

Pakistan Sign Language – A Synopsis

پاکستانی اشارتی زبان - ایک جائزہ

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LIST OF ACRONYMS

APDIP	Asia Pacific Development Information Programme
ECK	Education Communication & Knowledge Management Group (IUCN)
IUCN	The World Conservation Union
PAD	Pakistan Association of the Deaf
SDNP	Sustainable Development Networking Programme, Pakistan
UNDP	United Nations Development Programme

PREFACE

This document presents a descriptive scenario of the evolution and current status of disability policy and practice with special reference to the deaf population in Pakistan. Based on this information, the need is aligned with investing resources to increase access for people with hearing impairments to appropriate and cost-effective educational solutions aimed at enhancing their potentials. Pakistan Sign Language (PSL) being the representative language of Pakistani deaf has been introduced as an essential element of such educational materials. Aimed at catalyzing further development of PSL and implementation of innovative high-outreach ICT based learning packs for deaf, the document provides a comprehensive literature review of all available PSL resources to date.

It will be helpful if the reader has some knowledge of sign language (SL). However, those who have a background in SL may find it worth their while to read selectively.

RATIONALE

Deaf people rely on sign language interpreters for access to spoken Urdu, which is the national language of Pakistan. However, they cannot depend on interpreters every day in life mainly due to the high costs and the difficulty in finding and scheduling qualified interpreters. Such was the rationale against which the Project “ICT Assisted Learning Tools for the Deaf in Pakistan” was set. However, even before one would begin to work on PSL based technology assisted learning solutions for the deaf, there was a need to collect a comprehensive body of data on Pakistan Sign Language (PSL) that is available to date in order to identify the standardized PSL symbols.

Central to this study has also been the desire to build a scenario of PSL in the context of the primary users (Pakistani deaf). The demographic characteristics of the hearing impairment sector in Pakistan, indicate the primary target audience of the final ICT product of the Project.

As part of Phase 1, this particular study has attempted to collate Pakistan Sign Language resources through careful review of efforts in the field carried out in the country by various groups.

METHODOLOGY

So far PSL literature has existed in an incoherent form. A particular concern was to make sure that we included PSL data sets that though differed from each other along dimensions but which had milestone contributions to language development and had found acceptability of usage amongst the deaf Pakistanis. Ultimately works published by four different organizations, were gathered through searching of general and specific libraries and contacting with the organizations, which had initiated their publishing. The task was not an easy one as most of the books had been brought out only once, in limited numbers, which had long been dispersed and were not available even in markets. In some cases complete sets were not available even at the publishing-organizations and so were obtained from other designated sources. Collection of PSL works comprised researching and reviewing four major landmark contributions. The approaches involved included:

- Published work by Sir Syed Deaf Association (SDA) Rawalpindi : The search for the dictionary published by the association was started from Biatul Hikmah Library, one of the biggest libraries of Pakistan. On making an accession through computer, the book was found to be available at the library. However since the book had not been issued for more than two years, it was unavailable on regular shelves and had been shifted to the basement of the library. A formal permission was sought from the Director of the institution and after much time had lapsed, the book could be retrieved from the record.
- PSL formulated by Anjuman Behbood-e- Samat-e-Atfal (ABSA) Karachi : Working for the last many years for the welfare of the deaf, ABSA has formulated 7 PSL books including two dictionaries and a storybook. The Association provided three books i.e., two editions of A Dictionary of Pakistan Sign Language (1987 and 1995) and Relationships in Pakistan Sign Language 1989. Complete set of the books was however not obtainable from the Association’s library. Also since most of the books had not gone into second editions, they were not available in the market. A number of organizations including NGOs namely PAD and DEWA Academy, and libraries including Biatul Hikmah, Liaquat National, Karachi University Library, were contacted for obtaining the other works of ABSA. The third and fifth books of the set, i.e., Time and seasons in Sign Language (1989), and Numeration in Sign Language (1992), were available with the Mehmood Hussain Library at the University of Karachi. Remaining two books – The Anatomy of Human Body and Body Actions in Pakistan Sign Language were obtained from SPEED - a Karachi-based NGO working for the education of Special Children.
- Publications by National Institute of Special Education (NISE), Islamabad: Owing to limited publishing, the works by NISE could only be obtainable from the Institute itself. A visit to

this capital city based government-run organization was necessitated and after direct correspondence with the official staff, two of the most comprehensive PSL works, which are very scantily available in the country, were obtained.

- Set of Books by Pakistan Association of the Deaf: Since the NGO is a local partner organization of SDNP-IUCN (Sustainable Development Networking Programme, Pakistan – IUCN-The World Conservation Union) in the Asia Pacific Development Information Programme Grant Project, their original work which has not yet undergone printing, could be easily obtained. The manuscripts comprise of:

Book1	Workbook of Alphabets signs in Urdu
Book2	Workbook of Alphabets signs in English
Book 3	500-word dictionary with new words and modified signs
Book4	Traffic signs for deaf drivers

FINDINGS

CHAPTER 1 COUNTRY OVERVIEW

1.1 GENERAL BACKGROUND

Pakistan came into existence on August 14, 1947, when the Indian subcontinent was divided, with the Hindu and Muslim majority areas becoming separate sovereign states of Bharat or India and Pakistan. Initially, Pakistan had two constituent parts. These were East Pakistan and West Pakistan, which were separated from each other by 1,600 kilometers of India territory. In December 1971 East Pakistan seceded, giving birth to the new state of Bangladesh, and West Pakistan became Pakistan. Pakistan comprises four provinces: the Punjab, Sindh, the North-West Frontier Province (NWFP), and Baluchistan, besides the federal capital Islamabad and the federally administered areas. It is bordered by Afghanistan and the people's Republic of China in the north, India in the east and southeast, and Iran in the west.

About 97 percent of the people are Muslim in Pakistan. Urdu is the national language and is understood throughout the country. There are regional languages such as Punjabi, Sindhi, Pushtu, and Baluchi. English is widely used in commercial, legal, and other official transactions. It is also the medium of instruction in colleges and universities.

Pakistan is predominantly an agricultural country with about 51 percent of population estimated to be employed in agriculture. The second major sector – manufacturing – accounts for nearly 13 percent of the employed labor force. Trade, construction, and transport are other major sectors, which provide employment. The output from the education system is usually employed in the modern sector of the economy, which is comparatively very small in Pakistan. However, the agricultural sector has not been capable of providing employment opportunities and educated youth have become alienated from work in the agricultural sector, especially in the rural areas.

1.2 DEMOGRAPHIC CHARACTERISTICS

After a gap of seventeen years, the fifth population census of Pakistan was conducted in March 1998. Here we derive only the implications of the 1998 population census on some of the key indicators.

1.2.1 Size & growth of Population

According to the 1998 census, the population of the country was approximately 130.6 million. This implies that the population growth rate has declined significantly during the inter-census period, 1981 to 1998, to 2.61 percent per annum as compared to 3.06 percent between 1972 to 1981 (see table 1.1).

Year	Population (Million)	Annual Growth Rate (%)
1961*	46.1	3.18
1972	65.3	3.04
1981	84.3	3.06
1998	130.6	2.61

*Adjusted for under enumeration of 7.5%

Source: Population Censuses

1.2.2 Age Profile

The age profile of Pakistan's population is undergoing fundamental changes. The baby boom of the 70s is now being translated into a bulge in the number of potential entrants into the labor force. This will continue to put pressure on the labor market and contribute to higher unemployment rates. The share of population in the age group of 15 to 24 years has increased from 15.8 percent in 1972 to 19.4 percent in 1998 (see table 1.2). This also explains the fall in dependency ratio.

The apparent decline during the 90s in birth rate has implied a contraction in the share of the age group, 5 to 9 years, of primary school going age population. This factor should contribute to higher primary enrollment ratios.

Table: 1.2 Age Profile of Population				
Age group	Indication of	Share of Population (%)		
		1972	1981	1998
5-9 years	Primary school going age population	16.3	16.0	15.6
10 – 14 years	Secondary school going age population		12.6	13.2
12.9				
15 – 24 years	Higher education age population		15.8	17.2
19.4				
25 – 64 years	Potential labor force	64.5	64.4	66.4
0 - 15 years	Dependent Population	44.0	44.6	43.1
Above 64 years				
Source: Population Censuses				

1.2.3 Literacy rate

The 1998 population census has also indicated that the literacy rate is higher than anticipated. This is not the consequence of any change in the definition of a literate, which has remained unchanged between 1981 and 1998 as "a person who can read a newspaper and write a simple letter, in any language". The Pakistan Economic Survey estimated the literacy rate in 1997-98 at 40 percent. According to the population census it is 45 percent (See Table 1.3); there appears also to have been an acceleration in the spread of literacy among females.

The unexpectedly higher literacy rate is perhaps an indication that non-formal basic education and the private sector are making a bigger contribution to increasing literacy in the country than was hitherto thought to be the case.

Table: 1.3 Estimate of Literacy Rate			
	Pre-Census Estimate	Post-Census Estimate	% Change
Pakistan	40.0	45.0	12.5
Source: Pakistan Economic Survey, 1997 – 98 Population Census 1998, Provincial Results			

1.2.4 Primary Enrollment Ratio

The implications of 1998 population census on gross primary enrollment ratios are also generally favorable. For 1997-98, the post-census estimate is 81 percent, which

represents an improvement of 4 percentage points over the pre-census estimate of 77 percent. The improvement in female enrollment ratio is particularly pronounced, from 61 percent to 71 percent.

1.2.5 Disability Related Characteristics

In Pakistan, the existence and prevalence of disability, the need to take preventive measures and to make curative efforts are well recognized at both the governmental and non-governmental levels. Efforts have been made to carry out nationwide programmes for the prevention of disabilities and for the rehabilitation of people with disabilities.

A Directorate General of Special Education, under the Ministry of Women Development, Special Education and Social Welfare, and a number of institutions and centres focusing on various aspects of the problems relating to impairment, disabilities and the handicapped, have also been established.

In Pakistan, data on people with disabilities, their sex-age distribution and other characteristics are collected mainly through population censuses and surveys. However, they have their limitations. As these censuses or surveys are conducted only during certain times, the patterns of disability collected only represent the prevalent conditions at that particular point in time.

The collected data from Pakistan's 1961 census covered only persons who were totally blind, deaf or physically disabled. Then, the number of people with disabilities under these three categories formed about 0.34 per cent of the total population. The 1973 Housing, Economic and Demographic (HED) survey, which collected data on blind, deaf, physically disabled and other disabled persons, found the number of people with disabilities totaled 0.8 per cent of the population. The 1981 census, in addition to the other categories mentioned, included two more categories, intellectual disability and mental illness. The survey found that people with disabilities formed 0.45 per cent of the total population. As can be seen, the 1973 HED survey had reported the highest rates among the three because of the quality of its coverage and also because it was based on a large sample and thus was not a complete census.

From 1984 to 1985, Pakistan carried out a national survey of disabled persons, which estimated that the disability rate for Pakistan was 4.9 per cent. A survey of disabled persons in Rawalpindi and Islamabad, carried out in 1986 by the Directorate General of Special Education, reported an estimated prevalence rate of 2.5 per cent. The Government of Pakistan is aware that the actual level of disability prevalence in the country is much higher than the figures reported in the 1981 census. In its Sixth Five-year Plan, the Government stated that people with disabilities are 4 to 6 per cent of the total population, particularly the children and the older person.

According to demographic indicators of 1998 census, total population of the country is around 132 million.

Source:

www.statpak.gov.pk/depts/pco/statistics/demographic_indicators98/demographic_indicators.html

Disabled population as per the Census Report of Pakistan 1998, Pakistan Census Organization, GoP figures to 3.3 million (refer to Table 1.4). These statistics published by the Ministry of Women Development, Social Welfare and Special Education, Government of Pakistan are provided below as retrieved from <http://mowd.gov.pk/index.html> :

Population	Male	Female	Total	% age
Total	68,873,686	63,478,593	132,352,279	-
Disabled	1,918,705	1,374,450	3,293,155	2.49

Table 1.5 - Population (Disability-wise)					
S.No.	Disability	Male	Female	Total	As %age of total disabled
a.	Blind	146029	119369	265398	8.06
b.	Deaf and Mute	138235	105448	243683	7.40
c.	Crippled	382262	243523	625785	19.00
d.	Insane	119645	91209	210854	6.40
e.	Mentally Retarded	134887	115297	250184	7.60
f.	Having more than one Disability	140285	130166	270451	8.21
g.	Others	857362	568438	1426800	43.33

The above statistics show that of the total 3.3 million disabled Pakistanis, 0.24 million suffer from hearing loss which is around 7.4% of the overall disabled population in the country. Also further analysis of figures (refer to Table 1.6) reveals that 55% of the disabled are aged between age groups of 5 years to 29 years. This means that age structures among disabled persons are predominantly either youthful or middle aged, just like the general population trends. The need therefore exists to concentrate on an embryonic framework to address the potential entrants into the labor force.

Table 1.6 – Disability Age groups (Age / Gender distribuion)

Group	0-4			5-14			15-29			30-59			60 (+)			Total		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
<i>Blind</i>	5.74	5.19	10.93	10.81	9.05	19.86	9.84	8.92	18.76	13.81	10.86	24.67	14.83	10.96	25.78	55.02	44.98	100.00
Deaf and Mute	4.78	4.19	8.97	16.38	12.42	28.80	14.68	12.13	26.81	14.52	10.44	24.96	6.37	4.10	10.46	56.73	43.27	100.00
Crippled	2.86	2.23	4.99	9.55	6.78	16.34	11.16	6.69	17.85	17.12	9.45	26.57	20.49	13.77	34.26	61.08	38.92	100.00
Insane	5.21	4.49	9.70	14.61	10.67	25.28	16.97	12.43	29.39	14.69	11.51	26.20	5.26	4.17	9.43	56.74	43.26	100.00
Mentally Retarded	4.84	5.08	9.92	12.51	10.69	23.21	15.76	12.99	28.75	15.77	12.96	28.73	5.02	4.36	9.39	53.92	46.08	100.00
Having more than one Disability	6.31	5.81	12.12	14.74	11.25	24.88	14.38	12.81	26.12	12.62	11.81	23.49	7.50	6.45	13.39	51.87	48.13	100.00
Others	7.95	7.84	15.97	17.17	12.09	29.26	11.53	8.71	20.24	13.34	8.15	21.49	10.11	3.11	13.22	60.10	39.90	100.00

Distribution of the deaf between the provinces contrasts between 5% to 8% of the respective disabled population in the provinces (table 1.7). Punjab ranks highest with most numbers of deaf. For arguments sake this may be attributed to the highest geographical area and population figures of the province. Followed by Punjab are the provinces of Sindh, N.W.F.P. and finally Balochistan which has the lowest number of deaf people. Also as can be seen, unvaryingly more males are reported deaf across the country.

Table 1.7 – Disabled Population (Province-wise)				
Population	Male	Female	Total	%age
National				
Total	68873686	63478593	132352279	-
Disabled	1918705	1374450	3293155	2.49
Deaf & mute	138235	105448	243683	7.40
Punjab				
Total	38094367	35526923	73621290	-
Disabled	1073840	752783	1826623	2.48
Deaf & mute	85939	63318	149257	8.17
Sindh				
Total	16097591	14342302	30439893	-
Disabled	530600	398800	929400	3.05
Deaf & mute	31256	26153	57409	6.18
Balochistan				
Total	3506506	3059397	6565885	-
Disabled	83420	63001	146421	2.23
Deaf & mute	4320	3357	7677	5.24
N.W.F.P.				
Total	9084849	8651063	17735912	-
Disabled	221983	153465	375448	2.12
Deaf & mute	17031	11857	28888	7.69

CHAPTER 2

SPECIAL EDUCATION IN PAKISTAN

Focus on Hearing Impaired Children

2.1 HISTORY

The field of special education in Pakistan is not very old. Initially education and rehabilitation of persons with disabilities was a concern of the Ministry of Education and Social Welfare for quite a long time. But in reality special education did not receive the priority it deserved. After the observance of International Year of the Disabled, 1981, the need of providing better accessibility to, and communication for, disabled persons gained momentum.

In 1982, special education was transferred from the Ministry of Education to Social Welfare Wing of the then Ministry of Health and Social Welfare at Federal level. Soon after the transfer of special education to social welfare wing, four model institutions for education, training and rehabilitation of children with disabilities were established at Islamabad. In order to gear up this process, a new organization named Directorate General of Special Education was created in 1985 as an attached department of Ministry of Health and Social Welfare. The significance of special education was realized at national level in both private and public sector and Pakistan implemented a number of projects to promote communication. These included:

- a) Duty-free import of equipment and vehicles used by people with disabilities;
- b) Provision of concessionary fares for travel by rail and by the national airline for blind persons, and special passengers services;
- c) Allotment of small residential plots to people with disabilities at concession rates;
- d) Provision of facilities such as ramps, and accessible lifts and toilets, at public places to enable disabled persons to visit those places;
- e) Huge publicity of white canes and observance of White Cane Day every year;
- f) Drafting of a law to ensure that new buildings and other places are easily accessible by disabled persons;
- g) Wide availability of assistive devices and artificial limbs;
- h) Provision of free postal services in the case of Braille literature;
- i) Provision of training in mobility and communication.

Legislations & Special Education Policy draft:

Pakistan's two legislations on people with disabilities include

- a. Voluntary Social Welfare Agencies (Registration and Control) Ordinance of 1961
- b. Disabled Persons Employment and Rehabilitation Ordinance of 1981

Based on WHO global estimates the Directorate General of Special Education formulated a Draft National Policy for Special Education in 1985 which was revised in 1988. The draft policy document could not be implemented as a whole due to non availability of adequately educated and qualified professionals as well as para-professional staff; inadequate allocation of budget due to which purpose built premises could not be completed at National, Provincial and Divisional / District Headquarters; low priority given to sub-sector Special Education and Social Welfare; lack of involvement of families and communities of persons with disabilities; in-adequate transport facilities for pick and drop of children with special needs and non-availability of specialized aids and equipment.

2.2 PRESENT STATUS

In 1998 a nation wide census was completed. On the basis of reliable figures / data the Ministry of Women Development, Social Welfare and Special Education through the Directorate General of Special Education is in process of effectively planning and implementing programs for education,

job and vocational, training and rehabilitation of persons with disabilities.

The document now framed is based on the policy statements and commitment of the government to meet the challenges of 21st century. The draft Policy document 1998 was circulated among relevant Federal Government, Ministries / Division, Provincial Government Departments, Universities and NGOs to obtain their views and comments. On the basis of views received from those organizations this document has been finalized. Its broad based objectives are to ensure:

- That people with disabilities in Pakistan enjoy the same rights as other citizens.
- That there would be equal opportunity for and access to education, vocation training, employment and rehabilitation services for persons with disabilities without any discrimination.
- That in planning and implementing education, training and rehabilitation programs for persons with disabilities, consideration will be given to the need and desires of people with disabilities themselves, their families and communities they live in.
- That in Pakistan having ratified ILO convention 159 which deals with vocational rehabilitation and employment of persons with disabilities will ensure that this policy and all future modifications to it, adhere to the principles stated in the Articles of the convention.
- That the people with disabilities are entitled to all facilities, which may lead to their integration and mainstreaming in all spheres of life.
- That the existing legislation relating to employment and rehabilitation of persons with disabilities is strictly enforced.

The non-availability of trained staff was the main hurdle in the speedy expansion of educational services. The Allama Iqbal Open University (AIOU) Islamabad, and the universities of Karachi and the Punjab started courses leading to a master's degree in special education. National Institute for Special Education (NISE) has been established at Islamabad for providing training to teachers. The Institute offers short-term courses and in-service training courses. Collaborative links with international agencies such as ODA, WHO, UNICEF, UNESCO and UNDP/ILO have been established to plan and develop projects in the field of labor force training, equipment support, consultancy services, development of national programs and orientation visits and training fellowships to foreign countries.

2.3 Educational Services for Hearing Impaired Children

In 1948 some parents of hearing-impaired children took interest in exploring the facilities available for the education of their children. Mr. S.A. Makhdum, a father of a deaf child brought such parents together and formed "All Pakistan Deaf and Dumb Welfare Society" in May 1949 at Lahore.

Due to the efforts of the Society, the first school for the hearing impaired children was established in October 1949. Here the children learned by lip-reading method and tried to speak and to understand the speech of others by closely watching the movements of the speakers' lips, tongue, and facial expression.

In the meanwhile, three American experts in the education of the Hearing Impaired Children reached Lahore and then the opening of the Training College for the Teachers of Deaf become possible. In 1952, necessary clinical apparatus were provided from abroad and thus an audio logical clinic was also opened with all these developments. The institution came to be known as General Institution for the Deaf, Lahore.

Ida-Rieu School, Karachi was established in 1919 for blind children. But, a unit for providing educational facilities for Hearing Impaired Children was started in 1960. Later on, in September 1967, the DEWA Academy (The Deaf Education and Welfare Association Trust) for the hearing impaired children was established in Karachi. In DEWA, teaching methodology is based on total communication method.

Another leading school, ABSA (Anjuman Behbood-e-Atfal) was established in Karachi in 1967 with a vision to give an opportunity to the hearing impaired children to get education like any normal

child. Teachers are provided on job training and they attended constantly workshops and seminars to improve their teaching methods.

In 1985, Ministry of Health and Social Welfare has set up a Directorate of Special Education at Islamabad. The Directorate since its conception established various federal institutions of Special Education including hearing impaired children.

Under the draft National Policy for Special Education the Directorate General of Special Education established 46 special education centers in Pakistan over a period of last 17 years.

Disability wise break up of special education centers:

Visual Impairment	11
Physical Impairment	11
Hearing Impairment	12
Mental Retardation	<u>12</u>
Total:	46

Apart from these, the National Trust for the Disabled has set up three special education centres for people with disabilities. They all provide: assessment and diagnostic services; special education services; personal aids and appliances; curriculum development; sports and recreation facilities.

	HIC	IDC	PHC	VHC	Total
Islamabad	1	2	–	–	3
Punjab	14	11	3	14	42
Sindh	6	8	3	9	26
NWFP	5	2	9	6	22
Baluchistan	2	–	2	–	4
Northern areas	1	–	4	–	5
Total	29	23	21	29	102

The provincial governments have also set up such special education institutions:

	HIC	IDC	PHC	VHC	Total
Punjab	2	3	14	34	53
Sindh	2	–	–	2	4
NWFP	9	–	–	7	16
Baluchistan	1	1	1	1	4
Total	14	4	15	44	77

In addition to the above, the following seven major institutions were also established at national level:

- i. National Institute of Special Education (for in-service training of staff)
- ii. National Training Centre for the Disabled Persons (for vocational training of adult persons with disabilities)
- iii. National Institute for Handicapped (a specialized hospital for medical/ surgical treatment of persons with disabilities)
- iv. National Braille Press (To produce Braille books)
- v. National Mobility and Independence Training Centre (To impart Mobility Training to blind persons)
- vi. National Library and Resource Centre (Collection and dissemination of professional material)
- vii. Vocational Rehabilitation and Employment of Disabled Persons with community participation (to develop non-institutional cost effective approaches.)

A National Trust for the Disabled Persons was also established to bridge the gap of services for the persons with disabilities under the Charitable Endowment Act. The objective of the trust was to develop resources to supplement public sector efforts for the education and rehabilitation of persons with disabilities.

In order to promote special education programmes in the private sector, the Government has extended more financial and technical assistance to NGOs around the country. More than fifty schools in all over Pakistan are providing opportunities for hearing impaired children to become educated and independent. Only in Karachi city, at present there are 12 special schools for hearing-impaired children, including two government and ten private centers.

2.4 Training and Employment for the Disabled

The National Training Centre for the Disabled (NTCD) was established with the objective of providing specialized skills training programmes to disabled adults for their socio-economic development. NTCD objectives are to:

- a. Provide vocational training and rehabilitation services: training is conducted on skills in welding, bench fitting (machinists), knitting, tailoring and making electrical and electronic equipment;
- b. Facilitate and provide placement services;
- c. Educate the community about the contributions of disabled persons to society;
- d. Help the people with disabilities contribute to, and become productive members of society.

Besides the NTCD, two vocational training centres, which offer the same services, have also been established in Karachi and Lahore.

The National Council for Rehabilitation of Disabled Persons was created through an Ordinance. The Ordinance provided for 1% quota of employment for persons with disabilities in all government / semi-government and commercial organizations. An establishment, which does not employ a person with disabilities as, required by section – 10 shall pay an amount of Rs.2000/- per month to NCRDP to be utilized for rehabilitation of persons with disabilities.

CHAPTER 3 PAKISTAN SIGN LANGUAGE

3.1 INTRODUCTION

No Deaf child who has earnestly tried to speak the words which he has never heard – to come out of the prison of silence, where no tone of love, no song of bird, no strain of music ever pierces the stillness – can forget the thrill of surprise, the joy of discovery which came over him when he uttered his first word. Only such a one can appreciate the eagerness with which I talked to my toys, to stones, trees, birds and dumb animals, or the delight I felt when at my call Mildred ran to me or my dogs obeyed my commands. It is an unspeakable boon to me to be able to speak in winged words that need no interpretation.

*Helen Keller
The Story of My Life*

Although Helen Keller's achievements were unique in the truest sense of the word, the emotions she conveys here are not. The child who is deaf who does acquire the ability to speak must certainly experience a "joy of discovery" similar to Keller's. Hearing impairment is a great barrier to the normal development of language. Even if the impairment is not severe enough for the child to be classified as "deaf" but rather as "hard of hearing," the child with a hearing impairment is at a distinct disadvantage in virtually all aspects of language development. The importance of the language in any society, particularly in school-related activities, is obvious. A significantly large group of educators believe that many of the problems of people with hearing impairment related to social and intellectual development are primarily due to their deficiencies in language.

Another related controversy inherent in Keller's words is the debate concerning whether the child who is deaf should be educated to communicate orally or through manual Sign Language. Keller's opinion is that the ability to speak offers a richer means of communication. But she was extraordinary; extremely few individuals who are deaf attain her level of fluency. Furthermore, because for many years educators exclusively emphasized teaching children who are deaf to speak and actively discouraged their use of sign language, they unwittingly denied these children access to communication.

The oral versus manual debate has raged for centuries. For many years there was no middle ground. Although some educators still debate the merits of each, may now have begun to use a method of *total communication*, which involves a combination of both orientations. Teaching language to hearing impaired children follows its own specific approaches. They are categorized according to their style of teaching.

(a) Oral Aural Approach:

The oral aural approach uses residual hearing through amplified sound. Listening, speech reading and using speech are the main components of learning.

(b) Manual Approach:

The manual methods includes varieties of sign communication. It is a language system consists of gestures, natural signs, abstract signs, finger spellings, sign Urdu and pantomimes.

(c) Total Communication:

Total communication is an approach, which incorporates all modes of communications, oral aural and manual, in order to ensure effective communications with and among hearing impaired persons. The doctrines of this philosophy cite the possibility that sole reliance on one approach may lead to deficient communication.

The basic approach in total communication is to expose the students to speech and manual communication simultaneously. The primary mode of manual communication is the sign language used as a support to spoken language in order to meet the language requirements of all hearing impaired children.

3.2 SIGN LANGUAGE

Sign language is a general term that refers to any gestural/visual language that makes use of specific shapes and movements of the fingers, hands, and arms, as well as movements of the eyes, face, head, and body. There is no international system that is comprehensible to all deaf people. There exists a British Sign Language, a Spanish Sign Language, an Israeli Sign Language, and probably a sign language in every country where deaf people have needed to communicate among themselves rapidly, efficiently, and visually without the use of pad and pencil.

American Sign Language, sometimes called Ameslan or ASL, was created over the years by the deaf community in the United States. In American Sign Language, one hand shape frequently denotes a concept. American Sign Language must be differentiated from finger spelling or dactylology, which is the use of hand configurations to denote the letters of the alphabet. In finger spelling, one hand shape stands for one letter. Sometimes finger spelling is used to spell out the English equivalent for a sign (especially proper nouns) when ASL is used. In ASL, interpreters frequently finger spell the word for a technical or uncommon sign the first time it is used during a conference. Finger spelling with speech and speech reading for additional acoustic and visual cues is called the Rochester method (Quigley & Paul, 1984).

Total communication is the use of signs, finger spelling, speech, speech reading, and, in reality, any and all modes of communication to ensure effective communication with hearing-impaired people. Although it is possible for ASL to be used as the manual component of total communication, the two terms are not synonymous.

Signed English, developed in the 1960s under the direction of Harry Bornstein of Gallaudet College, is a manually coded system of English used in conjunction with speech. It was devised to facilitate the acquisition of English by young deaf children. It incorporates special signs to indicate affixes (prefixes like un-, and suffixes like –s and –ment) and verb tense. Signed English is basically an educational tool used in some schools for deaf students. Its use of the specific tense and affix markers slows down the communication process considerably (Schlesinger & Namir, 1978).

Research into the linguistic nature of American Sign Language has shown that the grammar of ASL, like the grammar of all languages, consists of a finite set of rules with which an infinite number of sentences can be created or generated. Deaf children and hearing children of deaf parents who use ASL acquire these rules in much the same way that hearing children abstract linguistic rules from the spoken language to which they are exposed (Bellugi & Klima, 1985).

3.3 PAKISTAN SIGN LANGUAGE

Pakistan Sign Language is a visual gestural language having its own vocabulary and syntax and like any other language, is subject to change, improvements and growth. It is important to note that sign language is influenced by spoken languages. When they interact with each other, variety of blends or combination of two languages occur. The British Sign Language (BSL) with English forms Sign English. In American, Sign Exact English (SEE) is the outcome of American Sign Language (ASL) & English. Similarly Sign Urdu emerged as a result of interaction of PSL with Urdu. In Sign Urdu, the signs are put together as they are Urdu words in Urdu grammatical structure for example:

اسکو پسند نہیں کتاب اسکو (پاکستانی اشارتی زبان کی بناوٹ) میں خوش ہوں (پاکستانی اشارتی زبان کی بناوٹ)
اسکو کتاب پسند نہیں آئی (اردو زبان کی بناوٹ) میں خوش ہوں (اردو زبان کی بناوٹ)

Other regional languages (Sindhi, Pushto, Punjabi, Baluchi) also forms blends with PSL. Most of the hearing individuals, learning manual communication tend to adopt this combination of Urdu word order with PSL for expressive purposes. In educational setting this would help in gaining mastery over Urdu Language structure.

Another feature of manual communication is called finger spellings. It is a system of making utterances visible with hand positions and configuration. Urdu language has 38 Urdu alphabets. There are 38 handshapes to represent 38 Urdu alphabets. These handshapes of alphabets are used for sending and receiving short messages. Hearing-impaired people in Pakistan use these handshapes in Pakistan Sign Language vocabulary as a supplement to signing Urdu words, for example

پ ت ن گ (پتنگ)

expressed in finger spellings. Double handed English sign alphabets are also used with PSL for example 'S' of Saturday is first represented by double handed English sign alphabet, than the sign for Saturday is executed.

Variations in spoken languages are natural which are originated from cultural and environmental background. Urdu is spoken in a different way in different regions of Pakistan. It differs in vocabulary phonology, and grammar. In the same way PSL has regional variations in number of items. One sign is acceptable in one region but not preferred in another region. It does not mean that it is wrong for that particular region.

3.3.1 HISTORY & DEVELOPMENT OF PAKISTAN SIGN LANGUAGE

The history of Pakistan Sign Language (PSL) can be classified into four major milestones done by different organizations. These pioneering works have been discussed here in chronological sequence:

- 3.3.1a Sir Syed Deaf Association (SDA), Rawalpindi.
- 3.3.1b Anjuman Behbood-e-Samat-e-Atfal (ABSA), Karachi
- 3.3.1c National Institute of Special Education (NISE), Islamabad
- 3.3.1d Pakistan Association of Deaf (PAD), Karachi

3.3.1a Sir Syed Deaf Association (SDA), Karachi

SDA had published dictionary of Pakistan Sign Language vocabulary, which was the result of efforts by Syed Iftikhar Ahmad. This dictionary contained 750 signs pertaining to different topics. The main problem of this effort was signs used in Rawalpindi region only. But this is an independent note worthy effort initiated the process in this area. One of the most important

achievement of this project is to introduce single handed Urdu alphabetic finger spelling, which still has been used by deaf community without any controversy

3.3.1b ABSA Research Project

ABSA (Anjuman-e-Behbood-e-Samat-e-Atfal) Research Group was established in 1986 with deaf and hearing adults as members. The aim of this group was to document and standardize the Pakistan Sign Language.

In November 1986 with the support of the Norwegian Church Aid Organization and the Norwegian Association of the Deaf, ABSA organize a group of deaf adults who were given training by Odd-Inge Schroede, a research fellow in linguistic (sign language) at the Institute of Linguistic, University of Oslo and expert on the methodology of documenting sign language and sign language teaching.

A one-month intensive training course was conducted at ABSA to which participants were also invited from the other three provinces of Pakistan. However, only one participant from Lahore (Punjab) participated. During this training program the Research Group, which was consisted of eight members including six hearing impaired adults (75 percent), was given an historical overview of Sign Language research all over the world. Some members of the group were then taught how to use a video camera to record the signs used by the deaf group. Various topics under categories such as food, clothes, fruit, vegetables etc. were initially recorded. Also recorded were interviews and short narratives and stories. Subsequently, about 500 signs were chosen and compiled to produce the first sign language dictionary.

The recordings of these signs were shown to many deaf adults. These deaf visitors often attended ongoing sessions and the signs were then recorded with the consensus of all the members present. A complete video recording of the signs was sent to other cities of Pakistan and there has been 90% agreement (as per their reports) on the signs. This dictionary is the first research manual compiled by the Deaf Community of Pakistan. It also included the Urdu one-hand alphabet, which was created and prepared by Syed Iftikhar Ahmed, President, Pakistan Deaf Club, Lahore.

As a part of continued research into Pakistani Sign Language (PSL) and further development of the sign language project Odd-Inge Schroder and his interpreter Patrick Coppock were revisited in November 1987 for another one month training program. The objective this time was to achieve better understanding of the linguistic structure of sign language.

During the period of eleven years (1987 – 1998) ABSA Sign Language Research Group published seven booklets:

Book 1	A Dictionary of Pakistan Sign Language, 1987
Book 2	Relationships in Sign Language, 1989
Book 3	Time and Seasons in Sign Language, 1989
Book 4	The Anatomy and Body Actions in Sign Language, 1990
Book 5	Numeration in Sign Language, 1992
Book 6	A Dictionary of Pakistan Sign Language (2 nd Edition) 1995.
Book 7	Shareer Bander, Storybook, 1998

(Book 1) *A Dictionary of Pakistan Sign Language:*

This first edition of the dictionary appeared in 1987. The dictionary extends over 119 pages and contains about 473 signs for words of general importance. The book also includes signs for Urdu and English alphabets. A part is also devoted for signs for numerals up to twenty.

(Book 2) *Relationships in Sign Language:*

As the name indicates, the book presents sign words, denoting common human relationships. The book includes about fifty five (55) signs with their English and Urdu meanings. Published in 1989, the book extends over 46 pages.

(Book 3) Time and Seasons in Sign Language,

The third book of the series was published in 1989. It presents about 460 signs, divided into four chapters respectively titled as Time, Days, Months and Seasons. The total length of the book is 54 pages.

(Book 4) The Anatomy and Body Action in Sign Language:

The book titled as “the Anatomy and Body Action in Sign Language”, is divided into eight chapters, presenting sign words respectively for animal kingdom, colors, education, fruits, nuts, dry fruits, spices and vegetables. The sign words included in the first chapter, “The Animal Kingdom”, are further grouped in signs for common animals, birds, insects, marine life and reptiles. It was published in 1990.

(Book 5) Numeration in Sign Language:

The book, divided into four chapters, presents signs words regarding numeration, currency, mathematics and weight and measures. Extending over fifty six (56) pages, the book was published in 1990 as the fifth of the series.

(Book 6) A Dictionary of Pakistani Sign Language.

The sixth book of the series is the revised and amended edition of the Dictionary of Pakistani Sign Language, first published in 1987. The book was republished in 1995.

(Book 7) Shareer Bander – Story Book

It is the first attempt ever made in Pakistan to present a story in sign language. The story is written by Ms. Farida Khawar; is converted into sign language by Mr. Amin Ahmed while the illustrations are done by Ms. Saima Noor. Unlike the earlier books, complete sentences are presented in this story in sign language. Signs for words such as ‘ka’, ‘ki’ and ‘tha’ are also a distinguishing feature of the book. The book extends over fifty (50) pages.

3.3.1c NISE Research Project

National Institute of Special Education (NISE), established in 1976, has the responsibility of manpower development for centers of special education throughout the country run by Federal Government, Provincial Governments, and Voluntary Welfare Organizations. It was soon realized by the Institute that there was a dire need to develop appropriate teaching methods in this area, particularly for the education of hearing impaired children.

In the earlier phase of the development of special education in Pakistan, attention was generally confined to the training of teachers in oral / aural method of teaching, advocated by foreign consultants at that time. However, it was realized by NISE that the children in centers for hearing impaired were using all kinds of signs as means of communication. There was, thus, a danger of adoption of a wide range of different signs for expressing the same meaning, not only in various regions of the country but also in the same school or center. There was, therefore, a need for developing a basic core sign language for Pakistan with possible regional variations. It was also realized that such a development will have to be an integral part of a “total communication” approach, adopted by the Directorate General of Special Education (DGSE) as its official policy in 1990.

The main focus of the ABSA efforts was signs used in the Karachi region where it was based. NISE decided to make maximum use of this pioneering work and develop a common core sign language through holding of a national workshop for this purpose with both hearing impaired and non-hearing impaired participants from various provinces / regions of the country.

The national workshop on sign language was held at NISE Islamabad from 20th to 27th May, 1991 with representatives of deaf associations from all over Pakistan and teachers from the hearing impaired centers with some knowledge of sign language. Altogether 21 participants were engaged

in this project with the help of a crew of professional photographers and cameramen. The signs agreed upon by common consensus were included in the Manual of Sign Language. The important regional variations also recorded.

Book I: Pakistan Sign Language – with Regional Differences

It was first published in 1991. The collection included in this book consists of about 1350 basic sign language vocabulary encompassing 27 topics concerning daily activities. In addition to this book with colored pictures, video cassettes were also prepared to elucidate the fine movements involved in the effective delivery of the signs depicted in the pictures. The topics included in this book are:

Topic 1.	Greetings
Topic 2.	Human Relations
Topic 3.	Language Rules and Terminology
3.1	Pronoun
3.2	Questions Words
3.3	Conjunctional and placement words
3.4	Opposites
3.5	Verbs of daily use
3.6	Establishing Time
Topic 4 .	People and Professions
Topic 5.	Religion
Topic 6.	Dress and Accessories
Topic 7.	Colors
Topic 8.	Body Parts
Topic 9.	Health and Soundness
Topic 10.	Edibles
Topic 11.	Home
Topic 12.	School
Topic 13.	Animal
Topic 14.	Botanical Names and cultivation
Topic 15.	Games and Recreation
Topic 16.	Transportation
Topic 17.	National Celebrations and other functions
Topic 18	Provinces of Pakistan and Important Cities
Topic 19.	Famous countries
Topic 20	Famous places
Topic 21	Minerals
Topic 22.	High Ranking officers
Topic 23	Forces and Police
Topic 24.	Basic Concepts of Mathematics
Topic 25.	Bank and Post Office
Topic 26	Seasons and Natural Phenomena
Topic 27.	Miscellaneous

Book II. Pakistan Sign Language – Based on Primary School Course Vocabulary

It was published in 1994. This second handbook of sign language is based on the vocabulary chosen from primary school course books of all subjects. Most of which bears high abstraction others are specific terms used in subjects like Science, Maths, Islamiyat, and Social Studies. In this book a portion on Urdu Grammar , specially the sentence structures, have also been included, so that with sign language approach, the teacher may assist the pupils in acquiring grammatical knowledge of Urdu.

Collecting and compiling signs for second sign language book, vocabulary lists were dispatched to the representatives of deaf associations and teachers of hearing impaired children all over Pakistan. Ample time was given to them to come prepared in a National Institute of Special Education, Islamabad from 26th December to 5th January 1993. The sign for each word on the list

was discussed finalized and recorded in photography. Video of the signs was also prepared.

About 1600 signs have been recorded in photographic representations on five subjects primary classes mentioned above. The topics of this handbook are:

Topic 1	Urdu language (pp 1 – 76)
Topic 2	Urdu Grammar (pp 77 – 110)
Topic 3	Islamiat (pp 111 – 132)
Topic 4	Social Studies (pp 133 – 172)
Topic 5	Science (pp 173 – 208)
Topic 6	Maths (pp 209 – 232)

3.3.1d PAD Sign Language Research Group, Karachi

Pakistan Association of the Deaf (PAD), Karachi was established as a NGO through the efforts of a ten dynamic deaf youths as a club for deaf men and women who were through with their Matriculation and had nothing else to look forward to, in-terms of higher education or vocational training way back in 1987. PAD affiliated with the World Federation of the Deaf (WFD) in Pakistan.

PAD was hosted a national seminar in collaboration with the IED Aga Khan University at Karachi from 4th April to 7th April, 2002. Related to Sign Language, the following main issues were identified:

- a). Teachers of the Deaf not competent to impart education in Sign Language, therefore, children did not benefit from the education being imparted by Hearing Teachers who had limited knowledge of the sign language and in most cases did not have any knowledge of the sign language.
- b). Deaf children were taught through speech without signs so knowledge was limited and, therefore, failure rates were high in the schools.
- c). In most cases sign language was not given enough importance by the schools dealing with the deaf children, therefore, deaf relied more on rote learning.

The seminar included a two-day workshop on sign language. During the workshop, participants realized the significance of signing for teaching the deaf children and also mutually agreed that deaf people needed signing for communication even though some of them had speech and were fluent with their oral communication.

PAD's sign language Research Group has been working over the past several years analyzing the existing sign language in the country. The research Group realized that there was simply nothing to facilitate learning for deaf children at the Nursery level in sign and visuals. PAD Sign Language Group which comprises of Deaf adults who have been go through the school system where they did not get proper education through sign language and all their learning was *rote* and without proper grammar or extended vocabulary to develop their language skills.

At present, they felt that Deaf youth who finish their matriculation are incapable of writing complete sentences as the teachers never give them the tools. Since, there are no tools which equip the teachers as well as assist the children to learn independently.

PAD recognized that there is an urgent need to develop signs – symbols assisted study books. Deaf individuals who are experts in their own, have conducted a lot of research on Deaf education and came up with a resolution to develop books in sign language which would facilitate learning and teaching the deaf children.

Thus started the research process at PAD. Information was gathered from different teaching methodology adopted at different schools for the Deaf in the country. It was felt that there is a need to develop activity books that combines PSL signs and provided exercises along side to foster learning and trial all in one.

For this purpose, a 4 day National Seminar was conducted in 2002. The participants of the seminar were the deaf experts on the sign language and teachers of the deaf. All the participants were informed beforehand of the format. The Deaf participants gave approval for signs. They had the right of final say in the matter. Once all the signs were discussed and scrutinized, every word and sign presented by PAD's Research Group was checked and approved before the memorandum of understanding was signed between PAD and the participants.

After much deliberation and consultation, PAD's sign language Research Group has been published the following 4 books in sign language:

Book 1	Workbook of Alphabet signs in Urdu
Book 2	Workbook of Alphabet signs in English
Book 3	500-word dictionary with new words and modified signs
Book 4	Traffic signs for Deaf drivers

The extension of this work has now been focused on devising sign words for environment related vocabulary and Urdu grammar signs. PSL for environment will be a pioneering activity in the field of deaf education. It is hoped that PAD's research will enable the deaf schools to change their teaching techniques and teachers of the deaf will learn the sign language to be more effective and impart education in a meaningful way. It is also hoped that this work will enhance the cognitive development of the deaf students and increase their receptive as well as expressive language skills. The initiative taken by PAD will pave the way to improve the quality of Deaf education in Pakistan and sign language will get its due importance as the primary language of the Deaf population.

CONCLUSION

The report identifies the deaf sector in Pakistan, and presents the literature review of existing PSL resources so that a comprehensive account of milestones in the development of the language can be obtained. Most of these works have existed in the form of isolated efforts that failed to find recognition, owing mainly to the unrepresentative sign language development processes, and were not readily made available to the general public due to limited funds.

The diverse contributions made to date by individual deaf associations and respective government agencies can now be put to use for obtaining a standardized data set of PSL. Hopefully the process started with this undertaking can assist in the reduction of disparity by stimulating partnerships between the varied stakeholders in order to promote collaboration and coordination in PSL development and usage nationwide.

Dissemination of these resources should be improved through making available the compilation to a wider set of audience from the arena of special education. Further research is merited on selection of representative data from that available and its application to facilitate learning.

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ANNEXURES

Hard Copy Annexures have been provided in the separate Box Files (total # of files = 2).

Sustainable Development Networking Programme, Pakistan

The Sustainable Development Networking Programme (SDNP) Pakistan is a part of the Education, Communication and Knowledge Management Group of IUCN - The World Conservation Union's Pakistan Programme. Formerly a global programme of UNDP, SDNP has been working since 1992 to promote access to information on sustainable human development among different sectors of society. It has been the pioneer of email and offline Internet in Pakistan, but lately its focus has been on developing knowledge management systems to strengthen development information services in Pakistan.

Apart from launching the Pakistan Development Gateway (PDG), SDNP has trained more than 260 organizations from the development sector to set up, maintain and update their websites, contributing significantly to the local content about Pakistan on the Web. This training in Web publishing has also been conducted in Urdu and Sindhi. More than 160 information rich Pakistani websites - related to both Government and NGO sectors – have been set up as a result of this activity. Other initiatives undertaken by SDNP include the creation of district websites and cyber community centres, promotion of open software like Linux, special training for women in Information and Communication Technologies (ICTs), work on District Management Information System (DMIS), and development of information gateways on the themes of water and northern areas of Pakistan.

IUCN – The World Conservation Union

IUCN - The World Conservation Union was founded in 1948 and brings together 79 states, 113 government agencies, 754 NGOs, 36 affiliates, and some 10,000 scientists and experts from 181 countries in a unique worldwide partnership. Its mission is to influence, encourage and assist societies throughout the world to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable. Within the framework of global conventions IUCN has helped over 75 countries to prepare and implement national conservation and biodiversity strategies. IUCN has approximately 1000 staff, most of whom are located in its 42 regional and country offices while 100 work at its Headquarters in Gland, Switzerland.

In Pakistan, the Union seeks to fulfill this mission by empowering communities to participate in the implementation of the National Conservation Strategy.

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