhattisgarh

Indicator	Year 2008 – 2009		2009 - 2010		2010 - 2011	
MMR Per 100000	1615.881		1168.325		1000.769	
Maternal Mortality	Among Tribal women	Among Other Caste women	Among Tribal women	Among Other Caste women	Among Tribal women	Among Other Caste women
Percentage	85.714	14.286	100	00	100	00

Source: Chauhan, Prabha; Lagoo, Jyoti; Chauhan, V. K. S, 2012 International Journal of Biological & Medical Research; Vol. 3 Issue 1, p1377.

In Tertiary level of care of Bastar in the year 2008 - 2009, 2009 – 2010 and 2010 - 2011 the total maternal deaths were 35, (n=35), 27 (n=27) and 26 (n=26) respectively. The Maternal Mortality Ratio was 1615.881, 1168.325 and 1000.769 Per 1, 00,000 live births in the year 2008 - 2009, 2009 – 2010 and 2010 - 2011 respectively. In the year 2008 - 2009, maternal mortality percentage among tribal women was 85.714% and was 100% in the year 2009 – 2010 and 2010 – 2011. For better understanding Table 12 may be consulted.

From NHFS-2 data, it is known that in some tribal areas, 60% of girls are married at the age of below 18 years. 43 % of pregnant tribal women did not receive any ANC. 39% did not receive any tetanus toxoid. Only 49% were given iron and folic acid tablets. 81% of pregnant tribal women delivered at home and these are the basic reasons of maternal mortality and declining growth rate. Clearly, tribal people especially women and children require special attention, if their health status is to be improved. There is low utilisation of health services in tribal areas because of sparsely distributed tribal population in difficult forest and hilly regions. Lack of suitable transport facilities and lack of appropriate HRD (Human Resource Development) policies to encourage/motivate the service is responsible for declining population rate. Annual Estimates of Total Death Rate (Table 13) shows that male death rate is increasing year by year which leads women widowhood and infertility also. It is observed from the Table 14 that crude death rate of both male (9.0) and female (7.2) are higher than national average (Male: 7.8 & Female: 6.7).

Table 13: Annual Estimates of Total Death Rate

Indicator	Chhattisgarh Year						India Year					
	2004	2005	2006	2007	2008	2009	2004	2005	2006	2007	2008	2009
Total	7.5	7.6	7.5	7.4	7.4	7.3	7.7	7.6	7.5	7.4	7.4	7.3
Male	8.0	8.0	8.0	8.0	8.0	7.8	8.6	8.6	8.7	8.2	9.1	9.0
Female	7.0	7.1	7.0	6.9	6.8	6.7	6.9	7.6	7.5	8.0	7.0	7.2

Source: Sample Registration System Statistical Report, 2009

Table 14: Crude Death Rate by Sex and Residence

Country/ State	Total	Rural	Urban	Male	Female
India	7.3	7.8	5.8	7.8	6.7
Chhattisgarh	8.1	8.5	6.4	9.0	7.2

Source: Sample Registration System Statistical Report, 2009

Table 15: Crude Death Rate in Selected Tribals Districts

State	Total			Rural			Urban		
	Person	*Male*	*Female*	*Person*	*Male*	*Female*	*Person*	*Male*	*Female*
Bastar	7.3	8.7	6.0	7.3	8.7	5.9	7.6	8.9	6.2
Dantewada including Bijapur, Sukma	8.7	10.4	7.1	8.6	10.1	7.2	9.4	12.2	9.4
Jashpur	9.2	9.4	9.1	9.4	9.5	9.3	-	-	-
Korea	6.5	6.9	6.2	6.7	6.9	6.6	6.1	6.9	5.2
Sarguja	8.8	9.2	8.4	9.2	9.6	8.7	4.7	4.8	4.7

Table 16: Annual Estimates of Total Fertility Rate

Indicator	Chhattisgarh Year						India Year					
	2004	2005	2006	2007	2008	2009	2004	2005	2006	2007	2008	2009
Total	3.3	3.4	3.3	3.1	3.0	3.0	2.9	2.9	2.8	2.7	2.6	2.6
Male	3.6	3.7	3.6	3.4	3.2	3.2	3.3	3.2	3.1	3.0	2.9	2.9
Female	2.2	2.2	2.2	2.1	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0

Source: Sample Registration System Statistical Report, 2009

Decadal Population Growth by Highly Acceptance of Sterilization Methods

Table 16 depicts that annual estimates of total fertility rate is declining which is 3.0 % in 2011 but it was 3.3% in 2004. Though Family planning is banned on primitive tribes but desirous tribal population undergo family planning operations mostly for the sake of incentives rather than they don't know about

the real need of sterilization. The Government also does not aware that where the health institutions are implementing sterilization process. It's prominent that herbal medicine (traditional preparation) is being used by women for permanent stoppage of menstruation period after achieving a desired number of offspring. Low age at marriage among the females coupled with high maternal morbidity rate, benign and harmful traditional birth-related practices of having delivery at home, attended by untrained personnel and lesser utilization of Government health services are responsible for high CDR and infant mortality among these unprivileged population.

Infant Mortality

The infant mortality rate in Chhattisgarh is currently estimated at 54 deaths per 1,000 live births as per the latest available SRS, 2009. Infant mortality is higher in rural areas (55 per 1000 births) than urban areas (47 per 1000 births). It is clear from table 17 that female infant experienced a higher mortality rate than male infant in Chhattisgarh. As per NFHS-3 data, infant mortality is 113 deaths per 1,000 live births born to teenage mothers, compared with 71 deaths per 1,000 live births born to mothers age 20-29. Spacing between births is also an important factor for determining the IMR, lesser the period of interval between births (below 2 years), higher the infant mortality rates. In all, 123 children die before reaching at the age 5. Infant mortality is 70% higher among children born to mothers under 20 years of age (NFHS-3). Infant mortality among children born less than 24 months after a previous birth is 27-55% higher. This has resulted in the use of contraceptive methods (temporary) for delaying and spacing birth among tribals which is responsible for declining growth rate of population.

Table 17: Infant Mortality Rata by Sex

Country/ State	Total			Rural			Urban		
	Total	*Male*	*Female*	*Total*	*Male*	*Female*	*Total*	*Male*	*Female*
India	50	49	52	55	54	56	34	32	35
Chhattisgarh	54	50	57	55	51	58	47	43	50

Source: Sample Registration System Statistical Report, 2009

Table 18: Child Immunization (12-23 months)

Variables	NFHS-2	NFHS-3	DLHS-3	ASH 2011
Total	21.8	48.7	59.3	74.1
BCG	64.9	84.6	94.8	94.8
DPT3	50.7	75.8	71.3	71.4
Measles	35.5	62.5	80.0	79.9
vitamin A	24.4	53.0	68.5	65.1
Polio Drop	55.5	78.1	69.7	83.0

Table 19: Status of Child Immunization

Immunization	Percentage
DPT3 Vaccine	66.5
Measles Vaccine	73.1
Full Immunization(Children 12-23 months, receiving 1 dose BCG, 3 Dose of DPT/ OPV each and 1 Measles Vaccine)	57.3
DPT Booster Dose (Children aged 18-23 months who received DPT booster Dose)	37.4
Vitamin A Dose	62.1
ORT or Increased Fluids for Diarrhea (Among children <2 year of age who had diarrhea in preceding 2 weeks)	68.3

Source: UNICEF, 2009

Table 20: Estimated Death Rates for Children 0-4 Years by Sex and Residence

Indicator	Total			Rural			Urban		
	Total	*Male*	*Female*	*Total*	*Male*	*Female*	*Total*	*Male*	*Female*
India	14.1	13.4	14.9	15.7	14.9	16.6	8.7	8.3	9.2
Chhattisgarh	15.5	14.3	16.7	16.2	15.0	17.5	11.4	10.7	12.1

Source: Sample Registration System Statistical Report, 2009

Child Mortality and Morbidity by Poor Acceptance of Immunization

Immunization of children is aimed at preventing diseases and inducing a herd immunity which may help them grow in a healthier environment. In Chhattisgarh, only 21.8% of children age 12-23 months were fully vaccinated as per NFHS-2 and this proportion improved to 48.7% in 2005-2006 (NFHS-3). It further improved to 59.3% in DLHS-3 and 74.1% in AHS 2011. Although 94.8% had received BCG vaccination, only 79.9% children received measles vaccine, 71.4 received all three doses of DPT. About 2.4% of children had not received any vaccine. The dropout rates are very high for the vaccinations (94.8% for BCG to 71.4% for DPT). Children under 5 years of age should receive oral doses of vitamin A every 6 months starting at the age of 9 months. Only 65.1% of children (age 9 months and above) in Chhattisgarh had received at least one dose of vitamin A supplementation. 5 percent of children in Chhattisgarh had diarrhea in the two weeks. Among these children, 62% were taken to a health facility. 46% were treated with some kind of oral rehydration therapy (ORT) or increased fluids, including 40 percent who were given ORS. One-fourth of children with diarrhea did not receive any type of treatment at all. Thus vaccinations are not adopted seriously by local people and this is the reason of child mortality and morbidity. According to UNICEF, 2009 (Table 19) the status of child immunization is not satisfactory because only 57.3% children between 12-23 months age group had taken full immunization. The death rates for children below age 5 (Table 20), child mortality is estimated in India at 14.1 and it varies from 15.7 in rural areas to 8.7 in urban areas where Chhattisgarh shows higher percentage than national average.

Neonatal Mortality

As per as neonatal mortality is concerned from table 21, in India neonatal mortality is 34 per1000 live birth and ranges from 21 in urban areas to 38 in rural areas**.** The percentage of neonatal death to total infant death is 67.9 at the national level and varies from 61 in urban areas to 69.1 in rural areas. In spite of that Chhattisgarh has higher neonatal mortality rate than national average.

Table 21: Neonatal Mortality Rates and Percentage of Neonatal Death to Infant Death by Residence

Country/ State	Neonatal Mortality Rate			Percentage of Neonatal Death to Infant Death		
	Total	*Rural*	*Urban*	*Total*	*Rural*	*Urban*
India	34	38	21	67.9	69.1	61.0
Chhattisgarh	38	38	36	70.7	69.8	78.3

Source: *Sample Registration System Statistical Report, 2009*

Table 22: Perinatal Mortality Rate and Still Birth Rate by Residence

Country/ State	Perinatal Mortality Rate			Still Birth Rate		
	Total	*Rural*	*Urban*	*Total*	*Rural*	*Urban*
India	35	39	23	8	8	7
Chhattisgarh	45	46	39	12	12	11

Source: Sample Registration System Statistical Report, 2009

Perinatal Mortality and Still Birth

It has been found from table 22 that Perinatal mortality rate has been estimated to be 35 and ranges from 39 in rural areas to 23 in urban areas. In Chhattisgarh Perinatal mortality rate (45 per 1000 live birth) is estimated to extremes. The still birth rate for the year 2009 at the national level is 8 per thousand and Chhattisgarh shows higher still birth rate (12) as compared to India.

Mortality by Genetic Diseases

Genetic disorders are gaining prominence and have profound health implications in morbidity status of tribals (Balgir 2004b, 2004c, 2005b). Sickle cell anemia and glucose-6-phosphate dehydrogenase (G-6-PD) enzyme deficiency are the two important genetically determined disorders, which play an important role in human health and disease. The women have got more potency than men so far as sexuality is concerned. The reason may be more men are fond of alcohol and country made liquor. Polygamy has also been affecting the men folk. Women are more engaged in household activities and other agricultural works perhaps more than men. In a way, they are contributing a lot to economy

of the family being earning women. Hence, they do not want that they should carry pregnancy as it affects their earnings. These require further serious researches in the fields in question.

Table 23: Death Rates for Persons Age 15-59 Year by Sex and Residence

Country/ State	Total			Rural			Urban		
	Total	*Male*	*Female*	*Total*	*Male*	*Female*	*Total*	*Male*	*Female*
India	3.5	4.2	2.7	3.7	4.3	3.0	3.0	3.8	2.1
Chhattisgarh	4.1	5.1	3.0	4.2	5.1	3.2	3.6	4.9	2.3

Source: Sample Registration System Statistical Report, 2009

Short Life Span

As per Table 23, at the national level, death rate in this age group is estimated to be 3.5 and it varies from 3.7 in rural areas to 3.0 in urban areas. Chhattisgarh has 4.1 and it varies from 4.2 in rural and 3.6 in urban areas which higher than national average that show shorter life span than national data.

Recommendations

Above all, the State Government must urgently restore its development and welfare presence in this and all the above mentioned following 'affected district' as well as 'affected villages' of Chhattisgarh.

1. As a minimum, the following services should be restored:

a. Every hamlet should have a fully equipped functioning ICDS centre, supported by functioning nutrition rehabilitation centres at the PHC level; there should be a drive to identify and treat malnourished children.

b. Fair Price Shops run by panchayats should be opened at the maximum distance of 5 kilometres from every hamlet, and should be opened at least 5 days a week.

c. A drive should be undertaken to ensure that all households of local tribal villagers are given ration cards and food grains at Antodaya rates (prevalent in Chhattisgarh) in all the 644 villages affected by the ongoing conflict.

d. MG NREGA job cards should be also given to all local households, and the State should strive to ensure that 100 days of work is given to every household that seeks employment under the scheme.

e. All Sub Health Centres and PHCs should be restored and rendered fully operative.

f. To service all the conflict affected areas, sufficient number of residential schools for both boys and girls should be opened, and parents given the option of admitting their children in residential schools, if they feel they would be safer and more secured there.

g. Special efforts should be made to identify all minors in custody or camps, including former child soldiers, and they should be admitted into residential schools, after professional psycho-social counselling under the supervision of National Commission for Protection of Child Rights (NCPCR).

2. The State Government should in 6 months study the reasons for such low decadal increase in population in the districts of Bastar Division, Jashpur and Korea. If they have not been counted, this may be remedied in consultation with the Registrar General of India. In case they are internally displaced, the State Government should indicate the numbers and locations, and steps planned to enable people to return to their homes. A detailed report on this may be submitted to the Supreme Court.

3. Governments periodically send their representatives to evaluate the extent to which the steps are to be taken in the affected villages, to ensure the right to life with dignity and without fear, of all the affected villagers of this impoverished, troubled and conflict ridden region.

Conclusion

Chhattisgarh State was carved out of erstwhile Madhya Pradesh state in 2000. The state of Chhattisgarh has an area of 1, 35,191 sq. km. and a population of 25.5 million. The State has population density of 154 per sq. km. (as against the national average of 312). It ranks as the 16th most populated state of the nation. It is an important electricity and steel producing state of India. There are 27 districts, 146 blocks, and 20,308 villages. More than half of these districts have been classified as remote, tribal, and extremist affected areas (one third of Chhattisgarh's population is of tribes).

Out of 2.55 crore populations in the State (as per

Census 2011), 78% lives in rural areas and 37% of the population is in tribal areas. The sex ratio is 968 and the literacy rate is 65.5% in population above 7 years of age. There is a shortage of trained health care providers in Chhattisgarh. The crude birth rate is 23.5 per 1000 population (AHS, 2011-2012). The infant mortality rate is 48 per 1000 live births (SRS, 2012). Malnutrition and anemia are very high among the tribes of Chhattisgarh. Malaria has been a major health problem. Chhattisgarh is one of the states with annual parasite index >5 (*DLHS-3 Report*).

Environmental factors, climate changes have impacts on the disease patterns and decadal population growth rate. Concurrently, the ongoing problems of maternal and child mortality, male mortality, high prevalence of sterilization, communicable diseases, and HIV/AIDS endemic still need greater interventions/support from the already over stretched and over burdened health systems.

Tribal communities in general and primitive tribal groups in particular are highly disease proned population in Chhattisgarh. They do not have required access to basic health facilities. They are most exploited, neglected, and highly vulnerable to diseases with high degree of malnutrition, morbidity and mortality. Their misery is compounded by poverty, illiteracy, ignorance of causes of diseases, hostile environment, poor sanitation, lack of safe drinking water and blind beliefs, etc. The chief causes of high maternal mortality rate are found to be poor nutritional status, low hoemoglobin (anemia), unhygienic and primitive practices for parturition. Average calorie as well as protein consumption is found in below the recommended level for the pregnant as well as lactating women. Some of the preventable diseases such as tuberculosis, malaria, gastroenteritis, filariasis, measles, tetanus, whooping cough, skin diseases (scabies), etc. are also high among the tribals. Some of the diseases of genetic origin reported to be occurring in the Indian tribal population are sickle cell anemia, alpha- and beta-thalassemia, glucose-6-phosphate dehydrogenase (G-6-PD) deficiency, etc. Night blindness, sexually transmitted diseases are well known public health problems of tribals in India.

From some local problems and public health point of view, most of the health indicators and socio-economic status are below national average and unsatisfactory. The human resources gap, poor physical infrastructure, inadequate health education and awareness, poor health seeking behavior, and inadequate healthcare utilization compound the problem. Indicators related to health and health care delivery are outcomes of research in diverse fields other than the department of health. Putting them together and projecting them in a public health view point encourage others to focus on the neglected indicators/areas.

The insurgent activities, deployment of forces, migration, lack of awareness, lack of basic facilities, lack of proper sanitation, health care , education, employment and other facilities and amenities are affecting their birth rate and declining population. However, longevity has been increased and there has been decline of birth rate. In a nut shell, there is and there has been a need to care the tribal population. The Government and civil society have to reach to them and negotiate with them engaging and involving them in developmental activities. There is a need to restore peace and tranquility pacifying and wiping out the insurgent activities at the earliest. The need of the hour is to link them with the mainstream of the nation for their proper development and advancement.

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