

# Disability Index

## A Measure of Deprivation among Disabled

*A disability index of education, skill development and employment, based on National Sample Survey and Census 2001 data presents a gloomy picture of the life of the disabled in India. It shows the limitation of various rehabilitation measures adopted by the government and non-governmental organisations. There is also an unawareness of some of the facilities that are available.*

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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.

The plight of the disabled in India is not different. The immense responsibility for the care of the disabled is generally left to their families and a few institutions managed by voluntary organisations and government. Since the disabled, as yet, do not have any economic or political or media power in India, they tend to be mostly ignored by society. They require special measures to be given to enable them to overcome the challenge caused to them by disability.

The government has initiated many schemes and projects for persons with disabilities. But the educational, social, health, transport and residential arrangements made by local, state, central governments or voluntary organisations frequently fall short of the requirement.

This paper develops the concept of a "disability index" which measures the deprivation suffered by the disabled. In the areas of education, skill development and employment, maximum deprivation level suffered by the disabled is 100. This index has been computed for seven disability types for 16 major states. The methodology

for the disability index has been adopted from the human poverty index (HPI) presented in the Human Development Report 2003 of UNDP. The statewise and disability typewise disability index will help highlight the gravity of the problems of the disabled and is expected to be a good input for agencies involved in the welfare of the disabled. The formulation of this index is flexible in as much as it does not pose any constraints on the number of variables being used for constructing the index. Besides this, the paper also analyses the condition of the disabled with respect to literacy and working status.

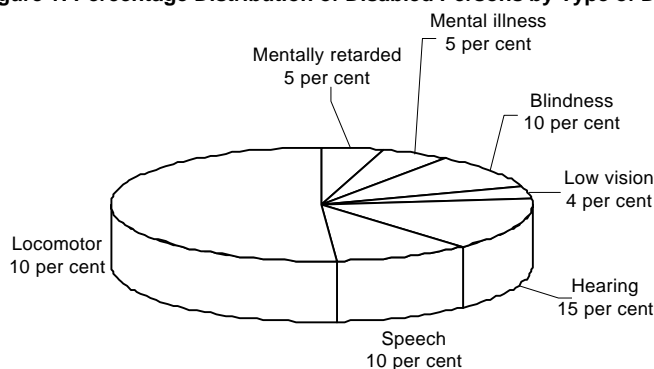
This article has been organised into sections such as database and methodology, on prevalence of disability by type, description of the present situation of the disabled with respect to education and work status and assessment of condition of disabled statewise and disability typewise as reflected by the disability index.

### Data and Methodology

In its 58th round (2002) of the National Sample Survey, data on disabled persons in India were collected. Earlier in the 47th and 38th rounds also such information were collected. At nearly the same time (2001), the census also collected the data regarding disability. Data from both the sources have been used in this paper to compute disability index for all disability type in 16 major states.

The NSS data classifies disability types in seven categories, viz, mental retardation, mental illness, blindness, low vision,

**Figure 1: Percentage Distribution of Disabled Persons by Type of Disability**



Note: The above chart is based on the Table 1.

hearing, speech and locomotor whereas the census classifies it in five categories, namely, mental, visual, hearing, speech and locomotor. In the calculation of the statewise disability index, the data on employment of disabled has been taken from Census 2001 while data on educational opportunities and opportunities for skill development (vocational education) has been taken from the NSS 58th round. The disability index for each disability type uses the data and categorisation of disability of NSS 58th round.

The disability index measures the deprivation in the following three basic dimensions affecting the condition of the disabled in India:

- Educational opportunities: Exclusion from the world of reading and communication as measured by the weighted average of the adult illiteracy rate, non-enrolment in special schools and lack of pre-school intervention.

- Opportunities for skill development: Lack of occupational skill as measured by the non-enrolment in vocational training.

- Employment opportunities: Lack of access to any economic activity as measured by the percentage of non-working disabled.

However, while computing the state-wise index, access to pre-school intervention and special schools could not be included since these were unavailable at the state level. The formula for calculating the disability index is:

$$\text{Disability index} = [(1/3) (P_1^\alpha + P_2^\alpha + P_3^\alpha)]^{1/\alpha}$$

Where  $P_1 = 1/2(\text{adult illiteracy}) + 1/4(\text{non-enrolment in special school}) + 1/4(\text{non-enrolment in pre-school intervention})$  [percentage among disabled].

Here more weight has been assigned to adult illiteracy (1/2) assuming that it has more impact on deprivation of the disabled than the other two variables. The

non-enrolment in special school and pre-school intervention along with many other factors contribute to adult illiteracy.

$P_2$  = Percentage among disabled who did not attend any vocational course

$P_3$  = Percentage of disabled non-working  $\alpha = 3$

The value of  $\alpha$  has an important influence on the value of the disability index.

**Table 1: Number of Disabled Persons (in 00) by Type of Disability**

Type of Disability	Rural	Urban	Persons
Mentally retarded	6995	2951	9946
Mental illness	8399	2611	11010
Blindness	16030	4104	20134
Low vision	6545	1588	8133
Hearing	23687	6930	30617
Speech	16027	5518	21545
Locomotor	79826	26514	106340

**Table 2: Per 1000 Distribution of Disabled by Their Literacy Status**

Type of Disability	Literate		Illiterate	
	Rural	Urban	Rural	Urban
Mentally retarded	113	191	887	809
Mental illness	376	508	620	488
Blindness	173	452	826	546
Low vision	223	422	774	576
Hearing	303	537	695	463
Speech	284	472	715	527
Locomotor	514	679	486	318
Any disability	410	600	590	400

**Table 3: Number of Disabled Children Who Attended Pre-School Intervention Programme, Special School and Vocational Training (Age 10 Years and Above) Per 1000 Disabled Person**

Type of Disability	Pre-School Intervention		Special School		Vocational Training	
	Rural	Urban	Rural	Urban	Rural	Urban
Mentally retarded	47	142	32	139	4	15
Mental illness	85	163	19	94	13	20
Blindness	100	514	18	569	10	32
Low vision	155	207	6	19	5	25
Hearing	147	208	5	47	11	24
Speech	97	293	10	250	14	23
Locomotor	123	151	2	19	18	43
Any disability	114	225	6	106	15	36

As  $\alpha$  rises, a greater weight is given to the dimension in which there is most deprivation. Here  $\alpha$  has taken as 3 just to give additional but not overwhelming weight to the areas of more acute deprivation.

## Disability Index

The disability index for 16 major states – each of the seven disability types – are given in the Tables 5 and 6. Side by side, the state-wise per capita NDP has also been given in Table 5.

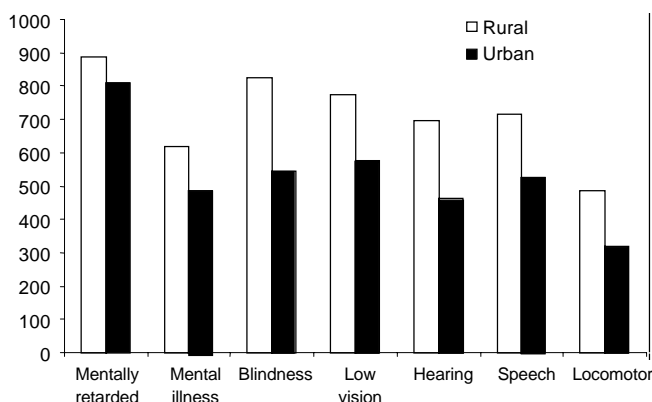
The disability index of a particular state shows the level of deprivation suffered by the disabled people in the state, the maximum deprivation level being 100. It is seen that the disability index of Orissa is at the maximum (80.39) and the disability index for Himachal Pradesh is the lowest (73.92). The fact that the minimum value of the disability index is 73.92 suggests that deprivation of basic growth facilities is at a very high level even where deprivation is low. This further means that disabled are being bypassed in the process of economic development.

While looking at the disability by type, the disability index is highest for the mentally retarded (92.89). This is because they suffer deprivation since their birth. As mental retardation can be checked (corrected to a large extent if proper attention is given at an early stage) the high disability index calls for great attention by the policy-makers. Again, here, the minimum value of disability index is 75.49, a very high deprivation level.

## Prevalence of Disability

According to the survey 1.8 per cent of the total population of the country, i.e., 18.49 million people have various types of disabilities which include visual, speech, hearing, mental and locomotor disabilities (Figure 1). There is a slight decrease in disability over the previous decades (1.9 per cent).<sup>1</sup> Among the different types of

**Figure 2: Per 1000 Distribution of Illiterate Disabled Persons**



Note: The above chart is based on the Table 2.

disabilities, the prevalence of locomotor disability is the highest in the country followed by visual and then hearing disability Table 1. This may be due to the prevalent polio menace, a high incidence of various types of accidents and other reasons. The recent emphasis on mass polio vaccination drives by the government is likely to have a positive impact in the future. Somehow, mental disability has not received much attention from the government. That 10 per cent of the total disabled population of the country suffer from mental illness or retardation is a serious problem.

### Present Situation in Education and Work

In India, literacy rates have shown a remarkable improvement in the last decade, both for rural and urban areas. As per the 2001 Census the literacy rate in rural and urban India is 49 per cent and 70 per cent, respectively. But if we look at these percentages for disabled persons, the picture is much more depressing as it is only 41 per cent and 60 per cent, respectively. We may appreciate that literacy has much more meaning for a disabled person as it can, to a great extent, minimise the impact of disability on his/her livelihood. The People with Disability Act,<sup>2</sup> 1995 stipulates that the government and appropriate local authorities shall “ensure that every child with a disability has access to free education in an appropriate environment till he/she attains age of 18”. It is certainly a laudable provision but how far it has impacted can be very well seen from Table 2. The education level of disabled persons as compared to the general population shows a gloomy and depressing picture (Figure 2).

Distribution of disabled persons by literacy status is given in Table 2, separately for rural and urban areas. The results reveal the usual rural urban bias in literacy among the disabled. About 59 per cent of the disabled in the rural and 40 per cent in urban areas are illiterate. A similar pattern is exhibited by literacy ratios in respect of various types of disabilities, viz, mental, visual, etc. Quite understandably illiteracy is highest among persons suffering from mental problems. This reflects inadequate availability of educational facilities for the disabled, which is most acutely felt in the case of mental disability.

The disabled children attending pre-school intervention programme, special

**Table 4: Age-Specific Percentage Distribution of Non-Working Disabled Persons by Broad Usual Activity Status for Each Type of Disability**

Age Group	Mentally Retarded	Mental Illness	Blindness	Low Vision	Hearing	Speech	Locomotor	Any
15-19	97.6	96.5	92.8	86.8	64.5	73.6	81.0	81.1
20-24	92.3	88.5	86.6	61.6	55.0	63.5	61.2	64.9
25-29	86.1	88.9	76.9	52.5	41.7	52.9	47.5	54.0
30-34	85.7	83.6	78.2	58.9	38.2	50.4	45.0	52.0
35-39	87.6	80.2	78.1	45.5	33.0	44.9	41.9	49.0
40-44	88.3	78.2	82.8	56.0	35.7	42.3	43.7	50.1
45-49	89.7	80.0	81.2	52.8	32.5	39.0	49.3	51.8
50-54	81.6	82.1	85.4	56.3	37.0	51.9	57.8	58.7
55-59	85.3	89.9	83.7	70.8	51.7	61.8	68.7	68.4

**Table 5: Disability Index for 16 Major States**

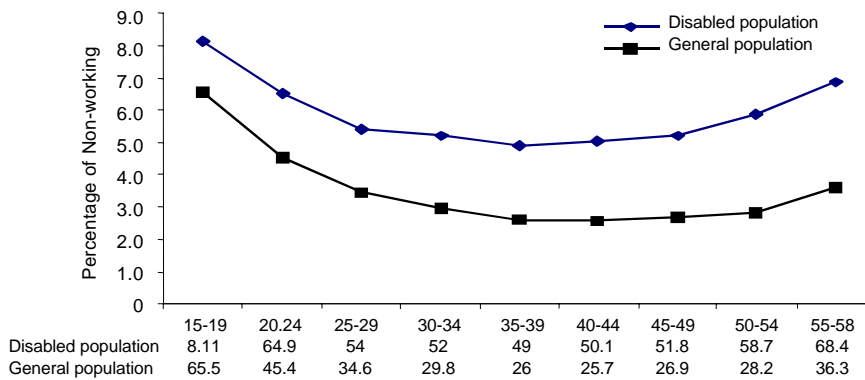
State	Percentage of Disabled			Disability Index	Per Capita NDP <sup>1</sup> (Rs)
	Illiterate	Not Enrolled in Vocational Course	Non-Working		
Andhra Pradesh	63.7	98.2	63.63	78.71	14715
Assam	48.4	98.9	67.34	77.31	9612
Bihar	65.5	98.6	66.38	79.93	6328
Gujarat	45.1	96.4	63.84	74.65	18625
Haryana	51.7	98.3	67.43	77.47	21114
Himachal Pradesh	51.5	95.7	58.36	73.92	15012
Karnataka	56.5	97.6	63.96	77.04	16343
Kerala	33.1	95	74.52	75.82	18262
Madhya Pradesh	52.1	98.1	62.4	76.22	10907
Maharashtra	47.6	97.2	66.16	75.98	23398
Orissa	64.2	99.5	67.6	80.39	9162
Punjab	57.8	96.9	71.72	78.87	23040
Rajasthan	58.1	98.5	61.84	77.35	12533
Tamil Nadu	52.8	97.8	58.58	75.35	19141
Uttar Pradesh	58.4	98.5	67.99	78.82	9765
West Bengal	47.9	98.4	66.74	76.82	15569
India	54.7	97.9	65.51	77.25	17527

Note: 1 NDP data advance estimate relating to 1999-2000 as reported by the directorate of economics and statistics of respective state governments.

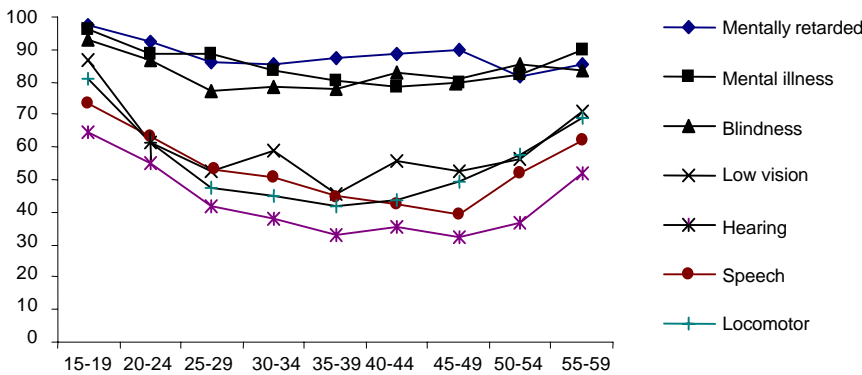
**Table 6: Disability Index by Type of Disability**

Type of Disability	Adult Illiteracy	Non-Enrolment in			Non-Working	Disability Index
		Pre-School	Special School	Vocational Training		
Mentally retarded	86.2	93.1	79.4	99.3	91.3	92.59
Mental illness	56.8	89.8	81	98.2	85	86.19
Blindness	78.8	77.4	61.5	98.5	83.2	86.46
Low vision	75.7	83.6	46.8	98.9	61.3	80.20
Hearing	66.8	84.3	48	98.5	44.1	76.35
Speech	70.4	85.5	54.8	98.3	57.1	79.07
Locomotor	46.5	87.1	42.3	97.5	57.7	75.49
Any disability	56.8	86.8	49.2	97.9	60.7	77.66

**Figure 3: Age-Specific Distribution of Non-Working Disabled Population**



**Figure 4: Age-Specific Distribution of Disabled Persons**



Note: The above chart is based on the Table 4.

schools and vocational courses for various categories of disability are given in Table 3. It can be seen here that only a limited proportion of disabled children attended a pre-school intervention programme. It can be more appropriately said that pre-school intervention is available to them only at a limited scale. The proportion is about 20 per cent in urban area and almost half of it at 11 per cent in rural India. The position with respect to availability or use of special schools is quite serious. The proportion of disabled children attending special schools is negligible in the villages. However, this position is somewhat better in towns and cities. With regard to the type of disability, a majority of disabled children with blindness attended pre-school intervention programmes and special schools in rural and urban areas. But this is not the situation if we look into the results for rural India. At the same time, if we look at the percentage of disabled attending vocational training, we get a more depressing picture. Only 2-3 per cent of the disabled in rural and urban India have received any kind of vocational training. The poor utilisation of these interventions may be due to the lack of awareness about the

facilities and benefits of the programme which may, in turn, be due to ritualistic implementation by implementers of the programme. Thus not only the quantum of facilities needs to be increased, but the people should also be made aware of their availability.

India has taken a big leap towards providing equal opportunities for the disabled by adopting the PWD Act 1995. It is a significant step, which attempts to ensure equal opportunities for the people with disabilities and their full participation in nation-building. But the challenge of integrating and including persons with disabilities in the economic mainstream has not been met. While the Disability Act has adopted a scheme of 3 per cent reservation for disabled persons in government and public sector open employment, it has suggested giving incentives to the private employers for promoting employment of the disabled persons. Besides, various facilities have also been provided to persons with disability for self-employment. In spite of these provisions made for employment of disabled persons, a significant proportion among them still have a non-working status. Table 4 presents

age-specific distribution of the disabled non-working for each type of disability (Figure 3). Here it is observed that regardless of age, more than three-fourths of the disabled suffering from mental disability and blindness are in the non-working category. The position with respect to other disability types is somewhat better (Figure 4).

### Concluding Remark

The above analysis shows the serious condition of the disabled in India. Though there are facilities provided by the government as well as NGOs for the disabled, these are accessible only to a limited proportion of the disabled. There is a need to increase the scale of facilities and its spread.

Literacy has much more meaning to a disabled person as it lessens her/his plight and opens up opportunities for development. The results show that about half of the disabled in our country, are illiterate. The situation is worse in the case of pre-school intervention programme and special schools. The proportion of disabled receiving pre-school intervention and special school is almost negligible especially in the rural areas. The proportion of disabled persons getting vocational training is also very low. Proper publicity about these programmes needs to be initiated so that people are aware about them. The number of the facilities should also be increased.

The situation of the disabled with respect to their working status is gloomy. The majority of the disabled are non-working. This calls for effective rehabilitation measures which would facilitate employment. The disability index when seen with per capita NDP clearly shows that the disabled are being bypassed in the process of economic growth. **[EW]**

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### Notes

[This is an extension of the paper titled, 'Disability Challenge Continues' presented by the authors in the national seminar on the results of 58th round of National Sample Survey conducted by the government of India, ministry of statistics and programme implementation at New Delhi in December, 2004.]

- 1 NSS 47th round (July- December 1991), Mental disability was not covered.
- 2 PWD Act: People With Disability Act as given in 'India Country Profile, March 2003' prepared by the International Labour Organisation.