

disability had been scanty from India although it was an important public health problem.

There are different forms of disability and despite the diversity in disabling conditions; people living with disabilities face common barriers that prevent their full participation in society (Hosseinpoor et. al., 2016). The seriousness of the issue can be gauged from the multilevel and multidimensional nature of the impacts of disability on the society. In the word of Barbotte et. al., (2001) disability affects physical health, social relationship of people, life in the realms of family, friends, and neighbours, psychological state, and level of independence and as reported by Hossain et. al., (2003) the consequences of disability can have an impact at personal, interpersonal, family and social levels. As such, people with disabilities remain at the margins of society as one of the impoverished groups (Imrie, 1997).

There has been a growing tendency to see disability as a human rights issue (Quinn and Degener, 2002). And over the years, there is an increasing recognition and emphasis on the needs and rights of people with disabilities which has resulted in a growing demand for information by the planners and policy makers involved in this field (CSO, 2012). World Health Organization has already warned about the vulnerability of people affected by disabilities. As per its report on disability (WHO, 2011), the people affected by disabilities are at an increased risk for poor health outcomes, lower education attainment, reduced employment and earning potential, living in poverty, and higher dependency on others. Hence, organized research on prevalence, determinants and consequences of various disability conditions is a prerequisite to address the problem of disability. Although for a country like India, there has been questions raised about the appropriateness of existing data on disability (Kumar, 2009), the significance of analyzing the available data can never be denied. There have been many studies discussing about the requirement of information on the extent of the impact of disabilities to formulate future policies aiming at improving the quality of life of disabled people (Hossain, 1995 and Durkin et. al., 1994, cited by Hossain et. al., 2003).

Issue of vulnerability of disable people appears more critical when tribal population is taken in to account. In fact, tribal population all over the world has been found to be one of the most vulnerable marginalized groups of the society. In India too, the Scheduled Tribes, who are considered to be socially and economically disadvantaged, face structural discrimination within the society and people with some form of disability are considered to be one of the most vulnerable segments among the tribal (Saksena, 2014).

Selecting a state like Odisha has enough points of justification. It is one of the major states of India, which despite of having a huge stock of natural resources, portrays a grave picture of poor socio-economic status of the inhabitants. It is one of the most backward states in terms of per capita income and has been experiencing high level of infant and child mortality rates as well as maternal mortality ratio. Odisha hosts the highest number of tribes and has a Scheduled Tribe share of more than 22% of the total population of the state. Regarding the state of disability, as per the data revealed by NSSO (2003), Odisha has a very high level of disability prevalence rate. But, it was not found to be a pro-active state in increasing awareness among people with disabilities about commitments and entitlements. As such, World Bank in its study on disability in India have reported that states like Bihar, Maharashtra, Orissa, Uttar Pradesh have lagged in implementing many of the basic entitlements enshrined in the PWD Act of 1995 (World Bank, 2007). Thomas (2005) argues that poverty is one of the biggest causes and consequences of disability in India. As such, the poor economic condition, higher percentage of tribal population, larger rural base, relatively higher rate of disability in comparison to the national average and ineffective implementation of PWD Act definitely makes such a study appropriate for a state like Odisha.

In the words of Sultana and Gulshan (2014), although people with disabilities are citizens with equal rights, who, given the opportunity, are able to contribute economically and socially to their households and communities, they are often discriminated against, socially marginalized and do not have access to basic social services. It appears to be more serious as the issue has not

received proper attention by the academician and researcher, especially in the developing world. In this context, this paper attempts to analyze the extent of disability existing among the scheduled tribe population of Odisha and its demographic and regional variations.

16.2 METHODS AND MATERIALS

The current study is based on analysis of secondary data from 2011 Census of India. Census of India has seen a lot of changes as far as inclusion of questions on disability are concerned. Question on disability was canvassed in all the Censuses between 1872 and 1931; but was not a part of the next three subsequent censuses i.e. from 1941 to 1971, whereas questions on three types of disability were included during the Census 1981. In 1991 the question on disability was again dropped and during 2001, Census collected data on five types of disabilities. However, information on eight type of disability was collected from 2011 Census, which is available up to the district level. Information on disability of individuals was collected during the Population Enumeration phase of Census 2011 through household Schedule, information for individuals residing in 'Normal' 'Institutional' and 'Houseless' household was collected.

Census of India (2011) has categorized the persons with disability in to eight groups as per the details below.

Seeing: A person may be considered as having disability in seeing if she/he

- Cannot see at all; or
- Has no perception of light even with the help of spectacles or
- Has perception of light but has blurred vision even after using spectacles, contact lenses etc. A simple test is whether the person can count the fingers of hand from the distance of 10 feet in good daylight. Such persons can however, move independently with the help of remaining sight; or
- Can see light but cannot see properly to move about independently; or

- Has blurred vision but had no occasion to test if her/his eyesight would improve after taking corrective measures

Hearing: a person may be considered as having disability in hearing if she/he

- Cannot hear at all;
- Has difficulty in hearing day-to-day conversational speech(heard of hearing); or
- If she/he was using a hearing aid

Speech: A person will be considered having disability in speech if she/he was above the age of 3 years and

- Cannot speak at all or she/he was unable to speak normally on account of certain difficulties linked to speech disorder; or
- Able to speak in single words only and was not able to speak in sentences or
- Stammers to such an extent that the speech was not comprehensible. However, persons who stammer but whose speech is comprehensible may not be treated as disabled in speech

Movement: A person may be considered as having disability in movement if she/he has a disability of bones, joints or muscles of the limbs leading to substantial restriction of movement;

- Do not have both arms; or
- Do not have both legs; or
- Were paralysed and were unable to move; or
- Were unable to walk but crawl to move from one place to the other; or
- Were able to move only with the help of caliper/s, wheelchair, tricycle, walking frame, crutches etc; or
- Have acute and permanent problems of joints/muscles that have resulted in limited movement; or
- Have lost all the fingers or toes or a thumb; or
- Were not able to move or pick up any small thing placed nearby; or

- Have stiffness or tightness in movement, or have loose, involuntary movements or tremors of the body or have fragile bones; or
- Have difficulty in balancing and coordinating body movements; or
- Have loss of sensation in the body due to paralysis or leprosy or any other reason; or
- Have any deformity of the body part/s like having a hunch back; or
- Were very short statured (dwarf)

Mental Retardation: A person may be considered as having the disability of mental retardation if she/he

- Lacks understanding/comprehension as compared to her/his own age group; or
- Was unable to communicate her/his needs when compared to other persons of her/his age group; or
- Has difficulty in doing daily activities like looking after toilet needs, cleaning teeth, bathing, wearing clothes, taking care of personal hygiene and nutrition and general household tasks; or
- Has difficulty in understanding routine instructions; or
- Has extreme difficulty in making decisions, remembering things or solving problems

Mental Illness: A person may be considered as having the disability of mental illness if she/he Was taking medicines or other treatment for mental illness; or

- Exhibits unnecessary and excessive worry and anxiety, unexplained withdrawal or problems in sleep, loss of appetite and/or depression, thought of dying, unattended personal hygiene; or
- Exhibits repetitive (obsessive-compulsive) behavior/thoughts; or
- Exhibits sustained changes of mood or mood swings (joy and sadness) leading to having many days or weeks of not being able to function and behave normally; or

- Has unusual experiences-such as hearing voices, seeing visions, experience of strange smells or sensations or strange taste; or
- Has difficulty in social interactions and adapting at home, at school, at workplace or generally in society

Any other: This option enabled respondents to report those disabilities, which are not listed in the question. In such cases, where informant was not sure about the type of disability this option of reporting disability as 'Any Other' was available to her/him.

Multiple disabilities: It means a combination of two or more disabilities. Persons suffering from any of the two or more disabilities may be treated as having multiple disabilities with a combination of maximum three types of disabilities.

For the current analysis, Census 2011 data from C-20 series, which included data on disability by age group and type of disability, was used. Percentages were calculated for easy interpretation of the results. For the study purpose, Scheduled tribe population was taken into consideration, and to assess the regional variation in the existing level of disability among Scheduled tribes in Odisha, the entire state was divided into five regions as per their geographical proximity, namely Northern, Eastern, Western, Central and Southern Odisha. Table 1 represents the districts included under different geographical regions of the state.

Table 1: Districts under Different Geographical Regions of Odisha

<i>S. No.</i>	<i>Region</i>	<i>No. of Districts</i>	<i>District</i>
01	Northern Odisha	04	Mayurbhanj, Kendujhar, Baleshwar and Bhadrak
02	Eastern Odisha	09	Jajapur, Jagatsinghapur, Cuttack, Kendrapara, Puri, Nayagarh, Khordha, Ganjam and Gajapati
03	Western Odisha	09	Sundargarh, Jharsuguda, Debagarh, Sambalpur, Bargarh, Balangir, Subarnapur, Kalahandi and Nuapada
04	Central Odisha	04	Anugul, Dhenkanal, Baudh and Kandhamal
05	Southern Odisha	04	Nabarangapur, Rayagada, Koraput and Malkangiri

16.3 RESULTS AND DISCUSSION

From Figure 1, which shows the percentage of disabled scheduled tribe population by states in India, it is evident that more than two percent of the Scheduled Tribe population in India were reported to be disabled. The states having the lowest disabled population were from three Northeastern States, namely Assam, Mizoram and Tripura with 1.4% of scheduled tribe population being disabled in each of these states, whereas the highest disabled scheduled tribe population was found in the states of Sikkim and Jammu and Kashmir (2.8% each). Prevalence of disability among scheduled tribe population has also been in a critical stage for Odisha, which stood at the fourth position in terms of percentage of scheduled tribe being disabled.

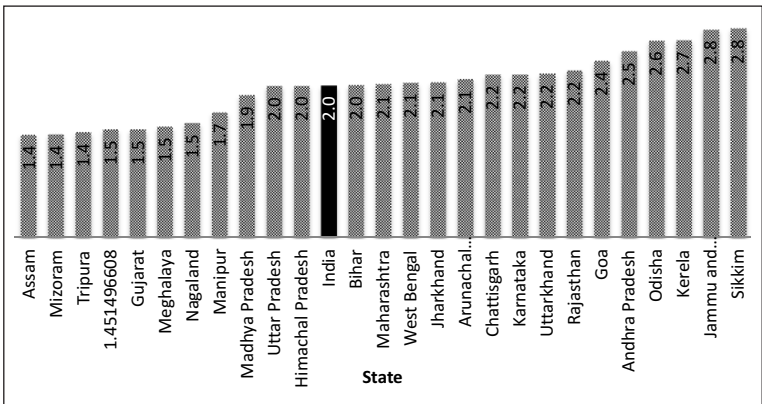


Figure 1: Percentage of disabled Scheduled Tribe population by state, India, census 2011

Looking at the district wise variation (Figure 2) in the prevalence of disability among scheduled tribe population in Odisha it was found out that Jajpur district under Eastern region constituted the lowest proportion of disabled scheduled tribe population (1.9%) followed by Kendujhar (2.2%), whereas the highest proportion of disabled scheduled tribe population was found in two districts (Nayagarh and Cuttack) from Eastern and one district (Jharsuguda) from western region, with 4.1% of the tribal being disabled.

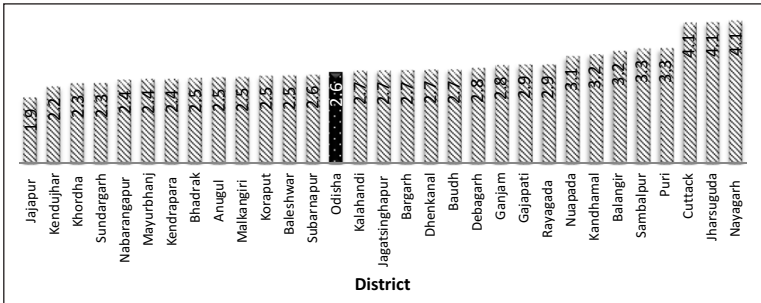


Figure 2: Percentage of disabled Scheduled Tribe population by district, Odisha, India, Census 2011

Figure 3 shows the percentage share of total disabilities by type of disability in Odisha and it was found from the analysis that although movement related disability constitute the highest proportion of disabled scheduled tribe population in India, for Odisha, the highest percentage share of disability was in the category ‘seeing’ (23%), followed by hearing (22%). Movement related disability was the third major category of disabled population in the state. Further, Mental retardation was also found to be a high level 5%, which is almost the same with that of the national average for disabled scheduled tribe population.

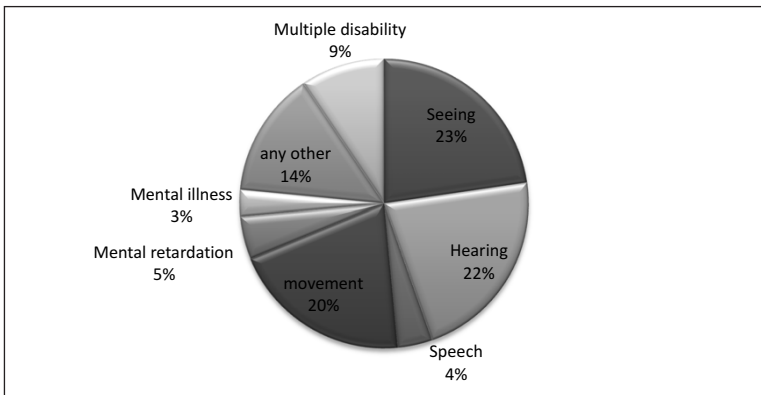


Figure 3: Percentage share of disabled Scheduled Tribe population by type of disability, Odisha, Census 2011

From Table 2, which shows the percentage share of different categories of disability among scheduled tribe population by

regions of Odisha, it was clear that prevalence of disability in seeing was at a very high level for districts in Southern, Eastern and Central regions of the state, where as disability in hearing was a major problem for the scheduled tribe population in the districts of Southern and Northern Odisha. Interestingly, districts from northern and southern Odisha, which experienced higher degree of hearing related disability, were in better positions as far as speech related disabilities were concerned. As a matter of fact, proportion of speech related disabled scheduled tribe population was much lower than the state average for the Southern as well as Northern regions. Further, as far as Mental retardation was concerned, the proportion of disabled population was relatively higher for the Eastern region (5.2%) and for multiple disabilities, the scheduled tribe people of the Central region were in a disadvantaged conditions with more than one tenth of the disabled in that category were found to be with multiple disability.

Table 2: Percentage share of disabled Scheduled Tribe population by type of disability

<i>Region</i>	<i>Seeing</i>	<i>Hearing</i>	<i>Speech</i>	<i>Movement</i>	<i>Mental retardation</i>	<i>Mental illness</i>	<i>Any other disability</i>	<i>Multiple disability</i>	<i>Total</i>
Northern	19.5	22.4	3.8	21.5	5	3.4	0.2	9	2.4
Eastern	27.7	20.8	4.2	19.1	5.2	2.3	11.9	8.8	2.8
Western	20.4	20.2	4.1	22.6	4.8	3.4	14.6	10	2.8
Central	21.5	21.3	4	21.5	4.9	3	12.8	11	2.9
Southern	27.8	24.8	3.5	15.8	4.3	2.1	13.2	8.7	2.6

Figure 4 depicts a picture of prevalence of disability among scheduled tribe population by sex and place of residence in Odisha in comparison to the prevalence rate for the entire country. It was found from the analysis that across sex and place of residence, the percentage of disabled scheduled tribe population was higher than the national average in all the categories.

Most of the studies done on disability revealed the association between female sex and disability prevalence. As reported by WHO (2011), Female sex was associated with higher disability prevalence,

a trend which had been widely reported across epidemiological studies. Newman and Brach (2001) also found in their study that women had consistently reported higher rates of disability than men. Further, Hosseinpoor et. al., (2016) in an empirical analysis using World Health Survey data found that disability was higher in females than in males in all study countries except Czech Republic and the sex difference was statistically significant too. However, the picture was quite different for the scheduled tribe population of the country and also the state of Odisha. In fact, disability rate was significantly higher among males compared to females not only for the total ST population of India but also for that of the state, which was contradictory to the existing literature. Although, unlike rest of the world, female population were not found to be with higher level of disability rate than male, vulnerability of disabled tribal women can never be ignored. In fact, Mehrotra (2004) argued that women with disabilities in India face double discrimination due to the prevalence of traditional gender roles and expectations. Also, working on the conditions of women with disability in the state of Odish, Nayak (2013) opined that women with disability were more marginalized and discriminated in the society and in case of employment also, people with disability were facing problem, particularly women.

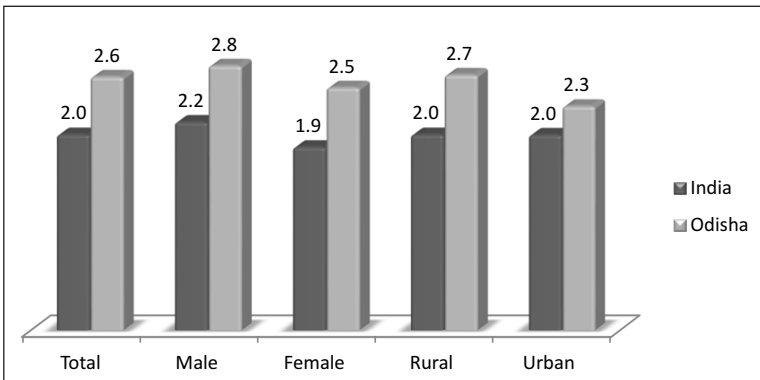


Figure 4: Percentage of disabled Scheduled Tribe population by sex and place of residence, Census 2011

As cited by Hosseinpoor et. al., (2016), rural and urban environments each contain unique situational factors for