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Disability Prevalence and Correlates in Pakistan: A Demographic Analysis

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The paper provides a demographic view of disability patterns in Pakistan, and also highlights the inadequacies and inconsistencies of data, especially those provided by the census. Besides assessing the prevalence of disability by age, gender considerations, nature of disability and reasons of disability, the paper examines such features among the disabled population as their work participation, training, self-sufficiency and dependence on the help of the others. Even though the estimates of disability worked out from the 1984–85 Survey of Disabled Population are relatively more realistic, the need for broadening and standardisation of the concepts and adoption of improved survey procedures for better coverage and diagnostics is clearly evident. The high prevalence of disability and the fact that nearly half of the total disabilities occur due to disease, more than a third are by birth, and about 15 percent are due to accidents, clearly point towards the need for preventive and curative health facilities and imparting of proper awareness among the people. The association of disability prevalence with the prevailing conditions of fertility, health, education and socio-economic circumstances, observed from the results have important policy implications for the country. The study which has attempted to provide a view of disability patterns in Pakistan, and to highlight some of the covariates of disability rate, represents a beginning of a demographic concern in this important area.

1. INTRODUCTION

The word 'disability' brings to the mind different dimensions of human handicaps, impediments and incapacities, from which a substantial proportion of the country's population suffers. Disability of a person may be permanent or for some period of time, but the term when it refers to a special group of population which is so identified because its individuals suffered from long term functional loss, either by birth or due to a certain happening in life, it requires a systematic statistical assessment and research. The assessment of disability is not only important because it reflects the health-related functional limitations of the individuals concerned, but also because of its associations with demographic, social, economic environmental factors. The data collection and analytical research on the disabled population has

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to be a continuous process not only to provide information for public awareness, but also to find out ways and means to prevent impairments (which lead to disability) and to carry out programmes for the physical, social and economic rehabilitation of disabled persons.

Although disability has been defined broadly in the World Programme of Action concerning Disabled Persons [UN (1982)], its reference in this paper is varied according to kind of available data both within the country and elsewhere. The major concepts proposed in the programme of action, for the assessment of the general situation of the disabled and to monitor programme of action include impairment, disability and handicap. Impairment refers to "any loss or abnormality of psychological, physiological or anatomical structure or function"; disability means a "restriction or lack (resulting from an impairment) of ability in the manner or within the range considered normal for a human being"; and handicap is a "disadvantage of a given individual, resulting from an impairment or disability, that limits or prevents the fulfilment of a role that is normal (depending on age, sex, and social and cultural factors) for that individual". The goals set forth by the World Programme of Action concerning Disabled Person were, *prevention* and *rehabilitation*; *equalising opportunities* for education, employment and social role [U.N. (1990)].

In the context of a socio-economic framework the study of disability is linked with the consequence of disablement on the life of the individuals concerned, their families and the society. Within a developing country like Pakistan the existence of relatively better health facilities and awareness among the people in the urban centres, due to higher proportions of the literate, or because of the better means of information and communication, may be contributing to a lower prevalence of disability. The disability rate may therefore be considered, in many respects, as an index of socio-economic development, the higher rate reflecting lower socio-economic status and higher poverty levels [Haber (1989)].

In Pakistan the existence of high prevalence of disability and the need for making preventive and curative efforts are well recognised at the government and non-governmental levels. Efforts have been made both in the past and the present to carry out programmes for the prevention of disabilities and for the rehabilitation of the disabled. For this purpose a Directorate General of Special Education (under the Ministry of Health, Special Education and Social Welfare) and a number of institutes and centres concerning various aspects of the problems relating to impairments, disabilities and handicaps have been established.

The purpose of this paper is to provide a demographic view of disability prevalence in Pakistan by using primarily the national level data sources. In doing so the paper highlights the inadequacies and inconsistencies of data for assessing the proportions disabled in the different segments of population. The paper also

aims at looking into some of the social, economic and demographic correlates of the disability prevalence in Pakistan.

The beginning of demographic concern about the data collection on disabled components of population in Pakistan, is indicated from the 1961 census, which collected this information for the first time at the national level [Government of Pakistan (n. d.)]. The complete count of the population census conducted in 1972 census did not include the coverage of disability, but this was done in the 1973 Housing, Economic and Demographic (HED) survey, which was part of the 1972 census enumerations [Government of Pakistan (n. d. a)]. Similarly the sample count part of the 1981 census included the question on disability [Government of Pakistan (1984)]. A national Survey of Disabled Person was conducted in 1984-85 to collect more detailed information on disabled persons and some of their characteristics [Government of Pakistan (1986a)]. Another survey was conducted in 1986 by the Directorate of Special Education to collect data on the disabled population along with the nature of disability in the urban and rural areas of Rawalpindi and Islamabad [Government of Pakistan (1986b)].

2. PREVALENCE OF DISABILITY

In Pakistan, as in most of the other countries, the data collection for identifying disabled persons, their age-sex distribution and other characteristics is primarily done through population census or through survey. No data are collected on the incidence of disability during a period of time. In other words the assessment of the patterns of occurrence of disability from the available data is only in terms of prevalence of disability at a particular point of time, when a census or a survey was taken. The number of disabled persons in relation to the total population enumerated in a census or a survey is considered to represent the level of disability prevalence.

Crude Disability Rates

In order to measure the level of disability in a population the proportion of the disabled persons in the total enumerated population in a census or survey, is demographically termed as *crude disability rate* or simply *the disability rate*. In this paper this rate is being taken as per hundred of the population, but it can also be expressed as per thousand or per hundred thousand.

The 1961 census of Pakistan collected data on disability only in respect of the persons who were *totally blind, deaf and dumb*, and *crippled*. The persons reported as disabled under the three categories, were about 0.34 percent of the total enumerated population. The corresponding proportions of the disabled among males and females were 0.38 and 0.31 respectively. The 1973 HED survey, which collected data on those who were reported as *blind, deaf and dumb, crippled*, and *other*

disabled, gave their percentage in the total population as 2.08.[1] The higher percentage of disabled persons reported by the 1973 HED survey seems mainly due to two reasons. The first reason was that unlike the 1961 census which was a complete enumeration by not so well trained large number of enumerators, the 1973 HED survey was done on a sampling basis by full time recruited, trained and closely supervised enumerating staff [Government of Pakistan (n. d. a)].[2] The second reason was the inclusion of persons reported as 'other' disabled in the survey in addition to the three categories covered in 1961 census. The 1981 census additionally included the categories of *mentally retarded*, and *insane* for enumerating the disabled population of the country, but the percentage of disabled persons according to 1981 census was only 0.45. The relatively higher rate for 1973 HED survey in comparison to both the 1961 census rate and the 1981 estimates, can be attributed partly to the quality of coverage and partly to the fact that the HED survey was based on a large sample rather than a complete census enumeration. The coverage through the 1981 census, which even by including 'other' types of disabilities, did not result in an increase in the level of disability rate.[3]

The 1984-85 Survey of Disabled Persons was based on a sub-sample of such households, out of the total national sample of the 1984-85 Labour Force Survey, where any member of the household was found to be disabled. All such households were completely enumerated for collection of data about disabled persons during different rounds of the Labour Force Survey over a year [Government of Pakistan (1986)]. Unfortunately the report published on this survey does not provide data on total household population, which could be used to work out crude or age specific

[1]The sample for the 1973 Housing, Economic and Demographic (HED) Survey consisted of about 255,000 households in the country, 122,000 in urban areas and 133,000 in rural areas, excluding the Federally Administered Tribal Areas (FATA) and Malakand Division of the North West Frontier Province. [Government of Pakistan (n. d. a).]

[2]1961 and 1981 censuses using vast numbers of borrowed enumerators, largely drawn from school teachers, minor revenue officials and local literate persons. These enumerators were unpaid honorary workers [Government of Pakistan (n. d., 1984)].

[3]In looking for the reasons (other than the quality of census enumerators mentioned earlier) why both 1961 and 1981 censuses yielded lower proportion of disabled in comparison to the 1973 HED survey, one has to keep in view the fact that the primary goal of a census is to cover the entire population for collecting data about the number of individuals and their basic demographic characteristics. The information collection for other characteristics which are only relevant to a part of the population demands a more careful focus of data collection. Like many other topics on which a systematic sampling approach provides significant improvement in responses, the experience of Pakistan and other countries show that enumeration of disability through a survey is better than a census. It was therefore a natural expectation that a large sample of 255,000 households, and better quality of enumerators, used for the 1973 HED survey, would result in an improved estimate of disability. Yet the estimated disability prevalence of 2.08 percent yielded by this survey, even though many times higher than the corresponding estimates from both 1961 and 1981 censuses, when compared with the estimates provided by other more carefully carried surveys/studies which used smaller sample, represents only an inadequate success in reflecting the actual proportion of the disabled.

disability rates. In fact the statistics provided in the report are only in the form of percentages of the total disabled and not in absolute figures. However, considering that the households on which this survey was based, were selected out of the total sample of households enumerated in 1984-85 Labour Force Survey, it has been estimated indirectly that the crude disability rate for Pakistan was at least 4.9 percent.[4] The estimated rate, which is eleven times the rate given by 1981 census, may still be somewhat on the lower side because it has been worked out by taking one person for each of the disability survey's selected households. The actual disability rate, could be higher because there may be some households with more than one disabled person, for which no information is available.

The crude disability rates from 1961 census, 1972 census related HED survey (carried out in 1973) and 1981 census apart from being inconsistent fall far short of reflecting the actual level of disability. Their gross under coverage of disabled persons is clearly evident from the 1984-85 Survey of Disabled Persons and from some other surveys and studies carried out in Pakistan. Other evidence suggesting that the actual level of disability prevalence in Pakistan is much higher than that given by the censuses so far conducted in Pakistan (including the 1973 HED survey) is as follows.

A survey of disabled persons carried out in 1986 by the Directorate General of Special Education, in Rawalpindi and Islamabad, gave an estimated prevalence rate (or crude disability rate) of 2.6 percent, which is 4.9 times higher than the average rate of 0.53 percent for the two areas given by the 1981 census.

A study conducted in a slum area of Lahore and a village near this city, showed that the prevalence of disabilities in the rural area was 5.8 percent and in the urban slum it was 5.6 percent. Around 72 percent among the rural disabled and 51 percent of urban slum's disabled had the disablement of seeing, moving and speaking/hearing, while the rest had other disablement. The study found that in both the areas diseases of eye and ocular impairments were more common [Finnstam, Grimby and Rasheed (1989)].

The recognition by the Government of Pakistan of the fact that the actual level of disability prevalence in the country is much higher than that given by the

[4]The indirect estimate has been worked out as follows:

The number of households selected for 1984-85 Survey of Disabled Persons (n) which had at least one disabled person was 5638. The total number of sample households (N) which were enumerated in the 1984-85 Labour Force Survey was 17030. Thus the estimated percentage of households with at least one disabled person in Pakistan was 33.1. Since the Labour Force Survey report also does not provide any information about the household population, or even household size, the household population has been indirectly estimated on the basis of the average household size given by the 1981 census. Based on the average size of household in Pakistan (6.7), as given by the 1981 census, the estimated population (P) in 17030 households enumerated in the 1984-85 Labour Force Survey which included 5638 households with disabled persons and the remaining households, is given by N x 6.7 = 1,114,101. The estimated minimum number of disabled persons in 5638 households (n x 1) = 5638. The minimum estimate of crude disability rate for Pakistan is therefore, n/N x 100 = 4.94 percent.

1981 census is manifested in the Sixth Five-Year Plan of the Government which states that the disabilities may be affecting 4 to 6 percent of the population, particularly among the children and old aged persons [Government of Pakistan (1984)].

The problems of variations in definitions and of inadequacies of coverage and reporting of disability are observed to be much more complicated when international comparisons of disability statistics are made. The problematic and complex nature of international comparisons of disability rates for developing and developed countries (as available) is now discussed in the light of the following statement which is based on the United Nations Disability Statistics Data Base – DISTAT. For Pakistan, however, the indirect estimate from 1984-85 Survey of Disabled Persons is also included in the statement for the sake of comparison.

Pakistan	1981 Census	0.45 Percent
	(1984-85 Survey	4.90 Percent)
Sri Lanka	1981 Census	0.49 Percent
Indonesia	1981 Census	1.14 Percent
Turkey	1975 Census	1.46 Percent
Egypt	1976 Census	0.30 Percent
Philippines	1980 Census	4.42 Percent
China	1987 Survey	4.90 Percent
Austria	1976 Survey	20.88 Percent
Australia	1981 Survey	13.24 Percent
Canada	1986 Survey	13.20 Percent

Source: [Yu (1991); Government of Pakistan (1986a).]

The wide variations observed between the estimates of disability rates reported from the national censuses or surveys of the developing countries and the developed countries, apart from being, to some extent, due to the differences among the countries in the actual levels of prevalence, also include the effects in the coverage of disability rates due to the differences in concepts used and in the quality of coverage; the relatively higher estimates (for developed countries) reflecting the dominating effect of better coverage through specially designed surveys, which used broader definitions of disability by including additionally some of the minor impairments.[5] The developing countries of Asia and Africa have generally used screening approaches that are impairment specific and limited in scope resulting in attempting to identify only the most severely and visibly affected cases of disablement. The developed countries on the other hand have been more often using broad ranging disability survey screens concerning functional and activity limitations

[5]The high disability rate reported for Austria has been attributed to the use of very broad definition which in addition to easily and clearly identifiable physical and severe mental disabilities also included large groups of population having minor hearing and visual impairments. [Yu (1991).]

resulting in the identification of larger proportions of the population as disabled, for many of which the severity of the disability problem is less than those with specific impairments. This obviously contributed to the relatively higher crude disability rate reported for developed countries.[6] Otherwise, one expects that in situations of lower social and economic development where mortality risks are generally higher the same circumstances could be contributing to make the disability risks in the less developed countries also higher than the risks in developed countries.[7]

The high rates for the developed countries (Austria, Australia and Canada) and the lower rates for the developing countries (including Pakistan) have, apart from differences in age structures, been largely attributed to the variations in the screening techniques, definitions of disability and in the methods used for collecting data on disabled persons.[8] The more than ten times higher rate for Pakistan given by the 1984-85 survey of the disabled persons, in comparison to the 1981 census-based rate, not only shows that the actual rate in Pakistan is much higher than what is reported by a census, but also demonstrates that a significant improvement in coverage can be achieved through the use of an appropriately designed sample survey.

[6]For more detailed description of the problems of comparability of disability statistics and the sources of variation in the data see Chamie (1989) and United Nations (1990).

[7]Such expected differentials by socio-economic environments in disability prevalence are manifested by a comparison provided below, of disability rates by rural/urban residence for some developed and developing countries. The survey-based rural to urban ratios of disability prevalence for Pakistan conspicuously indicate the relative risks in the two types of environments. Such ratios for other developing countries could also been higher than the census based rates if data for these countries were also available from a survey like the 1984-85 disability survey of Pakistan.

Country	Source	Age Group	Ratio of Rural to Urban Disability Prevalence
Pakistan	(1981) Census	Total	1.5
	(1984-85) Survey		3.3
United States	(1980) Census	16–64	1.2
Philippines	(1980) Census	15+	1.1
Mali	(1976) Census	Total	1.9

Source: [United Nations (1990); Government of Pakistan (1986a).]

[8]In the case of Australia and Canada the old age disability related to physical movement, agility etc. has been observed to be conspicuously high. Although in the case of these two countries a person's multiple disabling conditions, and therefore the counting of the person in more than one category of disability have been given as one of the reasons for the high level of disability prevalence observed in old ages, the higher disability rate is also associated with deterioration of health of majority of those who survive till old ages [Yu (1991)].

[Chamie (1989); United Nations (1990).][9]

Another dimension which makes the international comparison of the available disability statistics more difficult is the variation in quality and coverage of data from different data sources both within and across less developed countries. While high degree of variability in the percentage disabled among different countries is partly attributable to the perceptions about impairment or disability and their degrees by various countries, the sensitivity about the reporting or coverage of the disabled may also be relatively less in the countries under severe socioeconomic conditions.[10] In less developed countries where relatively large proportions of the respondents are illiterates or less educated, a number of persons, who may otherwise be considered disabled in the developed countries, are simply not reported as such. Also, within a country (developed or less developed) sample surveys tend to give higher estimates of disability rates than the population censuses. This is clearly obvious from the much higher disability rate estimated from 1984-85 Survey of Disabled Persons of Pakistan (4.9 percent) and the 1981 census estimate (0.45 percent).

The differences in census/survey design, definitions, concepts, methods of data collections and the quality of coverage and reporting show that the international data sources are diverse and hence the estimates of disability rates from the available data are not comparable for drawing any meaningful inference about cross-national variations in the prevalence of disability.[11] It is primarily for these

[9]In the case of Austria the high disability rate may be attributed to the use of a very broad definition of disability which included large groups of population who had minor hearing and visual impairments [Yu (1991)]. The estimate for Canada is based on data collected through Canadian Health and Activity Limitation Survey (HALS) which was carried out immediately after the 1986 census. The census through the use of a broad question helped to identify a sample of 120,000 disabled persons who reported that they had activity limitations from long term physical, mental or health conditions, and about 80,000 such individuals who stated that they did not have an activity limitation. To all these individuals 21 disability screening questions (grouped according to seven broad disability categories, namely mobility, agility, seeing, hearing, speaking, other and unknown) were asked in the survey [Chamie (1989); United Nations (1990)].

[10]Yet another dimension to the coverage of disabled persons through a census or survey (as they exist subject to their reporting and enumeration) is that the disability rates based on their data reflect the cumulative effects of the past excluding those who as a consequence of disease or some other reason became disabled but died before the cesnsus or the survey or even cured in some cases subject to availability or access to medical help from a disbility condition like for example a visual impairment due to cataract. In other words the prevalence rate based on the proportions reported to be disabled in the population is a cross-sectional estimate (subject to the varied problems of methodology and coverage in a census or a survey) relating to a point of time and not a measure of the incidence of disability over a period of time. In fact the national censuses and surveys have so far mostly concentrated on prevalence of those who were disabled in a population rather than incidence of disability which would only reflect just newly disabled during any particular time period.

[11]Limitations of disability prevalence rates based on cross-sectional data from different countries for international comparisons have also been highlighted in a recent study relating to adult health and mortality by Murray *et al.* (1992). The authors' view is that "because these national data sets are highly heterogeneous in quality and type of information they collected, they cannot be used for comparisons across countries".

reasons that the variations shown by the crude disability rates across the countries are contrary to a general expectation that lower socioeconomic status and higher poverty levels are associated with higher disability rates. But, some developing countries where impairments are likely to be most prevalent tend to have the least detailed and reliable data. [Murray *et al.* (1992).] The fact that the observed cross-national variations in disability rates are to a large extent the result of differences in the statistical concepts and definitions, and in the 'instruments' used in censuses and surveys, clearly imply that such comparisons (within and across countries) would be much more meaningful if some standardised concepts and procedures for censuses and surveys are developed and used for assessing the prevalence of disability in each country. The limitations of available data call for the need of more carefully designed and executed censuses and surveys, to provide a better coverage of disabled persons and their related information. In order to improve the disability assessment in different countries (both developed and developing), so that their prevalence rates become more meaningful and internationally comparable, there is an urgent need to evolve agreed standards and guidelines for data collection on disability especially through surveys. However, till such guidelines are prepared and become available at the international level the experience so far gained through national and international comparisons of the available data and from the studies done, can help in taking at least short run initiatives for the collection of more realistic data on disability prevalence in the country.

Even though disability rates from different national data sources are not yet comparable due to the reasons outlined earlier it has been observed that when comparing national data sets by age or residence, for example, the relationships found between disability and other demographic and other socioeconomic variables are reasonably consistent, even though the magnitude of such relationships may vary from one source to another [United Nations (1986)].

Age-Sex Specific Disability

Just as the age specific rates are computed for fertility or mortality because these are considered as better indices of the two phenomena than the corresponding crude rates, in the same way the age-sex disability rates are worked out to provide estimates on the prevalence of disability in different ages, and for comparison of the risks of disability in two or more populations.

The 1961 census, provided disability data by only broad age groups; 0–9, 10–19, 20–39, and 40+ years. The age distribution, sex ratios (defined throughout the paper as males per 100 females) of the disabled and age-sex specific disability rates (taken as disability prevalence based on number of disabled persons as reported in the data source, which in this case is 1981 census, and not the incidence of

disability) are provided in Table 1.

The 1961 census showed that in all the age groups disability was higher among males than females. In terms of the prevalence rate similar male/female differentials are observed except for age group 40+ years where disability prevalence is indicated to be slightly higher for females than for males.

The 1973 HED survey also showed (Table 2) that the number of male disabled were more than the female disabled. The variations in age specific disabil-

Table 1

Age Distribution of the Disabled and Disability Rates in Percentage for Males and Females, Pakistan: 1961 Census

Age Group	Age of Distribution of the Disabled		Sex Ratio of the Disabled	Disability Rate		Ratio of Rates
	Male	Female	M/F × 100	Male	Female	Male/Female
All Ages	100.00	100.00	143.25	0.38	0.31	1.22
0 – 9	14.26	12.25	166.74	0.17	0.11	1.54
10 – 19	17.68	15.44	164.10	0.35	0.26	1.34
20 – 39	22.54	19.43	166.13	0.32	0.21	1.52
40 +	45.58	52.87	123.49	0.77	0.80	0.96

Source: [Government of Pakistan (n.d.).]

Table 2

Age Distribution of the Disabled and Disability Rates in Percentage for Males and Females, Pakistan: 1973 HED Survey

Age Group	Age Distribution of the Disabled	Sex Ratio of the Disabled	Disability Rate			Ratio of the Rates
	Percent	M/F × 100	Total	Male	Female	Male/Female
All	100.00	206.79	2.08	2.61	1.46	1.78
0 – 4	3.90	134.39	0.59	0.68	0.50	1.36
5 – 9	2.63	148.12	0.34	0.38	0.29	1.33
10 – 14	8.79	307.92	1.37	1.86	0.76	2.44
15 – 19	3.80	295.08	0.87	1.15	0.51	2.26
20 – 24	8.94	172.88	2.59	3.06	2.05	1.49
25 – 29	3.61	212.77	1.07	1.41	0.71	1.98
30 – 34	6.71	243.28	2.35	3.22	1.42	2.26
35 – 39	2.83	278.18	1.09	1.56	0.59	2.64
40 – 44	5.40	285.42	2.31	3.16	1.31	2.41
45 – 49	2.46	297.27	1.27	1.80	0.68	2.66
50 – 54	8.36	155.34	4.52	4.73	4.23	1.12
55 – 59	2.50	200.18	2.45	3.25	1.64	1.98
60 – 64	9.37	190.19	6.65	7.19	5.82	1.24
65 +	30.69	199.07	14.57	16.05	12.31	1.30

Source: [Government of Pakistan (n. d. a).]

ity rates, despite being confounded by the errors of coverage and age misreporting, on the whole show that disability prevalence increase as the age goes higher, with steep rise coming in old ages of 60 years and above.

Contrary to the patterns of more males than females among the disabled and higher disability rates for males than for females observed from 1961 and 1973 HED survey (Tables 1 and 2 respectively) the 1981 census data for most of the age groups showed higher proportion of females among such persons than males (Table 3). There are therefore obvious inconsistencies between the 1981 census data and the data from the two earlier sources (1961 census, 1973 HED survey) not only in terms of coverage of disabled persons but also in the relative coverage of male and female disabled.

In Table 3 the pattern of male/female ratios from 1981 census is not similar to 1961 census and 1973 HED survey. This census showed more females than males among the total disabled and in all ages except those less than 15 years. Only for urban areas more male disabled are indicated for the age groups 50 years and above. Collectively for all ages the deficit of male disabled is indicated to be lesser in urban than that observed for the rural areas. Keeping in view that the sex ratios given by the 1961 census (143.25) and the 1973 HED survey (206.79) both showed much more males than females among the disabled, and that the 1984-85

Table 3

Sex Ratios (Males per 100 Females) of Disabled Persons in Pakistan: 1981 Census

Age	Total	Rural	Urban
All	80.29	76.46	96.42
0 – 4	125.10	127.23	117.45
5 – 9	170.90	174.31	157.28
10 – 14	125.83	129.12	116.67
15 – 19	77.69	71.04	98.36
20 – 24	58.19	55.84	65.11
25 – 29	42.04	40.12	48.68
30 – 34	44.11	43.43	46.64
35 – 39	49.08	46.17	60.12
40 – 44	58.44	53.35	75.73
45 – 49	59.09	53.99	78.59
50 – 54	72.79	63.83	109.70
55 – 59	84.84	78.08	115.09
60 +	86.78	79.95	132.68

Source: [Government of Pakistan (1984).]

Survey of Disabled Persons also showed this ratio to be in the same direction (204.9), the lower sex ratio given by the 1981 census, (more distinctly for the age groups 15 years and above), suggest that the phenomenon of gross under coverage in the 1981 census was much more for males than for females. While it is very difficult to conjecture any reason for this exceptional missing of the male disabled, it seems that the Census Organisation did not place special emphasis on careful collection of data about this segment of the population. It is also possible that some of the male disabled who resort to beggary may have been missed by the census enumerators. But, as has been mentioned earlier, the quality of census enumerators being not the same as of those used for survey enumerations, the results of the census are much more affected by errors of enumeration and coverage.[12]

The phenomenon of differential coverage of the disabled by sex, is also manifested in Table 4 by the disability rates, worked out from 1981 census data, which show higher rates for females than for males, especially in the rural areas. The age specific disability rates for males are higher only for ages below 15 years.

Table 4

Age Specific Disability Rates in Percentage, Pakistan 1981

	All Areas			Rural			Urban		
Age	Total	Male	Female	Total	Male	Female	Total	Male	Female
All	0.45	0.38	0.53	0.50	0.42	0.60	0.33	0.30	0.36
0 – 4	0.10	0.11	0.09	0.11	0.13	0.09	0.07	0.08	0.07
5 – 9	0.23	0.28	0.18	0.26	0.32	0.20	0.16	0.19	0.13
10 – 14	0.28	0.29	0.27	0.29	0.30	0.28	0.25	0.25	0.24
15 – 19	0.32	0.26	0.39	0.34	0.26	0.44	0.26	0.24	0.29
20 – 24	0.37	0.26	0.50	0.41	0.29	0.54	0.29	0.21	0.39
25 – 29	0.43	0.24	0.63	0.47	0.26	0.70	0.32	0.19	0.48
30 – 34	0.46	0.27	0.66	0.52	0.31	0.73	0.33	0.19	0.49
35 – 39	0.41	0.27	0.56	0.46	0.29	0.63	0.31	0.22	0.40
40 – 44	0.42	0.31	0.54	0.45	0.32	0.57	0.37	0.29	0.45
45 – 49	0.43	0.30	0.56	0.46	0.31	0.61	0.35	0.27	0.44
50 – 54	0.60	0.46	0.78	0.63	0.45	0.84	0.53	0.48	0.60
55 – 59	0.76	0.66	0.88	0.81	0.69	0.95	0.61	0.58	0.66
60 +	2.25	1.81	2.85	2.45	1.89	3.21	1.57	1.53	1.62

Source: [Government of Pakistan (1984).]

[12]Although the inconsistencies of disability rates between 1961 census, 1973 HED survey and 1981 census are obvious from the given tables a comparison of disability rates on the basis of same age groups is also provided below:

	1961 Census		1973 HED		1981 Census	
Age	Male	Female	Male	Female	Male	Female
0-9	0.17	0.11	0.52	0.39	0.20	0.21
10-19	0.35	0.26	1.57	0.66	0.27	0.32
20-39	0.32	0.21	2.34	1.22	0.26	0.34
40+	0.77	0.80	6.54	4.21	0.90	1.86

The age specific disability rates while indicating a general increasing trend in reported disability prevalence, also show a sudden fall after the age group 30–34 years and subsequently again increase in the higher ages. These variations, apart from data problems, are indicated to be more due to those reported as blind (see Table 6) than by other kinds of disabilities. Despite the fact that the age groups represent prevalence of disability among different birth cohorts, taken on the face value the effect of mortality risks to persons of different cohorts or differentially to those affected by eye or some other type of impairments, possibly due to their socio-economic environment and other circumstances. However, such phenomenon being primarily due to females in the rural areas (Table 4), it is possible that after remaining affected by a practical blindness (due to some disease) for a period of time many of such women (or men) may get a chance of an eye operation or even get a pair of eye glasses, as a result of which their vision become functionally ameliorated. Such instances are not uncommon among the people of the lower socio-economic background especially those living in the areas which are remote from the urban centres where medical facilities are available.

Disability in Childhood and Old Ages

The age patterns of disability rates apart from reflecting the risks of prevalence from age to age are also of special interest for looking at the disability risks in the dependent age groups, namely the children and the elderly. The disability at younger ages apart from affecting the whole remaining life span of the individuals, also results in prolonged physical, material and emotional dependency on the family, and demands similar help from the community and the government. The existence of higher levels of infant and child mortality is associated with higher incidence of disease, which also implies that failure to control incidence of morbidity among infants and children by such measures as immunisation, better health care and provision of medical facilities, may in some cases lead to disability if not mortality.

The influence of disablement in childhood, youth and older ages is indicated from Table 5 by a comparative view (from 1981 census) of the proportions of population and of the disabled persons in broad age groups representing four stags of life. Whereas nearly 45 percent of the total population is in childhood ages (less than 15 years) and less than 8 percent is elderly (60 years and over), the highest proportion among the male disabled is in the old ages. But for females the highest proportion is in the age group 25 to 59 years. The proportion of disabled persons in the childhood ages is much higher for males than for females.

In the age group 60 years and above (see Table 4), the prevalence of disability attains maximum height for both males and females, reflecting the impact of

Table 5

Age and Sex Percentage Distribution of Population and Disabled Persons: Pakistan 1981

Age Group	Total		Rural		Urban	
	Male	Female	Male	Female	Male	Female
Population						
All	100.00	100.00	100.00	100.00	100.00	100.00
0 – 14	43.79	45.30	44.73	45.56	41.55	44.65
15 – 24	17.32	16.75	16.29	15.79	19.77	19.19
25 – 59	31.20	31.74	30.61	31.96	32.62	31.19
60 +	7.68	6.21	8.38	6.70	6.06	4.97
Disabled						
All	100.00	100.00	100.00	100.00	100.00	100.00
0 – 14	26.08	14.69	26.74	13.97	23.90	17.74
15 – 24	11.64	13.81	10.62	12.84	15.02	17.90
25 – 59	26.11	38.03	24.94	37.14	30.02	41.79
60+	36.16	33.46	37.69	36.05	31.06	22.57

Source: [Government of Pakistan (1984).]

aging process in both physical and circumstantial respects, within the urban and rural environments. The disability rates in each age group do not portray the incidence of disability in that age group alone. In fact the rate, being an index of prevalence, represents the cumulative effect of those who became disabled in earlier ages but were surviving in the higher ages as well those whose disability occurred in the reported age group.

In respect of the occurrence of disability the prevalent rates for the childhood ages are of special significance. Firstly because the younger ages of less than 15 years, having nearly 45 percent of the country's population, were also reported to have about 20 percent of the disabled persons. Secondly because in these ages the prevalence rate is reflective of a more recent incidence of disablement.

The demographic significance of the older age groups for the study of disablement stems from the fact that the process of getting old is identified with physical degeneration and increasing dependence on other's help. With the occurrence of disability, depending on its nature, one of the first things which is likely to be affected is the mobility. The existence of persons till they become elderly is synonymous with their survival from death till that age, their children having grown

and perhaps having married. Among the elderly are also those who are left widowed due to death of their spouse.[13] Such circumstances compounded with the socio-economic environment in an urban or rural setting imply the need for proper health and medical care at both the family and the community levels. With the improvement in life expectancy, to nearly 60 years (at birth) the number of persons surviving to the older ages are increasing in Pakistan which has resulted in the emergence of 'the aging' as the subject of a new focus for the demographers, the social scientists, and policy planners.[14] Although much more is still desired for a realistic assessment of the incidence of such disabilities which are linked with aging process and those which are not old age related, some initiatives have been taken both at private and Government levels towards solving the problems of the elderly through emphasis on gerontology.[15]

Traditionally the existence of extended family system has been taking care for the livelihood including the problems of the elderly. In recent years when increasing proportions of young persons, particularly from the relatively more traditional families, have been going to other countries or to other distant places within the country for jobs, the problems for the disabled elderly persons may have become manifold. Keeping in view the circumstances of increasing longevity and the likelihood of further decline in infant and child mortality there is a need to conduct properly designed surveys and demographic research to assess how much of the survived children and other persons specially the elderly are getting disabled and what factors are associated with such occurrences.

Rates by Kind of Disability

The 1981 census provides classification of disabled in six categories by the type of disability, namely *blind, deaf and dumb, crippled, mentally retarded, insane* and *other*. The last category of 'other' obviously pools together a number of other

[13]Though in a society like Pakistan, the family still remains as an important basic social unit, the changes in the social structure including the transition from extended family to nuclear families, coming as a result of urbanisation and modernisation, are becoming more and more widespread, especially in the urban areas. With the death of the spouse, the one who is left behind in many cases becomes an additional burden for the close relations, especially under the changing socio-economic environment.

[14]"Ageing" in the context of a population with high fertility levels, such as Pakistan, has been mentioned in this paper to imply primarily the increasing volume of elderly people due to increasing life expectancy and not only in terms of the traditional concept of increasing proportions of the elderly (in the developed countries) which came as result of increased longevity and low proportion of younger population.

[15]Some of the initiatives taken in this direction include the setting up of the Senior Citizens Foundation of Pakistan with its headquarters in Islamabad and a National Committee on Gerontology in the Ministry of Science and Technology. The task of this committee will be to study and analyse the problems of ageing, consider the scientific advancement in gerontology and look into aspects of greater longevity and productivity of the elderly [Mirza (1991)].

kinds of disability. Table 6 provides disability rates by age and kind of disability for both sexes.

Table 6

Age Specific Disability Rates in Percentage (Both Sexes) by Type of Disability: Pakistan 1981

Age	Total	Blind	Deaf/Dumb	Crip.	Ment. Ret	Insane	Other
All	0.45	0.13	0.06	0.08	0.05	0.03	0.11
0 – 4	0.10	0.02	0.02	0.03	0.01	0.01	0.02
5 – 9	0.23	0.02	0.07	0.07	0.03	0.01	0.04
10 – 14	0.28	0.02	0.07	0.07	0.05	0.03	0.04
15 – 19	0.32	0.06	0.06	0.07	0.05	0.04	0.04
20 – 24	0.37	0.13	0.05	0.06	0.05	0.03	0.04
25 – 29	0.43	0.16	0.06	0.08	0.06	0.03	0.04
30 – 34	0.46	0.16	0.06	0.08	0.06	0.04	0.06
35 – 39	0.41	0.14	0.05	0.08	0.06	0.03	0.05
40 – 44	0.42	0.12	0.06	0.07	0.07	0.05	0.06
45 – 49	0.43	0.13	0.05	0.07	0.05	0.05	0.07
50 – 54	0.60	0.19	0.06	0.10	0.06	0.06	0.13
55 – 59	0.76	0.25	0.07	0.14	0.05	0.04	0.21
60 +	2.25	0.85	0.12	0.25	0.10	0.06	0.87

Source: [Government of Pakistan (1984).]

The Table shows that for all ages together, the disability rate for the *blind* is highest. The next in order are the rates for the categories of *other*, *crippled*, *deaf and dumb*, *mentally retarded*, and *insane*. The age specific disability rate for the *blind* is indicated to be the same for the childhood ages under 15 years. From 15 years onward the rate goes on increasing with the age, and become highest (0.85) in the oldest ages 60 years and more.

For the *Deaf and Dumb* the rate is observed to be lowest under age 5, but after age 5 it is indicated to remain between 0.05 and 0.07, with no clear trend till the age 60. The last age group show a highest rate for this category, which is much less than the corresponding rate for the blind.

The rate for *Crippled* is indicated to be lowest for those less than 5 years, but then the rate goes up with the age. For the next two categories of *Mentally Retarded* and *Insane*, the corresponding rates are lowest in the ages less than 10 years, after which there are slight increases with no conspicuous trends. The last category of *Other* show similar trend up to age 49 years, but from age 50 years above the increase in the rate is prominent, and at 60 years, it is about the same as the corresponding rate for the blind.

4. SURVEY OF DISABLED PERSONS: 1984-85

As mentioned earlier a national level Survey of Disabled Persons in Pakistan was conducted by Federal Bureau of Statistics in1984-85, to collect some basic information about the nature of disability, the treatment for disability, technical education and sources of livelihood. The categories of disability covered in the survey included *Blind, Deaf, Deaf and Dumb, Leper* (disabled due to leprosy), *Retarded* (backward in mental and physical development), *Handicapped* (physical or mental disability), *Lame* (disabled by injury or defect in a limb, specially foot or leg), and *Other*.

The indirectly estimated disability rates from 1984-85 Survey of Disabled Persons are provided in Table 7.[16] The rates estimated from this survey apart from being much higher than the rates estimated from all the previous national data

Table 7

Estimated Age Specific Disability Rates in Pakistan Based on 1984-85 Disability Survey (per 100)

Age	Disability Rates			Ratio of Rates
	Total	Male	Female	Male/Female
Total	4.94	6.41	3.36	1.90
0 – 4	0.99	1.17	0.78	1.51
5 – 9	9.22	11.82	6.62	1.78
10 – 14	3.65	5.47	2.14	2.56
15 – 19	4.79	6.38	3.01	2.12
20 – 24	4.34	6.11	2.57	2.38
25 – 29	5.14	7.98	2.38	3.35
30 – 34	3.38	5.96	1.84	3.23
35 – 39	4.65	6.99	2.32	3.01
40 – 44	6.71	9.64	3.73	2.59
45 – 49	6.48	8.43	4.41	1.91
50 – 54	7.63	8.26	6.86	1.20
55 – 59	8.90	11.21	6.39	1.76
60 – 64	12.41	13.99	10.26	1.36
65 +	25.02	25.71	24.03	1.07

Source: [Government of Pakistan (1986a).]

[16]The procedure adopted for indirect estimation of disability rates from 1984-85 Survey of Disabled Persons and the assumptions involved for doing so are already been described in footnote 4 of this paper.

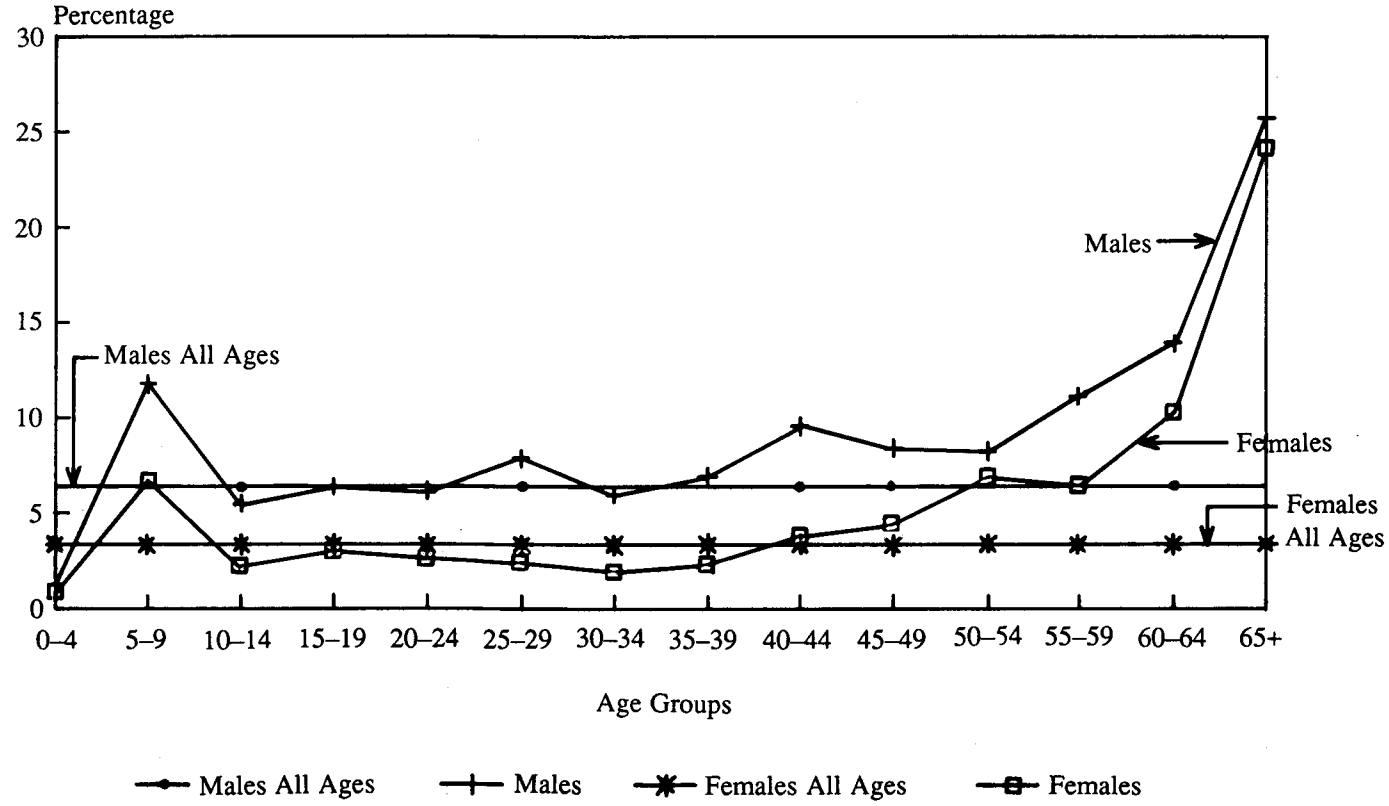

Fig. 1. Disability Rates for Males and Females Pakistan: 1984–85 Disability Survey

sources, also show ratios of male to female disability rates, which are even higher than the those observed for 1973 HED survey (refer Table 2). The variations in age specific male to female ratios, however, show a similar pattern as that observed for 1973 HED, lower in the younger and older ages and higher in the middle ages. Except for a sudden jump for age group 5–9 years, the age specific disability rates show only marginal up and down age to age variations except for a general upward trend from younger to older age ages. The conspicuous 'kink' in disability rates at age group 5–9 years seems to be more due to age misreporting (because the rate for age group 0–4 is too low) than due to any other reason.

Table 7 shows that the disability rates rise much more rapidly in the population aged 60 years and over. Also, in these ages the sex differentials in disability rate become much less. While disability data are not available to separate the age related and other causes of disability the faster increase at old ages is predominantly due to disease.[17]

The survey data show that out of those disabled persons who were in ages 60 years and over at the time of the survey (about 24 percent of all disabled), there were 71 percent who became disabled due to disease, about 8 percent were disabled since birth, 16 percent were so due to accidents and the rest due to other reasons. Of all the disabled in these ages nearly 50 percent were *blind* and another 30 percent were *deaf, handicapped* and *lame*. The rest were in the remaining categories of disability for which data were collected in the disability survey.

Disability by Type

A description of disability rates by age and kind of disability based on 1981 census data was given in Table 6. Since the report on the 1984-85 disability survey also provided distribution of the disabled by kind of disability a comparative view of the disability rates by type of disability form this survey and from 1981 census is given in Table 8.

Table 8 shows that despite the differences in some of the concepts used and in the coverage of disability between 1981 census and 1984-85 Survey the two sources confirm that the *blindness* has the highest percentage among all disabilities. The category of *crippled* for 1981 census, and of *lame* for the 1984-85 survey stand next in order. The two categories, *Mentally retarded* and *insane*, to gather form about 17 percent of all disabled covered by 1981 census, and for the disability survey the categories of *retarded* and *handicapped* together 28 percent only partially being equivalent to the 1981 categories. The category of *deaf and dumb* stands next in order according to the 1981 census forming about 13 percent of the disabled

[17]Among 49.23 percent of the total disabled persons for whom *disease* was given in the survey as their reason of disability (see Table 9) more than a third of them were in ages 60 years and above.

persons. In the disability survey the three separate categories *deaf*, *dumb*, and *deaf and dumb*, collectively form about 16 percent of the disabled. On the whole the two sources show more similarities in terms of the rank order of disability rates by kind of disability. Both these sources show higher level of disability rates for rural areas than the urban areas, but the differentials are much more conspicuous from the 1984-85 disability survey data than from the census data for all the comparable categories.

Table 8

Disability Rates and Percentage Distribution of Disabled Persons by Kind of Disability: 1981 Census and 1984-85 Disabled Survey

Kind of Disability: 1981 Census	Disability Rate (per 100)			Kind of Disability: 1984-85 Survey	Disability Rate (per 100)		
	Pak.	Rural	Urban		Pak.	Rural	Urban
Disability Rates							
Total	0.45	0.50	0.33	Total	4.94	7.84	2.36
Blind	0.13	0.15	0.09	Blind	1.11	1.86	0.45
Deaf & Dumb	0.06	0.07	0.04	Deaf	0.21	0.34	0.08
Crippled	0.08	0.09	0.06	Dumb	0.37	0.59	0.18
Ment. Retd.	0.05	0.05	0.05	Deaf & Dumb	0.23	0.38	0.10
Insane	0.03	0.03	0.02	Leper	0.05	0.06	0.02
Other	0.10	0.12	0.06	Retarded	0.61	0.81	0.43
				Handicapped	0.78	1.19	0.43
				Lame	0.92	1.49	0.41
				Others	0.66	1.11	0.26
Percentage Distribution							
Total	100.00	100.00	100.00	Total	100.00	100.00	100.00
Blind	29.41	30.00	27.15	Blind	22.53	23.56	18.91
Deaf & Dumb	12.99	12.99	12.99	Deaf	4.16	4.33	3.58
Crippled	17.61	17.59	17.68	Dumb	7.54	7.55	7.49
Ment. Retd.	10.24	8.92	15.25	Deaf & Dumb	4.72	4.85	4.26
Insane	6.41	6.14	7.45	Leper	0.76	0.79	0.67
Other	23.34	24.36	19.48	Retarded	12.35	10.65	18.31
				Handicapped	15.88	15.24	18.13
				Lame	18.66	19.00	17.46
				Others	13.41	14.04	11.19

Source: [Government of Pakistan (1984, 1986a).]

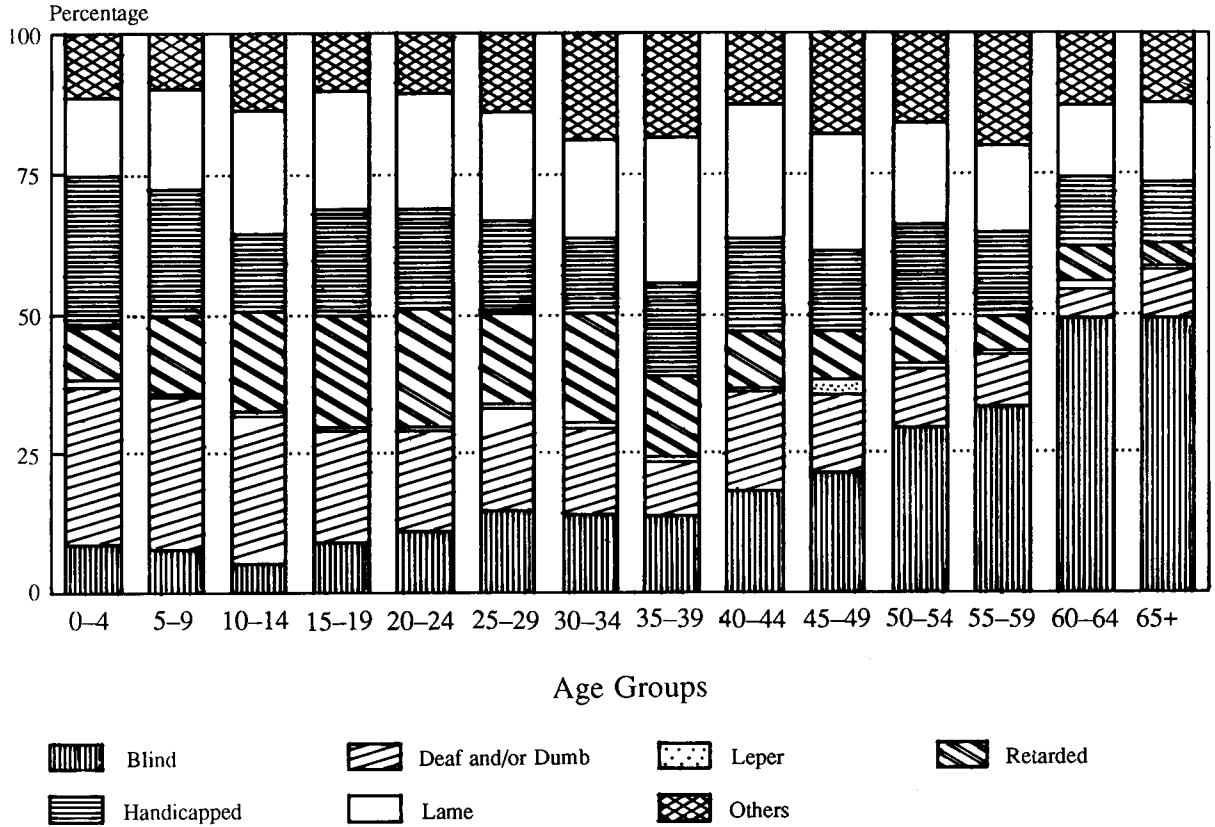

Fig. 2. Disability Composition by Age Groups Pakistan: 1984–85 Disability Survey

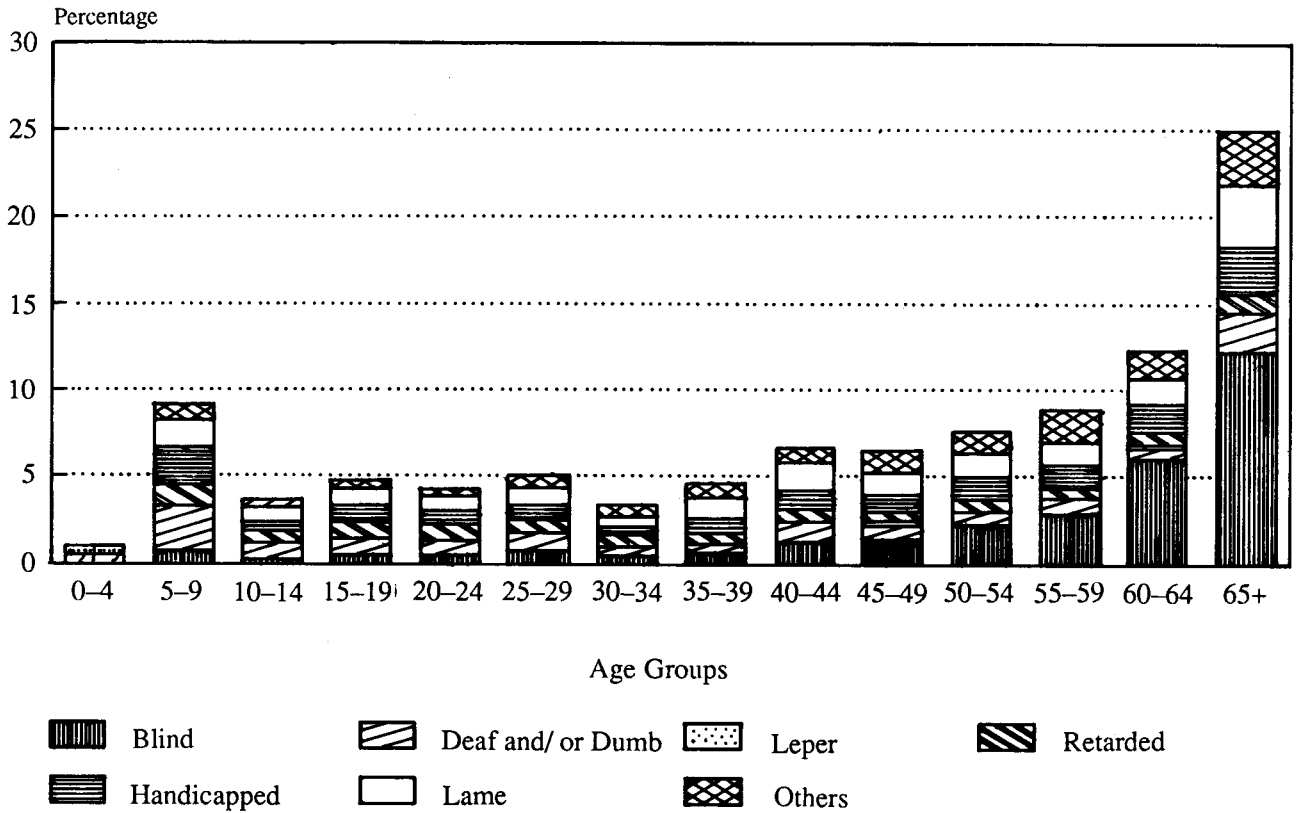

Fig. 3. Disability Rates by Age and Type Pakistan: 1984–85 Disability Survey

Disability by Kind and Reason

One obvious question which comes to the mind about the nature of disability is the reason or circumstances of its happening to a person. The 1984-85 survey provides this information for the disabled persons by kind of their disability. Table 9 provides the percentage distributions of the persons with different kinds of disabilities by reasons of disability. The table shows that disease was the reason for half of the disabled, The proportion of those whose disability was attributed to disease is relatively higher among the female disabled than among the male disabled. About 36 percent of the female disabled were reported to have the disabilities by birth, the corresponding percentage for males being somewhat lower than for females. The third important reason of disability is accidents which contribute about 17 percent of the male disabled and more than 8 percent of the female disabled. In other words the disabilities resulting from disease and those by birth contribute relatively large proportions among females than males. The disabilities due to accidents are more among the male than the female. The distribution of the disabled persons by specific kind of disabilities covered in the survey are described as follows.

The disabled persons under the category of *Blind*, defined in the survey as the persons who were unable to see permanently or temporarily, are indicated to be due mostly to disease, relatively more among female disabled (75.16 percent) than among males (70.45 percent). The disabled's percentage attributed to the reason 'by birth' is about 18 percent, relatively more for females than males. The remaining proportions are due to the accidents and other reasons.

Persons grouped under the category *deaf*, covered those who were unable to hear wholly or partly. About 60 percent of such males and about 58 percent of such females, had disease as their reason of disability. About 39 percent of the deaf females and about 33 percent deaf males had this disability by birth. Accident as a cause of this disability was reported mostly for males. More than 91 percent of the males and females reported as *dumb* (only) had this disability since birth. For most of the others in this category disease was reported as the reason of dumbness, relatively more for the male than the female. About 89 percent of those reported under the category *deaf and dumb*, happened to be so by birth, and about 11 percent by some disease.

Table 9 shows that among those reported as *Leper* (suffering from leprosy), about 82 percent of the female disabled happened to be so due to disease. The corresponding percentage among this type of male disabled is indicated to be about 49 percent. The sex differentials in the proportions showing disease as the reason of leprosy clearly highlights the disadvantaged position of females in this respect. Among those reported as *'Retarded'*, the proportions among the males and females

Table 9

Distribution of Disabled Persons by Kind and Reason, Pakistan: Disability Survey, 1984-85

Kind of Disability		Reason of Disability				
		All	By Birth	Accident	Disease	Others
All Kinds	Total	100	35.21	13.83	49.23	1.74
	Male	100	34.81	16.65	46.85	1.70
	Female	100	36.04	8.05	54.09	1.83
Blind	Total	100	17.84	6.70	72.04	3.02
	Male	100	17.57	8.67	70.45	3.22
	Female	100	18.11	3.89	75.16	2.74
Deaf	Total	100	34.86	3.37	59.38	2.40
	Male	100	33.10	4.53	59.93	2.44
	Female	100	38.76	0.78	58.14	2.33
Dumb	Total	100	91.25	0.93	7.69	0.00
	Male	100	91.25	1.35	9.42	0.00
	Female	100	91.25	0.33	5.54	0.00
Deaf and Dumb	Total	100	88.56	0.00	11.02	0.42
	Male	100	90.00	0.00	10.30	0.00
	Female	100	85.21	0.00	13.38	0.61
Leper	Total	100	28.95	11.84	59.21	0.00
	Male	100	33.96	16.98	49.06	0.00
	Female	100	17.39	0.00	82.61	0.00
Retarded	Total	100	53.12	5.67	38.95	2.35
	Male	100	52.81	6.74	38.09	2.25
	Female	100	53.91	2.90	40.87	2.32
Handi-capped	Total	100	27.96	14.42	56.49	1.13
	Male	100	27.23	16.47	55.14	1.94
	Female	100	29.37	10.63	58.92	1.08
Lame	Total	100	25.88	29.26	44.16	0.70
	Male	100	26.76	31.27	41.34	0.63
	Female	100	23.09	22.87	53.14	0.90
Others	Total	100	19.69	26.55	51.23	2.54
	Male	100	17.75	31.63	48.12	2.40
	Female	100	24.28	13.84	59.01	2.87

Source: [Government of Pakistan (1986a).]

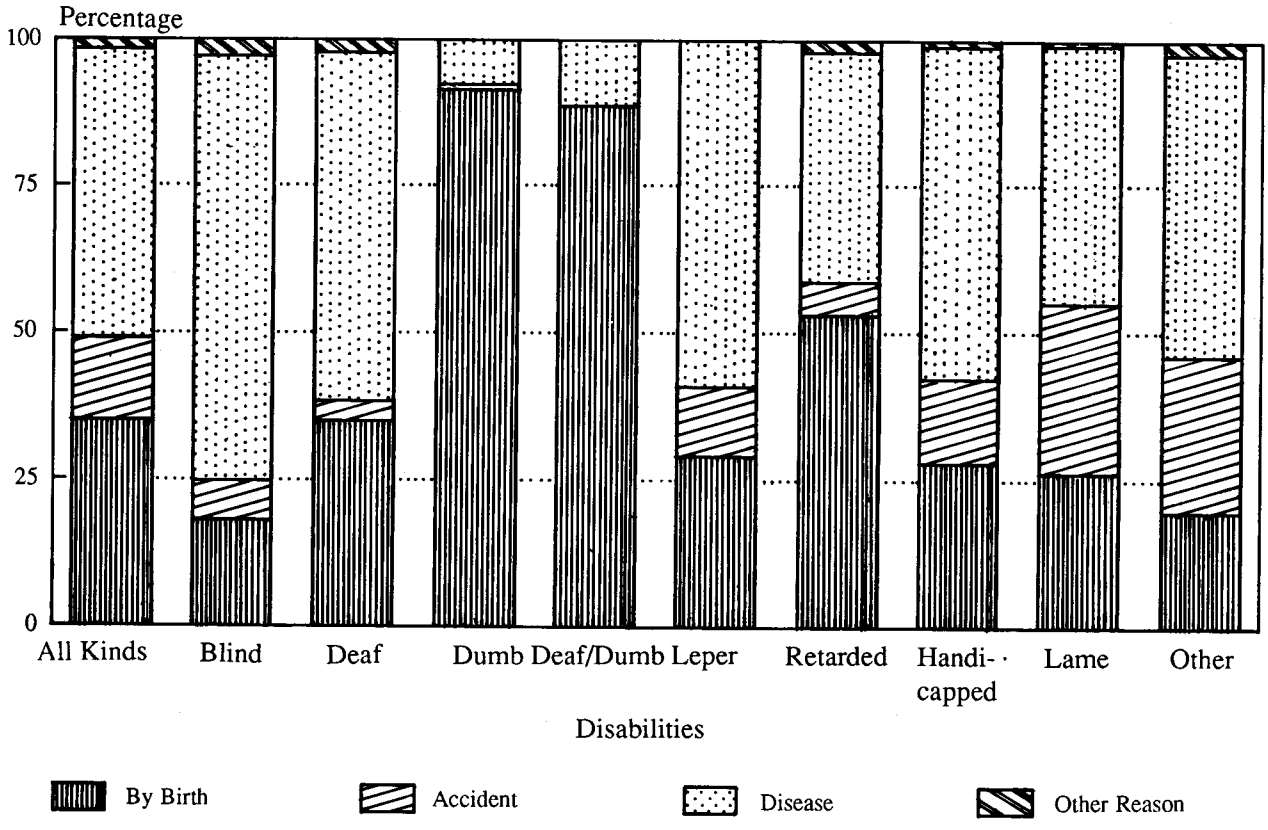

Fig. 4. Disabilities by Kind and Reason Pakistan: 1984–85 Disability Survey

which show disease as the reason of this disability, or even those who had the disability since birth, are somewhat higher for females than for males. About 50 percent of the retarded had this disability by birth, and nearly 39 percent by disease.

Among those reported as *Handicapped,* (i.e., backward in mental and physical development), about 56 percent were so by birth, and about 28 percent by disease, such percentage being relatively higher for the female than for the male. For males about 16 percent had this disability due to accidents, the corresponding percentage for the females being relatively less. For those reported under the disability category of *Lame*, more than 75 percent of the females and about 71 percent of the males, were reported to having some disease or some accident as their reasons of disability. The proportion of those having this disability by birth is indicated to be more for the male than for the female. Those falling under the category of *Others* have smaller proportions under the reason category *by birth*, and more than 70 percent due to disease or accidents.

Provincial Patterns for Reasons

Table 10 provides a view of the percentage breakdowns of disabled persons by reasons of disability for each of the four provinces of Pakistan from the 1984-85 Survey of Disabled Persons.

Table 10

Percentage Distribution of the Disabled by Reasons, Pakistan and Provinces: Disability Survey, 1984-85

Area	Total	By Birth	Accident	Disease	Others
Pakistan	100.00	35.21	13.83	49.23	1.74
Punjab	100.00	34.59	13.29	50.56	1.56
Balochistan	100.00	24.50	12.65	60.30	2.55
Sindh	100.00	37.64	14.43	46.69	1.44
N.W.F.P.	100.00	37.34	15.44	44.46	2.76

Source: [Government of Pakistan (1986a).]

The provincial pattern show that with varied proportions, disease remain the major reason of disability, which is followed by substantial proportions of those who are disabled by birth. Highest proportion of disability by the reason of disease is indicated for Balochistan, while the lowest proportion is for N.W.F.P. Among the provinces the reason of disability by birth or by accident are relatively higher for Sindh and N.W.F.P. and lowest for Balochistan. For other reasons the proportions are higher for N.W.F.P. and Balochistan.

Activity Rates for Disabled Persons

The 1984-85 Disability Survey provided data about the labour force participation of the disabled males and females. From this survey the crude activity rates for the disabled have been worked out separately for males and females by dividing the number of disabled persons aged ten years and above reported to be in labour force (consisting of working disabled plus those disabled who were not working but looking for work) by the number of disabled persons in all ages. In order to see the extent to which the economic activity of disabled persons fall short of the economic activity in the overall population, the corresponding crude activity rates in the total population are also provided from the 1984-85 Labour Force Survey.

Table 11 shows that nearly 28 percent of the disabled male were either working or not working but looking for work. The corresponding rate for the females is less than 3 percent. While the activity rate for disabled males was about 53 percent of the overall male activity rate the corresponding proportion of the female rate is 44 percent.

Table 11

Crude Activity Rates in the Disabled Population and in the Total Population: Pakistan and Provinces, Disability Survey, 1984-85 Labour Force Survey, 1984-85

	Disabled Aged 10 Years and Above in Labour Force per 100 of All Disabled Persons of Same Sex: 1984-85		Persons Aged 10 Years and Above in Labour Force per 100 of All Persons of the Same Sex: 1984-85	
Area	Male	Female	Male	Female
Pakistan	27.49	2.56	51.68	5.79
Punjab	28.24	3.47	51.68	6.14
Balochistan	35.59	–	52.17	3.77
Sindh	21.72	1.62	52.20	5.36
N.W.F.P	30.95	1.55	50.47	6.47

Source: [Government of Pakistan (1986a).]

Among the provincial estimates the highest male participation rate among disabled is indicated for Balochistan with little economic activity for females. The lowest rate for male disabled is for Sindh and the highest female rate is for Punjab. Just like the female activity rates for over all population of the females the much lower economic activity for disabled females reflects a combination of reality (in terms of male/female differentials) and gross under-coverage of female labour force participation.

Table12 shows that the labour force participation rates for the male disabled show an increasing trend till age group 25–29, and then they remain high with only minor variations, till the age group 45–49 after which the rate declines with further increase in age. The age and sex specific labour force participation rates for disabled persons and corresponding labour force participation rates for all persons of the same sex are shown in Table 12.

Table 12

Age Specific Labour Force Participation in Disabled Persons and in All Persons, Pakistan: 1984-85 Disability Survey and 1984-85 Labour Force Survey

Age Group	Labour Force Participation Rates per 100 of			
	All Disabled Persons		All Persons	
	Male	Female	Male	Female
All (10+)	31.24	2.97	77.09	8.68
10 – 14	17.02	4.76	34.80	6.58
15 – 19	26.91	4.63	65.51	8.50
20 – 24	34.38	3.91	89.20	8.65
25 – 29	49.49	3.85	98.12	9.74
30 – 34	47.47	4.24	99.22	11.14
35 – 39	47.37	11.28	98.91	11.62
40 – 44	48.60	1.58	99.10	10.64
45 – 49	48.03	7.00	99.04	11.26
50 – 54	33.62	2.10	98.51	8.97
55 – 59	35.91	0.00	94.80	5.70
60 – 64	19.78	0.81	84.90	5.81
65 +	13.91	0.12	55.06	2.74

Source: [Government of Pakistan (1986, 1986a).]

The age specific labour force participation rates for the disabled have been worked out by dividing disabled labour force in a particular age group, with the number of disabled in the same age group.

The corresponding rates for all males, which remain for all ages more than twice of the corresponding rates for the disabled males, attain their highest levels from age group 25–29 through age group 55–59. The female rates for the disabled are much lower than the corresponding rates for all females, except surprisingly in age group 35–39 where the rate for disabled is nearly the same as for all women. This seems at least to some extent to be due to age misreporting because in the next higher age group 40–44 show a very low rate and then there is again a high rate for age 45–49. For older disabled women the rates are extremely low.

As stated earlier, the low rates for females reflect a combination of relatively lower female economic activity coupled with under-reporting of the working females. The same must be true for the disabled women as well. It may be mentioned that the under-reporting of economic activity for females is a well known statistical phenomenon in most of the developing countries, including Pakistan.

Proportions Self Earning

According to the 1984-85 survey about one fifth of the disabled persons of age 10 years and above were self earning, with corresponding proportions relatively higher in Balochistan and N.W.F.P, and lowest in Sindh. The persons other than those self supporting are mostly helped by their family or locality, the percentage of such disabled among all disabled is nearly 70 percent. The rest of the disabled are helped by welfare institutions, '*Zakat* Fund' or other sources.[18]

Table 13 shows that among the persons of different kinds of disabilities, the categories of *retarded* and *blind* have the smallest proportion and the *deaf* have

Table 13

Percentage of Self Earning out of the Disabled Persons by Kind of Disability, Pakistan and Provinces: 1984-85

Kind of Disability	Pakistan	Punjab	Balochistan	Sindh	N.W.F.P.
All (10 + Years)	21.47	22.69	24.77	16.36	24.08
Blind	7.83	7.88	12.26	4.41	12.32
Deaf	53.66	52.66	100.00*	52.75	46.96
Dumb	30.01	28.00	19.56	31.20	30.00
Deaf and Dumb	33.18	35.81	19.56	18.46	34.58
Leper	11.54	15.19	0.00*	7.23	6.90
Retarded	4.39	5.47	1.68	2.32	4.67
Hndicapped	16.32	16.63	3.05	17.32	19.16
Lame	31.45	30.85	54.90	22.59	35.28
Others	36.24	39.27	88.62	27.38	33.67

Source: [Government of Pakistan (1986a).]

* Such extreme percentages may due to small number of cases covered in these and some other cells as well.

[18]*Zakat* is a fund which under the religious code of Islam is to be contributed by those who can afford to help the poor and the deserving. The fund may be contributed directly and through the government.

largest proportion of self earners in all the provinces. For deaf and for those who were deaf and dumb, Balochistan shows lowest proportions of self earners. For deaf, lame and 'other' categories, Balochistan shows the highest proportions of self earners among the four provinces. For the categories of dumb, leper, retarded and handicapped, however, Balochistan in indicated to be with the lowest proportions of self earners.

The estimates provided in Table 13 imply that most of the disabled persons depend for their livelihood on the help from others who may be some one from their own family, the people in the locality or from 'Zakat'.

For the disabled persons the percentage getting help from others seem to correspond with the nature and extent of handicap or limitation associated with the nature of disability. The lower percentages of the self earning among the retarded, the blind, and the lepers are the conspicuous examples of such categories in Table 13. The percentage of self earning persons in the other categories reflect the extent of independence associated with a particular type of disability.

Treatment Received by the Disabled

The 1984-85 survey provided information on proportions of the disabled persons which received any medical treatment. The survey data do not indicate any details about treatment such as the length for which the treatment was received and the kind of treatment received. The survey shows that about 76 percent of the reported disabled persons had received some treatment, while the others could not do so due to lack of financial resources or of the medical facilities.

Training of the Disabled

While the survey did not provide information about the literacy or extent of education received by the disabled, data are provided about the disabled persons who received technical training of different kind. The percentage of those who received any training was only 8.07 for the country as a whole. The kind of technical training was reported to be in teaching, carpentry, furniture making, tailoring, watch repairing, motor and electric machining etc. The small percentage of technically trained disabled persons is reflected by the small percentage of self earning disabled in Pakistan, description about whom have already been provided earlier.

5. CORRELATES OF DISABILITY

The information about mortality levels along with incidence and prevalence of disease is important not only for the purposes of health planning or for understanding the population dynamics, but also because the levels of morbidity and

mortality are important indices of socio-economic conditions, the higher rates of morbidity and mortality, reflecting lower socio-economic conditions, and a general lack of awareness and resources in the population to deal with the situation. Within the same context a higher disability rate in a region also reflects conditions of poverty, lower socio-economic levels and lack of development, because disability is an abnormal physical condition, which for most cases is the outcome of the same circumstances (i.e., disease, accident, deprivation etc.) and can otherwise become the cause of mortality. Considering the fact that the disability apart from being a health condition is also a subject of study within the perspective of socio-economic development, this paper now proceeds to measure the relationship of some other variables with the disability rate.

Statistical analyses of the correlates of disability can be made with the observations on characteristics of the region where the disabled persons live, the regional conditions on the selected demographic, social and economic characteristics being reflected from proportions in the regional population and other information on physical environment. In order to see which of the prevailing demographic, social and economic conditions are significantly related to the prevalence of disability (being the out come of a health condition or circumstances) an effort has been made to examine such associations through the use of regional aggregate data from 1981 census and other available sources.

This exercise can be considered as explorative in the sense that its aim is limited to find through analysis of available data, how much of the variation in the proportion of disabled is explained by the other factors for which data are available at the district level, to reflect the social, economic and demographic constrains; availability of health and educational resources and awareness to gain benefits from these resources. The patterns of levels and differentials in disability having been described in the earlier section, the focus of this section is on the regression analysis to explain the variations in the disability rate as a function of sets of other variables through single empirical equations. In order to carry out this analysis cross-sectional data has been taken primarily from the 1981 population census of Pakistan.

Despite the extent of under coverage of the disabled the use of 1981 census data for a cross-sectional analysis is valid since we are primarily interested in looking at the correlates of disability prevalence, by taking administrative districts of the country as observations. Thus it is not the level of disability at the country level, which is under the purview of analysis rather the focus is on the correlations of independent variables with the variations in disability rate between districts. This is based on the assumption that the quality of coverage (or under coverage) of the disabled was the same all the regions of the country. The choice of 1981 census was also limited by the fact that no better alternative data source is so far available

to carry out this type of analysis at macro or micro level.[19] The results of the analysis are therefore subject to any regional variations in the quality of data.

The dependent variable (crude disability rate) has been taken as percentage of disabled persons in the total population of each district. Among the independent variables population density (DENS) of each district i.e., the number of persons per square kilometer, has been taken as a measure to reflect the population concentration to share the available resources and living conditions. This will not necessarily reflect a uniform distribution of population because the population concentration is more in urban than in rural areas. In order to see how the conditions favourable to prevalence of disability vary with the extent of non-rural population, percentage urban in the district (URBAN) has been taken as an independent variable. Percentage of in-migrants in the district (MIG) has been taken to reflect the existence of relatively better economic opportunities, health facilities, educational facilities, modernisation etc. Literacy percentage in each district (LIT) has been considered as the proportion relatively more aware. Average household size (HHSIZE) in each district is taken to reflect the pressure of resource sharing at the family level. The dependency ratio in the district (DEPR) is taken to indicate the burden of children and old on the more productive segment of population. The dependency ratio, along with labour force participation rate (LFPR), in terms of crude activity rate, and unemployment rate as percentage unemployed out of the labour force (UNEMPL) for each district have been taken to represent economic aspect of the population, here it may be mentioned that district level data on income or expenditures are not available. The crude birth rate (CBR) for each district is an indirect estimate based on average number of children ever born to woman in the reproductive ages. The variations in the birth rate will reflect the conditions which favour high or low birth rates, including the awareness and attitudes of the people to change their living conditions, poverty, and access to hospitals. The indirect estimates of Infant Death Rate (IDR) for each district is taken to reflect on the conditions of health, especially in the context of urban-rural differentials in infant-child mortality risks [Afzal *et al.* (1988)]. The number of hospital/dispensary beds (BEDS) available in each district have been taken to reflect the health facilities.

For the purpose of carrying out multiple regression analysis the dependent variable crude disability rate (DIS) is considered to be a function of a number of independent variables mentioned above. By keeping in view the correlation coefficients a number ordinary least square (OLS) regressions were run by taking differ-

[19]As mentioned earlier the data available from the report of 1984-85 Survey of Disabled Persons, are only in the form of percentage distribution of the disabled by different characteristics. Thus even to work out disability rates from this source, an indirect appoach had to be used in this study. If the 1984-85 disability survey had also used a sub-sample from such households where no disabled person was found during the 1984-85 Labour Force Survey then the micro-level data (subject to availability) could have been a better choice for multiple regression analysis.

ent combinations of the aforementioned variables. The objective was to identify which of the independent variables provide meaningful explanation of the variations among the district level disability rate. First the values for all the districts (Karachi having been taken as one agglomeration) of Pakistan (as of 1981) were taken to represents sets of observations on dependent and independent variables, without giving consideration to the fact that districts are sub-groups of the four provinces of the country. The results of the regressions described in Table 14, show that the district disability rate has a significant positive association with the district birth rate and the percentage of in-migrants in the district.

Although the statistical significance of migration does not clearly emerge in Equation 1, it is clearly evident in Equation 2 which does not take into account all the independent variables from Equation 1. Results from equations 3 and 4 show that when migration is not taken as one of the independent variables, the influence of socio-economic development and infrastructure on the disability rate is reflected from the statistically significant negative association of the level of urbanisation or population density. The negative associations of density, urbanisation, or migration with the disability rate, are in accordance with the expectation because the availability of better economic conditions, medical facilities, educational opportunities and other amenities contribute to better chances of escape from the risks of disability. In Pakistan, as in many other countries, the income levels, health facilities, and the provision of safe water and sanitation, are better in urban areas than in the rural areas. The rural to urban ratio of the average monthly income in Pakistan for 1984-85 was about 60 to 100 [Burney *et al.* (1991)]; for access to health it was 35 to 99 in 1986; for safe water 27 to 83 in 1987; and for access to sanitation 6 to 51 in 1987 [UNDP (1991)].[20]

Among the other independent variables the negative signs of the coefficients for literacy, labour force participation and hospital beds indicate the role of these factors as the means to impede the chances of disability. The negative association of disability rate with unemployment is to some extent explained by much higher level of unemployment in urban areas as compared to rural areas. According to

[20]Yet another reason for disability rates being lower in urban areas may be that those with rural residential base who become disabled in a city are more likely to be sent back for family care in the rural areas. Also a person who becomes disabled in rural area may go to urban area for some treatment in the initial stages but may not migrate from rural areas. The poor disabled who resort to beggary by making their disability as a condition for drawing sympathy, seem to be an exception.

A study on migration done by the Census Organisation which also included some analysis of unpublished data of 1981 census relating to last migration of the disabled, showed that of the total disabled out-migrants from districts nearly 74 percent were from rural areas and the rest were from urban areas. Out of the total disabled in-migrants to districts about 56 percent came to urban areas and the rest went to rural areas [Government of Pakistan (1989)]. The results of the study apart from not including within the district migration, did not provide separate estimates for rural to urban, urban to rural, rural to rural and urban to urban in- or out-migration.

Table 14

Regressions for Variation in Disability Rate Without Provincial Consideration of the Districts of Pakistan: 1981

Name	Equation (1)	Equation (2)	Equation (3)	Equation (4)
INTERCEPT	0.487 (0.836)	0.280 (0.569)	0.215 (0.622)	0.264 (0.931)
DENS	–0.263E–04 (–0.160)	–0.562E–04 (–0.502)	–0.672E–04 (–0.823)	–0.184E–03 (–0.724)**
MIG	–0.654E–02 (–1.602)	–0.749E–02 (–2.015)**	–	–
URBAN	–0.123E–02 (–0.660)	–0.112E–02 (–0.627)	–0.298E–02 (–2.347)**	–
HHSIZE	0.129E–01 (0.473)	0.898E–02 (0.343)	0.135E–01 0.554)	–
LIT	–0.123E–02 (–0.310)	–0.563E–03 (–0.148)	–	–
DEPR	–0.176E–02 (–0.663)	0.877E–03 (–0.402)	–	–
LEPR	–0.516E–02 (–0.601)	–0.562E–04 (–0.666)	–0.545E–02 (–0.823)	–0.349E–02 (–0.521)
UNEMPL	–0.006E–02 (–0.526)	–	–	–
CBR	0.132E–01 (2.678)**	0.130E–01 (2.718)**	0.116E–01 (2.432)**	0.102E–01 (2.134)**
IDR	–0.792E–03 (–0.640)	–	–	–
BEDS	–0.422E–05 (–0.095)	–	–	–
R. SQUARE	0.302	0.294	0.232	0.154
ADJ. R. SQUARE	0.149	0.187	0.163	0.110
F. STATISTIC	1.971	2.75	3.383	3.510
OBSERVATIONS	62	62	62	62

** The Value of 't' is significant at 5 or 10 percent.

1981 census the unemployment rate for urban areas in Pakistan was more than twice the rate for the rural areas. In other words the level of unemployment rate in the context of disability prevalence may be a sort of proxy for percentage urban. The negative signs for dependency ratio and infant death rate is contrary to what was expected and the observed signs seem to be the result of multicollinearity in the specified equation. The inadequacy of the 1981 census data may also be a factor in influencing the result.

The positive association of disability rate with the size of household may be reflecting the continuous living of many disabled persons as part of extended family, which can provide them the necessary care and support. In a traditional society like Pakistan it is common for elderly disabled (or otherwise) to be a part of extended family. It may also be mentioned here that the average household size is larger in rural areas than in the urban areas.

The results of regression analysis from the available data, do not show the statistical significance of the negative or positive association with the disability rate for most of these variables. Of the two variables which show significant association with the disability rate perhaps the most interesting is crude birth rate which shows a clear positive association with the dependent variable in all the four equations described in Table 14. A higher crude birth rate generally reflects a lower level of socio-economic development but more importantly a high birth rate is also indicative of the lack of proper awareness and apathetic attitude of the population concerned to change their social norms, attitudes and behaviour. The correspondence of a high disability rate with high birth rate in the population should be considered as a reinforced evidence about the consequences of the social, economic, political, and environmental circumstances which favour these conditions, and for the vital importance of bringing about the necessary changes in the society as well as in the environment.

In order to cover for the variations in the socio-economic conditions of the four provinces of which the districts of the country are the administrative subregions, more regression equations have been prepared, the results of some of which are presented in Table 15. For those equations dummy variables were used for the provinces.

The results of Equation 1, which was run by including all the independent variables as well as the provincial dummy variables show significant positive association of crude birth rate with the disability rate. Like Equation 1 in Table 14 the significance of the negative association of migration also does not come out in Equation 1 of Table 15 when the dummy variables for the provinces are included. But when some of the independent variables were excluded (Equations 2 and 3), the significance of migration's negative association with the disability rate comes out clearly.

Table 15

Regressions for Variation in Disability Rate with *Provincial Consideration of the Districts of Pakistan: 1981*

Name	Equation (1)	Equation (2)	Equation (3)
INTERCEPT	0.180	0.427	0.178
	(0.310)	(0.841)	(1.249)
DENS	–1.265E–04	–	–
	(–1.274)		
MIG	–0.006	–0.007	–0.010
	(–1.481)	(–1.790)**	(–4.188)**
URBAN	–0.001	–	–
	(–0.492)		
HHSIZE	0.019	–	–
	(0.473)		
LIT	–0.945	–0.699E–04	–
	(–0.310)	(–0.017)	
DEPR	–0.001	0.947E–03	–
	(–0.417)	(–0.383)	
LEPR	–0.006	–0.514E–03	–
		(–0.625)	(–0.058)
UNEMPL	–0.011	–0.015	–
	(–0.880)	(–1.307)	
CBR	0.012	0.011	0.012
	(2.280)**	(2.109)**	(2.826)**
IDR	–0.002	–	–
	(–1.382)		
BEDS	–2.742E–05	–0.214E–04	–
	(–0.728)	(–0.582)	
PUNJAB	0.032	–0.015	–
	(0.388)	(–0.234)	
N.W.F.P.	0.045	0.040	–
	(0.598)	(0.639)	
SINDH	–0.145	–0.114	–0.085
	(–1.926)**	(–1.677)**	(–2.118)**
R. SQUARE	0.407	0.362	0.319
ADJ. R. SQUARE	0.230	0.222	0.283
F. STATISTIC	2.302	2.584	9.040
OBSERVATIONS	62	62	62

** The Value of 't' is significant at 5 or 10 percent.

In order to see whether the fits of two equations i.e., Equation1 in Table 14 (which does not contain the provincial dummy variables), and Equation 1 in Table 15 (containing additionally the provincial dummies) are significantly different an F-test was run [Studenmund and Cassidy (1987)].[21] The test showed that the difference between the fits of the two equations was not significant (at 5 percent level). Hence for the purpose of running the multiple regression the consideration of the provincial dummies did not matter.

On the whole the results described in Tables 14 and 15 from two sets of equations clearly show the importance of crude birth rate, migration or urbanisation level and density to explain the variation in the disability rate. In other words the lowering of the disability rate and the birth rate in Pakistan, do not only require direct specific actions, (health and family planning facilities) but also need improvement in the living conditions of the people through better economic opportunities, creation of increased awareness and consciousness among the people by using effective approaches of information including mass media and education, at all places of residence. The negative association of the disability rate with percentage of in-migrants in districts or with density or percentage urban clearly suggest that the people living in the regions with more developed infrastructure, have relatively lower risks of disability. In other words policies and programmes for urban and rural development must give due consideration to the proper infrastructure development which will not only contribute to economic and social development but may also help in lowering the risks of disability and provide favourable environment for bringing down the birth rate in the country.

6. SUMMARY AND CONCLUSIONS

Although data collection on disabled persons through population censuses is not a new phenomena in Pakistan and other countries, their statistical descriptions have in general been simple and that too have often been overlooked in terms of their potential utility. In fact, since about a decade back, the awareness about various issues associated with the prevalence of disability, the realisation of the need for standardising the ways and means for the collection of disability statistics from the point of view of various disciplines and to carry out analytical research on the available data, have been gaining momentum at the national and international

[21]The following special F-Statistic was calculated for this purpose:

$$\frac{(RSSm - RSS)/M}{RSS/(n - K - 1)}$$

Where *RSS* is the residual sum of squares from the unconstrained equation (Equation 1 of Table 14); *RSSm* is the residual sum of squares from the constrained equation (Equation 1 of Table 13); *M* is the number of constraints placed on the equation (equal to the number of Betas eliminated from the unconstrained eqution); and $n - K - 1$ is the degrees of freedom in the unconstrained equation.

levels. The adoption of the World Programme of Action concerning the Disabled Persons was an important milestone towards a systematic development of the statistical measures for the assessment of the special population groups including disabled persons within the perspective of social inequality, economic opportunity, marginality and socio-economic status. By providing a demographic assessment of disability prevalence and the characteristics of the disabled persons in Pakistan, the paper highlights the limitations of census data in terms of inadequacy of coverage, and inconsistency of the census results in comparison to the surveys. The paper also examines the aspects in which the census data are defective and the extent to which results of census or survey data could be usefully utilised. In doing so the paper beside assessing the prevalence of disability by age, and gender considerations, by nature of disability, provincial patterns of disability, and reasons of disability has brought into focus, some demographic features of the disabled population such as their age-sex structure, their training and work participation, self sufficiency and dependence on the help from others.

Even though the results of the 1984-85 Survey of Disabled persons show that the actually prevailing rate of disability in the country may be more than 11 times the rate indicated from the 1981 census data, yet the available census data are of some use for looking at the differentials by age and for looking at the regional variations. The data show increasing trends in disability by age specially among the older age groups and relatively higher levels of disability prevalence in the rural areas as compared to the urban areas.

The higher prevalence of disability in childhood and among the old aged persons, specially those aged 60 years and above, demands a serious concern by the policy-makers and planners. The seriousness in this respect stems from the fact that with the increase trends in average life expectancy (latest estimate being about 60 years) due to the declining mortality risks, the absolute size of the disabled persons will go on increasing.[22] In other words the aging process, which is expected to further increase with further declines in mortality, will necessitate expansion in health and medical care, and social welfare programmes geared to fulfil the needs of the old disabled males and females. Data from the census and surveys show that blindness is conspicuous among all kinds of disabilities prevalent in Pakistan. The 1984-85 disability survey shows that nearly half of the total disabilities were due to disease, about 35 percent were disabled by birth, about 14 percent became disabled as a result of some accident. In other words the provision of proper preventive

[22]In a companion paper (revised draft) by this author estimates of Disability Free Life Expectany (DFLE) at birth and at higher ages have been worked out by using disability prevalence estimates from 1984-85 Survey of disabled Persons. The paper while providing a view of the gender differentials in DFLE, shows that in comparison to women the overall affect of disabilities on the life span of men is more prolonged. [Afzal (1992).]

health and curative facilities and imparting of proper awareness to avoid accidents can help in a substantial reduction of the incidence of disability.

The survey results show that economic activity rates for the male and female disabled in the country are about 53 percent and 44 percent of the overall respective rate for all males and females. Only about 20 percent of the disabled were reported as self earning and the rest were depending for their livelihood on the help of others.

The results of a multiple regression analysis show that the crude birth rate has a significant positive association with the disability prevalence at the district level. This finding has important policy implications because it clearly suggests that for a large majority of the population, the prevailing conditions of health, education and other socio-economic circumstances, and their own attitudes and actions are as yet not favourable for lowering of birth rate as well as the disability rate. In other words the services and actions both on the part of government and people which will help in bringing down the fertility levels in the country may also lead to lowering the risks of disability. The significant negative association of the percentage of migrants and percentage urban (also manifested as areas of higher density) with the prevalence of disability show that the existence of relatively better socio-economic opportunities and infrastructure in the urban areas as compared to the rural areas, which is also implied by the extent of people who had moved to such areas to avail such facilities helped to keep the disability rate at relatively lower level in comparison to less urbanised or predominantly rural districts.

The study which has attempted to provide a demographic view of disability patterns in Pakistan, and to highlight some of the covariates of the disability rate represents a beginning in Pakistan of a demographic concern in this important area. The results of the study are subject to limitation of the available data but it is hoped that it will generate interest for a more appropriate data collection and research on the prevalence of disability within the perspective of the socio-economic and demographic framework. The results of the study show that carefully planned sample surveys can provide significantly more reliable data for assessing disability prevalence and the socio-economic and demographic correlates of disability. The results from 1984-85 disabled survey have shown how an on-going national survey (labour force survey) could be extended for collecting data about disabled persons. The experience from Pakistan shows that the quality of data given by the censuses remained inadequate for assessment of disability prevalence although the concept of disability was broadened over time. In fact the extent of under coverage in census-based data for most of the Third World countries is too high to expect that desirable improvement in the quality of census data could be achieved in the near future. The surveys are likely to yield much better results provided they are appropriately planned and efficiently executed. For the collection of data on disability through a

sample survey, its planning and sampling procedures must take into consideration the analysis to which the collected data would be put. For a meaningful analysis of survey data the sampling of households should be done by including households where disabled persons are found and those where no disabled is found. Similarly the data tape and tabulated results should contain data about the disabled as well as total household population.

The use of 1981 census district level data despite the limitations, has provided some useful insights about the correlates of disability prevalence, but inadequacies of data might have affected the results of the analysis. If micro-level data were available from the 1984-85 Survey of Disabled Persons, the analysis to look at the correlates of disability would have been much more informative than the pattern found through the use of 1981 census data.

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