

Health disparity and Inequities among Disabled Population of India

Report prepared by

Vini Sivanandan

Arun Pisal

A.P. Prashik

Raj Pol

Akram Khan

Vandana Shivnekar

Population Research Centre

Gokhale Institute of Politics and Economics

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Health disparity and Inequities among Disabled Population of India

Key findings:

- In selected states of Jammu and Kashmir, Himachal Pradesh, Haryana, Punjab, Rajasthan, Uttar Pradesh, Gujarat, Madhya Pradesh, Maharashtra, Chhattisgarh, Jharkhand, Bihar, Odisha, West Bengal, Nagaland, Sikkim, Arunachal Pradesh, Goa, Andhra Pradesh, Kerala and in union Territory of Puducherry and Lakshadweep proportionately more number of disabled population are found.
- In states of Jammu and Kashmir, Odisha, and Jharkhand the overall distribution shows proportion of population with disability was slightly more than ten percent and was more concentrated in rural areas the same distribution was observed in Sikkim state however here the number of disabled population was concentrated mainly in urban areas.
- Among states Andhra Pradesh shows highest number of household in absolute numbers with one member who is disabled; followed by Maharashtra with 60 thousand household and Rajasthan.
- Overall the rural-urban divide is striking in household size less than or equal to three in terms of disabled population with concentration in rural areas. Whereas, rural urban divide is comparatively less in terms of more than one disabled members in household size 4 and above.
- Overall value of indices shows inequality in terms of proportionate representation of disabled population in main worker and least inequality in marginal work with less than 6 months.
- Theil index shows values less than Hoover index which indicates although inequality exist it is not highly significant in duration of employment.
- Analysis by gender shows proportionately males are better represented in workforce than females as evident by high values of Theil, Hoover and Gini indices. Here, the inequality is not that significant in main work force. Inequality is significant in Marginal workforce. Among main and marginal workforce the marginal worker with 3 to 6 months duration shows less inequality.

- The distribution of disabled population of males was slightly more in Mumbai district and least in Sindudurg district.
- Near about three fourth of the disabled population resides in rural areas.
- The percentage of disabilities is generally high in the working age group 20-59 years. In Marathwada region and in Dhule and Nandurbar districts of Kandesh region near about 30 percent of the disabled population are in the age group 0-19 years which implies not only high dependency in the middle age group but also implicates substantial number of disabled population in the middle age group in the next decade.
- In districts of Wardha, Parbhani and Osmanabad more than quarter of the disabled population are in in the older age group 60 and above with highest in Parbhani district with 34 percent of the disabled population in the older age group.
- The lowest proportion of disabled population in the age group 60 and above was observed in Gondia district which also has the highest proportion of disabled population in the age group 20-59 years of age. Equivalent number of disabled population by age group was observed in Parbhani district with each group consisting of one third of the disabled population.
- In general the distribution shows concentration of disabled population in disability type speech, hearing, movement and seeing.
- Generally among disabled population males are more than females with slightly more than 50 percent of disabled population are males however, in disability type movement the ratio of males was more than females in the ratio of 6:3 in all the regions of Maharashtra.
- In Dhule district of Kandesh region the proportion of male to female was in the ratio of 6:3 in disability type mental illness and multiple disability and multiple disability in gadchiroli district of Vidarbha; mental retardation in hingoli and bid districts of Maharashtra; which is also observed in disability type movement.

Health disparity and Inequities among Disabled Population of India

II Introduction

The constitution of India ensures equality, freedom, justice and dignity of all individuals. The Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995 and National Policy for Persons with Disabilities released in 2006 are two of the initiatives which emphasized the importance given to this particular issue by the Government of India.

As per the World Health Organization; Disability is an umbrella term, covering 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.

The Convention on the Rights of Persons with Disabilities (2006), the first legally binding disability specific human rights convention, adopted by the United Nations gives two descriptions of disability. The Preamble to the Convention states that “Disability results from the interaction between persons with impairments and attitudinal and environmental barriers that hinder their full and effective participation in society on an equal basis with others.” Again it emphasizes that “Persons with disabilities include those who have long term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others.”

The Persons with Disabilities (Equal Opportunities, protection of Rights and Full Participation) Act which came into force in 1995, imposes specific obligation on the government to undertake surveys, investigation and research concerning causes of disability. In India, the major sources of statistics on disability are the decadal Population Censuses and the regular large scale sample surveys on disability conducted by National Sample Survey Office (NSSO).

This study aims to understand the distribution pattern of disability in India and Maharashtra to enable to identify potential strategic interventions for future advocacy.

The specific objectives of the study is to summarize by background characteristics and distribution pattern of persons with disability in India and Maharashtra;

Background

In India, the disability sector in general estimates that 2% of the population is disabled. The Planning Commission recognizes this figure as 5%. A report by the World Bank states that while estimates vary, there is growing evidence that persons with disability are around 40-80 million, which constitute between 4-8% of India’s population.

Table1: Disabled Population by Sex and Residence India, 2011

Disabled Population by Sex and Residence India, 2011			
Residence	Persons	Males	Females
Total	26,810,557	14,986,202	11,824,355
Rural	18,631,921	10,408,168	8,223,753
Urban	8,178,636	4,578,034	3,600,602

Source: C-Series, Table C-20, Census of India 2011

Table2: Percentage of disabled Population by type of disability India, 2011

Type of Disability	Persons	Males	Females
In Seeing	18.8	17.6	20.2
In Hearing	18.9	17.9	20.2
In Speech	7.5	7.5	7.4
In Movement	20.3	22.5	17.5
Mental Retardation	5.6	5.8	5.4
Mental Illness	2.7	2.8	2.6
Any Other	18.4	18.2	18.6
Multiple Disability	7.9	7.8	8.1
Total	100.0	100.0	100.0

Source: C-Series, Table C-20, Census of India 2011

Table 3 Percentage of disabled Population by Type of Disability Among Social Groups India 2011

Type of Disability	Total	SC	ST	Others
In Seeing	18.8	19.1	20.0	18.6
In Hearing	18.9	17.4	19.3	19.2
In Speech	7.5	5.2	5.3	8.3
In Movement	20.3	20.5	22.5	20.0
Mental Retardation	5.6	5.1	4.9	5.8
Mental Illness	2.7	2.4	2.6	2.8
Any Other	18.4	22.9	16.5	17.4
Multiple Disability	7.9	7.3	8.9	7.9
Total	100.0	100.0	100.0	100.0

Source: C-Series, Tables C-20, C-20SC and C-20ST, Census of India 2011

Table 4 Percentage of Disabled Population in the Respective Age Groups India 2011

Age Group	Persons	Males	Females
All Ages	2.21	2.41	2.01
0-4	1.14	1.18	1.11
5-9	1.54	1.63	1.44
10-19	1.82	1.96	1.67
20-29	1.97	2.22	1.70
30-39	2.09	2.41	1.77
40-49	2.31	2.66	1.94
50-59	2.83	3.16	2.47
60-69	4.15	4.41	3.89
70-79	6.22	6.26	6.19
80-89	8.41	8.33	8.48
90+	8.40	7.88	8.85
Age Not Stated	3.07	3.21	2.91

Source: C-Series, Table C-20, Census of India 2011

II Data and Methodology

The present set of results pertains to data collected in the Census 2011 on disability information on disability of individuals was collected during the Population Enumeration phase of Census 2011 through Household Schedule.

Methodology

We use Theil index for its decomposability property into the between-group and within-group component. For example, the Theil index of overall inequality can be decomposed in the between-region and within region components of inequality, while the relative share attributable to the between-region component suggests the relative importance of inequality.

For example

Let P_i represents the population per i (i represents gender, region, and by type of disability)

M_i represents the main, marginal and total worker per i (i represents gender, region, and by type of disability)

D_i represents the relative deviation per i (i represents gender, region, and by type of disability) and is calculated as $= M_i/\Sigma M - P_i/\Sigma P$

$$T_i = \ln(\text{Avg}(M_i/P_i) * D_i)$$

Then inequality I_i is measured as $I_i = \Sigma T / 2$

$$\text{Overall Theil index} = \text{Avg}M * (1 - T)$$

We also analysed the inequality using Hoover index to calculate the proportion of all income main and marginal workers which would have to be redistributed to achieve a state of perfect equality.

Let P_i represents the population per i (i represents gender, region, and by type of disability)

M_i represents the main, marginal and total worker per i (i represents gender, region, and by type of disability)

D_i represents the relative deviation per i (i represents gender, region, and by type of disability) and is calculated as $= M_i/\Sigma M - P_i/\Sigma P$

$$H_i = \text{Abs}(D_i)$$

Then inequality I_i is measured as $I_i = \Sigma H / 2$

$$\text{Overall Hoover index} = \text{Avg}M * (1 - H)$$

In addition we also use Gini Index. Let P_i represents the population per i (i represents gender, region, and by type of disability)

M_i represents the main, marginal and total worker per i (i represents gender, region, and by type of disability)

D_i represents the relative deviation per i (i represents gender, region, and by type of disability) and is calculated as $= M_i/\Sigma M - P_i/\Sigma P$

Cummulative representation $C_i = m_i + M_{i-1}$

Gini $G = (2 * C_i - M_i) * P_i$

Then inequality I_i is measured as $I_i = 1 - \Sigma G/\Sigma P/\Sigma M$

Overall Gini index= $\text{Avg}M * (1 - G)$

- For *high* inequalities the Theil index is larger than the Hoover index.
- For *low* inequalities the Theil index is smaller than the Hoover index.

IV Disabled population by household size

Table 5 presents the distribution of Population in India by household size. In general ninety one percent of the household in India are not having any disabled member, six percent of the household has one member and little more than one percent of the household are having more than one member of the household with disability. The distribution remains more or less the same in rural and urban region with slightly more population (7%) of the household with one member who is disabled. As the household size increases a slight variation in rural and urban distribution is found with four percent of the household in urban areas with one member as disabled in a household and six percent of the household in rural areas with one member as disabled.

Statewise the distribution is more or less the same as found at national level. However, in selected states of Jammu and Kashmir, Himachal Pradesh, Haryana, Punjab, Rajasthan, Uttar Pradesh, Gujarat, Madhya Pradesh, Maharashtra, Chhattisgarh, Jharkhand, Bihar, Odisha, West Bengal, Nagaland, Sikkim, Arunachal Pradesh, Goa, Andhra Pradesh, Kerala and in union Territory of Puducherry and Lakshadweep proportionately more number of disabled population are found. In states of Jammu and Kashmir, Odisha, and Jharkhand the overall distribution shows proportion of population with disability was slightly more than 10 percent and was more concentrated in rural areas the same distribution was observed in Sikkim state however here the number of disabled population was concentrated mainly in urban areas.

Near about 6 lakhs household (4 lakhs in rural areas and one lakhs in urban areas) with household size one are having one member who is disabled indicating a highly dependent population. Among states Andhra Pradesh shows highest number of household in absolute numbers with 82000 single household one member who is disabled (rural 68 thousand urban 14 thousand household each); followed by Maharashtra with 60 thousand household (rural 41 thousand urban 19 thousand household each) and Rajasthan 45 thousand household (rural 37000 urban 7 thousand household each).

The same trend is observed in household size of two members in India with more than one member with disability in 2.74 lakh household with 2 lakhs household concentrated in rural areas. Among states,

the highest concentration of household, with more than one disabled member in household size two, is found in, Andhra Pradesh with highest number of household of 36000 household (rural 28 thousand urban 8 thousand household each); followed by Maharashtra with 32 thousand household (rural 20 thousand urban 12 thousand each) and Uttar Pradesh 24 thousand household (rural 20000 urban 4 thousand household each).

The pattern in household size of three shows approximately 3-lakh household with two lakhs concentrated in rural areas with more than one member with disability. Maharashtra shows highest number of household in absolute numbers with 45000 household rural 21 thousand urban 24 thousand household each) who are disabled member; followed by West Bengal with 32 thousand household (rural 19 thousand urban 13 thousand household each) and Uttar Pradesh 30 thousand (rural 21000 urban 8 thousand household each).

The distribution in household size of four shows 30-lakh household with 20 lakhs concentrated in rural areas with more than one member with disability. UttarPradesh shows highest number of household in absolute numbers with 5.5 lakhs single household (rural 4.1 lakhs urban 1.3 lakhs household each); followed by Maharashtra with 3.5 lakhs (rural 1.9 lakhs, u 1.6 lakhs household each) and Bihar 3.1 lakhs (r 2.7 lakhs u 41 thousand household each). Overall the rural-urban divide is striking in household size less than or equal to three in terms of disabled population concentrated in rural areas. Whereas, rural urban divide is comparatively less in terms of more than one disabled members in household size 4 and above although concentrated in rural areas.

Table 5: Distribution of disabled Population by household size in India and selected states of India, 2011

State/Region	No. of disabled	Household size with disabled (%)			
		1	2	3	4+
India	248858281	10305205	24184214	34434895	179933967
Total	0	93.9	93.5	93.7	90.9
	1	6.1	5.4	5.3	7.4
	1+	0.0	1.1	0.9	1.7
Rural	0	93.2	92.9	93.2	90.6
	1	6.8	5.9	5.8	7.7
	1+	0.0	1.3	1.0	1.7
Urban	0	95.5	94.7	94.5	91.6
	1	4.5	4.4	4.6	6.7
	1+	0.0	0.9	0.9	1.7
Jammu and Kashmir	2107597	38384	100884	187139	1781190
Total	0	91.5	91.2	92.0	86.9
	1	8.5	7.1	6.6	10.0
	1+	0.0	1.7	1.4	3.1
Rural	0	90.6	90.5	91.4	86.2
	1	9.4	7.6	7.1	10.6
	1+	0.0	1.8	1.5	3.2
Urban	0	94.1	93.4	93.7	89.0
	1	5.9	5.3	5.1	8.3
	1+	0.0	1.3	1.2	2.7
Himachal Pradesh	1480143	85798	135624	198179	1060542
Total	0	94.0	93.1	93.9	90.7
	1	6.0	5.6	5.2	7.7
	1+	0.0	1.4	0.9	1.6
Rural	0	93.2	92.5	93.5	90.4
	1	6.8	6.0	5.5	8.0
	1+	0.0	1.5	0.9	1.6
Urban	0	96.9	96.2	95.8	93.2
	1	3.1	3.2	3.4	5.7
	1+	0.0	0.6	0.7	1.1
Punjab	5496704	154154	345888	637066	4359596
Total	0	95.0	93.4	93.4	90.5
	1	5.0	5.4	5.5	7.7
	1+	0.0	1.1	1.2	1.9
Rural	0	94.0	92.4	92.5	89.6
	1	6.0	6.3	6.3	8.4
	1+	0.0	1.3	1.2	2.0
Urban	0	96.3	94.8	94.5	91.8
	1	3.7	4.3	4.4	6.5
	1+	0.0	0.9	1.1	1.7
Haryana	4847400	119596	285973	507642	3934189
Total	0	93.8	92.9	93.8	90.9

	1	6.2	5.6	5.1	7.4
	1+	0.0	1.6	1.1	1.7
Rural	0	92.5	91.8	93.0	90.4
	1	7.5	6.4	5.8	7.9
	1+	0.0	1.8	1.1	1.7
Urban	0	95.3	94.2	94.7	91.8
	1	4.7	4.6	4.3	6.5
	1+	0.0	1.3	1.1	1.7
Rajasthan	12688764	407521	978275	1248908	10054060
Total	0	88.9	90.4	92.3	89.8
	1	11.1	7.1	6.4	8.4
	1+	0.0	2.4	1.3	1.9
Rural	0	87.3	89.6	91.6	89.3
	1	12.7	7.7	7.0	8.8
	1+	0.0	2.7	1.4	1.9
Urban	0	93.4	93.2	94.0	91.1
	1	6.6	5.4	5.0	7.2
	1+	0.0	1.4	1.0	1.7
Uttar Pradesh	33304885	1194339	2175708	2743779	27191059
Total	0	94.9	93.9	93.7	90.6
	1	5.1	4.9	5.2	7.4
	1+	0.0	1.1	1.1	2.0
Rural	0	94.7	93.8	93.6	90.5
	1	5.3	5.0	5.4	7.5
	1+	0.0	1.2	1.1	2.0
Urban	0	95.5	94.5	94.2	90.8
	1	4.5	4.5	4.6	7.0
	1+	0.0	1.0	1.2	2.2
Bihar	18877262	495056	1687207	1977110	14717889
Total	0	94.1	94.2	93.7	90.3
	1	5.9	4.9	5.3	7.5
	1+	0.0	1.0	1.1	2.2
Rural	0	94.0	94.2	93.7	90.4
	1	6.0	4.9	5.3	7.5
	1+	0.0	1.0	1.1	2.1
Urban	0	95.1	94.2	93.6	89.8
	1	4.9	4.8	5.2	7.8
	1+	0.0	1.0	1.1	2.5
Sikkim	128190	6670	11577	21721	88222
Total	0	94.4	92.5	93.1	87.6
	1	5.6	6.1	5.5	9.7
	1+	0.0	1.5	1.4	2.7
Rural	0	92.9	90.0	91.2	85.7
	1	7.1	8.0	6.9	11.2
	1+	0.0	2.0	1.8	3.1
Urban	0	97.1	97.1	96.7	93.6

	1	2.9	2.5	2.8	5.2
	1+	0.0	0.4	0.5	1.2
Arunachal Pradesh	266959	17743	24058	34304	190854
Total	0	96.1	94.5	94.9	91.6
	1	3.9	4.7	4.3	6.8
	1+	0.0	0.9	0.8	1.6
Rural	0	94.9	93.0	93.9	90.9
	1	5.1	5.8	5.1	7.3
	1+	0.0	1.1	0.9	1.8
Urban	0	98.1	97.3	96.9	94.1
	1	1.9	2.3	2.7	4.8
	1+	0.0	0.3	0.4	1.0
Nagaland	393385	23147	37075	51570	281593
Total	0	93.9	94.4	95.1	93.5
	1	6.1	4.8	4.2	5.5
	1+	0.0	0.8	0.7	1.0
Rural	0	91.9	93.1	94.2	92.8
	1	8.1	5.9	5.0	6.0
	1+	0.0	1.0	0.8	1.2
Urban	0	97.8	97.4	97.0	95.1
	1	2.2	2.2	2.6	4.3
	1+	0.0	0.4	0.4	0.6
Jharkhand	6243268	188291	489810	702091	4863076
Total	0	93.4	92.7	93.1	89.5
	1	6.6	6.0	6.0	8.6
	1+	0.0	1.3	1.0	1.9
Rural	0	92.8	92.3	92.6	89.2
	1	7.2	6.3	6.3	8.8
	1+	0.0	1.4	1.0	2.0
Urban	0	95.1	94.4	94.4	90.4
	1	4.9	4.6	4.8	7.8
	1+	0.0	1.0	0.8	1.8
Odisha	9615963	455629	1153344	1684701	6322289
Total	0	90.6	91.1	92.2	88.8
	1	9.4	7.1	6.6	9.1
	1+	0.0	1.8	1.2	2.1
Rural	0	90.0	90.8	91.8	88.5
	1	10.0	7.4	6.9	9.5
	1+	0.0	1.8	1.3	2.1
Urban	0	93.8	93.6	94.2	90.5
	1	6.2	5.1	4.8	7.6
	1+	0.0	1.3	1.0	1.9
Chhattisgarh	5640620	350570	708947	787668	3793435
Total	0	90.4	91.2	92.4	90.2
	1	9.6	7.1	6.6	8.5
	1+	0.0	1.7	1.0	1.4

Rural	0	89.8	90.7	91.9	89.8
	1	10.2	7.5	7.1	8.7
	1+	0.0	1.8	1.0	1.4
Urban	0	93.2	93.4	94.0	91.2
	1	6.8	5.6	5.2	7.5
	1+	0.0	1.1	0.8	1.3
Madhya Pradesh	15057528	720416	1575905	1796841	10964366
Total	0	92.3	92.8	93.2	91.2
	1	7.7	5.9	5.8	7.4
	1+	0.0	1.3	1.0	1.4
Rural	0	91.7	92.5	93.0	91.4
	1	8.3	6.0	6.0	7.3
	1+	0.0	1.4	1.0	1.3
Urban	0	94.4	93.8	93.6	90.6
	1	5.6	5.3	5.4	7.6
	1+	0.0	0.9	1.0	1.7
Gujarat	12230253	473317	1108725	1481752	9166459
Total	0	95.0	94.7	94.4	92.3
	1	5.0	4.5	4.8	6.3
	1+	0.0	0.9	0.8	1.4
Rural	0	94.6	94.5	94.0	92.6
	1	5.4	4.6	5.2	6.3
	1+	0.0	0.9	0.8	1.1
Urban	0	95.4	94.9	94.7	92.0
	1	4.6	4.3	4.4	6.3
	1+	0.0	0.8	0.9	1.7
Maharashtra	24354087	1066382	2486511	3526762	17274432
Total	0	94.3	93.2	93.0	89.9
	1	5.7	5.5	5.7	8.0
	1+	0.0	1.3	1.3	2.1
Rural	0	93.4	92.2	92.1	89.4
	1	6.6	6.3	6.6	8.5
	1+	0.0	1.4	1.3	2.0
Urban	0	95.6	94.4	93.8	90.5
	1	4.4	4.5	4.9	7.3
	1+	0.0	1.1	1.3	2.1
Andhra Pradesh	20970000	1150351	2939745	3675596	13204308
Total	0	92.8	92.3	92.5	90.6
	1	7.2	6.5	6.5	7.9
	1+	0.0	1.2	1.0	1.6
Rural	0	92.4	91.7	92.0	90.4
	1	7.6	7.0	7.0	8.2
	1+	0.0	1.3	1.0	1.4
Urban	0	94.1	93.8	93.3	90.9
	1	5.9	5.2	5.5	7.2
	1+	0.0	1.0	1.1	1.9

Goa	342437	19402	39842	66056	217137
Total	0	94.5	94.1	94.4	91.8
	1	5.5	4.8	4.6	6.6
	1+	0.0	1.1	1.0	1.6
Rural	0	93.4	93.1	93.1	90.5
	1	6.6	5.6	5.7	7.5
	1+	0.0	1.3	1.2	1.9
Urban	0	95.1	94.7	95.0	92.7
	1	4.9	4.3	4.0	5.9
	1+	0.0	1.0	1.0	1.4
UT Lakshadweep	11541	875	985	1390	8291
Total	0	96.9	94.1	92.7	86.0
	1	3.1	5.2	6.3	11.6
	1+	0.0	0.7	0.9	2.4
Rural	0	95.1	92.6	91.4	86.3
	1	4.9	5.6	7.1	10.9
	1+	0.0	1.9	1.5	2.8
Urban	0	97.5	94.5	93.1	86.0
	1	2.5	5.1	6.1	11.8
	1+	0.0	0.4	0.8	2.3
Kerala	7841276	322483	919231	1434588	5164974
Total	0	93.3	93.2	93.6	91.2
	1	6.7	5.8	5.6	7.5
	1+	0.0	0.9	0.8	1.3
Rural	0	93.1	92.8	93.2	91.0
	1	6.9	6.2	6.0	7.7
	1+	0.0	1.0	0.8	1.3
Urban	0	93.7	93.7	93.9	91.5
	1	6.3	5.4	5.3	7.3
	1+	0.0	0.9	0.7	1.2
UT Puducherry	302057	12090	33014	55352	201601
Total	0	93.0	92.0	93.1	90.7
	1	7.0	7.2	6.3	8.2
	1+	0.0	0.8	0.6	1.1
Rural	0	91.1	90.4	91.7	89.7
	1	8.9	8.4	7.5	9.1
	1+	0.0	1.1	0.7	1.2
Urban	0	94.0	92.7	93.6	91.1
	1	6.0	6.6	5.8	7.8
	1+	0.0	0.7	0.6	1.0

V Disability by duration in Employment

Table 6 presents the value of Indices (Theil, Hoover and Gini) by duration of employment of the disabled population. Here the disabled population in the age group 15-59 who are employed as per the duration are analysed by background characteristics gender, region and type of disability.

Overall value of indices shows inequality in terms of proportion representation of disabled population in main worker and least inequality in marginal work with less than 6 months. Theil index shows values less than hoover index which indicates although inequality exist it is not highly significant.

The decompositional analysis was carried out by back ground characteristics. Analysis by gender shows proportionately males are better represented in workforce than females as evident by high vales of Theil, Hoover and Gini indices. Here, the inequality is not that significant in main work force as indicated by lower value of theil index as compared to Hoover index. Inequality is significant in Marginal workforce with the value of theil index much greater than hoover index. Among main and marginal workforce the marginal worker with 3 to 6 months duration shows less inequality.

Region wise, the inequality is significant with more number of workforce concentrated in urban areas as evident by greater value of theil index as compared to hoover index however, the inequality was comparatively less in marginal workforce with duration less than 3 months.

Analysis was also carried among eight types of disability of the disabled population. Analysis indicates, significant inequality by types of disability which is due to very low representation of workforce in disability types mental illness, mental retardation and multiple disabilities. Whereas, the inequality was less in marginal workforce.

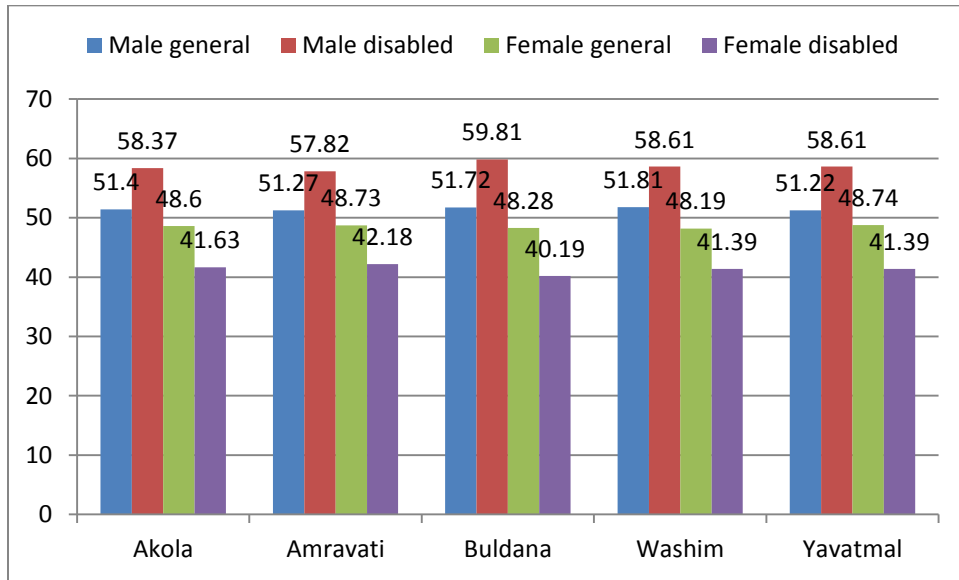
Table 6: Inequality Indices by Main and Marginal Workers in India, 2011

	Main Worker	Marginal worker (<3months)	Marginal worker (3-6 months)
Total			
Theil	0.3	0.02	0.1
Hoover	0.4	0.02	0.1
Gini	0.4	0.02	0.1
Gender			
Theil	6.9	2.7	10.9
Hoover	8.9	1.5	9.4
Gini	0.9	0.7	0.5
Region			
Theil	7.6	1.2	8.4
Hoover	2.9	0.5	6.4
Gini	0.9	0.2	0.5
Type of disability			
Theil	7.7	0.06	0.1
Hoover	4.6	0.03	0.09
Gini	4.4	0.03	0.06

VI Disabled Population in Maharashtra

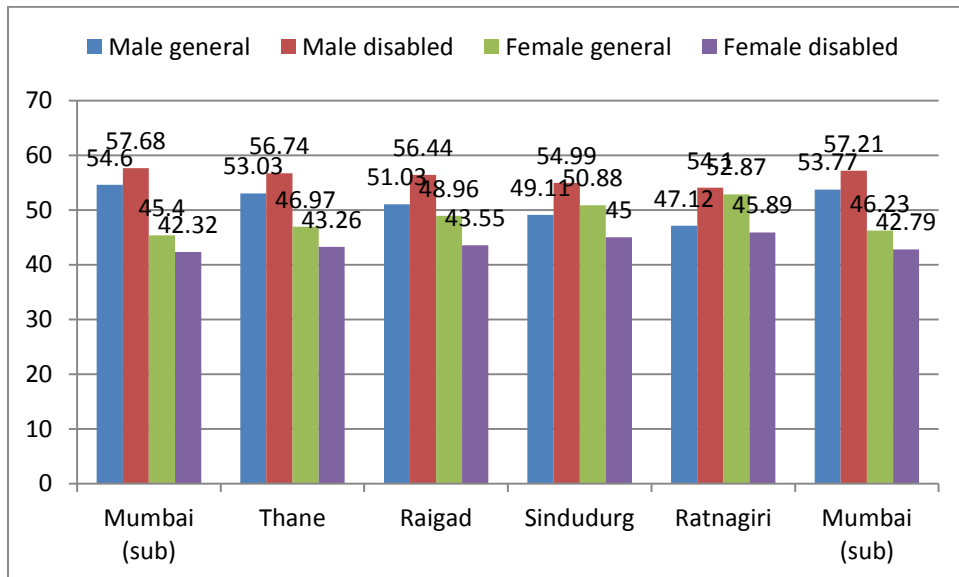
This section is a summary of the disabled population of six different administrative regions of Maharashtra as per census data of 2011.

Figure 1: Male to female ration of general and disabled population in Vidarbha Amravati region of Maharashtra



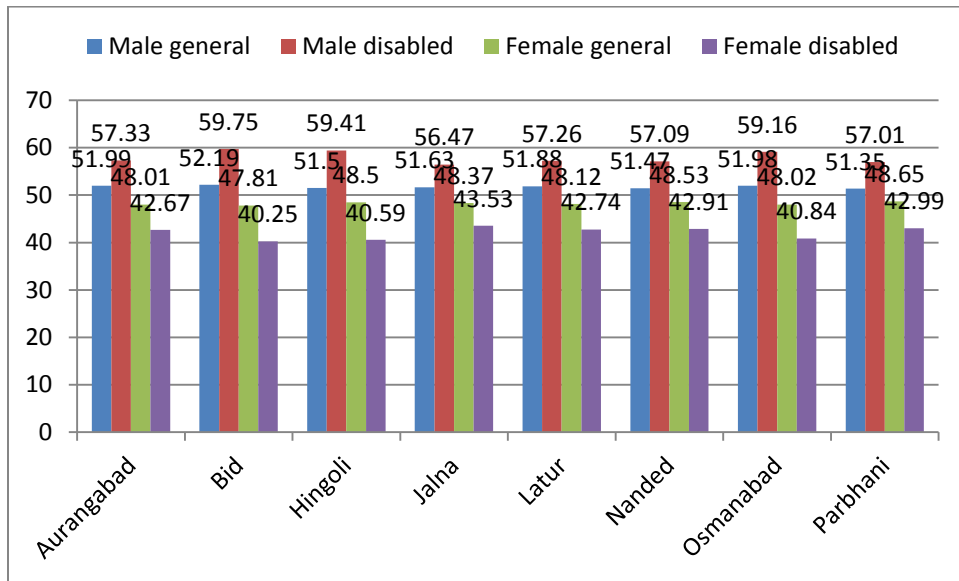
In Vidarbha Amravati region of Maharashtra the distribution of disabled population shows near about 58 percent of the disabled population are males. Among districts Buldana has highest proportion of male with disability.

Figure 2: Male to female ration of general and disabled population in Konkan region of Maharashtra



The distribution was also 50: 40 with more males showing disability than females in konkan region of Maharashtra. The distribution of disabled population of males was slightly more in Mumbai district and least in Sindudurg district.

Figure 3: Male to female ratio of general and disabled population in Marathwada region of Maharashtra



As observed in other regions of Maharashtra the distribution of disabled population in Marathwada region shows near about 59 percent of the disabled population are males. Among districts Osmanabad and Bid districts has highest proportion of male with disability.

Figure 4: Male to female ratio of general and disabled population in Vidarbha Nagpur region of Maharashtra

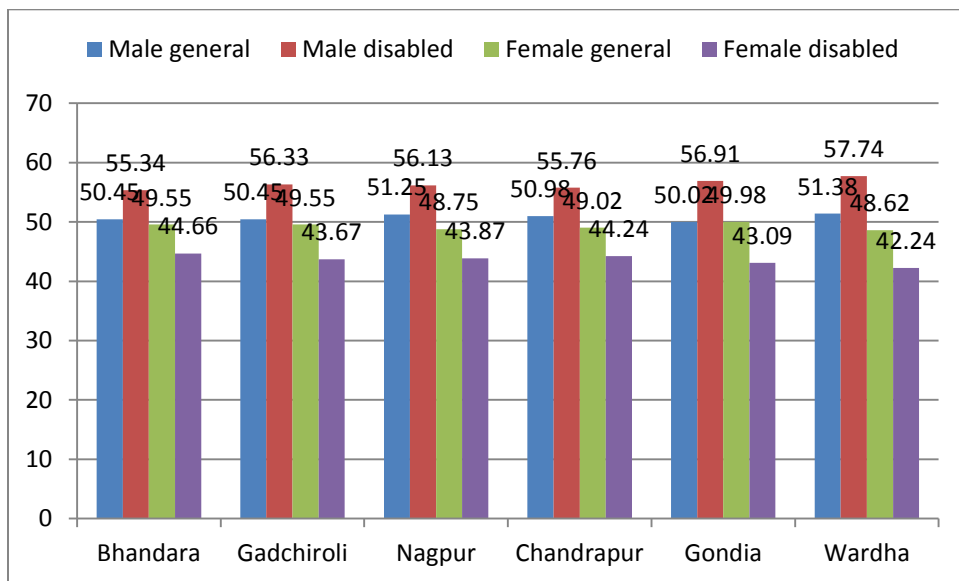
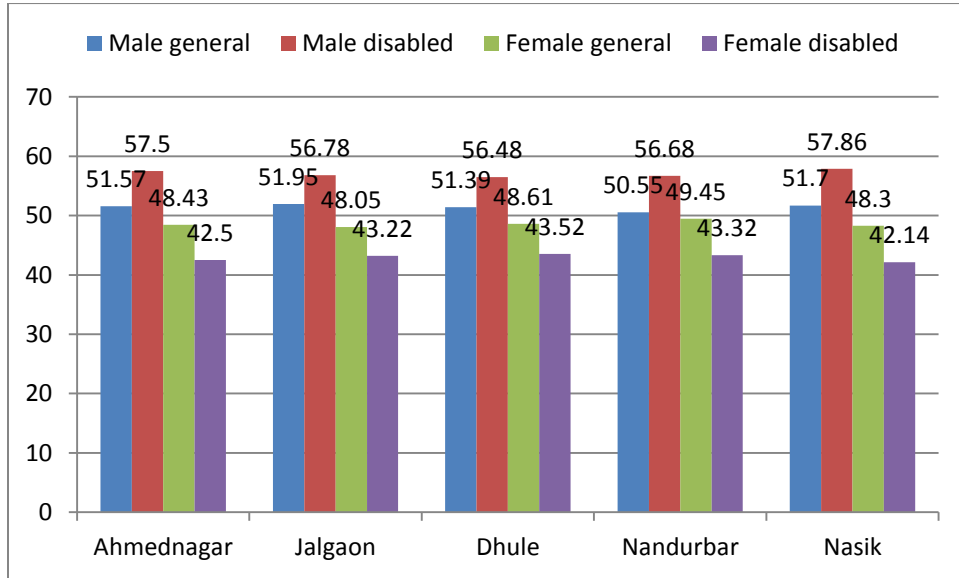


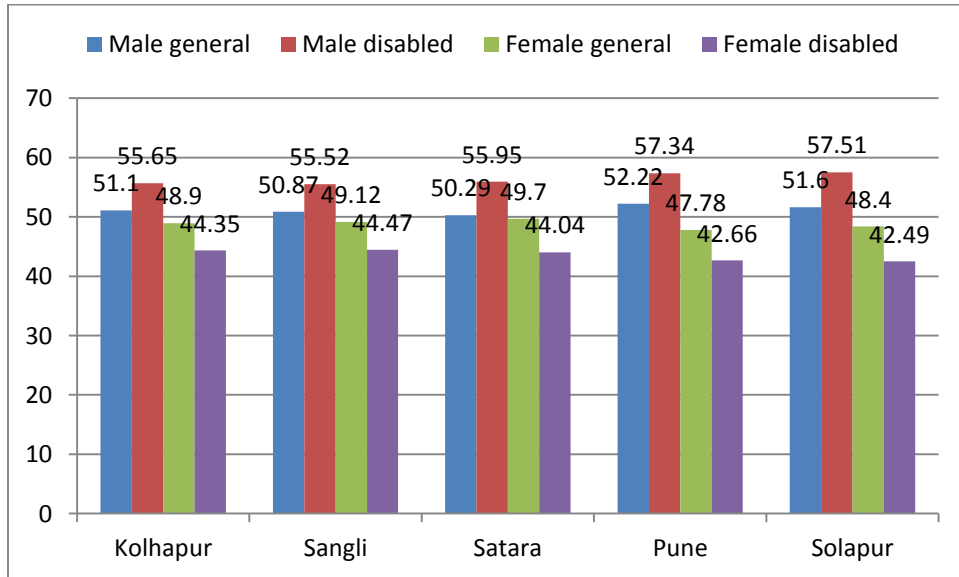
Figure 4 shows In Vidarbha Nagpur region of Maharashtra the distribution of disabled population shows near about 55 percent of the disabled population are males. Among districts Wardha and Nagpur has highest proportion of male with disability.

Figure 5: Male to female ration of general and disabled population in Kandesh region of Maharashtra



In kandesh region of Maharashtra the distribution of disabled population shows near about 56 percent of the disabled population are males.

Figure6: Male to female ration of general and disabled population in Desh Pune region of Maharashtra

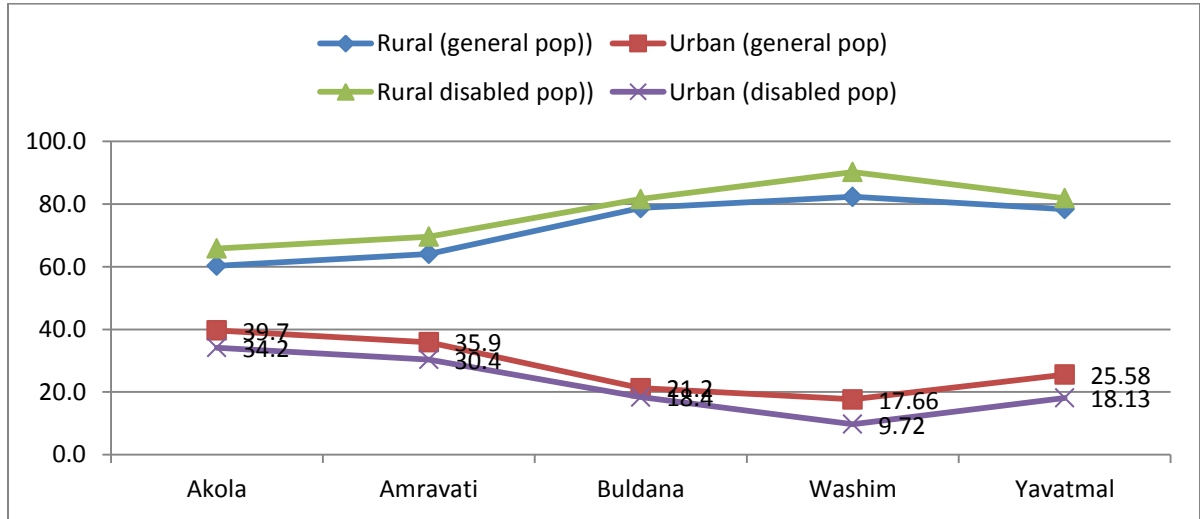


The proportion of male with disability are higher than female in Desh Pune region.

VII Disability by Residence in Maharashtra

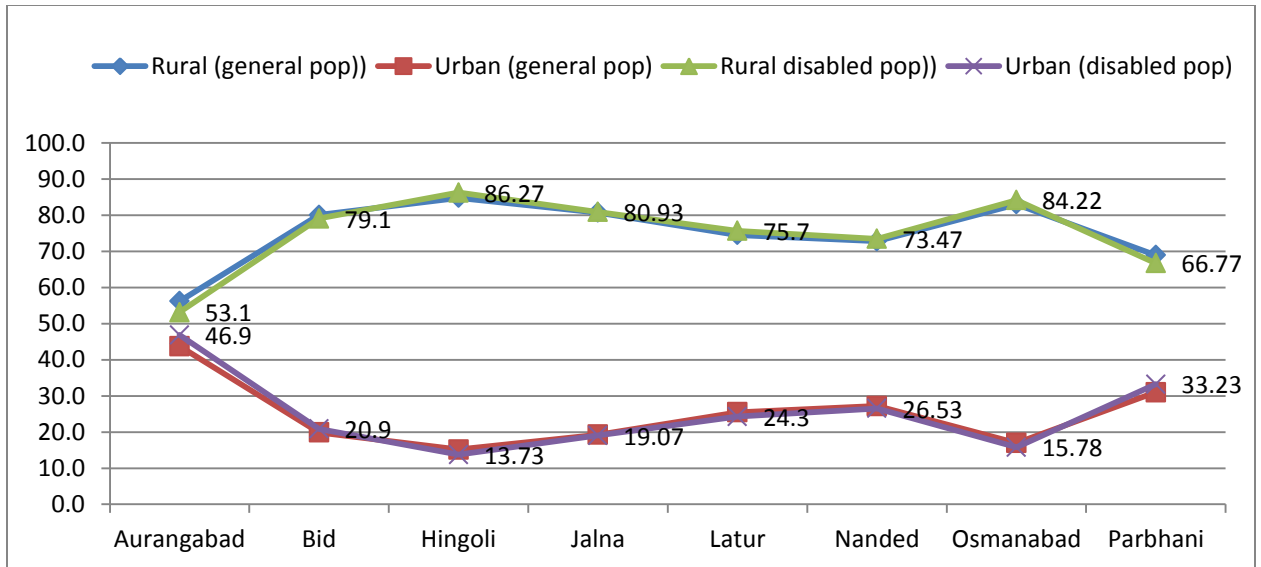
In genera, it was found the proportion of disabled population are less in urban areas as compared to rural areas.

Figure7: Areawise ratio of general and disabled population in Vidarbha Amravati region of Maharashtra



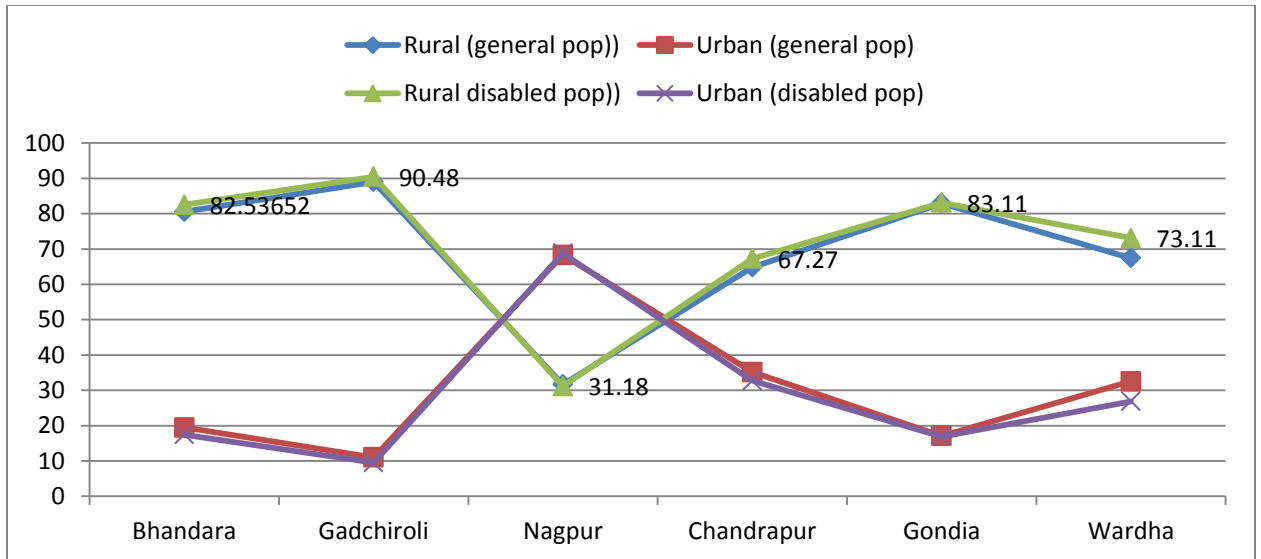
As observed in figure 7 the proportion of disabled population was much higher in rural areas than in urban areas in all the districts of Vidarbha Amravati region of Maharashtra. In Akola and Amravati districts the distribution was in the ratio of 60:40 in rural areas. Near about three forth of the disabled population resides in rural areas in Buldana and Yavatmal districts. In Washim district high concentration of disabled population was found in rural areas with 90 percent of disabled population in rural areas.

Figure8: Areawise ratio of general and disabled population in Marathwada region of Maharashtra



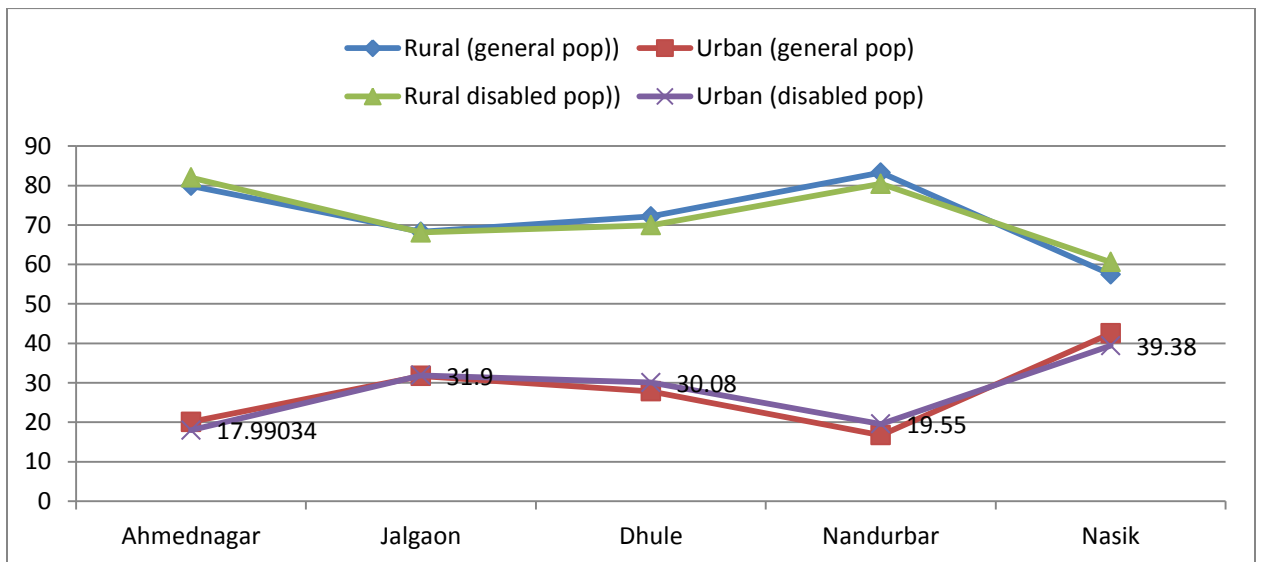
The rural urban distribution in Marathwada region of Maharashtra as observed in figure 8 shows the proportion of disabled population was much higher in rural areas than in urban areas in all the districts except in Aurangabad where the rural urban distribution of disabled population was more or less found to be same.

Figure9 : Areawise ratio of general and disabled population in Vidarbha-Nagpur region of Maharashtra



In Vidarbha nagpur region of Maharashtra as observed in figure 9 the proportion of disabled population was higher in rural areas than in urban areas in all the districts except in Nagpur districts where 60 percent of the disabled population was residing in urban areas .

Figure10 : Areawise ratio of general and disabled population in Kandesh region of Maharashtra



As can be seen in the above figure 10, more than three fourth of the disabled population is in rural areas in all districts of kandesh region, except in districts of Nasik where 60 percent of the disabled population reside in rural areas.

Overall the percentage of disabled population is more than 80 percent in rural areas in districts of Ahmadnagar, Bhandara, Buldana, Osmanabad, Washim and Bid.

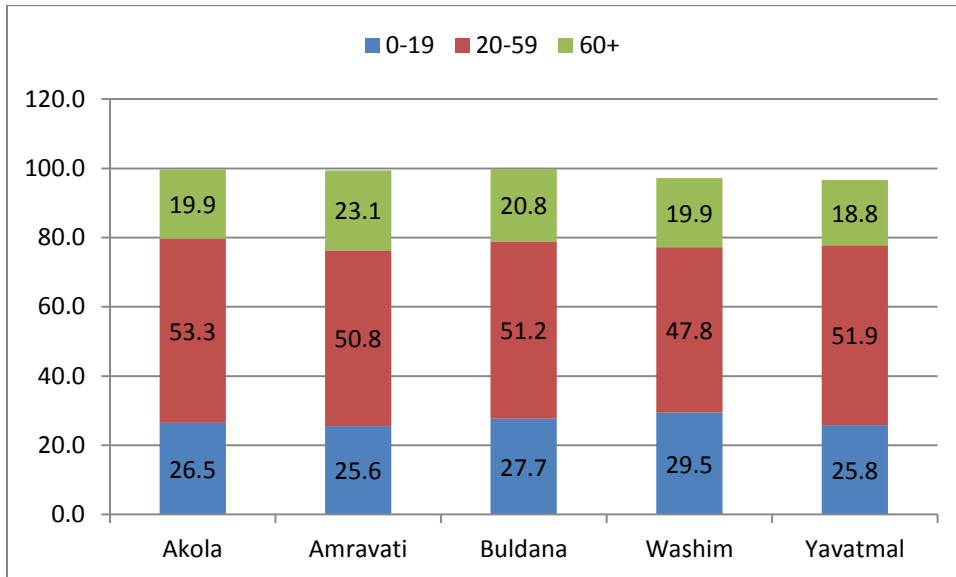
The distribution of general and disabled population is more or less the same except in districts of Wardha, Akola, Amravati, Washim, and Yavatmal.

In general there is more disability in rural areas.

VIII Disability by age groups in Maharashtra

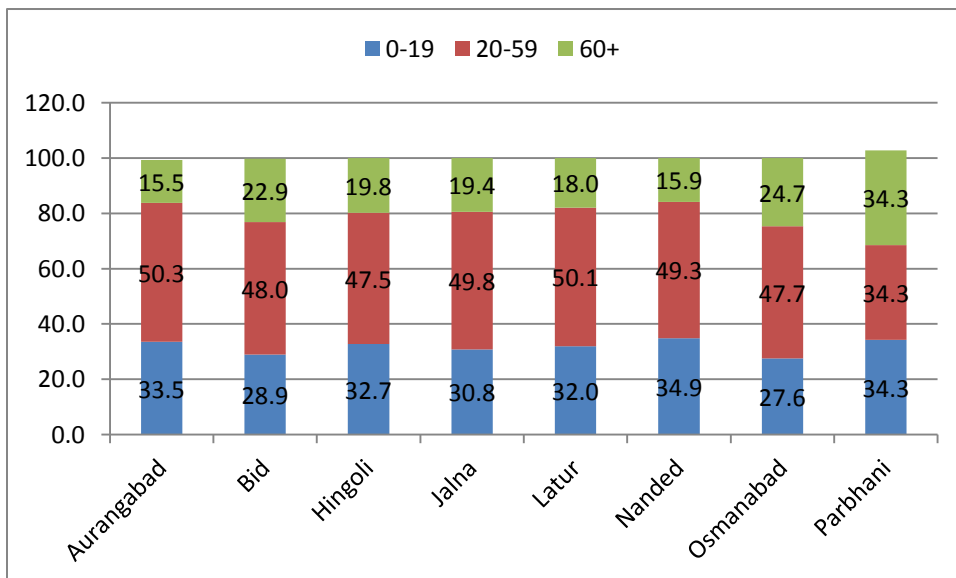
Overall the proportion of disabled population was concentrated in the age group 20-59 years of age.

Figure 11: Agewise distribution of disabled population in Vidarbha Amravati region of Maharashtra



As observed in figure 11 half of the disabled population were in the age group 20-59 years of age in all the districts of Vidarbha Amravati region of Maharashtra.

Figure 12: Agewise distribution of disabled population in Marathwada region of Maharashtra



Similar trend was observed in figure 12 depicting Marathwada region of Maharashtra where half of the disabled population were in the age group 20-59 years of age in all the districts except in parbhani district where 30 percent each of disabled population were in the age groups of 0-19, 20-59 and 60+ .

Figure13 : Agewise distribution of disabled population in Vidarbha Nagpur region of Maharashtra

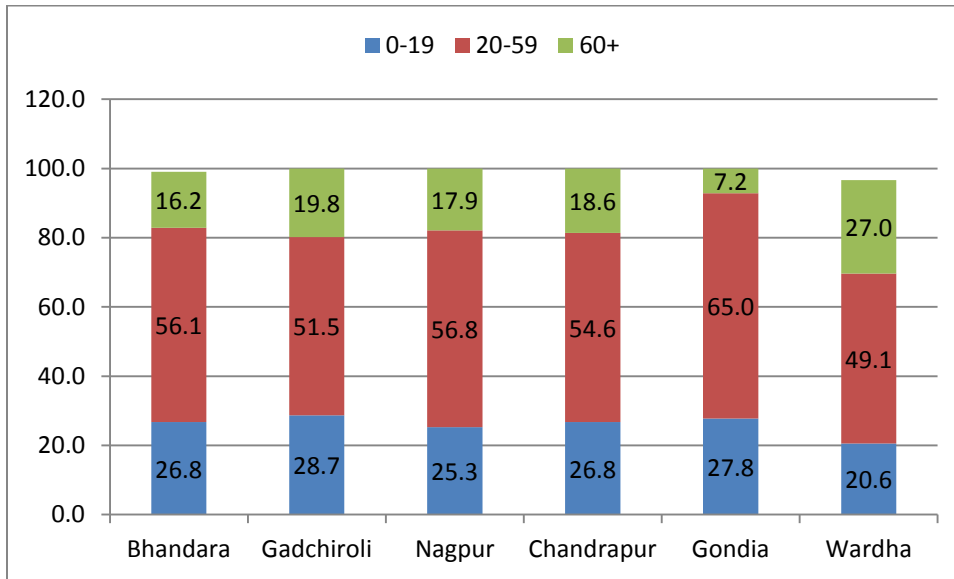
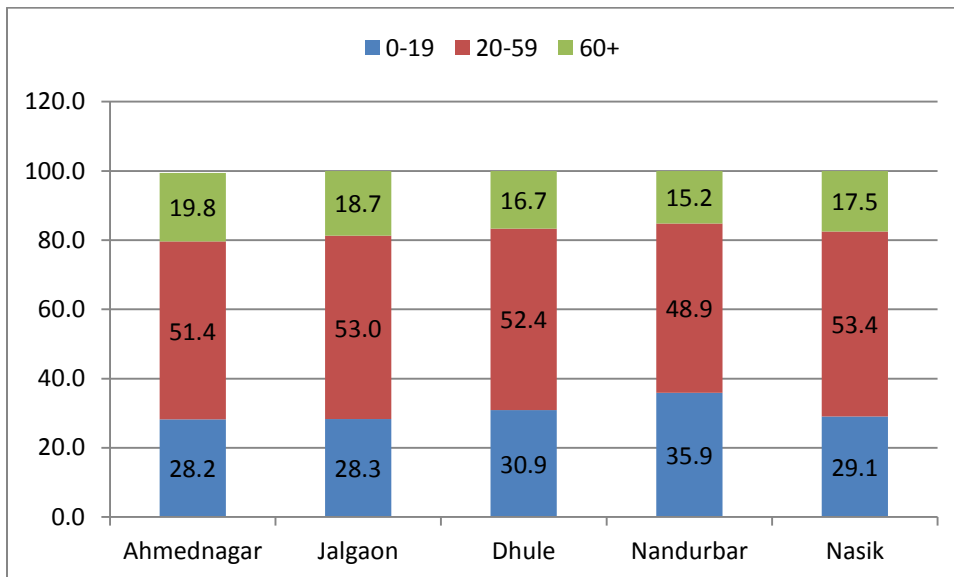


Figure 13 depicting Vidarbha Nagpur region of Maharashtra shows slightly more than half of the disabled population were in the age group 20-59 years of age in all the districts except in Gondia district where substantial number of disabled population was found in the age group 0-19 years of age and 65 percent in the agegroup 20-59 years of age.

Figure14: Agewise distribution of disabled population in Kandesh region of Maharashtra



As seen in the above figure 14, the percentage of disabilities is generally high in the working age group 20-59 years. In Marathwada region and in Dhule and Nandurbar districts of Kandesh region near about 30 percent of the disabled population are in the age group 0-19 years which implies not only high dependency in the middle age group but also implicates substantial number of disabled population in the middle age group in the next decade. In districts of Wardha, Parbhani and Osmanabad more than quarter of the disabled population are in in the older age group 60 and above with highest in Parbhani district with 34 percent of the disabled population in the older age group. The lowest proportion of disabled population in the age group 60 and above was observed in Gondia district which also has the highest proportion of disabled population in the age group 20-59 years of age. Equivalent number of disabled population by age group was observed in Parbhani district with each group consisting of one third of the disabled population.

IX Type of disability in Maharashtra

Figure 15: Distribution of disabled population by type of disability in Vidarbha Amravati region of Maharashtra

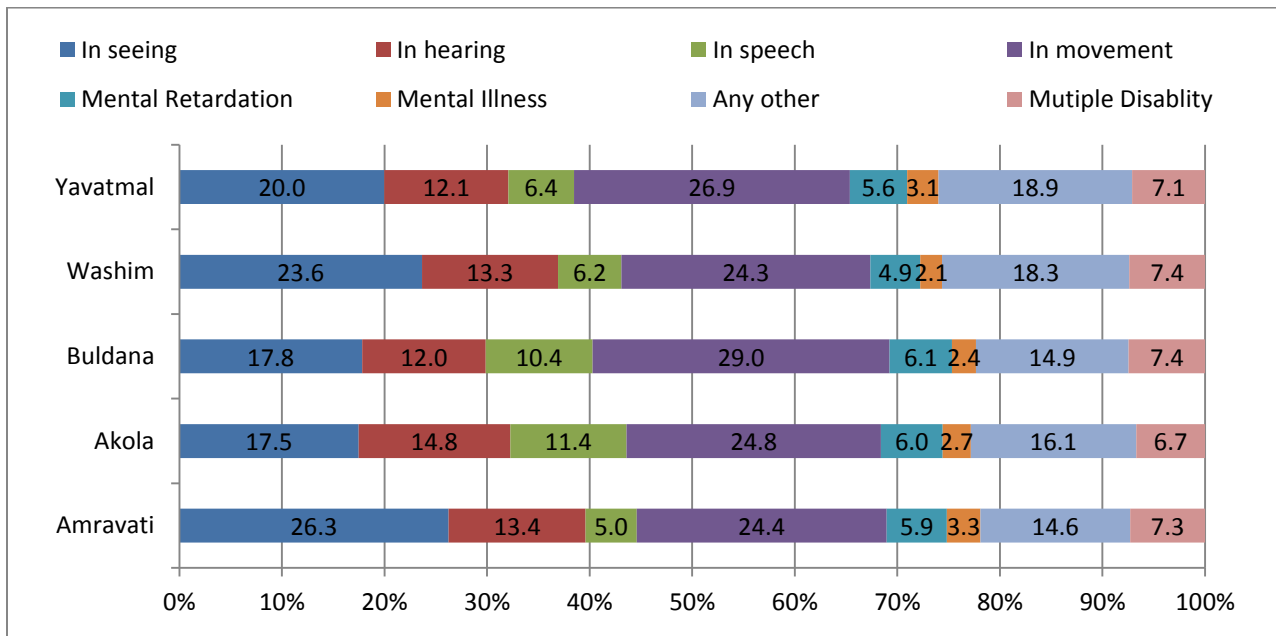
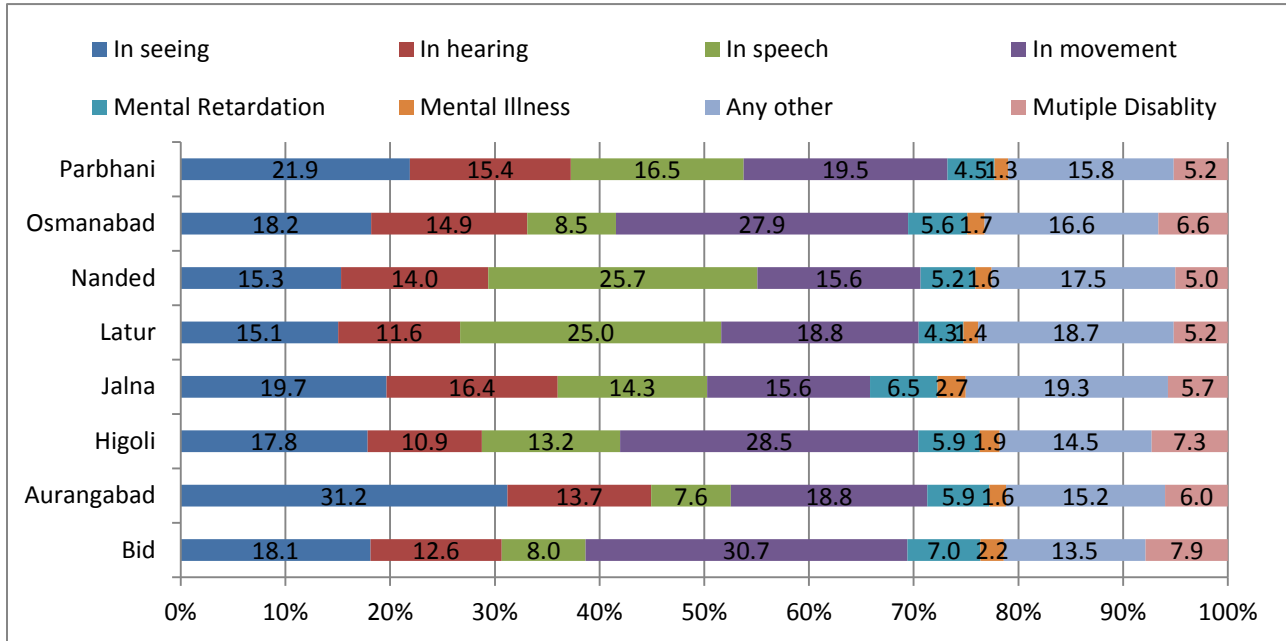


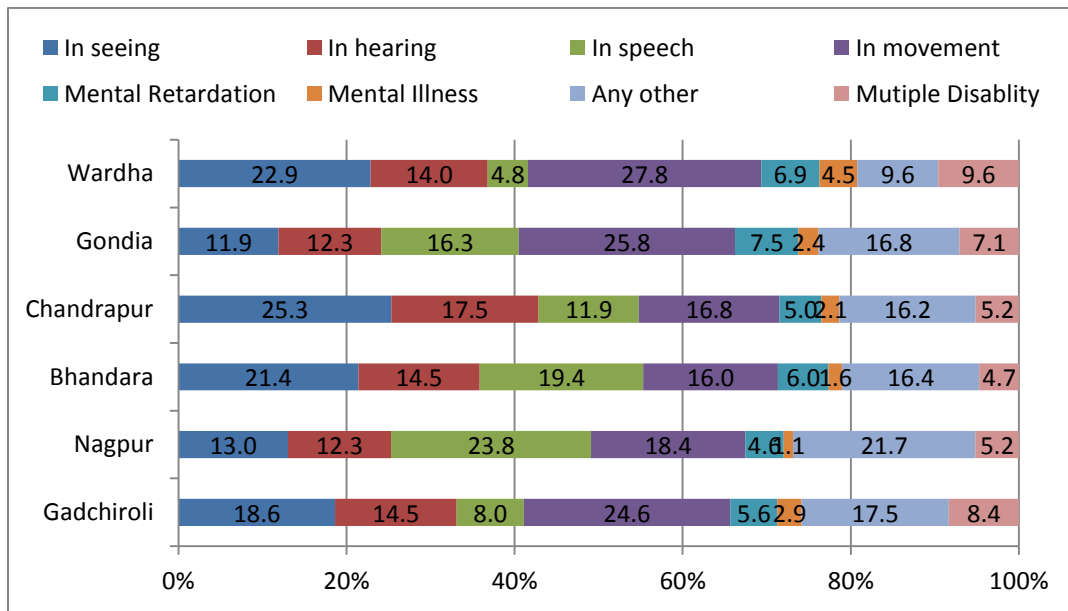
Figure 15 shows distribution of disabled population by types of disability in Vidarbha Amravati region of Maharashtra. In general the distribution shows concentration of disabled population in disability type movement, any others and seeing. Also, substantial number of disabled population was with disability type hearing and any others.

Figure16: Distribution of disabled population by type of disability in Marathwada region of Maharashtra



As observed, in figure 16 of Marathwada region of Maharashtra shows distribution of disabled population equivalently in disability types in seeing, hearing, speech and any other type of disability.

Figure17: Distribution of disabled population by type of disability in Vidarbha-nagpur region of Maharashtra



As observed in other regions Figure 17 of Vidarbha nagpur region of Maharashtra shows distribution of disabled population by types of disability in movement, seeing, speech and any others.

Figure18 : Distribution of disabled population by type of disability in Kandesh region of Maharashtra

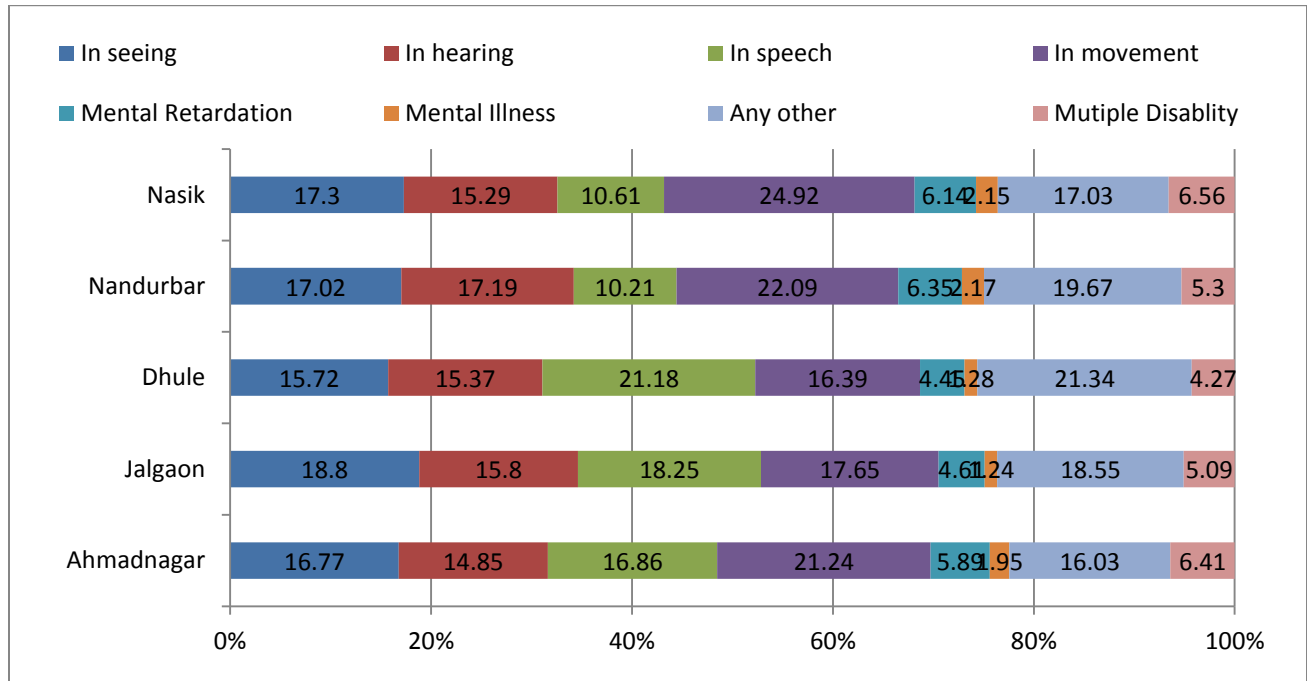


Figure 18 shows distribution of disabled population by types of disability in kandesh region of Maharashtra. In general the distribution shows concentration of disabled population in disability type speech, hearing, movement and seeing.

X. Male- Female distribution by types of disability

Figure19 : Distribution of disabled population by type of disability in Vidarbha Amravati region of Maharashtra

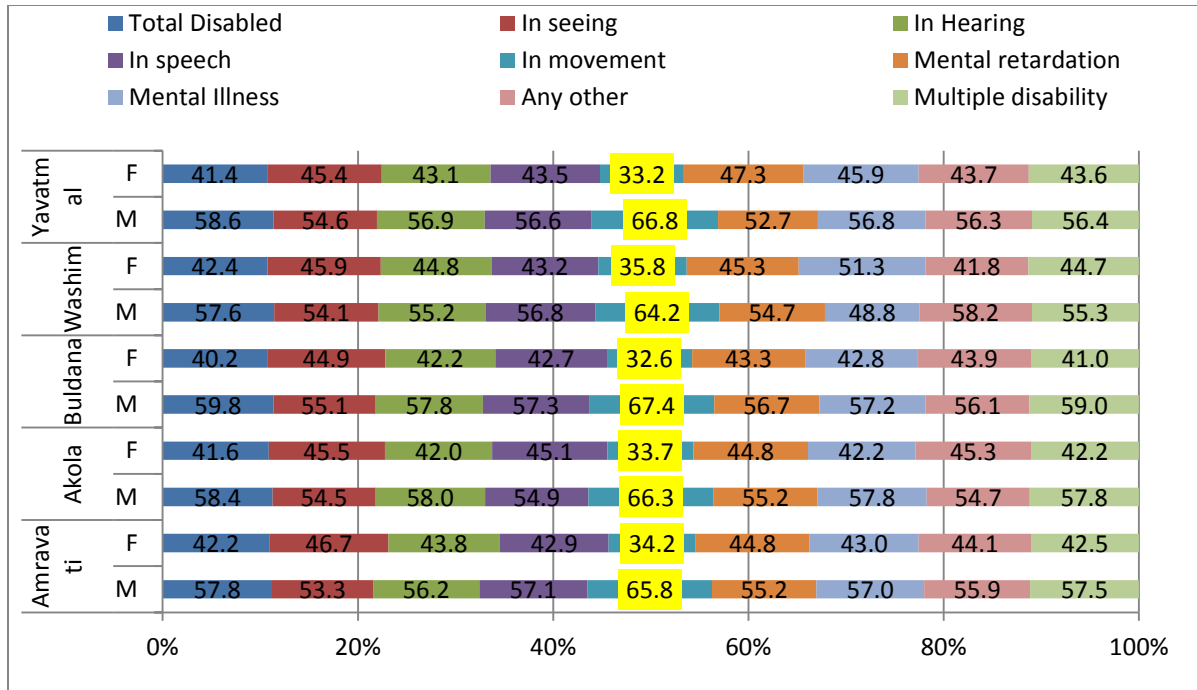
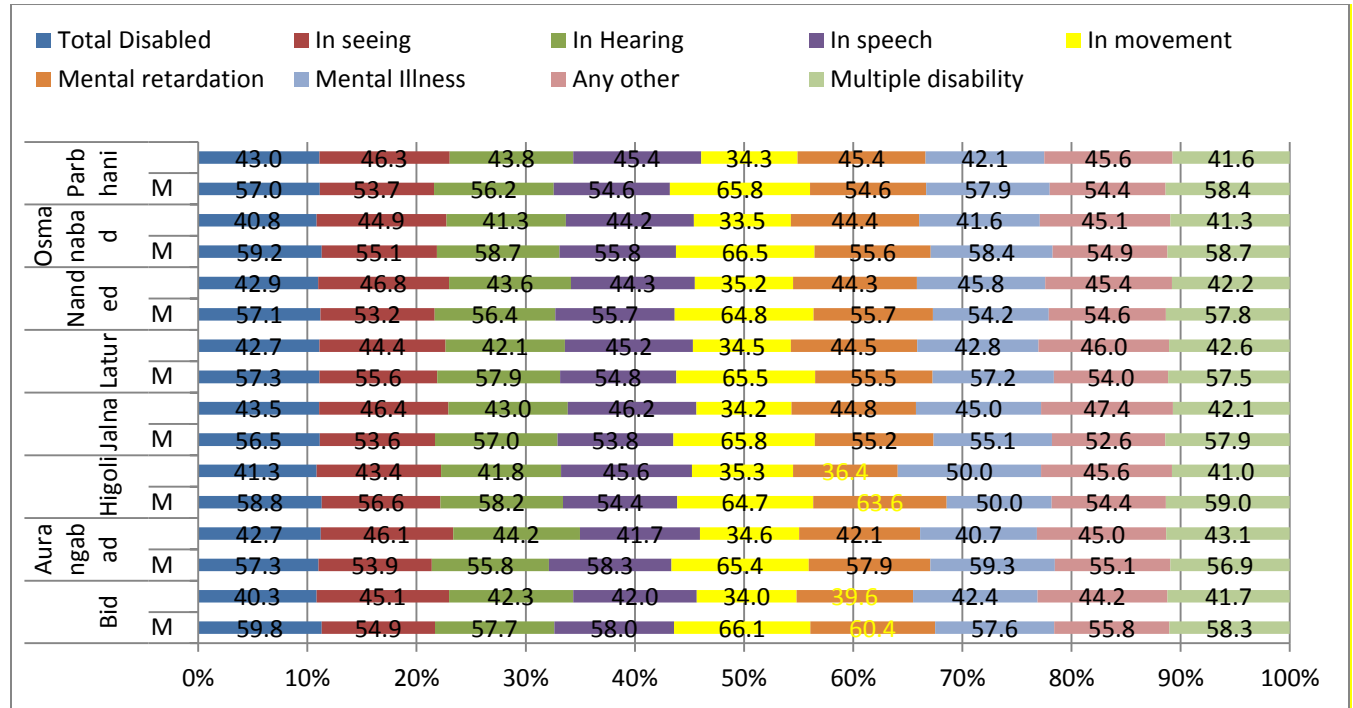


Figure 19 shows male-female distribution of disabled population by types of disability in Vidarbha Amravati region of Maharashtra. In general the distribution shows more number of male than female in the ratio of 55:45. However, in disability type movement the distribution is 65:35 in all the districts of this region.

Figure20 : Distribution of disabled population by type of disability in Marathwada region of Maharashtra



Similarly in Marathwada region of Maharashtra as shown in figure 20 the male-female distribution of disabled population by types of disability shows more number of male than female in the ratio of 55:45. and in disability type movement the distribution is 65:35 in all the districts of this region. In addition in districts of Bid and hingoli the male-female distribution is in the ratio of 60:40 in the disability type mental retardation.

Figure21: Distribution of disabled population by type of disability in Vidarbha-nagpur region of Maharashtra

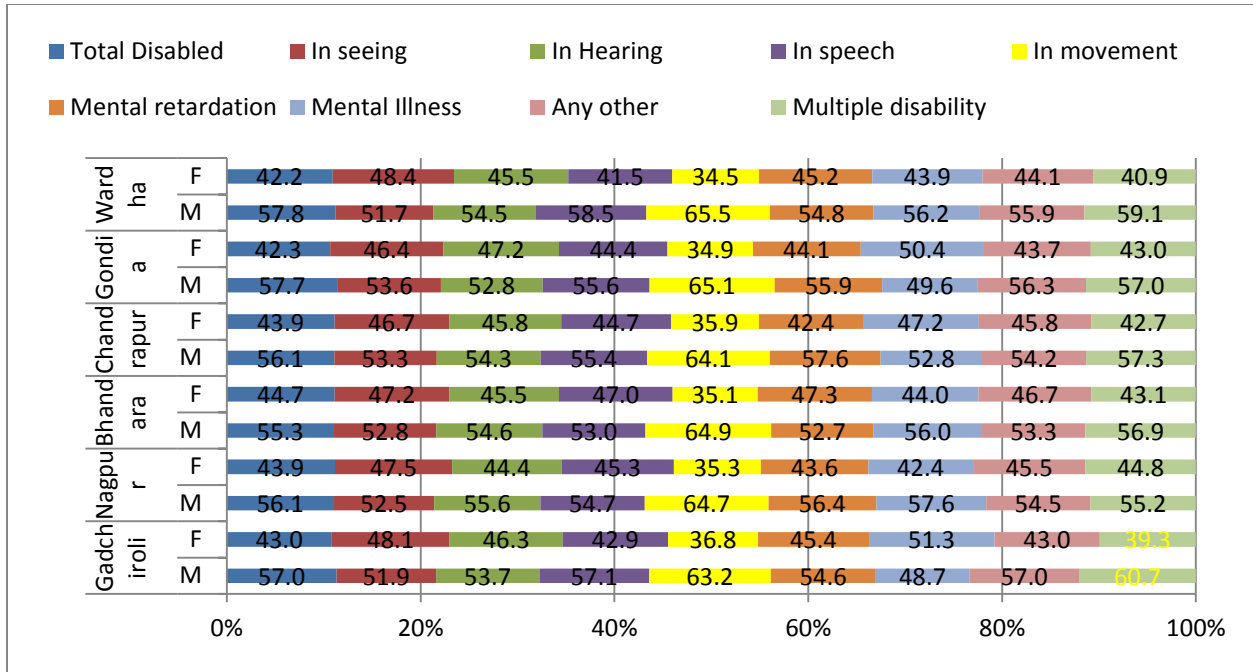


Figure 21 shows male-female distribution of disabled population by types of disability in Vidarbha Nagpur region of Maharashtra. In general the distribution shows more number of male than female in the ratio of 55:45. However, in disability type movement the distribution is 65:35 in all the districts of this region and also in disability types multiple disabilities in Gadchiroli district.

Figure22: Distribution of disabled population by type of disability in Konkani region of Maharashtra

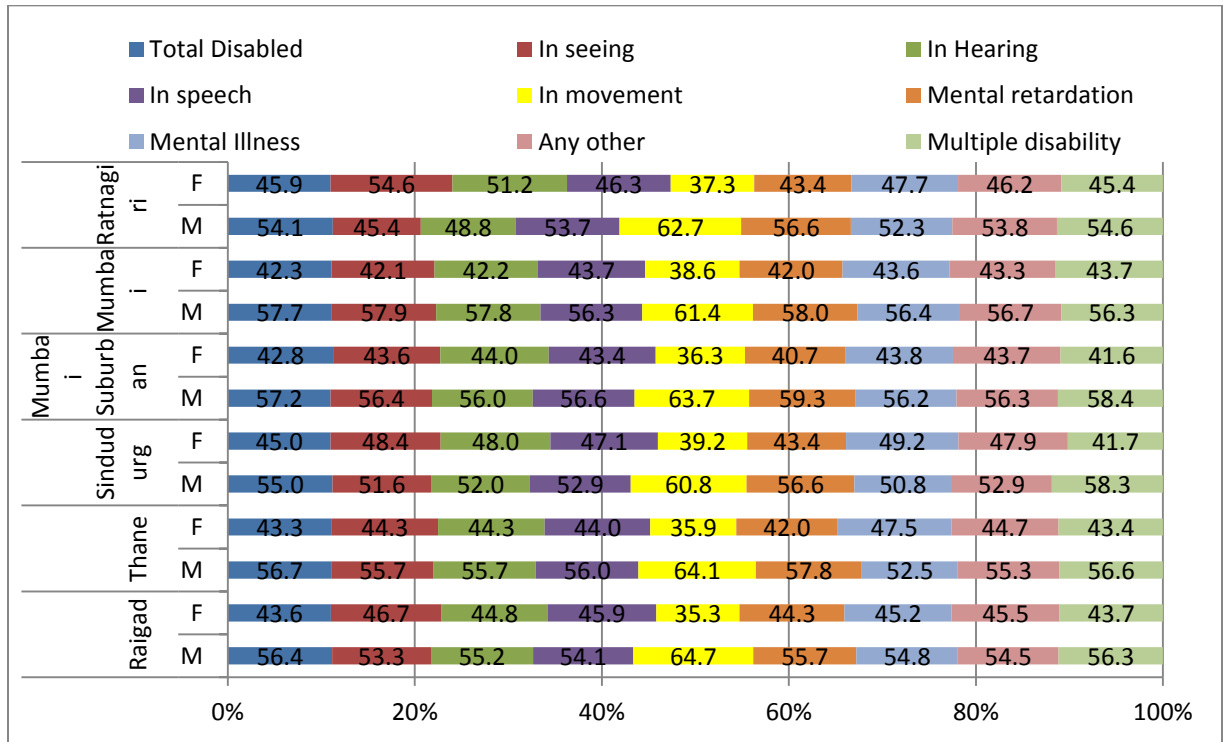


Figure 22 shows male-female distribution of disabled population by types of disability in Konkani region of Maharashtra. In general the distribution shows more number of male than female in the ratio of 55:45. However, in disability type movement the distribution is 60:40 in all the districts of this region.

Figure 23: Distribution of disabled population by type of disability in Kandesh region of Maharashtra

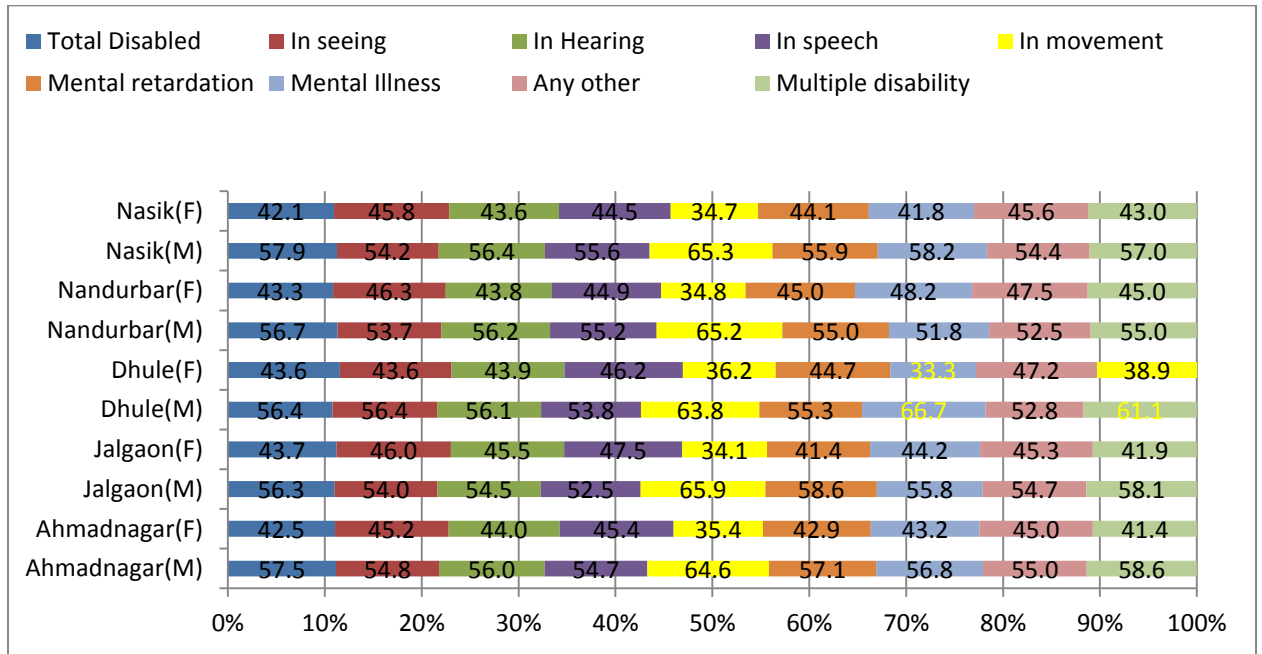
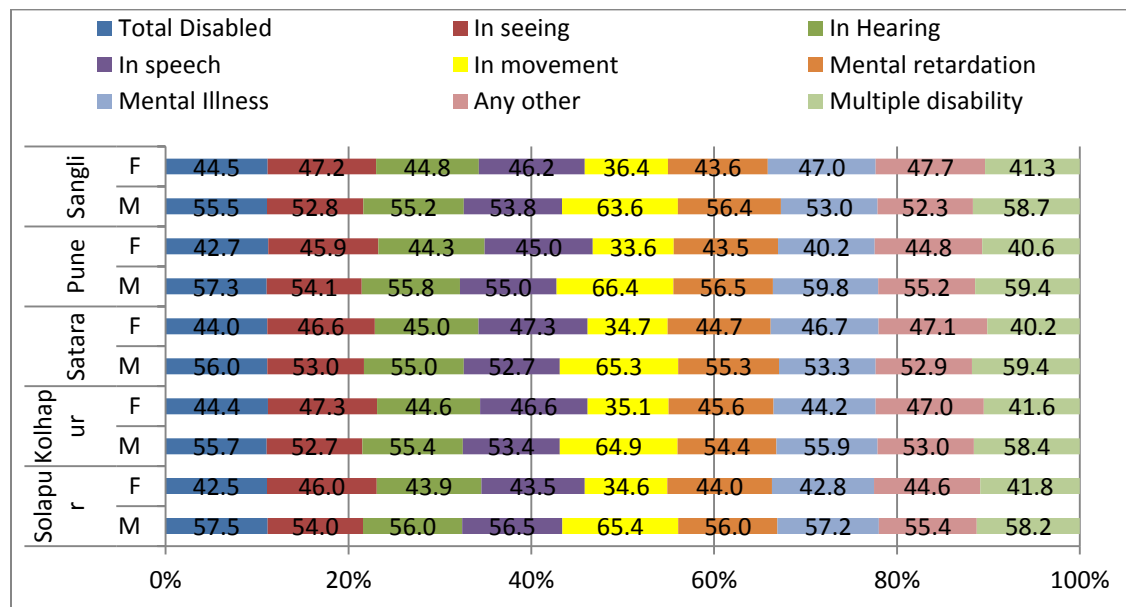


Figure 23 shows male-female distribution of disabled population by types of disability in kandesh region of Maharashtra. In general the distribution shows more number of male than female in the ratio of 55:45. However, in disability type movement the distribution is 65:35 in all the districts of this region. In Dhule district the ratio of male to female distribution is in the ratio 65: 35 in disability type mental illness and multiple disability

Figure 24: Distribution of disabled population by type of disability in Desh Pune region of Maharashtra



As observed in figure 23 generally among disabled population males are more than females with slightly more than 50 percent of disabled population are males however, in disability type movement the ratio of males was more than females in the ratio of 6:3 in all the regions of Maharashtra. In Dhule district of Kandesh region the proportion of male to female was in the ratio of 6:3 in disability type mental illness and multiple disability and multiple disability in gadchiroli district of Vidarbha; mental retardation in hingoli and bid districts of Maharashtra; which is also observed in disability type movement.

XI Summary:

This study aims to understand the distribution pattern of disability in India and Maharashtra to enable to identify potential strategic interventions for future advocacy. The present set of results pertains to data collected in the Census 2011 on disability information on disability of individuals was collected during the Population Enumeration phase of Census 2011 through Household Schedule. We use indices (Theil, Hoover and Gini) for its decomposability property into the between-group and within-group component.

In general ninety one percent of the household in India are not having any disabled member, six percent of the household has one member and little more than one percent of the household are having more than one member of the household with disability. The distribution remains more or less the same in rural and urban region with slightly more population (7%) of the household with one member who is disabled. As the household size increases a slight variation in rural and urban distribution is found with four percent of the household in urban areas with one member as disabled in a household and six percent of the household in rural areas with one member as disabled.

However, in selected states of Jammu and Kashmir, Himachal Pradesh, Haryana, Punjab, Rajasthan, Uttar Pradesh, Gujarat, Madhya Pradesh, Maharashtra, Chhattisgarh, Jharkhand, Bihar, Odisha, West Bengal, Nagaland, Sikkim, Arunachal Pradesh, Goa, Andhra Pradesh, Kerala and in union Territory of Puducherry and Lakshadweep proportionately more number of disabled population are found. In states of Jammu and Kashmir, Odisha, and Jharkhand the overall distribution shows proportion of population with disability was slightly more than 10 percent and was more concentrated in rural areas the same distribution was observed in Sikkim state however here the number of disabled population was concentrated mainly in urban areas.

Among states Andhra Pradesh shows highest number of household in absolute numbers with one member who is disabled; followed by Maharashtra with 60 thousand household and Rajasthan.

The distribution in household size of four shows Uttar Pradesh with highest number of household in absolute numbers; followed by Maharashtra and Bihar. Overall the rural-urban divide is striking in household size less than or equal to three in terms of disabled population concentrated in rural areas. Whereas, rural urban divide is comparatively less in terms of more than one disabled members in household size 4 and above although concentrated in rural areas.

Overall value of indices shows inequality in terms of proportion representation of disabled population in main worker and least inequality in marginal work with less than 6 months. Theil index shows values less than Hoover index which indicates although inequality exist it is not highly significant.

The decompositional analysis was carried out by back ground characteristics. Analysis by gender shows proportionately males are better represented in workforce than females as evident by high vales of Theil, Hoover and Gini indices. Here, the inequality is not that significant in main work force as indicated by lower value of theil index as compared to Hoover index. Inequality is significant in Mrginal workforce with the value of theil index much greater than Hoover index. Among main and marginal workforce the marginal worker with 3 to 6 months duration shows less inequality.

Regionwise, the inequality is significant with more number of workforce concentrated in urban areas as evident by greater value of theil index as compared to Hoover index however, the inequality was comparatively less in marginal workforce with duration less than 3 months.

Analysis by gender shows proportionately males are better represented in workforce than females as evident by high vales of Theil, Hoover and Gini indices. Here, the inequality is not that significant in main work force. Inequality is significant in Marginal workforce. Among main and marginal workforce the marginal worker with 3 to 6 months duration shows less inequality.

The distribution shows more males showing disability than females in all the regions of Maharashtra. The distribution of disabled population of males was slightly more in Mumbai district and least in Sindudurg district.

Near about three forth of the disabled population resides in rural areas.

The percentage of disabilities is generally high in the working age group 20-59 years. In Marathwada region and in Dhule and Nandurbar districts of Kandesh region near about 30 percent of the disabled population are in the age group 0-19 years which implies not only high dependency in the middle age group but also implicates substantial number of disabled population in the middle age group in the next decade. In districts of Wardha, Parbhani and Osmanabad more than quarter of the disabled population are in in the older age group 60 and above with highest in Parbhani district with 34 percent of the disabled population in the older age group. The lowest proportion of disabled population in the age group 60 and above was observed in Gondia district which also has the highest proportion of disabled population in the age group 20-59 years of age. Equivalent number of disabled population by age group was observed in Parbhani district with each group consisting of one third of the disabled population.

In general the distribution shows concentration of disabled population in disability type speech, hearing, movement and seeing.

Generally among disabled population males are more than females with slightly more than 50 percent of disabled population are males however, in disability type movement the ratio of males was more than females in the ratio of 6:3 in all the regions of Maharashtra. In Dhule district of Kandesh region the proportion of male to female was in the ratio of 6:3 in disability type mental illness and multiple disability and multiple disability in gadchiroli district of Vidarbha; mental retardation in hingoli and bid districts of Maharashtra; which is also observed in disability type movement.

