

## Burden of Disability in India (1881–2011)

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**Abstract** It is estimated that roughly in the world 10 percent or 650 million people live with disability while India consist 26.8 million(Census 2011) & 58th round of National Sample Survey (NSS), 2002 (18.5million) indicates that around 2 percent of country's population suffers from disability. The overreaching aim of this paper is to estimate the prevalence of disability with its type and assess the changes of proportionate disabled population during pre-independence and post-independence period. The paper essentially explains the manifold increase in the prevalence of disability in post independence period due to the adaption of new definition. To analyze the prevalence of disability The Standardized Index of Diversity (SID) which was developed by Lieberson (1969) and Rowland (2003) and further given in K.M. Ponnappalli and F.Ram (2010). Paper outcome be said that blindness which continues fluctuated from the colonial periods in India. Concentration of disabled females is more with speech and, hearing whereas males movement and mental disabilities. SIDD index values indicates that all the states and districts have experienced a rising seeing disability and movement disability, but 2011 reveal that prevalence of hearing and movement disability gradually growing. This index reveals that North-East states like Sikkim; Nagaland & Manipur districts are disabled population are direct effect on curvature of economic. However, there is a need for the much detailed investigation of the demography of disability which could provide insights into the problem and suggest the efforts that are needed to tackle the issue

**Keyword:** Definition, Disability or Infirmity, Definitional Issues, Types of disability, SIDD index.

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## INTRODUCTION

Disability itself is a huge term, covering multidimensional impairments, activity limitations and participation restrictions. Impairment is a problem in body function or structure; an activity limitation is a difficulty encountered by an individual in executing a task or action; while a participation restriction is a problem experienced by an individual in involvement in life situations. Thus disability is a complex phenomenon, reflecting an interaction between features of a person's body and features of the society in which he or she lives. "Disabled people are not only the most deprived human beings in the developing world, they also the most neglected"[22].

Roughly 10 percent of the population in the world or 650 million people live with disability [11]. There is a marked asymmetry in burden of disability shared by developed and developing countries with the latter accounting for almost 80 percent of the total disabled population. Asia alone constitutes at least 400 million people with disabilities. Not only people with disabilities but also their families and communities are affected by disability [11]

NSS (National Sample Survey) of 36th, 47th and 58th round has provided data on disabled population. The 36<sup>th</sup> round (1981) of NSS data has introduced the demographic status of the disabled population. The 36<sup>th</sup> round, the NSS data covered only three types of disabilities. It included visual, communication (i.e. hearing and/or speech) and locomotors, whereas in 47<sup>th</sup> round of NSS the mental disability has been included as one of the type along with the previous three. In the 47<sup>th</sup> NSSO survey, the objective was to provide the incidence and prevalence of disability in the country. In India, the official figures provided by Census 2011 (26.8 million) and 2002 (18.5 million) indicate that around 2 percent of country's population suffers from disability [10-17]. These figures account for 3.2 percent of the total disabled in the world.

According to 2001 census 21 million people were disabled which has increased to 26 million in 2011 census [9-10]. The number of people with disabilities is expected to increase. The reasons are complex and multifaceted and largely due to health, demographic, and development factors.

A study examined the differences in employment and wages between males with and without disabilities in rural Tamil Nadu, the authors concluded that "employment gap between individuals with and without disability is not explained by differences in human capital and productivity, and may result from differential returns to characteristics and from discrimination in access to employment" [13,15]. Another search done disability index of education, skill development and employment, based on National Sample Survey and

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Census 2001 data presents a gloomy picture of the life of the disabled in India. Also there is a concern regarding the unawareness about the various facilities that are available for the disabled population. People with disabilities are the largest minority group in the world. As a group they are starved of services and facilities available to the non-disabled and, consequently, they are the least nourished, the least healthy, the least educated, and the least employed. They have a long history of neglect, isolation, segregation, poverty, deprivation, charity and even pity [12, 19].

The gender differences in disability may arise due to two set of factors. One set may constitute a different factor that affects males and females differently which further results in gender bias in disability. For example, comparatively a higher proportion of males, employed in more hazardous blue-collared occupations which are more prone to locomotors disability due to high probability of mechanical accidents. Another set constitutes same factors but affecting two sexes differently due to physiological and social factors and resulting in different disability rates among males and females [14, 20].

### **Historical Perspective**

- The question on disability was canvassed in all the Censuses since 1872 to 1931 [1-7].
- The question on disability was not canvassed in the Censuses from 1941 to 1971.
- In Census 1981, information on three types of disability was collected [8]
- The question was dropped in Census 1991
- The question was again included and information on five types of disability was collected, 2001[9]
- The information on eight types of disability has been collected in 2011 [10]

### **Definition of various types of Disabilities**

**Seeing disability:** In 2001 census a person who cannot see at all or has blurred vision even with the help of spectacles has been considered as visually disabled person. A person may have blurred vision and had no occasion to test whether his eyesight would improve by using spectacles - such persons were also treated as visually disabled. In 2011 census, enumerator applies a simple test to ascertain blurred vision that people included in seeing disability [9-10].

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**Hearing disability:** In 2001 census, a person who cannot hear at all (deaf), or can hear only loud sounds was considered to have hearing disability. In 2011 census, Persons using hearing aid have been treated as disabled. Persons having problem in hearing through one ear although the other ear is functioning normally was considered having hearing disability in Census 2001. But in Census 2011, such persons were not considered as disabled [9, 10].

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**Speech disability:** According to 2001 census, a person who is dumb or whose speech is not understood by a listener of normal comprehension was considered to have speech disability. Persons who stammer but whose speech is comprehensible were not classified as disabled by speech, In 2011 census, a person who speaks single words and is not able to speak in sentences was specifically mentioned to be treated as speech disabled [9,10].

**Movement Disability:** In 2001 census, a person, who lacks limbs or is unable to use the limbs normally, was considered to have movement disability. If any part of the body is deformed, the person was also treated as disabled and covered under this category. A person, who cannot move without the aid of another person or without the aid of stick, also treated as disabled. Similarly, a person who is unable to move or pick up any small article placed near, also treated as disabled in movement. A person, who may not be able to move normally because of problems of joints like arthritis and has to invariably limp while moving, too was considered to have movement disability, but in 2011 census, specifically mention of the following information related to movement disability (Paralytic persons), able to walk with the help of aid, permanent problems of joints/muscles, Have stiffness or tightness in movement or have loose, involuntary movements of the body or have fragile bones, difficulty balancing and coordinating body movement, loss of sensation in body due to paralysis, Leprosy etc and deformity of body like hunch back or are dwarf [9,10].

**Mental disability:** A person who lacks comprehension appropriate of age was categorized as mentally disabled. This would not mean, however, that if a person is not able to comprehend studies appropriate age and is failing to qualify examination, he considered mentally disabled. Mentally retarded and insane persons were treated as mentally disabled. A mentally disabled person generally has to depend on his family members for performing daily routine. 2011 census, divides mental disabilities into two categories one mental retardation and mental illness [9, 10].

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**Mental retardation:** Mental retardation or intellectual disability exists in children whose brains do not develop properly or function within normal range [10].

**Mental illness:** Mental illness is any disease or condition that influences the way a person thinks, feels, behaves, or relates to others and to his or her surroundings [9, 10].

**Any other disability:** new category introduced at census 2011 to ensure complete coverage of disability. That disability which are not listed in question, in such cases where information was not sure about type of disability this option of reporting as any other disability [10].

**Multiple disabilities:** A person suffering from at least three type of disability was reported as multiple disabilities [10].

## Objectives

1. To study trends and pattern of different type of disabilities in India (1881-2011).
2. To explore the disabled worker-non worker status of India for last two decades (1991-2001 & 2001-11)
3. To assess the Disability status among males and females in State level of India using the standardized Index of Diversity of Disability (SIDDD).

## Data Source

The primary source of the data used in the present paper is the various censuses, conducted during the pre-independence and post-independence period in India. In alignment with the objectives of the study, the data of disability from the censuses conducted during the period 1881-1931 are used for the analysis pre independence time period. The disability returns of 2001-11 censuses are utilized for the analysis of the present day disability situation in the country.

## Methodology

1. To understand the changes in the definitions of disability and its impact on the disability data, the definitions of different types of disabilities have been examined from the census reports of pre-independence (1881 to 1931), then projection 1941 to 1991 and post-independence era (2011).

### Change in Index (CI):

$$CI = \frac{D_t}{D_0}$$

D<sub>t</sub>: Disable population at time t,

D<sub>0</sub>: Disable population at base time o,

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Diversity of disabled population in this study has been estimated through the proportional distribution of disabled population to the entire population of a region. The Standardized Index of Diversity (SIDD) of disability has been used to identify the concentration of disability of a particular decade in a given region. Whenever it is appropriate the results of the analysis have been presented diagrammatically through maps which give further clarity of the distribution [18-19]. This Index as

$$SSID = \frac{1 - \{(P_{se})^2 + \{(P_{sp})^2 + (P_{he})^2 + (P_{mv})^2 + (P_{mn})^2 + \}}}{\{1 - (\frac{1}{5})\}}$$

P<sub>se</sub> = Proportion of Seeing disability in the total disable population. P<sub>sp</sub> = Proportion of Speech disability in the total disable population. P<sub>he</sub> = Proportion of Hearing disability in the total disable population.

P<sub>mv</sub> = Proportion of Movement disability in the total disable population. P<sub>mn</sub> = Proportion of Mental disability in the total disable population.

Index of Disability:

SIDD index is standardized and comprised of the five disability groups of India and varies between 1 and 0. For example, if everyone is of one disability, say, seeing disability group (i.e. P<sub>se</sub> = 1.0 and P<sub>sp</sub> = P<sub>he</sub> = P<sub>mv</sub> = P<sub>mn</sub> = 0), then the index will be equal to 0. The index will be equal to 1, if the total disabled population is evenly distributed between all the districts in India- Seeing, Speech, Hearing, Mental and Movement (when P<sub>se</sub> = P<sub>sp</sub> = P<sub>he</sub> = P<sub>mv</sub> = P<sub>mn</sub> = 1.0).

## RESULT AND DISCUSSION

Table 1 shows the trends in the total population and prevalence of disability during the period from 1881 to 2011 in India. It is evident that the total disabled have risen considerably from less than 1 million in 1881 to around 26.8 million people in 2011 [1,10]. And it is not simply the proportional increase in the number of disabled to the total population, as the prevalence of disability per 100000 populations has also increased manifold from 369 to 2208 persons

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**Table 1: Trend of Disability in India (1881–2011)**

Infirmity/ Disability	1881	1891	1901	1911	1921	1931	1941	1951	1961	1971	1981	1991	2001	2011
Insanity/Mental Disability	8.66	8.67	9.87	9.72	10.27	10.93	13.05	13.48	13.67	13.77	13.84	13.88	10.33	8.30
Deaf-muteness/ Hearing	21.05	22.99	22.83	23.98	22.05	20.98	18.75	18.30	18.10	17.99	17.93	17.88	13.25	26.45
Blindness/in seeing	56.21	53.59	52.79	53.22	55.77	54.65	62.28	63.82	64.49	64.86	65.09	65.26	48.55	18.75
Leprosy	14.08	14.74	14.51	13.09	11.92	13.44	5.92	4.39	3.74	3.37	3.14	2.98	NA*	NA
In Movement	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	27.87	20.26
Any disability	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	18.36
Multiple disability	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.89
<b>Total</b>	<b>937063</b>	<b>856252</b>	<b>670817</b>	<b>833644</b>	<b>860099</b>	<b>1100480</b>	<b>3267125</b>	<b>5433767</b>	<b>7600412</b>	<b>9767057</b>	<b>11933702</b>	<b>14100344</b>	<b>21906769</b>	<b>26840557</b>

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across all types of disabilities during the corresponding period (1881-2011). The statements made by the British colonial census commissioners emphasize the under-enumeration of disabled population (*Census of India 1931*). While the fluctuating trends in the number of disabled and disability prevalence during the colonial period (1881-1931) could be attributed to the embryonic stage of census operation in India and, the lack of understanding and participation of individual perceptions, both on the part of census enumerators and respondents. This indeed is one but not the only reason of this surge from pre- independence times to 2011 census, as the under-enumeration is prevalent in 2001 & 2011 census data. The change Index clearly indicates that prevalence of hearing or Deaf-muteness still high (26.45%). But trends of Blindness or seeing infirmity have declined in the latest decade (18.75%). The first time census of India (2011) has introduced any disability (18.36%) and multiple disabilities (7.89%).

This is percentage change in the total number of disabled over the period of time in relation to the 1881 census. It is computed by dividing the total number of disabled in each successive census by the disabled people recorded in 1881 census and then multiplying it by 100. Since the numerator and denominator are same in 1881, thus the value equals to 100. Table 2 depict that prevalence of all types of disability have been dramatically risen (29th times fold in 2011) through change index techniques.

### **Sex differentials in Disability**

Table 5 shows the trends in the ratio of disabled females per 1000 disabled males during 1911-2011. In general, the prevalence of disability among females is less during pre-independence but, last decade of twenty century and first decade of twenty first century shows more increase of disability among females was compared to their male counterparts. On an average, the prevalence of mental disability and deaf-muteness among females around 650 females per 1000 males and 700 females per 1000 males, respectively during the corresponding year. As for blindness, the ratio of females to male stands fluctuated from 1911-2011; it rises in 1921 and 1931 and declines to 855 females per 1000 males in 2001 and again increase to 907 in 2011. Other prevalence disability likes hearing, speech, movement & mental all types of female disability ratio increases as compared male counterparts. Although analysis of trends in female-male ratio in leprosy and movement disability between pre-independence and post-independence times is not possible due to change in the disability categories in census over period of time the fact that prevalence of leprosy and locomotor disability is also much less among



**Table 2: Change in Index (1881 = 100)**

Infirmity/Disability	1881	1891	1901	1911	1921	1931	1941	1951	1961	1971	1981	1991	2001	2011
Insanity/Mental Disability	100	92	82	100	109	148	526	903	1281	1658	2035	2413	2790	2747
Deaf-muteness/Hearing	100	100	78	101	96	117	311	504	698	891	1085	1278	1472	3600
Blindness/in seeing	100	87	67	84	91	114	386	658	931	1203	1475	1747	2019	955
Leprosy	100	96	74	83	78	112	146	181	215	250	284	318	NA	NA
In Movement	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100	89
Any disability	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100
Multiple disability	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100
<b>Total</b>	<b>100</b>	<b>91</b>	<b>72</b>	<b>89</b>	<b>92</b>	<b>117</b>	<b>349</b>	<b>580</b>	<b>811</b>	<b>1042</b>	<b>1274</b>	<b>1505</b>	<b>2338</b>	<b>2864</b>

Sources of Data: General Report on the Census of India \*NA: Data Not Available

**Note:**

- The data on disability for 1981 census is not presented, as the categories of disabled are not appropriate for inferential purpose.
- The earlier censuses (1881-1931) did not collect information on “locomotor disability”.
- The British Indian censuses, the census of 2011 provides data for hearing and speech disabilities, separately. However, in this table they have been clubbed together for inferential purpose.
- The census of 2001 & 2011 does not collect information on leprosy.
- The Census 2011 first time includes two another categories like Any tips disability & Multiple disability.

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**Table 3:** Change of Index of type of disability from 1881-2011

Year/ Infirmity	Insanity/Mental Disability	Deaf- muteness	Blindness/in seeing	Leprosy	In Movement	Total Disable
1881	100	100	100	100	–	100
1891	92	100	87	96	–	91
1901	82	78	67	74	–	72
1911	100	101	84	83	–	89
1921	109	96	91	78	–	92
1931	148	117	114	112	–	117
1941	526	311	386	146	–	349
1951	903	504	658	181	–	580
1961	1281	698	931	215	–	811
1971	1658	891	1203	250	–	1042
1981	2035	1085	1475	284	–	1274
1991	2413	1278	1747	318	–	1505
2001	2790	1472	2019	353	100	2388
2011	2746	2571	955	–		2864

Sources: RGI report of Census of India

**Table 4:** Comparative analysis of SIDD index in India (2001-2011)

States & UTs	Census 2001		Census 2011	
	Male	Female	Male	Female
JAMMU & KASHMIR	0.641	0.593	0.958	0.951
HIMACHAL PRADESH	0.898	0.877	0.957	0.954
PUNJAB	0.862	0.843	0.941	0.934
CHANDIGARH	0.793	0.768	0.946	0.955
UTTARANCHAL	0.884	0.85	0.964	0.957
HARYANA	0.854	0.817	0.942	0.93
DELHI	0.815	0.786	0.932	0.94
RAJASTHAN	0.793	0.753	0.926	0.912
UTTAR PRADESH	0.805	0.739	0.947	0.919
BIHAR	0.811	0.734	0.944	0.912
SIKKIM	0.813	0.822	0.906	0.92
ARUNACHAL PRADESH	0.551	0.733	0.918	0.895

NAGALAND	0.94	0.951	0.915	0.922	Burden of Disability in India (1881–2011)
MANIPUR	0.919	0.914	0.907	0.878	
MIZORAM	0.936	0.947	0.973	0.973	
TRIPURA	0.864	0.878	0.973	0.976	
MEGHALAYA	0.882	0.892	0.934	0.935	
ASSAM	0.834	0.806	0.976	0.964	
WEST BENGAL	0.882	0.852	0.972	0.965	
JHARKHAND	0.884	0.873	0.948	0.938	
ORISSA	0.843	0.813	0.954	0.951	
CHHATTISGARH	0.874	0.877	0.903	0.925	
MADHYA PRADESH	0.832	0.804	0.921	0.936	
GUJARAT	0.845	0.822	0.954	0.954	
DAMAN & DIU	0.717	0.739	0.948	0.946	
DADRA & NAGAR HAVELI	0.757	0.766	0.944	0.957	
MAHARASHTRA	0.87	0.884	0.978	0.98	
ANDHRA PRADESH	0.87	0.876	0.949	0.97	
KARNATAKA	0.85	0.84	0.955	0.962	
GOA	0.932	0.953	0.992	0.994	
LAKSHADWEEP	0.925	0.918	0.953	0.945	
KERALA	0.913	0.908	0.951	0.972	
TAMIL NADU	0.818	0.651	0.94	0.96	
PONDICHERRY	0.853	0.879	0.908	0.942	
ANDAMAN & NICOBAR ISLANDS	0.857	0.847	0.948	0.976	
INDIA	0.847	0.809	<b>0.962</b>	<b>0.961</b>	

Sources: Census of India 2001 & 2011

females than males is inferable from the data. Thus, the data is suggestive of the wide sex-differentials in disability prevalence with females faring superior than males in terms of lower prevalence in virtually all disability types.

### Differentials by sex & place of residence

Table 5 shows disability prevalence per 100000 populations by type of disability, sex and residence for the census years 2001-11. It is clear from

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**Table 5:** prevalence of disability among females per 1000 disabled males by type of disability in India, 2001-11

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<b>Disability</b>	<b>1911</b>	<b>1921</b>	<b>1931</b>	<b>2001</b>	<b>2011</b>
Leprosy	346	380	371	–	–
Deaf-muteness	676	660	677	–	–
Blindness/in seeing	999	1046	1112	855	907
In-Hearing	–	–	–	873	894
In-Speech	–	–	–	742	780
In-Movement	–	–	–	564	613
Mental	–	–	–	671	–
Mental-Retardation	–	–	–	–	729
Mental-Illness	–	–	–	–	739
Any-Other	–	–	–	–	806
Multiple-Disability	–	–	–	–	820

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*Source: Census of India, 1911, 1921, 1931, 2001 & 2011*

the figures that there are wide differentials in the disability prevalence by sex and residence across all types of disabilities in two decadal periods (1991-2001 and 2001-11). In general, males have higher prevalence of disability as compared to females. It appears that only disability of seeing & movement is rapidly falling down but other types of disability shows to be continuously rising in 2011. Its reveals that females are less susceptible to disabilities than males, as is seen in table 5 as well. However, the position of females in Indian society and the social ritual-stigma attached with disability, which may lead to concealment of the disability among females cannot be ruled out and may also arguably be cited as one reason among others for the lower prevalence. In rural areas, the higher prevalence of communicable diseases and, mother's anemia coupled with micro-nutrient deficiencies in childhood which cause disabilities along with the dismal state of medical facilities may explain the higher disability prevalence in rural hinterland [21].

### **District level scenario**

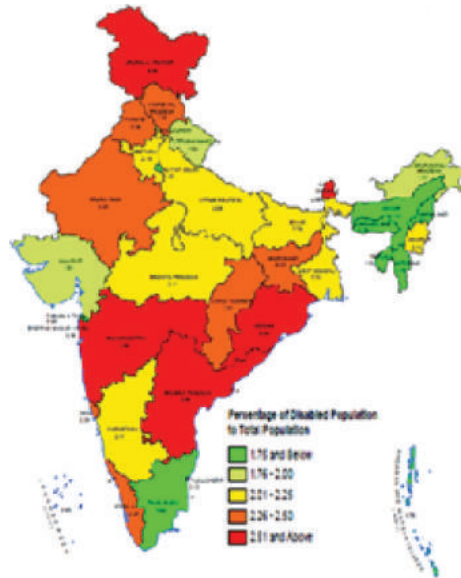
The analysis reveals that in North-East states like Sikkim; Nagaland & Manipur the disabled population is not evenly distributed as compared to rest of the States in India. A fig 1 show that is overall State level scenario (Maharashtra, Jammu & Kashmir and Andhra Pradesh high prevalence states) and Fig 2A and 2B reveal the distribution and prevalence of different type

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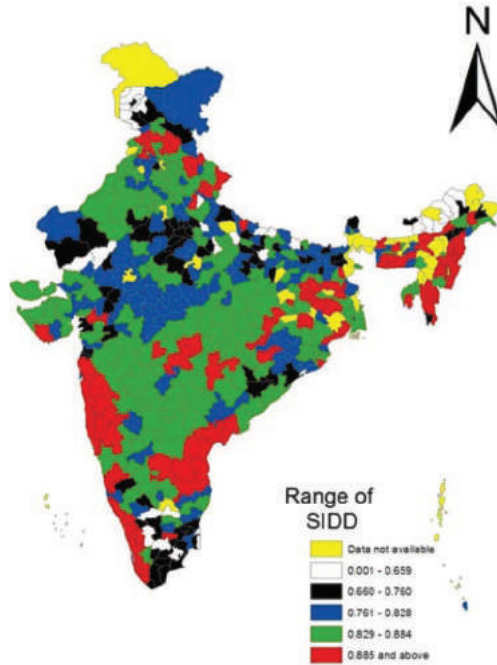
**Table 6:** Disability prevalence/100000 population by types, residence and sex in India, 2001–11

Disability	Total		Rural				Urban					
	M		M		F		M		F			
	2001	2011	2001	2011	2001	2011	2001	2011	2001	2011		
In seeing	1077	424	988	408	1107	426	1012	414	1003	418	923	392
In hearing	127	430	118	408	144	417	131	397	83	457	84	432
In speech	177	180	141	149	187	172	147	140	152	198	125	169
In movement	733	541	444	352	780	585	465	378	616	443	386	294
Mental disability	255	–	183	–	249	–	179	–	269	–	195	–
Mental-Retardation	–	140	–	108	–	138	–	107	–	143	–	111
Mental-Illness	–	67	–	52	–	66	–	52	–	68	–	52
Any-Other	–	438	–	374	–	427	–	361	–	461	–	404
Multiple-Disability	–	187	–	162	–	202	–	178	–	153	–	128
<b>Total</b>	<b>2369</b>	<b>2405</b>	<b>1874</b>	<b>2013</b>	<b>2466</b>	<b>2434</b>	<b>1934</b>	<b>2027</b>	<b>2122</b>	<b>2342</b>	<b>1714</b>	<b>1983</b>

Source: Census of India, 2001 & 2011



**Figure 1.** Proportion of Disability in India, 2011

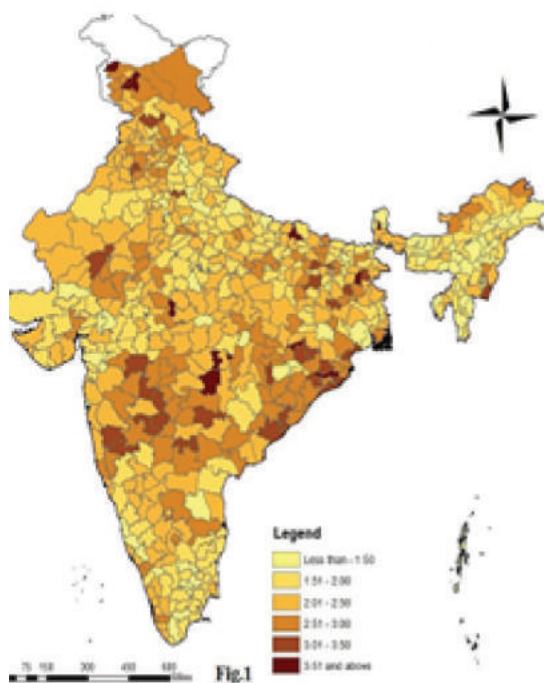


**Figure 2A.** Disability Distribution of Population, Districts in India, 2001 (Total)  
Source: RGI, 2001. Census of India

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Burden of  
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(1881–2011)

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**Figure 2B.** Prevalence of disability in India, 2011

of disability in India. District wise spatial distribution of disability shows that prevalence and pattern is not same in every district and is clustered. The district such as Hyderabad, Anantnag, Pulwama, Gonda, kushinagar Cuttack, Bhandara and Kupwara shows higher prevalence of any disability in India. Distribution of seeing disability reveals that Chandel, Gonda, Kusunagar, Sahibgangj, Hyderabad, Devnagar, Vaishali have higher disability prevalence. Pattern of hearing disability shows a higher prevalence in eastern, central and north east region among which Jammu and Kashmir, U.P., Andhra Pradesh, Aruranchal Pradesh showed higher proportion. Leh, Kusunagar, Hyderabad Dibang Valley have shown higher proportion of disability. The district of Ghaziabad shows highest prevalence of hearing disability in India. Maharashtra state shows higher prevalence of speech disability in India. Jalna, Satara, Latur, Kolhapur, Bhandara, Sanghali, Jalgaon, Dhule, Thane, and Mumbai, districts of Maharashtra show higher prevalence of speech disability in India. Movement disability is higher in the state of Rajasthan, Chhattisgarh, Maharashtra, and Orissa. Pali, Champa, Hyderabad, and Jaishalpur districts

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show higher prevalence of movement disability in India. Cuttack, Kottam, Puri, Bhandara, Imphal, Kollam and Jagdish nagar, show higher prevalence of Mental retardation in India. Higher mental illness disability is concentrated in Pulvama, Kohicode, Kottam, Anantnag, Bandipur, Idukki, Trissur and Truvanatapuram district. Multiple disabilities are higher in Anantnag, Kollam, Pulvama, Cuttack, Pali and Delhi district in India. In short a higher prevalence of different type of disability is found in the district such as Hyderabad, Gonda, Cuttack, Kottam, and Anantnag. The scenario reveals district wise variation in disability of India. However, there is a need for the much detailed investigation of the demography of disability which could provide insights into the problem and suggest the efforts that are needed to tackle the issue.

The contribution of disabled population as workers is 34.5% in 2001. This share has increase in 2011 (36.3%). The share of disabled male in workforce participation is higher (44.8% in 2001 and 47.2% in 2011 census) compare to disabled female (20.5% in 2001 and 22.6% in 2011 census). Most of the North eastern states i.e. Arunachal Pradesh (61.9%), Sikkim (50%), Mizoram (46.7%) and Meghalaya (41%) have shown higher work participation rate of disabled population than other states of India in census 2001 developed states have shown lower work participation rate of disabled population. This same scenario has also seen in the 2011 census year for male and female population. Fig 3 & 4 can give an idea about decadal decline (2001-11) in the share of disabled working population. It shows highest changes occurred in Nagaland and Manipur district which has direct effects on our curvature of economic line.

Fig 5 & 6 display the percentage of work participation of disabled worker among the total working population. Result revel that work force participation of disabled population have increased very slowly. In 2001 census, there are 1.9 % disabled engaged in different work of total worker, while in 2011 the proportion has increased to 2% of total worker. According 2001 census, Arunachal Pradesh (4.3%), Sikkim, Jammu & Kashmir, Tamil Nadu and Rajasthan have contributed more than 2percent disabled working population to the total workers. While in 2011, Sikkim, Jammu & Kashmir, Bihar, Maharashtra and Orissa have contributed higher disabled working population. Lower percentage contributed by Goa (0.7%), Manipur, Meghalaya, Maharashtra and Punjab. In 2001 census Maharashtra was the fifth lowest state in terms of disabled working population in 2011 the state ranked as the 4<sup>th</sup> lowest disabled working population contributing state. Sex wise variation shows that male disabled population are more engaged in work force participation as compare to female. Results also find that female workforce participation has increased continuously. Only Tamil



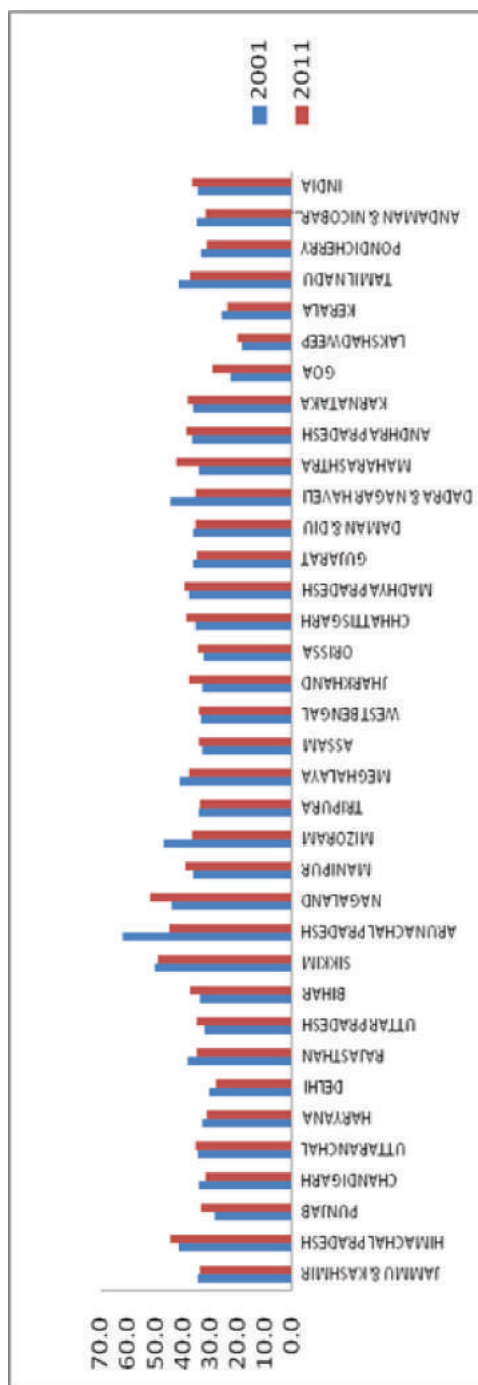


Figure 3. Share of worker disable population in India (2001-11)

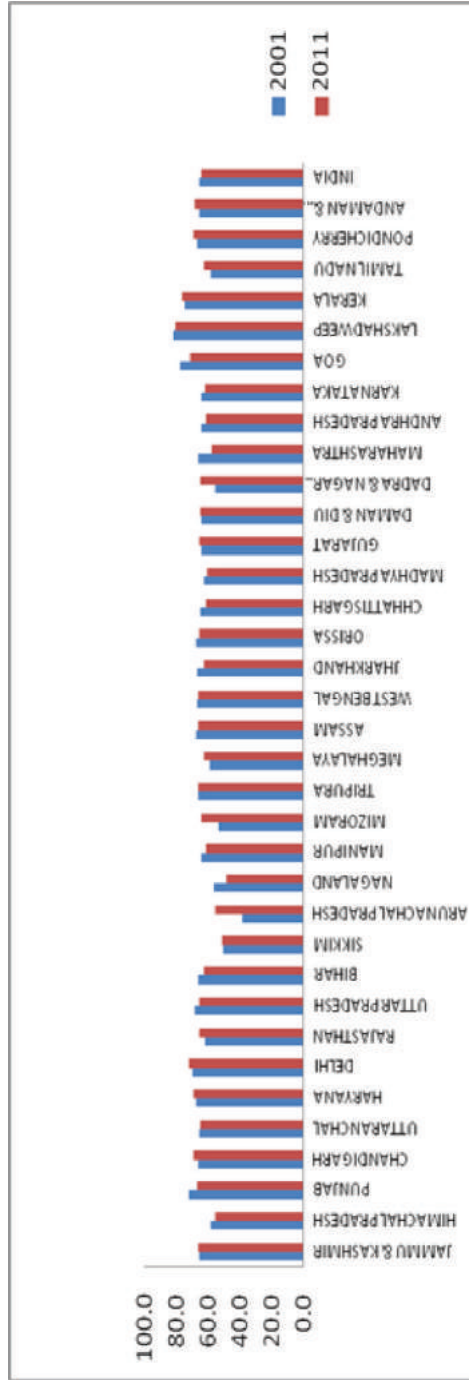


Figure 4. Share of Non-worker disable population in India (2001-11)

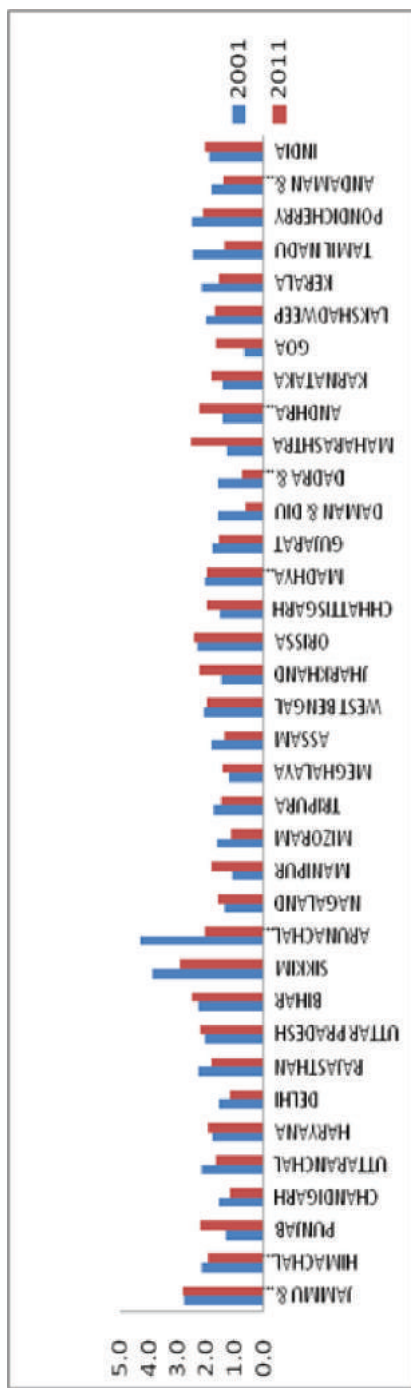


Figure 5. Share of disabled worker among total work population in India (2001-11)

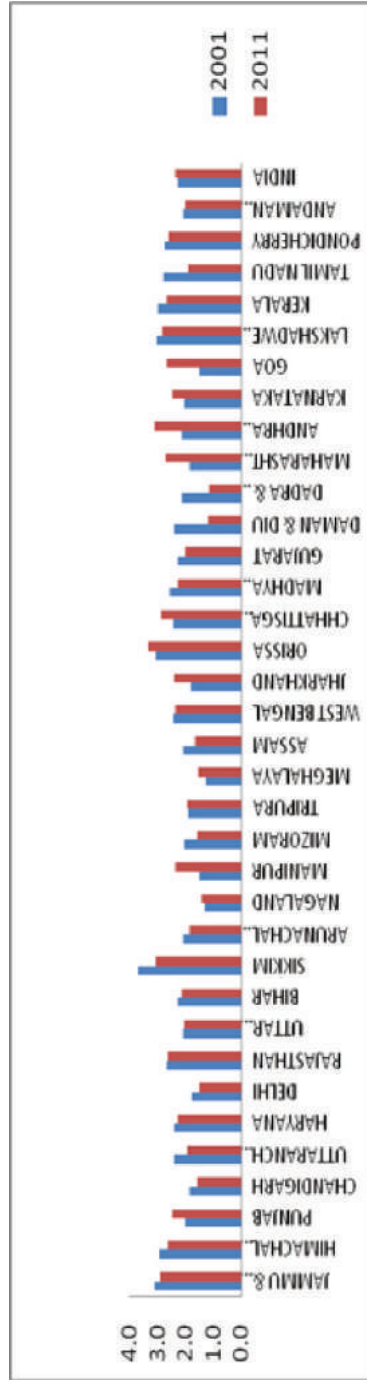


Figure 6. Share of disabled Non worker among total non work population in India (2001-11)

Nadu states shows higher (2.9%) contribution in a working group of disabled women compared to male. One major variation is seen in the 2011 census that where work participation rate of women has increased. Most of states reveal that both disabled sexes had equal participation in working class.

The Male proportion of non-working disabled population is becoming higher compared to female from one decade to another. In 2001 and 2011 census year, there is the same prevalence rate of non-working disabled population of total non-worker population of India that is 2.3%. If we compare 2001 to 2011 census, Sikkim (3.7% higher prevalence in all states), Jammu & Kashmir and Orissa (3.1%), Kerala and Himachal Pradesh (3%) contributing higher percentage of non-worker disabled population, but in 2011 census the situation has been changed for some states. Assam, Uttar Pradesh & Tripura (Above 3%) are highly included in non- working disabled states. Less prevalence occurred in Punjab, West Bengal and Gujarat.

## CONCLUSIONS AND RECOMMENDATION

The foregoing discussion reveals that the changes in the definition of disability in successive censuses in India have a significant bearing on the disability estimates since colonial times. Although there may have been under-enumeration of disabled population in the pre- independence censuses, adoption of wider definition of disability (all types) in 2011 census explains the manifold increase in the prevalence of disability in India when compared to the pre- independence times. Furthermore, comparison of the percent distribution of the disabled by type of disability, which has by and large remained the same from British times till today, indicates that disability data provided in census have a significant comparative advantage census after census. This in turn, provides useful insights into the problem from policy viewpoint. Total disabled population have risen considerably from less than 1 million in 1881 to around 26.8 million in 2011 and the prevalence of disability populations has also increased from 369 to 2208 persons per 100000 population across all types of disabilities during the corresponding period (1881-2011). It may safely be said that blindness which continues fluctuated from the colonial periods in India, so that, needs relatively more programmatic interventions, not to sideline the policy emphasis needed for other disabilities.

Another important fact that emerges is that in general, prevalence of disability among females is lower than their male counterparts for all types of disabilities throughout the entire period studied. However, analysis of percent distribution of the disabled across disability types by sex suggests that while the concentration of females is more for vision, speech and, hearing as compared to

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males, the opposite holds true in the case of movement and mental disabilities, for the reasons explained above. It appears that only disability of seeing & movement rapidly falling down but other types of disability have been rising continuously. It reveals that female are less susceptible to disabilities than males. So, the position of females in Indian society and existing social ritual-stigma attached with their life. This analysis also brings out the fact that the proportion of mental disability is higher in state of Kerala and lower in Uttar Pradesh. Higher proportion of mental disability could be traced in the isolation due to the great volume of Gulf migration.

SIDD index values indicates that all the states and districts have experienced a rising seeing disability and movement disability, but 2011 census clear that prevalence of hearing & movement disability gradually rising. This analysis also reveals that disability distribution of population, districts in India and with the predominant of disability by each state in respect to working and non- working status. There is also some variation in prevalence of disability between working and non- working population. This index reveals that North-East states like Sikkim; Nagaland & Manipur disabled population are proportionately lives disability and Anantnag, Pulwama, Gonda, kushinagar Cuttack, Bhandara and Kupwara districts are higher prone zone of any disability in India. In census 2001 developed states have shown lower work participation rate of disabled population. This scenario has also seen in the 2011 census year for male and female population. It shows highest changes occurred in Nagaland and Manipur district which has directly effect on our curvature of economic line.

In recent times, the tactical importance of India has grown considerably in the international arena and gossips that India may emerge as the next global superpower are wide-mouthed. However, as mentioned above India consist 26.8 million disabled populations [10] which is not a healthy indicator. However, there is a need for the much detailed investigation of the demography of disability which could provide insights into the problem and suggest the efforts that are needed to tackle the issue.

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