I

CONCEPT AND EXTENT OF DISABILITY IN INDIA

1. Definition: Disability

In India, the broad definitions of different categories of disabilities have been adopted in the Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995 as well as under the Rehabilitation Council of India Act, 1992.

1.1 *"Person with Disability"* means a person suffering from not less than forty percent of any disability certified by a medical authority.

1.2 *Blindness* refers to a condition where a person suffers from any of the following conditions, namely:

- Total absence of sight; or
- Visual acuity not exceeding 6/60 or 20/200 (Snellen) in the better eye even with correction lenses; or
- Limitation of the field of vision subtending an angle of 20 degree or worse.

For deciding the blindness, the visual acuity as well as field of vision has been considered.

1.3 *"Person with low vision"* means a person with impairment of visual functioning even after treatment or standard refractive correction but who uses or is potentially capable of using vision for the planning or execution of a task with appropriates assistive device.

This definition is incomplete as it inadvertently omits quantification of the acuity as well as the field of vision as is done in the case of the WHO definition. It is desirable to modify this definition and the following quantification should be added:

"Low vision are those who suffer visual acuity between 20/ 200 to 70/200 (Snellen) or 6/18 to 6/60 in the better eye after the best possible correction or a Field of Vision between 20 to 30 degree."

The WHO working definition of Low Vision (WHO, 1992) is as follows:

"A person with low vision is one who has impairment of visual functioning even after treatment, and/or standard refractive correction, and has a visual acuity of less than 6/18 to light perception or a visual field of less than 10 degrees from the point of fixation, but who uses, or is potentially able to use, vision for the planning and/or execution of a task".

The points emphasized are that there is significantly reduced vision, visual performance is affected but that there still is vision that can be used. This last point is very important: if there is usable vision, training to use that vision might be possible. In addition this person is not labelled blind.

Table 1.1
Categories of Visual Impairment

Category	Corrected VA-better eye	WHO Definition		Indian Definition
		Standard*	Working#	
0	6/6-6/18	Normal	Normal	Normal
1	<6/18-6/60	Visual Impairment	Low Vision	Low Vision
2	<6/60-3/60	Severe Visual Impairment	Low Vision	Blind
3	<3/60-1/60	Blind	Low Vision	Blind
4	<1/60-PL	Blind	Low Vision	Blind
5	NPL	Blind	Total Blindness	Total Blindness

* *The standard WHO definition is solely based on visual acuity and does not take into account functional vision.*

\# *The working definition has been adopted since WHO Consultation in 1992. This working definition is solely used for reporting purposes and should not be used for eligibility of services. The standard definition is used in medical reports and publications and is solely based on visual acuity and does not take into account functional vision.*

1.4 *"Hearing Impairment"* as defined in the Act means loss of sixty decibels or more in the better ear in the conventional range of frequencies. The classification of hearing impairment as adopted by the Ministry of Social Justice and Empowerment is as follows:

Table 1.2
Categorization of Hearing Impairment

Category	Type of Impairment	DB Level (in better ear)	Speech Discrimination (in better ear)	%age of Impairment
I	Mild	26-40 Db	80-100%	<40%
II	Moderate	41-55 Db	50-80%	40-50%
III	Severe	56-70 Db	40-50%	50-75%
IV	a. Total Deafness	No hearing	No discrimination	100%
	b. Near Total Deafness	91 Db & above	No discrimination	100%
	c. Profound	71-90 Db	<40%	75-100%

Source: Ministry of Social Justice & Empowerment

Thus persons with mild or moderate hearing loss have not been included in the category of persons with hearing impairment. Only persons with severe, profound and total hearing impairment have been included in this category.

1.5 *"Locomotor Disability"* as defined in the Act means disability of bones, joints or muscles leading to substantial restriction of movement or any form of cerebral palsy.

Detailed guidelines as adopted by the Ministry of Social Justice & Empowerment explains the extent of disability in percentage terms due to various conditions in different parts of the body.

Depending upon the extent, the categorization would be as follows:

a.	Mild	less than 40%
b.	Moderate	40-74%
c.	Severe	75% and above
d.	Profound/Total	100%

Only those having 40 percent or more disability have been considered as persons with locomotor disability.

1.6 *"Mental Retardation"* as defined in the Act, means a condition of arrested or incomplete development of mind of persons which is specially characterized by sub-normality of intelligence.

The categorization of mental retardation, on the basis of IQ levels has been done in the following manner:

a.	Mild	IQ 50-70
b.	Moderate	IQ 35-49
c.	Severe	IQ 20-34
d.	Profound	IQ under 20

The definition of mental retardation on the basis of IQ is outmoded. It is not possible to decide retardation just on the basis of IQ. This definition excludes mental illness, epilepsy, learning disability etc. A number committees have already been constituted to give a fresh look at these definitions.

1.7 *Person with Multiple Disabilities :* The PWD Act (1995) defines "person with severe disability" means a person with eighty percent, or more of one or more disabilities. It, however, does not clearly define persons with multiple disabilities.

1.7.1 Definition by the National Trust: As per the National Trust for Welfare of Persons with Autism, Cerebral Palsy, Mental Retardation and Multiple Disabilities Act, 1999, multiple disability means a combination of two or more disabilities as defined in clause (I) of Section (2) of the Persons with Disabilities Act, 1995. In addition to the above, multiple disabilities include individuals who are Deafblind, autistic, cerebral palsied, neurologically impaired. These disabilities may either be congenital or acquired.

1.7.2 Persons with Deafblindness: The condition of deafblindness is used to describe a heterogeneous group of children and adults who may suffer from varying degrees of visual and hearing impairment, perhaps combined with learning difficulties and physical disabilities, which can cause:

- severe communication
- developmental, and
- educational problems.

It includes children and adults who are:

- blind and profoundly deaf
- blind and severely or partially hearing
- partially sighted and profoundly deaf
- partially sighted and severely or partially hearing

A precise description is difficult because the degrees of other disabilities, are not uniform, and the educational needs of each child will have to be decided individually. The above mentioned statement should not be taken as a definition but a description of deafblindness.

(Source: Contact (1993) A Resource for Staff Working with Children who are Deaf and Blind, Edinburgh: Moray House)

1.7.3 Autism: The National Trust Act, 1999 defines autism as a condition of uneven skill development primarily affecting the communication and social abilities of a person, marked by repetitive and ritualistic behaviour.

1.7.4 Evaluation of Multiple Disability: In order to evaluate the multiple disability, the same guidelines shall be used as have been developed for evaluation of single categories of disabilities. In order to arrive at the total percentage of multiple disability, the combining formula a+ <b(90-a)>/90 as given in the Manual for Doctors to Evaluate Permanent Physical Impairment, developed by Expert committee on Disability Evaluation shall be used, where 'a' will be higher score and 'b' will be the lower score. However, the maximum total percentage of multiple disability shall not exceed 100 percent.

For example, if in one person, percentage of hearing impairment is 30 percent and visual impairment is 20 percent, then applying this formula, the total percentage of multiple disability will be calculated as follows:

$$30+ \frac{20(90-30)}{90} = 43\ \%$$

The board for evaluation will have a specialist from the fields of the respective disabilities which constitute the multiple disability. To evaluate and certify autism, any one of the three experts may be included in the medical board, viz. Psychiatrist, or Paediatrician, or Clinical Psychologist.

2. WHO Disability Sequence

Generally various terms like impairment, disability and handicap are used interchangeably and at random. WHO has adopted a sequence underlying illness-related phenomenon as:

Disease —> Impairment —> Disability —> Handicap

Table 1.3
Explanation of Various Terms as Adopted by WHO

Condition	Concerned with	Represents
Impairment	Abnormalities of body structure and appearances; organs or system functioning	Disturbances at organ level
Disabilities	Impairment in terms of functional performance and activities	Disturbances at personal level
Handicaps	Disadvantages resulted from impairment and disabilities	Interaction with and adaptation to individual's surroundings

Source: WHO Classification of Impairments, Disabilities & Handicaps

The International Classification of Impairments, Disabilities & Handicaps (ICIDH-2) likely to be officially adopted in 2001proposes a common language of functioning and disability. The new terms proposed are "Activity Limitation" for "Disability"; and "Participation Restriction" for "Handicap". "Disability" will be used as an umbrella term covering all three terms: Impairment, Activity Limitation and Participative Restriction.

3. Survey of Persons with Disabilities

1861 : First attempt by National Census Organization which collected data on disability along with decennial census.

1941 : Disability census discontinued as it was felt that data was not reliable.

1974 : WHO estimate: 10 percent population of the world was that of persons with disabilities.

1981 : Disability census resumed for compilation of information on total disability and following figures were obtained:

Totally blind	:	0.479 million
Totally dumb	:	0.277 million
Totally crippled	:	0.364 million

These figures were withdrawn subsequently as these seemed to be misleading. No information on disability was collected during

1991 : The Govt. of India has assured that information on disability will be compiled during 2001 census.

1981 : National Sample Survey Organization, Department of Statistics conducted a comprehensive survey on the magnitude of physical disability in its 36th Round Survey conducted during July-December, 1981. It published a detailed report as Survekshana, Vol. VII, No. 19.

1990 : Dr Helander revised this estimate to 5.21 percent.

In India Surveys of disability have been undertaken from time to time by various governmental and non-governmental organizations.

1991 : The NSSO carried out a survey of disability in its 47th Round during July - December, 1991 with the basic framework including the concepts, definitions and operational procedure as followed in 36th Round. The NSSO brought out two reports - Report No. 393 on physical disability and Report No. 391 on delayed mental development among children and hearing disability among children in the age group 0-4.

1992 : Plan of Action: The first attempt to really make some sort of estimation on projected population of children with disability was done while evolving National Policy on Education (1986) and the Plan of Action on (1992) implementation of this policy. It estimated 12.59 million children in the school going age with disabilities.

1999 : The National Association for the Blind, Gujarat Branch Carried out a door-to-door survey with the support of the UNICEF in 31 talukas of Gujarat.

2000 : The Gujarat Council for Educational Research & Training carried out another door-to-door survey with the support of the UNICEF in different 31 talukas of Gujarat.

2001 : The Census of India 2001 included persons with disabilities in its census.

2002 : The National Sample Survey Organization is likely to conduct a nation-wide survey of disability in India.

4. Estimated Number of Persons with Disabilities

Out of all the estimates, surveys and projections, the findings of the National Sample Survey seem to be the most appropriate, relevant and comprehensive. The statistical analysis of demographic pattern of persons with disabilities is based on "A Report on Disabled Persons" published by the National Sample Survey Organization.

Table 1.4
Estimated Number of Persons with Disabilities (Millions)

Type of Disability	Rural			Urban			Total
	Male	Female	Persons	Male	Female	Persons	
	(1)	(2)	(3)	(4)	(5)	(6)	(3)+(6)
Visual	1.539 (46.15)	1.796 (53.85)	3.335 (83.27)	0.308 (45.97)	0.362 (54.03)	0.670 (16.73)	4.005
Hearing	1.409 (54.76)	1.164 (45.24)	2.573 (79.36)	0.339 (50.67)	0.330 (49.33)	0.669 (20.64)	3.242
Speech	0.942 (62.84)	0.557 (37.16)	1.499 (76.25)	0.296 (63.81)	0.169 (36.19)	0.467 (23.75)	1.966
Hearing & Speech	2.009 (57.42)	1.490 (42.58)	3.499 (78.07)	0.557 (56.66)	0.426 (43.34)	0.983 (21.93)	4.482
Locomotor	4.396 (64.58)	2.411 (35.42)	3.499 (76.15)	0.557 (64.26)	0.426 (35.74)	0.983 (23.85)	8.939
Physical (at least one of above)	7.442 (58.82)	5.210 (41.18)	12.652 (78.32)	2.078 (59.34)	1.424 (40.66)	3.502 (21.68)	16.154

(Figures in brackets show percentages of total of that column)

Major Observations:

The major observations from these figures are:

- Number of physically disabled persons in India was 16.15 million during 1991 and they formed about 1.9 percent of the total population.
- Out of all the physical disabilities, locomotor constitutes 55.33 percent, followed with speech & hearing which constitute 27.70 percent, and least visual impairment with 24.79 percent.
- 78.3 percent persons with disabilities live in rural areas. In case of visual impairment, 83.27 percent people live in the rural areas.

- Males in case of all physical disabilities constitute 59 percent of total population of persons with disabilities. However, in case of visual impairment, females constitute 54 percent of total number of visually impaired persons.
- About 12.4 percent of these persons suffered from more than one type of physical disabilities.
- About 9 and 7 percent households in rural and urban India respectively have at least one disabled person in the household.
- Among these households, about 92 percent had one disabled person, about 7 percent had 2 disabled persons and less than 1 percent reported 3 or more disabled persons, both in rural and urban sectors.

5. Distribution of Population of the Visually Impaired

Table 1.5

Distribution of Population of the Visually Impaired ('000)

Gender	Rural (%)	Urban (%)	Total(%)
Men	1539 (38.42)	308 (7.69)	1847 (46.11)
Women	1796 (44.85)	362 (9.04)	2158 (53.89)
Total	**3335 (83.27)**	**670 (16.73)**	**4005 (100)**

Source: Survey of Disabled Person, NSS, 1991.

The estimated population at 880 million population level is 40 lakhs (4 million). When extrapolated, the estimated population during 2002 at 1004 million population level would be 4.56 million.

5.1 Gender-wise Distribution of Visual Impairment

Table 1.6

Male - Female Population (1991)

Population	Male (%)	Female (%)
Visually Impaired	46.11	53.89*
Total Population	50.50	49.50#

*Source: * Survey of Disabled Persons, NSS, 1991*
 # General Population Survey, 1991

The gender distribution of population of visually impaired of 53.89 percent females as compared to that of 49.5 percent of total population establishes that incidence of visual impairment is relatively more among females. The figures in Table 1.7 also establish that incidence as well as prevalence of visual impairment is comparatively higher among females in both rural as well as urban areas.

Table 1.7

Gender Distribution of Visual Impairment

Gender	Incidence		Prevalence	
	Rural	Urban	Rural	Urban
Males	22	15	471	263
Females	28	25	548	346

Source: Survey of Disabled Persons, NSS, 1991

5.2 Rural-Urban Distribution of Visual Impairment

Table 1.8

Rural-Urban Distribution (1991) (In Percentages)

Population	Rural	Urban
Visually Impaired	83.27	16.73
Total Population	80.00	20.00

*Source: * Survey of Disabled Persons, NSS, 1991*
 # General Population Survey, 1991

More than 83 percent blind persons are in the rural areas as compared to 80 percent in case of overall population. It establishes that prevalence of visual impairment is comparatively more in the rural areas as compared to urban areas.

6. Extent of Mental Retardation

According to Pandey and Advani (1995), no systematic survey is known to have been conducted in the country in respect of the mental retardation. However, in certain areas, limited surveys have been conducted to ascertain the extent of mental retardation. In a study conducted at Nagpur (Verma, 1980), out of a total sample of 30,326 individuals, 1001 individuals with mental handicap were identified with overall prevalence rate of 30/1000. The prevalence was 42/1000 in the age-range of 8 to 15 years while it was 16/1000 in the age-range 16-22 years.

In another study of a sample of 8,583 individuals conducted at Lucknow (Gupta and Sethi, 1970) established prevalence rate of mental handicap as:

Overall	:	2330
Rural	:	2530
Urban	:	1850

The prevalence was more among boys who outnumbered girls by 210. Seventy five per cent were below the age of 10 years while 4 per cent were over 20 years of age, 24.8 per cent had an IQ less than 50.

Narayanan (1981), on the basis of survey of three villages in Bangalore district in 1970, found the prevalence of 'severe' mental retardation to be 340. In two other villages of the same district, in 1979, the prevalence rate of severely mentally handicapped people was found to be 680.

In another study in two villages in Bangladesh district in 1983, Subramanya estimated a prevalence rate of 274, in a sample of 1,498 children of 3-14 age-group. The male-female ratio was 2:1 of the total individuals identified, 65.8 per cent were mildly mentally retarded.

It would be seen that although the samples used in these studies were small and very sophisticated tests for identification were not used, the trend is more or less the same as in most populations all over the world where approximately, 2 to 3 per cent of the population is expected to be mentally handicapped, mental handicap being defined as a condition characterized by significantly sub-average general

intellectual functioning existing concurrently with deficits in adaptive behavious and manifested during the developmental period.

On this basis, the following estimates may be projected:

Individuals with mental handicap	:	20	million
Moderately, severely or profoundly handicapped	:	6	million
Adult over 20 years of age	:	0.8	million
Children below 10 years of age	:	15	million
Boys	:	10	million
Girls	:	5	million

7. Projected Population of Children with Disabilities

According to Mukhopadhyay and Mani (2000), as in several countries, India is still in the process of refining the procedures by which children with special needs can be identified. The first attempt in this regard was made during the National Policy on Education of 1986 and Plan of Action 1992. It estimated number of special need children of school going age at 15.06 million including 3.6 million mentally retarded children and 3.19 million children with physical disabilities in the age group 5-14 years.

Table 1.9

Projected Population of Children with Disabilities (in Million)

S.N.	Category of Disability	Age Group (Years)	No. in Million
1.	Children with Disability	5-14	3.19
	1.1 Locomotor Handicap		1.48
1.2	Hearing Handicap		0.65
	1.3 Speech Handicap		0.19
	1.4 Visual Handicap		0.15
2.	Mentally Retarded	5-15	3.60
3.	Learning Disability	5-14	3.60
4.	Children with Disability	16-18	2.20
	TOTAL		**15.06**

Source: Plan of Action, 1992

Among school going age children with disabilities, the children with mental retardation and learning disabilities constitute almost 60 per cent of estimated number. Whereas children with visual impairment constitute only 1 percent, children with speech impairment merely 1.5 percent and those with hearing impairment 5 percent of estimated number of children with disabilities. In other words, mental handicap and learning disabilities are most prominent among children, followed by locomotor handicap and least in case of visual impairment.

A comparison between incidence as well as prevalence of disabilities estimated in two National Sample Surveys conducted during 1981 and 1991 respectively, the estimate is showing a declining trend from 2 percent to 1.8 percent. This trend is showing further improvement in respect of declining number of children with disabilities due to improvement in nutrition status, best access to health services, early identification, better pre-natal and post natal services, effective immunization in case of polio and vaccination etc.

8. Prevalence and Incidence of Disability

Prevalence means number of persons born with disability or became disabled per 1,00,000 population in the country till the date of survey. Whereas incidence means the number of persons born with disability or who became disabled per 1,00,000 population in the country within a specified period of 365 days preceding the survey.

Table 1.10

Comparative Prevalence and Incidence of Physical Disabilities

Sector	36th round (July -December, 1981)			47th round (July -December ,1991)		
	Male	Female	Persons	Male	Female	Persons
Prevalence Rate						
Rural	2045	1632	1844	2277	1694	1995
Urban	1532	1297	1420	1774	1361	1579
Incidence Rate						
Rural	-	-	-	99	81	90
Urban	-	-	-	90	75	83

Source: Survey of Disabled Persons, NSSO, 1981 & 1991

The following findings emerge from the analysis of data on prevalence and incidence of disabilities:

8.1 Prevalence

- The prevalence of physical disability during 1991 was 2 percent in the rural areas and 1.6 percent in the urban area.
- Between the two sexes, the prevalence of disability was marginally higher among males than among females.
- The inter-state variations in prevalence rate are significant in both the sectors. In the rural areas, it ranged from 1.2% in Assam to 2.9% in Punjab, while in the urban areas, it ranged from 1.1% in Rajasthan to 2.0% in Orissa. These rates are higher among males than among females in all the states.

8.2 Incidence

- The Incidence Rate was 90 in the rural areas and 83 in the urban areas.
- This rate is also observed to be higher among males than that among females.
- The state-wise differences are quite high, ranging from 30 to 171 in rural areas and from 46 to 144 in urban areas.

8.3 Comparison of Prevalence Rates :

A comparison of Prevalence Rate of physical disability observed during 36th and 47th Rounds reveals that:

- In both rural and urban areas, the prevalence for males as well as females increased marginally over the period from 1981 to 1991. The prevalence increased in rural areas from 1.84% to 1.99% and in urban areas from 1.42% to 1.58% during this period.
- The rural-urban as well as male-female pattern in the prevalence rate is found to be similar in both the rounds.
- The disability-wise data shows that both prevalence and incidence of visual, speech and hearing impairments have shown marginal to substantial decline and prevalence of locomotor disability has shown substantial increase from 0.82% to 1.04% for the rural areas and from 6.79% to 9.62% for the urban areas during this period. Whereas there is no increase in the incidence of this disability during this period.

9. Rural - Urban Distribution of Disability

Table 1.11
Rural - Urban Population (1991)

Nature of Population	Rural (%)	Urban (%)
At Least one Physical Disability	78.32	21.68*
Visual Impairment	83.27	16.73*
Total Population	**80.00**	**20.00#**

*Source: * Survey of Disabled Persons, NSS, 1991*
 # General Population Survey, 1991

The population of persons with disabilities is 21.68 percent in the urban areas as compared to that of 20 percent for total population which establishes that chances of survival of a child with disability are comparatively higher in the urban areas as compared to rural areas. Lack of early intervention services, prevention of disability or the lack of awareness among the rural masses may be responsible for comparatively higher prevalence of disability in the urban areas.

Whereas the population of visually impaired of 83.27 percent in the rural areas as compared to that of 80 percent of total population establishes that the incidence of visual impairment is relatively more in the rural areas. It may be due lack of eye care services, delay in medical and surgical intervention, superstitions and lack of public awareness among the rural population as regard eye care etc.

10. Age-wise Distribution

Table 1.12
Age-wise Distribution ('000)

Age Group	Visual		Hearing		Speech		Locomotor		Any Disability	
	Rur	Urb	Rur	Urb	Rur	Urb	Rur	Urb	Rur	Urb
0-4	4	5	NA	NA	47	47	27	30	-	-
5-14	24	21	85	80	262	261	224	223	150	165
15-59	255	304	387	377	539	513	487	503	425	458
60& Above	717	670	526	541	197	225	240	227	398	346

*Source: * Survey of Disabled Persons, NSS, 1991*

The following observations may be made from these figures:

- When all physical disabilities are considered together, 16 percent persons are in the school-age group, 44 percent in the working age group and 40 percent in the aged group.
- In case of visual impairment, distribution is highest at the level of 70 percent in the age group 60 years and above and the lowest in the age group less than 4 years. Only one-fifth of total number of such persons are in the school-age group.
- Locomotor and speech impairments are most prominent among the infants and the school-age children. The extent of these disabilities is least as compared to other disabilities in the age group 60 years and above.
- Hearing impairment is comparatively lower in the younger age group as compared to that in the higher group.
- Visual and hearing impairments are more prominent in the higher age-groups, whereas speech and locomotor impairments are the phenomenon of the younger age groups.

11. On-set of Disability

In India, majority of physical disability is acquired; congenital impairment is almost negligible.

Table 1.13
Age at Onset of Disability in Rural Areas Age Group 60 years & Above ('000)

Disability	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-44	45-59	60 & Above
Visual	9	8	9	1	3	3	4	18	255	689
Hearing	9	6	12	9	11	10	12	41	280	609
Speech	42	23	24	-	10	-	12	25	262	594
Locomotor	29	19	17	17	10	8	22	59	278	511

*Source: * Survey of Disabled Persons, NSS, 1991*

The highest on-set of disability in case of all the disabilities takes place in the age-group 60 & above. It is comparatively higher in this age group in case visual impairment, followed by hearing impaired.

In case of both, visual as well as hearing impairment, the on-set of impairment is least in the age-group below 35 years. There is sharp increase of almost 5 times in on-set till the age of 35 years as compared to that in the age-group 35-44 years in case of visual impairment. This increase is 2.5 times in the similar age-groups in case of hearing impairment. Thus most of visual impairment occurs after age of 45 years and hearing impairments occurs after the age of 35 years. The major causative factors both in case of visual as well as hearing impairments are senile in nature.

Almost 4 percent of speech impairment and 3 percent of locomotor disability occurs below 4 years of age. The onset of disabilities in these cases takes place in comparatively in higher proportions as compared to other physical disabilities in the school-age of 4-19 years. Thus these disabilities are comparatively more prominent among younger people.

12. Causes of Disability

The National Sample Survey also compiled information on probable causes of disability as known to the informant in respect of only those who acquired the disability in the course of life.

12.1 Causes of Visual Impairment

12.1.1 National Sample Survey

Table 1.14
Causes of Visual Impairment ('000)

S. N.	Causes of visual impairment	Rural	Urban
1.	Old age	273	214
2.	Cataract	236	280
3.	Other eye diseases	130	107
4.	Glaucoma	34	42
5.	Smallpox	29	35
6.	Injury other than burns	32	35
7.	Corneal Opacity	13	16
8.	Severe diarrhoea in childhood	11	13
9.	Sore eyes after one month	6	8
10.	Sore eyes during first month	5	3
11.	Burns	2	5
12.	Other reasons	49	74
13.	Not Known	161	131

Source: Survey of Disabled Persons, NSS, 1991

About 27-21 per cent persons reported 'old age' as the cause of visual disability. Cataract, the incidence of which is generally high in old age, was found to be the cause in about 24-28 per cent cases respectively in the rural and urban sectors. Thus in almost 50 per cent of cases, on-set of visual impairment is merely due to cataract or old age. Xerophthalmia and congenital visual impairment which are major causes of visual impairment among children and at birth respectively have not been reported as a separate category of causes of visual impairment. As reported earlier, on-set of visual impairment in 0-4 age group is merely 0.8 per cent only.

12.1.2 NPCB Survey: The findings of the National Programme on Control of Blindness, however, establish that cataract causes almost 81 per cent of visual impairment in the country. This study also attributes only 0.04 per cent visual impairment to malnutrition.

Table 1.15
Causes of Visual Impairment ('000)

S.N.	Causes	%age
1.	Cataract	81.00
2.	Refractive errors	7.00
3.	Corneal opacity	3.00
4.	Glaucoma	2.00
5.	Trachoma	0.20
6.	Malnutrition	0.04
7.	Others	6.76

Source: WHO - NPCB Survey (1981-86)

Both the National Sample Survey as well as WHO-NPCB Survey establish that the distribution of disabled persons by age at the onset of visual disability and by probable cause of such disability suggest that the visual disability is essentially an old age problem.

12.1.3 Back-log of Eye Surgeries: The WHO-NPCB Survey 1981-86 establishes that the national load for various causes of blindness in the country at 800 million population level is 31.84 million including back-log of cataract surgeries of 25.76 millions. These surgeries are pending and hence are likely to result in the affected persons becoming visually impaired.

The current estimated rate of cataract surgeries per annum in the country is 2.5 millions. Whereas the annual incidence of cataract alone is 2.97 to 4.67 million. Thus the coverage of people every year for cataract surgeries is lower than the incidence resulting in a gradual increase in the back-log of cataract surgeries. As per the projections of the National Programme on Control of Blindness, the back-log of cataract operations is likely to accumulate to 42 million by the year 2000 A.D.

12.2 Causes of Hearing Impairment

Table 1.16

Causes of Hearing Impairment ('000)

SN.	Causes of Hearing impairment	Rural	Urban
1.	Rubella (German Measles)	9	14
2.	Noise induced hearing loss	17	18
3.	Ear Discharge	175	143
4.	Other illnesses	186	197
5.	Burns	2	2
6.	Injuries other than burns	35	52
7.	Medical/surgical Intervention	10	21
8.	Old age	310	316
9.	Other reasons	77	88
10.	Not known	179	149

Source: Survey of Disabled Persons, NSS, 1991

In this case also, major cause of hearing impairment is old age which accounts for 31 percent of this disability. Other major causes include illnesses (19%), ear discharge (17%) and injuries (4%). All these causes (40%) can be prevented or cured by extending medical intervention and enhancing level of public awareness. Thus lot of hearing impairment is either preventable or curable. Unlike visual impairment, the cases requiring surgical intervention, however, are only 1 to 2 percent.

12.3 Causes of Speech Impairment

Table 1.17

Causes of Speech Impairment ('000)

Causes	Rural	Urban
Hearing	36	32
Voice disorder	90	63
Cleft palate	26	14
Paralysis	191	240
Mental illness/ retardation	91	90
Other illness	221	207
Burns	4	6
Injury other than burns	32	47
Medical/surgical intervention	15	29
Old Age	25	27
Other reasons	72	81
Not known	197	164
Total	**1000**	**1000**

Source: Survey of Disabled Persons, NSS, 1991

It would be seen that unlike visual and hearing disabilities, old age is not a prominent cause of this disability. About 9 per cent acquired this disability due to mental illness/retardation. Paralysis and other illness were the cause in about 40 per cent of the cases.

12.4 Causes of Locomotor Disability

Table 1.18

Causes of Locomotor Disability ('000)

Cause	Rural	Urban
Cerebral Palsy	48	43
Polio	328	346
Leprosy	30	19
Stroke	29	41
Arthritis	20	19
Cardio-respiratory diseases	4	5
Other illness	112	115
Burns	22	15
Injury other than burns	211	225
Medical/surgical intervention	22	15
Old age	62	49
Not known	60	44
Total	**1002**	**999**

Source: Survey of Disabled Persons, NSS, 1991

It would be seen that polio is the cause of this disability in about one-third of cases. Burns and injuries are the cause in nearly one-fourth of the cases. In about 2-3 per cent cases, the cause is leprosy.

13. Degree of Disability

Among the physically disabled, about 25 percent in rural India and 20 percent in urban India are observed to be severely disabled as they could not function even with aid/appliances. The corresponding percentage for males in rural and urban India were 23 percent and 19 percent respectively. For females, the percentage were even higher-28 percent and 23 percent in rural and urban India respectively. The all India pattern by sex and sector is reflected in the states also. The percentage of disabled person who cannot function even with assistive devices is seen to be highest in the rural areas of Uttar Pradesh (32), Madhya Pradesh (31), Rajasthan (30), etc. and in the urban areas of Himachal Pradesh (31) followed by Uttar Pradesh (29), Bihar (26), etc. Tamil Nadu has recorded the lowest percentage of severely disabled persons in both the sectors-16 and 12 in rural and urban sectors respectively. Of those who were enrolled once in an ordinary school but were not currently enrolled, 43 percent are found to have discontinued due to onset of disability in the rural sector. The said percentage was 39 in the urban sector.

14. Marital Status of Persons with Disabilities

It is seen that at the all India level, out of 1000 disabled residing in the rural areas - 383 are never married, 387 are currently married while in the urban areas, the corresponding numbers are 453 and 359. The male-female differences in these proportions are quite significant. The proportion of the never married and also the currently married among disabled males is much higher than among females in both the sectors. Almost 40 per cent of disabled females in rural India and 36 per cent of disabled females in urban India are either widowed, divorced or separated as against 11 and 7 per cent of disabled males (widowed, divorced or separated) in rural and urban India respectively. At the state level, the differences in the said proportion over sex and sector is observed to be large.

15. Literacy among Persons with Disabilities

In rural India, about 70 per cent of the physically disabled persons are found illiterate as against 46 per cent in urban India. Only about 4 per cent of the disabled in rural India have reported educational level "secondary and above" as against about 12 per cent in urban India. The urban bias in literacy is well known. It is

more pronounced in the case of disabled persons probably because of the availability of better educational facilities in general and existence of special schools for the disabled in the urban sector in particular. The pattern of literacy observed at the all India level is also seen in all the major states. Kerala, as usual, has marked the highest literacy level among the disabled also in both the sectors. The lowest literacy level is found in Orissa in the rural sector and in U.P. in the urban sector.

Out of 1000 persons with disabilities living in rural India, only 12 have completed any vocational course. In urban India, a comparatively higher number of physically disabled persons (31) have done so. Of them about 20 to 27 per cent have completed courses in engineering trade and 73 to 80 per cent in non-engineering trade. In the urban sector, the highest proportion is reported by Maharashtra (58). On the other hand, the lowest proportion (6 per 1000) is observed in Orissa and Madhya Pradesh in the rural sector and in Haryana (11 per 1000) in the urban sector.

As usual, the current enrolment ratio per 1000 disabled children is found higher in urban than in rural areas - 552 and 458, respectively for the two sectors. The ratio is also higher among males than females in both the sectors.

16. Employment Status

The NSSO Survey established that only 29 percent and 25 percent persons with disability are employed in rural and urban India respectively. Out of these, 60 percent were self employed, 7 percent regular employees and remaining 33 percent as casual labourers in the rural areas. The corresponding percentages were 48, 30 and 22 for the urban areas. Thus the scope for self-employment is much higher in the rural areas, whereas regular employment seems to be comparatively more prominent in the urban areas. The survey also establishes that a little less than 1 percent of persons with disabilities have chosen to begging as their source of livelihood in both sectors.

17. Living Arrangement

The NSSO survey established that 90 percent disabled people lived with their spouse and/or other family members. Whereas only 4 and 6 percent of such persons lived alone in the rural and urban areas respectively. These people did not have any other member in the family to take care of them. Another 4 to 5 percent such people lived with their spouse only. Thus a large majority of persons with disabilities are living with their family members only.

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