Chapter I

INTRODUCTION
CHAPTER 1

INTRODUCTION

As seen in the 2011 World report that pioneered information on disability, produced by World Health Organization (WHO), and the World Bank, more than one billion people in the world today, making up almost 15% of the global population, experience disability. Surprisingly, or unsurprisingly, 80% of those people with disabilities live in developing countries, according to the United Nations Development Program (UNDP).

Persons with Disabilities (PwDs) experience obstacles in all areas imaginable - from education to livelihoods, and transport facilities to rehabilitation services in order to gain equal access. The Rights of Persons with Disabilities (RPWD) ACT 2016, which came into existence due to India’s ratification of the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD), lists 21 disabilities which includes Dwarfism, Muscular Dystrophy, Acid Attack Victims, Speech & Language Disability. Specific Learning Disability was added for the first time, among others as a class of specified disability, giving emphasis to the principles of empowerment for persons with disabilities.

According to RPWD ACT, “a person with disability” is a person with long term physical, mental, intellectual or sensory impairment which, in interaction with various barriers, hinders his/her full and effective participation in society, equal to that of others. This definition has been decided, based on an evolving and dynamic concept.

Persons with Disabilities are the world’s largest growing minority group. The term Disability brings under it various aspects of impairments such as malfunction of various parts of the body, restrictions in movements and abilities, constraints in contributions to daily tasks. Females with disabilities are said to be more in number than males. 20% of the world’s poorest people tend to have some kind of disability, says statistics from World Bank, and the numbers seem to be increasing due to emergence of new diseases, armed conflict and violence, projected increase in the rate
of disability due to malnutrition, child labour, diseases etc.. There is a correlation between disability and poverty as lack of access to good nutrition, health care, sanitation and habitable living conditions and safe working conditions, cause disabilities and due to disabilities, access to education, employment and public services are limited, pulling one into the vicious cycle of poverty. It has also been seen that 19% of the less educated people have disabilities and 90% of children with disabilities in developing countries do not attend school, according to UNESCO. (World Report on Disability, 2011)

Persons with Disabilities are also more likely to be victims of rape and sexual assault, violence and abuse. Research indicates that violence against children with disabilities occurs at annual rates at least 1.7 times greater than for their peers without disabilities. Alarming statistics through a survey in Odisha, India, showed that almost all of the women and girls in Odisha, with disabilities, were beaten at home, 6 per cent of women with disabilities had been forcibly sterilized, and 25 per cent of women with intellectual disabilities had been raped.

**Percentage Share of Disabled Population by Sex, India - 2011**

- Slight increase in disability among both the sexes from 2001 - 2011
- Proportion of disabled population is higher among males
- Decadal Increase in proportion is higher among females
Unemployment of persons with disabilities is as high as 80% in some countries, for example, one out of every 70 disabled persons in India, is able to obtain employment, says International Labour Organization (ILO), the reasons varying from ineffective performance to cost of special facilities.

**Distribution of disabled workers in India, Census - 2011**

![Distribution of Disabled Workers in India](image)

**Figure. 2**

**HISTORY OF DISABILITY**

During ancient times, preceding the present, people believed that disability was caused by an act of "the gods", or some "higher powers", such as in natural catastrophes like tsunamis and earthquakes, and they were feared and hated. The disabled were abandoned, and treated as beggars in many cultures, shipped to other lands and left to fend for themselves and were considered "different" and "unusual". "Idiot cages" were set up in town centers to keep people with disabilities, as public entertainment.

The Renaissance, which began in Italy in the 1300s, marked the beginning of intellectual thought and growth of knowledge, and advancement in learning, all of which spread through Northern Europe, and paved way for a more theoretical/scientific approach to many persons including persons with disabilities, in the 17th & 18th centuries. Philosophers of the time tried to understand human nature.
and there was dignity for man. During the 19th century, individuals with disabilities were mostly found in poorhouses or almshouses and they faced harsh living conditions.

**DISABILITY IN INDIA**

The earliest records of disability in India is found in the Hindu epic, The Mahabharatha, where the king of the Kauravas, Dhritharashtra, being blind, was not found worthy of the throne. Later, the Maurya period witnessed a change in the perception of disabilities and there are evidences of vocational rehabilitation of the physically "handicapped" as was the term used to denote those with physical disabilities till the end of the Twentieth century. This continued on into the Mughal period as well, with "zakat" being given for charity purposes. The disabled were viewed as a curse and rituals were performed on them to "ward off" evil spirits and the families were sent to live in exile. On the contrary, in some cultures, disabled newborns were worshipped, as they were regarded as "special". Christian Missionaries established special schools for the disabled in various parts of the country and attempts were made to impart vocational training to the disabled such as weaving, cane work, sewing, etc..

Various policies were initiated for the welfare of the disabled over the years such as, The Indian Lunacy Act 1912, RCI Act 1986, Mental Health Act 1987, PWD Act 1995 (Persons With Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, National Trust Act 1999 (The National Trust for the Welfare of Persons with Autism, Cerebral Palsy, Mental Retardation, and Multiple Disabilities Act), National Policy for PWDs 2006 Ratification of UNCRPD-2007, RPWD Act 2016.

**POST-INDEPENDENCE PERIOD**

The Constitution of India applies uniformly to every legal citizen of India, whether they are healthy or disabled in any way (physically or mentally). Articles 15 & 16 in The Constitution of India, guarantee life and liberty for the disabled, and equality of opportunity for all its citizens. with fundamental rights of justice, liberty of thought, expression, belief, faith and worship, equality of status and prohibits discrimination on the basis of religion, race, caste, sex, place of birth, disability, and assure that no disabled person will be deprived of the right to the language, script or
culture which he has or to which he belongs. Building on these guidelines, the persons with Disabilities (PWD) Act 1995, outlined the rights of the disabled along with specific provisions and concessions.

The greatest barrier that persons with disabilities encounter, more than the physical impediments and their health hazards, is the attitude of the society in general, that individuals with disabilities are not capable of leading a "life" and participating in the society, given their conditions. Sadly, nothing is done to change that notion.

**TYPES OF DISABILITIES**

The extent of disability may range from mild or moderate, to severe and profound, and can be chronic, fluctuating, stable or progressive and fall under any of these six categories:

**Physical Disabilities** – Impairments which affect a person’s physical capacity and/or mobility, which limit other aspects of daily living.

- Muscular Dystrophy
- Multiple Sclerosis
- Chronic Arthritis
- Spina Bifida
- Fibromyalgia
- Epilepsy
- Brain or Spinal Cord Injury

**Sensory Disabilities**: Affecting one or more of the five senses such as sight, smell, hearing, taste, and touch, and is usually related to the sense of hearing and vision.

**Visual Disabilities**

- Visual Impairment
- Low Vision
- Glaucoma
- Retinitis Pigmentosa
- Retinal Detachment
Hearing Disabilities

- Hearing Impairment / Deaf
- Deaf Blind

Mental Health Disabilities (Psychological Disorders) – A long-term health condition related to the mind, affecting the normal day-to-day activities, especially a person’s thinking, emotional state and behaviours.

- Schizophrenia
- Mood Disorders
- Anxiety Disorders
- Eating Disorders
- Personality Disorders
- Bipolar disorders

Intellectual Disabilities – Disability distinguished by limitations in intellectual functioning such as difficulties in communicating, learning and retaining information.

- Down Syndrome
- Developmental Delays
- Cerebral Palsy
- Autism Spectrum Disorders (ASD)

Learning Disabilities – Known as neurological disorders, the individuals face problems with learning basic learning skills requiring cognition such as reading, writing, math, abstract reasoning, long/short term memory and attention

- Dyslexia
- Dysgraphia
- Dyscalculia
- Dyspraxia
- Language Processing Disorders
- ADHD – Attention Deficit Hyperactivity Disorder
- ADD – Attention Deficit Disorder
- Visual Perceptual/Motor Disorder
CAUSES OF DISABILITIES
Disability may "happen" to anyone, at any time. Some of the factors that cause disabilities are:

- Genetic conditions
- Childhood diseases
- Poverty/ Malnutrition or illness affecting the mother during pregnancy
- Use of alcohol or drugs by pregnant mothers, exposure to chemicals and illnesses
- Complications at birth
- Road accidents/ Mishaps/ Sports injuries
- Lifestyle choices, Stress, Pollution, Geriatric conditions
- Natural catastrophies

**Population of disabled by type of disability in India, Census - 2011**

As per Census 2011, the number of disabled in India rose up to 2.68 crores, put at 2.2% of its population, which went up by 22.4% from 2001, when data was collected for five types of disabilities and the state of Uttar Pradesh reported highest number of disabled and Tamil Nadu reported having higher number of disabled females. 2011 Census saw the inclusion of three more disabilities.
Table 1 - Decadal Change in Disabled Population by Sex and Residence  
India, 2001-11

<table>
<thead>
<tr>
<th>Residence</th>
<th>Absolute Increase</th>
<th>Percentage Decadal Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Persons</td>
<td>Males</td>
</tr>
<tr>
<td>Total</td>
<td>49,03,788</td>
<td>23,80,567</td>
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<tr>
<td>Rural</td>
<td>22,43,539</td>
<td>9,97,983</td>
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<tr>
<td>Urban</td>
<td>26,60,249</td>
<td>13,82,584</td>
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</table>

Table 2 - Disabled Population by Type of Disability  
India - 2011

<table>
<thead>
<tr>
<th>Type of Disability</th>
<th>Persons</th>
<th>Males</th>
<th>Females</th>
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<tbody>
<tr>
<td>Total</td>
<td>2,68,10,557</td>
<td>1,49,86,202</td>
<td>1,18,24,355</td>
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<tr>
<td>In Seeing</td>
<td>50,32,463</td>
<td>26,38,516</td>
<td>23,93,947</td>
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<tr>
<td>In Hearing</td>
<td>50,71,007</td>
<td>26,77,544</td>
<td>23,93,463</td>
</tr>
<tr>
<td>In Speech</td>
<td>19,98,535</td>
<td>11,22,896</td>
<td>8,75,639</td>
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<tr>
<td>In Movement</td>
<td>54,36,604</td>
<td>33,70,374</td>
<td>20,66,230</td>
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<tr>
<td>Mental Retardation</td>
<td>15,05,624</td>
<td>8,70,708</td>
<td>6,34,916</td>
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<tr>
<td>Mental Illness</td>
<td>7,22,826</td>
<td>4,15,732</td>
<td>3,07,094</td>
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<tr>
<td>Any Other</td>
<td>49,27,011</td>
<td>27,27,828</td>
<td>21,99,183</td>
</tr>
<tr>
<td>Multiple Disability</td>
<td>21,16,487</td>
<td>11,62,604</td>
<td>9,53,883</td>
</tr>
</tbody>
</table>
Percentage of Disabled to Total Population, India - 2011

Figure 4
### Table 3 - Proportion of Disabled Population by Type of Disability

**India - 2011**

<table>
<thead>
<tr>
<th>Type of Disability</th>
<th>Persons (%)</th>
<th>Males (%)</th>
<th>Females (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>In Seeing</td>
<td>19</td>
<td>18</td>
<td>20</td>
</tr>
<tr>
<td>In Hearing</td>
<td>19</td>
<td>18</td>
<td>20</td>
</tr>
<tr>
<td>In Speech</td>
<td>8</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>In Movement</td>
<td>20</td>
<td>23</td>
<td>18</td>
</tr>
<tr>
<td>Mental Retardation</td>
<td>6</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Mental Illness</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Any Other</td>
<td>18</td>
<td>18</td>
<td>19</td>
</tr>
<tr>
<td>Multiple Disability</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
</tbody>
</table>

**Disability by Type and Sex - India, Census - 2011**

![Disability by Type and Sex - India, Census - 2011](image)

**Figure. 5**

- Disability in seeing and hearing is more among females
- Disability in movement is more among males
Disability by Type and Residence - India, Census - 2011

**Figure. 6**

- Disability in hearing and Speech is more in urban areas
- Disability in movement and multiple disability is more in rural areas

**IMPACT OF DISABILITY**

A disabled member is considered as a burden in the family, and a cause for sympathy and charity in the society, requiring high maintenance. Hence disability impacts:

**The disabled individual** - Disability impacts the individual to a great extent. The individual with disability faces functional limitations and has to accept the fact that it is something that must be lived and managed with, and focus on what he/she can do in order to come to terms with it, or give attention to the defects he/she is perceived as having, and feel depressed about it. The choice lies with the individual as to how it is seen - with a positive or negative outlook. If received in a positive sense, the individual can take it as a challenge and rise above the obstacles to become an achiever. Depending on the severity, dependency, and the onset, a person with negative outlook will blame the disability and the surroundings and will continue on with a negative perception on life becoming very unsocial, due to a feeling of
inferiority. Education, awareness and participation in the activities of the society, help in the right understanding about the disability.

**Family of the disabled:** Family members usually end up having to bear the brunt of the disability issue. Initially, it is a shock, and extremely traumatic for the parents. It takes time for parents to accept disability in their child and then find ways to manage the disability through their efforts to reach out for information and assistance. As caregivers, their finances and resources get depleted with time, and they face frustration and agony in seeing the sufferings of their child. There is unrest in the families, because parents may not be able to give time and attention to other children, if any, because of the needs of the special child. At the same time, it is the support of family members that can give hope to the person with disability. With appropriate intervention, education and medical assistance, rehabilitation can take place with determination and unity of the family members. Family members need awareness and education on the matter of disability and information on the interventions and rehabilitation strategies, to make informed choice for the benefit of the disabled member.

**Community/Society of the disabled person:** The society sometimes suffers a setback in its functioning because of individuals with disabilities in the community. It is not just the individual with disability, but the whole family is involved in the activities surrounding the disabled child/member, and that does cause a disturbance in the society. The terrifying circumstances associated with particular disabilities may not be tolerated by neighbours and members of the community. Fears and superstitions may be strong in some cultures, and a disabled individual may not be allowed to live in certain localities and thus, the family of the disabled gets isolated. Community, on the other hand, can also lend a helping hand by starting support groups, Centres for helping children with special needs, low-investment vocational trainings, bringing employment to the individuals with disability, at their doorstep, or to their bed.

**The Nation:** With persons with disabilities unable to contribute to the work force, and therefore the national income, there is a dip in the country's economy. In addition, expenditures are incurred on infrastructure, medical needs, assistive devices, training
personnel, resources, research & rehabilitation. The country can invest in the well being of all its citizens and enhance the living conditions of the disabled, by focusing on research and development, highly-modernized assistive technology for the disabled, information technology, awareness programmes for the non-disabled and designing courses and material to educate and train teachers, parents, and caregivers.

The World Health Organization (WHO) definition of Rehabilitation is "the combined and coordinated use of medical, social, educational and vocational measures for training and retraining the disabled individual to the highest possible level of functional ability and enabling the disabled individual to achieve social integration."

DISABLED & SUPPORT

Government policies on travel concessions, free and compulsory education, reservations in Government sectors and educational institutions, special Employment Exchange for the Disabled, Insurance Schemes, medical benefits, and free assistive technology aids help persons with disabilities overcome some of the obstacles, if not all. Disability certificate & National Disability Identity Card are issued for all disabled, and presently Unique ID for Persons with Disability has been initiated in order to streamline and enable them to avail government schemes & benefits.

Several national institutions under the Ministry of Health & Family Welfare work in the field of rehabilitation & research, and development of manpower, such as All India Institute of Physical Medicine and Rehabilitation. Mumbai, National Institute of Mental Health and Neuro Sciences-Bangalore, Central Institute of Psychiatry- Ranchi, & National Institute of the Physically Handicapped - New Delhi, National Institute of the Visually Handicapped - Calcutta, National Institute of the Hearing Handicapped (4 Centres), National Institute for Empowerment of Persons with Multiple Disabilities - Chennai etc., Besides, over 250 private institutions conduct training courses for rehabilitation professionals. National Handicapped and Finance Development Corporation (NHFDC) has been providing loans on concessional terms for undertaking self-employment ventures by persons with disabilities through State Channelizing Agencies. State-wise implementation of the
responsibility is further delegated to District Disability Rehabilitation Centres, & District Welfare Offices.

There are over 1,600 Voluntary Organizations rendering services for the disabled population of India, complementing the endeavours of the Government, supporting with human resource development and research activities. Non Government Organizations (NGOs) play a significant role in the provisions of services for PDs, through Vocational Training, Rehabilitation Programmes, Self help Groups, setting up cottage industries, Job orientation & Computer Courses, and much more. Government bodies have sought advice from the NGO sector in policy formulation, and NGOs have been actively involved in planning, implementation & monitoring Govt projects and initiatives. NGOs network, exchange information and share good practices among other NGOs.

Reasonable accommodations are made in the RPWD Act, and awareness campaigns are being conducted to educate the common man about the needs, rights and laws of persons with disabilities. Sarva Siksha Abhiyan (SSA), was initiated over a decade ago, to provide a holistic view on education with a focus on equal opportunity for the disadvantaged of the society, with interventions in order to support improved learning achievement outcomes, in-service training and academic resources for teachers, truly understanding educational needs, content and processes and bridging social category gaps in elementary education.

Accessible India Campaign launched by Prime Minister Shri Narendra Modi, with the objective to make a barrier-free environment, ensures that built environment is safe and easy for mobility with ramps and special toilets, public transport systems to make for convenient travel, Information & Communication Systems to set all State & Central Government Websites as accessible and online libraries for persons with print-disabilities.

It has been found that dissemination of information about Policies and Schemes for the Disabled, awareness about the concessions and facilities offered, clarity on availing the benefits from Government Agencies are all lagging behind. Hence, the beneficiaries are lost in red-tapism and chaotic management of the schemes.
Improved health services, equal accessible opportunities and the advancements of Technology have enabled many Persons with Disabilities to go beyond the barriers and on to record achievements in the fields of sports, dance, music, art, Information Technology, business, and medicine. India can boast of well-known names such as Rajendra Singh Rahelu, Arunima Sinha, Malathi Krishnamurthy Holla, Javed Abidi, Preethi Srinivasan, Sudha Chandran, Ravindra Jain, Sadhna Dhand, H. Ramakrishnan, Dr. Satendra Singh, Dr. Suresh Advani to name a few.

HEARING DISABILITY

Invisible disability is that which one cannot identify by merely looking at a person, such as dyslexia, memory loss, etc., Hearing Impairment is one such disability that can only be identified when the person is talked to, or communicated with. Hearing is one of the five senses, and allows one to perceive sound. When the ability to hear is lost- totally or partially, it is termed as Hearing Impairment, Hearing Loss, or Hard of Hearing. The most common term used to denote persons with hearing loss is "Deaf", as they prefer not to be identified as impaired, and defined primarily by their “lack of hearing or poor hearing". Among the 70 million persons in India that are disabled, 18% of them are hearing disabled (Census 2011), meaning that India has the largest deaf population in the world.

RPWD Act 2016 defines “deaf” as persons having 70 DB hearing loss in speech frequencies in both ears; and "hard of hearing" as person having 60 DB to 70 DB hearing loss in speech frequencies in both ears;

The higher the decibel (dB), the louder the sound. Categorization of Hearing Impairment is based on

(i) Severity

Mild Hearing Impairment: Minimum sound between 25 and 40 dB can be heard. People at this level cannot hear soft noises and may have trouble following conversations in noisy settings.
**Moderate Hearing Impairment**: Minimum sound between 40 and 70 dB can be heard. People at this level cannot hear soft or moderately loud noises and may have trouble hearing unless they use a hearing aid.

**Severe Hearing Impairment**: Minimum sound between 70 and 95 dB can be heard. People at this level cannot hear most noises, may rely on lip-reading and/or sign language, even with the use of a hearing aid.

**Profound hearing impairment**: Minimum sound heard of 95 dB and over can be heard. Hearing aids are not effective at this level as people can only hear very loud noises and rely solely on lip-reading and/or sign language.

(ii) **Part of the Auditory System that is damaged**

**Conductive hearing loss** occurs when sound is not being conducted properly through the ear, due to problems in the outer ear, middle ear, ear canal, eardrum, or the ossicles, which are the tiny bones in the middle ear, and also sicknesses, such as fluid in the middle ear as a result of cold, perforated eardrum, ear canal infection, earwax buildup, foreign objects in the ear, structural abnormalities, or allergies. Ear infections in children are a common cause for Conductive hearing loss. Difficulty is faced in the overall loudness of sounds and not clarity. Medical & Surgical interventions can bring about rectification.

**Sensorineural hearing loss** (SNHL), also referred to as nerve hearing loss, occurs when there is damage due to head trauma or illness such as meningitis, tumors, adverse effects of certain types of drugs, exposure to excessively loud noises, etc., to either the auditory nerve or the **cochlea**, which is the inner ear, causing permanent hearing loss, and affects loudness and clarity of sounds. Certain speech sounds are difficult to hear during conversations and sometimes the speech of others seems slurred, difficulty in following conversations when two or more people speak at the same time. This type of hearing loss may be treatable with hearing aids or cochlear implant. Assistive devices may provide hearing solutions.
**Mixed Hearing Loss** is a combination of conductive hearing loss and SNHL and there is damage to the outer or middle ear and to the inner ear as well. The options for correcting these hearing concerns may include surgical procedures, medical treatments, hearing aids and implantable devices, depending on whether the loss is more sensorineural or conductive in nature.

**Central hearing loss** is the rarest type of hearing impairment and the hardest to treat as it occurs when there are problems within the brain, such as severe head trauma, brain tumors, damage to brainstem structures or to the auditory nerves and the pathways that lead to them, that interfere with the ability to interpret or understand sounds.

**(iii) Onset**

**Congenital Hearing Loss / Prelingual Deafness** - Hearing loss at birth, or very early during infancy before a child acquires speech, due to genetic syndromes, low birth weight of the baby, maternal infections such as rubella, premature delivery, drugs or alcohol consumed during pregnancy, birth complications, etc.,

**Acquired Hearing Loss / Post lingual Deafness** - Hearing loss that can occur anytime during one's life, as a result of head injuries, childhood diseases, accidents, etc., after a child acquires language.

**DEAF HISTORY**

Why deaf people face difficulties in the society today, is directly related to how they were treated in the past. Deaf persons share a history and a culture, dating back to the 1000 BC and before. The Hebrew Law forbade persons with hearing disabilities from participating in the rituals of the temple and they were also denied property rights. In the late 300 BC, Greek philosophers Aristotle & Socrates, both believed that deaf people could not learn because learning can only happen through hearing spoken language. Not fit to be educated, they were labeled as senseless.
Many theories developed about the way deaf people were believed to be learning and understanding, and in the 1500s, Geronimo Cardano & Rudolf Agricola, a Dutch humanist, believed that the deaf could communicate through other means and possessed reasoning skills. They decided that hearing was not a requirement for understanding. The 1600s witnessed the evolution of gestures, hand signs, hand shapes, lip reading and fingerspelling, and attempts were made in the area of education of deaf people from 1620 onwards. Samuel Heinicke established the first oral school for the deaf, in Germany, in 1755. Just about five years later, French Catholic priest, Abbe Charles Michel De l'Epee, established the first school in Paris for the Deaf and Mutes. He developed a one-hand French manual alphabet and a language of conventional signs from what he learnt from the deaf pupils that came to study in his school from all over Paris, and published about his work, which sparked interest in many others in educating the deaf.

Abbe De l'Epee is not only regarded as the first teacher of the deaf, but also as the first advocate for the rights of deaf persons and he succeeded in obtaining for deaf people the rights to property and rights to defend themselves in court and also access to religious services. Institutions were started for the deaf in various countries during that century, and Laurent Clerc, who was trained by Le Sicard, the successor of l'Epee, & Thomas Hopkins Gallaudet, started the American school for the deaf, in United States. De l'Epee is also considered as the "Father of the deaf", as he claimed sign language is a native language for the deaf, and was instrumental in instructing many teachers who went on to start schools across the continents. Gallaudet’s son, Edward Miner Gallaudet was the first president of the National College for the Deaf and Dumb, which in 1893, was renamed as Gallaudet College by an act of Congress. Its charter was signed by President Abraham Lincoln, and later, in 1986, received the university status and came to be known as Gallaudet University, which is now the world's first and only barrier-free university for deaf students.
TECHNOLOGY

Technology is to be applauded for its role in enabling “hearing”, "speech" & "communication" for deaf persons, depending upon the severity of hearing loss. Assistive Technology for deaf persons have been categorized as hearing technology, alerting devices and communication support in various models and by manufacturers with frequent modifications and updates.

**Hearing Aids** with special processing capabilities that help improve speech recognition, and noise reduction, **Speech synthesizers** to assist with speech and Assistive Listening Devices to aid and enhance the listening capacities, have proven to be beneficial to the deaf community. **Alerting devices** with vibrators have cautioned many deaf, and Video Relay Services with sign language users accessing sign language Interpreters through a relay service which are able to have signed messages interpreted through voice and voiced messages signed to the signer, are all steps taken towards accessibility.

**Email** facility is an accessible mode of communication for the literate Deaf persons. Texting, also known as **Short Messaging Service** is available on all cell phones, even the basic models. Modern technology now offers video calls via **Skype**, **Facebook**, **Whatsapp** and **IMO** accessed via smart phones. These modern gadgets help them to be active on social networks.

**Cochlear Implant**: Technology has led medical professionals to rectify complications arising from sensor neural deafness - Cochlear Implant, a surgically-implanted device that converts sound energy into electrical stimuli that can be processed by the auditory nerve. The electronic device replaces the function of the damaged inner ear. The first cochlear implant was invented by Dr.William House, in 1961.

**Early Screening** / New born screening: First described by Jewett and Williston in 1971, Screening for hearing loss using Brain stem Evoked Response Audiometry, **BERA**, is a test to check brain's responses to sound, done in conjunction with other audio logical investigations, when the new born is asleep.
Bone Anchored Hearing Aid - The **BAHA** is also a surgically implanted device that is most often utilized in cases of severe conductive hearing loss related to anatomical malformations, chronic middle ear problems or Single Sided Deafness.

<table>
<thead>
<tr>
<th><strong>Table 4 - Assistive Technology Devices for Deaf</strong></th>
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<tbody>
<tr>
<td><strong>Hearing Technology</strong></td>
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<tr>
<td>Assistive Listening Device:</td>
</tr>
<tr>
<td>• FM - sound is transmitted through a</td>
</tr>
<tr>
<td>specific frequency or channel</td>
</tr>
<tr>
<td>• Infrared - uses light to transmit</td>
</tr>
<tr>
<td>• Induction Loop Communicator-</td>
</tr>
<tr>
<td>utilizes electromagnetic energy to transmit</td>
</tr>
<tr>
<td>signals, accessed through a Telecoil (t-</td>
</tr>
<tr>
<td>coil) within the hearing aids.</td>
</tr>
<tr>
<td>• Hearing Aids - (BTE) Behind The Ear</td>
</tr>
<tr>
<td>(ITE) In The Ear</td>
</tr>
<tr>
<td>(ITC) In The Canal Digital Hearing Aids</td>
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</table>
ORALISM VS MANUALISM

The Speech Vs. Sign, Oralism Vs. Manualism debate sparked off during the 1800s, and lasted for more than a century. Oralists used speech and speech reading, and were of the opinion that oralism was a superior option of deaf education. Alexander Graham Bell is considered as the Father of oralism, as he believed that oralism would enable deaf people to be mainstreamed and participate in the society fully, resulting in better access to education and employment. He strongly opposed sign language that was creating a deaf race and a new, unique culture brought about by the language. Even though sign language was commonly used among the deaf, and in many schools, most parents and educators turned to the oral method of education that Bell was propagating and teaching.

MILAN CONFERENCE, 1880

Equipped with his wealth and influence and support of most parents and educators, Alexander Graham Bell, was solely responsible for the outcome of the Second International Congress on the Education of the deaf, attended by Educators of the deaf, from all over the world to discuss the future of deaf education. With no representation by any deaf individual, and by outnumbering the advocates of sign language, the attendees of the Conference endorsed oralism as the best method of education for the deaf, and a resolution was passed banning the use of sign language in education, or among the students.

Being a natural language of the deaf, sign language was still used primarily outside of classrooms and continued on for generations in communities and countries, and still is alive today. William Stokoe's research in 1960 proved that Sign language is a complete and genuine language with its own structure and syntax, and brought about recognition for sign language in many countries.

In 1964, the Babidge Report, which is part of the Education of the deaf in the United States: Report of the Advisory Committee on Education of the deaf, declared that education of the deaf through the oral method was an utter failure and revoked the resolutions of the 1880 Milan Conference.
DEAF CULTURE

There have been positive changes in the last 30 to 40 years, where earlier, those with hearing disabilities were given labels such as "deaf and dumb", "physically handicapped", "deaf-mute", etc., are now called "Deaf / deaf", "Differently Abled", "Hearing Impaired". There is an openness to understanding the community and the group from a socio linguistic perspective. Deaf culture centers around the use of sign language among deaf persons, and reflects a set of beliefs, values, mannerisms, and traditions unique to them, such as the visual mode, a touch or tap to get attention, and eye contact for communication.

D/d and H/h are used when referring to D/deaf or H/hearing individuals to differentiate the cultural and the pathological perspective. "Deaf" identifies one as belonging to a culture and community that possesses its own language and respect, whereas "deaf" refers to the "defect" of hearing and takes into account the lack, and therefore, the remedy. "Hearing", refers to the mainstream society and culture and "hearing" focuses on the audiological ability.

As deafness is not merely absence of hearing, deaf people form communities that bond them through expressions in their language, and there evolves a sense of camaraderie called "Deafhood", which defines them as a human being, with a sense of dignity. Deafhood does not regard deafness as a disability, but on the contrary, as a matter of pride and one that defines who they are and what they can do.

The World Federation of Deaf, with its legal seat in Helsinki, Finland, is a global organization, with Deaf Associations from 133 countries as its members, working to ensure equal rights of deaf people everywhere, for the past 75 years. WFD supports its members and equips them with training, strategies and knowledge to advocate for gaining recognition and respect for sign languages and cultures in each country. Each year, the International Day of the Deaf is celebrated across the globe on the last Sunday in the month of September, to reiterate Deaf identity and also make them aware of their themes of advocacy.
DEAFNESS IN INDIA

Children constitute 39% of the country’s population, and there are more than 7.8 million children with disabilities. One in 250 children in India, and globally, some 32 million children suffer from severe to profound hearing loss.

Map Depicting Prevalence of Hearing Disability in India

Figure. 7
(Based on NSSO Survey (2002) Findings)
Religious Model of disability perceived deafness as a punishment or act of "God", or as a result of "karma", one's deeds performed in the previous birth. Some cultures ostracised the individual with disability along with the family, living in shame and poverty. Labelled as "deaf and dumb", persons with hearing impairment were often mocked at, and were the centre of crude jokes in comics and movies. They were separated from their families and usually confined to closed quarters. They were looked on as mentally retarded, and were not allowed share in properties. Later on, due to the Joint Hindu Family System in our country, the elders of the family had to dispense their duty to care for all members of the family and so, food and clothing was provided for the deaf member until death. They were denied marriage and were locked up in an outhouse or some such place, in order to avoid any contact with the outside world.

Medical Model focused on the problem of hearing as a "defect" and something to be corrected through medical interventions, therapies, and other methods. Medical management was the goal and an effective cure was sought after. Charity Model, a few decades down the line, viewed a disabled person as a recipient of one's mercy, kindness and generosity. The wealthy pitied the deaf as people with no language, and would offer contributions to institutions to help and rehabilitate them. In the Social Model, the question was, "What can the society do to make their lives better?", and with several responses given to assist the deaf, technology was tapped into for innovations and devices to enable the deaf person, in this case, to "hear" and communicate. Various types of Hearing Aids were experimented with and other devices were invented. Pocket Hearing Aids, distributed by the Government, free of cost, were forced upon, which most deaf children preferred not to use, as it was inconvenient to carry during sports and recreational activities.

Parents lacked complete understanding of deafness, and their only hope were doctors and teachers. They were often misinformed by medical and educational professionals that signing hindered speech learning, and therefore parents insisted on speech and hearing. Due to parents being unable to carry on a meaningful conversation with their deaf child, a huge communication gap evolved, resulting in frustrated adolescents / teenagers.
Deaf Associations were in existence wherever there were communities of Deaf people in a region and activities for the welfare of the Deaf community were being conducted by the Deaf Associations. All India Federation of Deaf, New Delhi, was established in 1955 with the purpose of uniting deaf people all over the country, mainly conducting sports activities. Multipurpose Vocational Training Center was started in 1976, and has been running till date. It was not until the beginning of this century that a plan for an Indian Sign Language Course was initiated and implemented by the Rehabilitation Council of India, and certified interpreters were seen in parts of the country. National Association for Deaf, India, evolved as an Organization by the Deaf, for the Deaf, of the Deaf, and advocates rights of Deaf persons, bringing a **Right-based** and **Empowerment-based Model** into the current generation.

The Census of India included coverage of disabilities as early as 1868. Though there was no nationwide plan to provide disability services in the pre-independence period, the Presidency Governments gave financial aid and other assistance to institutions serving people with disabilities, from the early 19th century onwards.

**EDUCATION OF DISABLED CHILDREN**

Bringing disabled children into the school system was aimed at mainly through four policy initiatives -

a. The 1944 Education Act made it mandatory for the local Education authority to provide special education for children with disabilities in special schools or elsewhere.

b. The Kothari Commission in 1968 recommended ‘integrated education' for the disabled.

c. The National Policy on Education was instrumental in the formulation of the Integrated Education of Disabled Children (IEDC) in 1974, and called for the education of the disabled with others.

d. The Persons with Disabilities Act 1995 promoted the integration of students with disabilities in regular schools.

The World Programme of Action Concerning Disabled Persons (1983, Article 120), the World Declaration on Educational for All (1990, Article 3.5), the UN Standard Rules (1993, Rule 6), the World Conference on Special Needs Education:
Access and Quality (Salamanca Statement, UNESCO, 1994), all reiterated in one way or another, the right to equal educational opportunities, equal access to education for children with disabilities and that regular schools with inclusive mindset should bring about changes in discriminatory attitudes and create open-armed communities and build an inclusive society with education for all (UNESCO, 1994).

**Status of School attendance of disabled population 5-19 years (%) in India, Census-2011**

<table>
<thead>
<tr>
<th>Status of School attendance</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attending Educational Institution</td>
<td>61%</td>
</tr>
<tr>
<td>Attending Educational institutions earlier</td>
<td>12%</td>
</tr>
<tr>
<td>Never attended educational institution</td>
<td>27%</td>
</tr>
</tbody>
</table>

**Figure. 8**

A survey (World Bank, 2009), estimated the share of disabled children not enrolled in school at more than five times the national rate. Almost one quarter of children with disabilities were out of school in Karnataka, the best performing major state, which makes the enrolment rate about 90% or above, but the school attendance rate did not exceed 74%. In poorer states of Madhya Pradesh and Assam, more than half of children with disabilities were not in school, and the attendance rate had not gone beyond 66%, as most special education facilities are in urban areas (Porter GL, 2001).
LANGUAGE ACQUISITION IN DEAF CHILDREN

A typically hearing child born into a hearing family gains fluency in whatever language he/she is surrounded with and acquires the first language within the initial three years of life, as a result of exposure to accessible language. The brain of a newborn is designed for early acquisition of language. The plasticity of the brain begins to gradually decrease by five years of age. A child with hearing loss misses out on the auditory process, and therefore spoken language cannot and does not develop naturally, and this affects speech, language and development of communication. A child who has not acquired a language during the critical period, 0-5 years of age, becomes linguistically deprived, and cognitively lagging. The deficit in language adversely affects a child's vocabulary, sentence structure, and speaking ability, causing learning problems that result in poor academic outcomes, inadequate language skills that affect communication with peers, leading to feelings of social isolation.

90% of deaf children are born into "hearing families, who have no previous experience of deafness, or knowledge of communication option for a deaf child. Parents want their deaf child to learn to "speak", and thereby, be a part of their world and participate fully in the society. (Krashen. S, 1973). In India, there is dearth of Early Identification & Early Intervention Centres, and critical time period for the deaf child's language development is missed while parents take time to overcome their emotional crisis upon faced with a deaf child in the family, and thereafter in their quest for the right kind of medical assistance, diagnosis, treatment, information and rehabilitation. (Fischer.S, 1998). Medical and education professionals usually misinform the parents and even urge them to keep away from "sign" as they say that it interferes with language-learning. With early identification, appropriate early intervention, strong family support, and the right communication choice, a balanced development of a deaf child can be brought about.

Sign language is an accessible language for children with hearing loss as it is a naturally evolved language and their primary language and prevents linguistic deprivation. Sign language is a visual gestural language that uses hand shapes, movements, palm orientation, facial expressions and space. It is a complex language,
which is linguistically rich and fulfills all the characteristics common to any spoken language. There were common beliefs in the past that deaf children's cognitive abilities were inferior to those of hearing children, mainly because even many researchers did not consider the value of sign language.

As Stockholm University linguist Inger Ahlgren states, **Sign Language is no longer regarded as a threat to the normal development of deaf children, but rather the best possible guarantee for normal development.** (Ahlgren I., 1994)

Deaf children develop their social and cognitive abilities as they are given opportunities to communicate in sign language with other deaf children. Researches have shown that sign language affects cognitive functioning, leading to greater creativity (Everhart & Marschark, (1997), Marschark, West, Nall, & Everhart 1985) and better spatial cognition (Bellugi et al., 1990). Children require continued sign language exposure through the elementary school years to enable good language skills.

Given this background and understanding regarding the first language input, parents of deaf children should be empowered to make informed choices to provide avenues that result in meaningful communications and purpose-filled interactions, while pursuing speech-focused approaches that use the residual hearing of the child. Parents should be made aware that sign language is not an inferior method of communication, but on the contrary, it helps the deaf child to grow up to be a complete person.

**ESTABLISHMENTS OF SCHOOLS FOR DEAF**

The first school for the Deaf is said to have started in Mumbai, in the year 1884 (Farrar, 1901) and in a couple of years, the Swainson School for Deaf, Palayamkottai, in 1886, Calcutta School for Deaf and Dumb, in 1893, all providing education and vocational training for "Deaf and dumb" children. The students were taught through pictures and signs and attempts were made to teach lip reading and they learned to "talk on their fingers" and later on, were taught through oralism.

In 1903, there were about 70,000 deaf children in India. Of these only .07% or 52 of them were enrolled in three schools. (Banerji, 1904). Most deaf children who
attend school are enrolled in the primary grades, and then there is a sharp decline in enrollment after grade 5. It is found that 78% of deaf students drop out after elementary education (Randhawa, 2005), and very few students finish high school (Adenwalla, 1999).

Though Indian Sign Language is the first language of deaf children in India, it is to be noted that they have to shift between languages as they live in two cultures. Their contact with a spoken language is limited to reading and writing. They may acquire two languages, but the level of acquisition is uneven and may not match the skill of the other, due to the fact that the learning of these languages is different and not the same as learning two spoken languages.

Special education/Special school, Inclusive education, integrated system of education, and Bilingual Bicultural (BiBi) education, are terminologies associated with deaf education over the last century.

EDUCATIONAL APPROACHES

No empirical data is available on the educational methodologies used in schools for deaf students. Special schools for the Hearing Impaired were started in many parts of India, to cater to the specific learning needs and environment of deaf children, and today there are more than 550 schools that cater to the education of deaf children.

The oralist approach emphasized teaching students to read lips and pronounce words without the use of signing, as sign language was not even considered as a "real" language, being the impact of the Milan Conference. During this time, some schools even used physical punishment if deaf students tried to use sign language. The method employed by teachers, with gestures and speech learning becomes a laborious process for deaf children, and does not gain their attention. As deaf children cannot hear certain word endings, this leads to misunderstandings and misuse of verb tense, pluralization, non-agreement of subject and verb, and possessives. Understanding and writing complex sentences. They are visual learners. They often cannot hear quiet speech sounds such as "s," "sh," "f," "t," and "k" and therefore cannot differentiate
between them, and so do not include them in their speech, which makes their speech difficult to understand.

**Inclusive set up** is where children - disabled or non-disabled study side by side, with children given personalized attention in their areas of physical / learning difficulties. This fosters learning in a common environment, and children are given opportunities to participate in all activities and children learn to accept diversity and inclusion. Inclusive set ups have not shown success for lack of specialized teachers, disability-specific infrastructure, training, and resources.

**Integrated system / Mainstreaming** is when children receive the specialized training for speech and are merged in regular schooling atmosphere. Children learn to develop their expressive speech using residual hearing, with appropriate amplification and quality speech training, and grow up in "typical" learning environments, as that enables them to become independent, and contributing members of the society.

**Total Communication philosophy** was formed out of the debates related to oralism and manualism and spread across the globe, which is a mix of mimicking lip movement, lip reading, speech and signs or gestures. This system used both the methods of education, and was thought to be more effective, but ended up not accomplishing its purpose, due to the fact that neither the auditory learning, nor the visual learning, was given the due attention, and hence it left the students more confused and with poor literacy levels.

**Sign Bilingualism** - Owing to the poor academic achievements of deaf children, dissatisfaction about oralism was on the rise, at the same time, many studies on deaf children's attainments showed that deaf children of Deaf parents had better achievement levels compared to deaf children of Hearing parents, which indicated the use of sign language in the families of the former. After William Stokoe's work being published, followed by more studies on sign language, educators started experimenting with bilingual education, which allowed a strong foundation in the first language - sign language, and then the learning of other languages and subject-related content through the basis of the proficiency of the first language, which proved to be extremely beneficial and effective in deaf children. In India, most schools follow Oral method of education, along with Total Communication. There are about four to
five schools that claim to be Bilingual Schools. Statistics clearly show that oral education has failed to produce desired results, with 99% of Hearing Impaired either uneducated or dropped out after Class VII or Class X, or having poor literacy skills, as per Javed Abidi, Director of the National Centre for Promotion of Employment for Disabled People (NCPEDP) in India, Global Chair at Disabled People's International (DPI), and the founder of the Disability Rights Group.

Non-workers in hearing disability by major non-economic activity by percentage in India-2011

![Bar chart showing non-workers in hearing disability by major non-economic activity in India-2011](image)

Figure. 9

Having participated in a survey as an enumerator, in the south of India, the Researcher witnessed personally, and observed that the reading and writing levels of 10th to 12th standard deaf students were at 3rd or 4th grade levels of hearing students. (V. N. Renuka, 2013)
DISABILITY FACTS & FIGURES IN TAMIL NADU

Tamil Nadu, being the 11th largest state in India geographically is also one of the top seven developed states in the nation. Census – 2011, reported a disability rate of 1,653 per 1,00,000 people, totalling the disabled population to 11,79,963, making it one of the few states with disability population less than 1.75% of the total population.

Population of Disabled Persons in Tamil Nadu by Type of Disability & Gender- Census, 2011

It was also identified that the increase in disability population was due to causes such as pollution, maternal risk factors and consanguineous marriages. An edition of The Hindu, dated 11th June 2008 reported that about 70 percent of physically challenged persons in Tamil Nadu lacked proper education and 4,50,000 persons were unemployed.

Distribution of disabled persons (5 Years and above) by level of General Education in Tamilnadu

Figure 10

Figure 11
The Government of Tamil Nadu has initiated many schemes and provisions for the Hearing Impaired, in accordance with the Schemes offered by the Central Government, with newer clauses or provisions added, such as monthly maintenance allowance for all disabled, financial assistance for self-employment, medical benefits covering health issues, etc., to name a few.

**District-wise Population of Hearing Impaired Persons in Tamil Nadu, India -2011**

![Figure. 12](image-url)
1. Hearing Aids and solar re-chargeable batteries

   Hearing Impaired persons with more than 40% permanent hearing loss, and family income below Rs. 30,000/- per annum, are given hearing aids with Solar Rechargeable batteries free of cost, to enable them to interact with hearing persons in the society.

2. Pre-school for young Hearing Impaired Children

   Free pre-school education, uniform, speech therapy and boarding and lodging for Speech and Hearing Impaired children in the age group of 3 to 5 years.

3. Early Intervention Centre for infants and young children with hearing impairment

   Infants and young children with hearing impairment and without any additional disabilities are given training to develop Speech and Language skills so as to get integrated into regular schools by the time they reach the age of five years.

4. Special Education

   Hearing impaired children, aged two years and above are provided with free special education, free boarding and lodging. Two sets of Uniforms and Textbooks are given free of cost every year.

5. Training to Speech & Hearing Impaired (Male)

   Training is given to speech and Hearing Impaired persons, who are above 18 yrs of age and have passed 10th Standard, in Government I.T.I., Guindy in the trade of Fitter, for two years with a monthly stipend of Rs. 300/-. 
Figure. 13

6. Reservation of Non-teaching posts in educational institutions for speech and Hearing Impaired persons

2% of the non-teaching posts in Government/Educational Institutions are earmarked for Speech and Hearing Impaired persons who have required educational qualifications, and who are registered with the Employment Exchange.

7. Marriage assistance to a Non-Hearing Impaired person marrying Speech & Hearing Impaired person

Marriage assistance of Rs. 20,000/-, in the form of National Savings Certificate and partly in cash is provided to marriageable-age person marrying a Speech and Hearing Impaired person, towards marriage expenses.
8. Reservation of jobs in Government Departments

1% jobs in Government Departments / Government Undertakings have been exclusively reserved for Hearing & Speech Impaired persons, who possess the required qualifications and age stipulated by Tamil Nadu Public Service Commission/ Teachers Recruitment Board/Government Departments and are on the live Register of the Employment Exchange.

9. Travel concession to Hearing Impaired persons in State owned Transport Corporation buses

The Speech and Hearing impaired persons are given free travel concession up to 100 kms to go to schools / colleges / hospitals / training centres /work spot from their residence and return, for those with income limit of Rs.12,000/- per annum, and 75% concession for travel within the state.

Some of the schemes involving free training for the Hearing Impaired are not availed of by the Hearing Impaired youth, as they are not accessible for them, due to the oral mode of delivery. There is no policy/provision for sign language interpreters to be part of the courses and facilitate them, and deaf persons do not benefit from oral instruction. It seems that the schemes once formulated have not been revisited, as the stipulations are not current, economic changes have not been taken into account periodically, and trends in job market have not been researched to match training requirements, hence making the schemes outdated.

NEED & IMPORTANCE OF THE STUDY

Due to inadequate literacy levels, the employment opportunities available to persons with hearing impairment are few and far between. With very few sign language interpreters available to facilitate communication, equal access is denied in public services, information, telecommunications, media, health, work places, etc., Our society is yet to understand the cultural and linguistic needs of the deaf community. It has been seen that deaf children learn best through sign language, hence a sign bilingualism approach should be adapted to ensure good literacy levels and to support the learning and communication environment of a deaf child.

HIGHER EDUCATION

A few colleges have been around in the last ten years, imparting tertiary education for the Deaf, with sign language interpreters, or Deaf teachers themselves, or teachers proficient in sign language. A five-year B.Tech Programme was started by Kalasilingam University, Sirivalliputhur in Tamil Nadu, with an oral mode of teaching. As part of an initiative of the Government of Tamilnadu, Undergraduate courses in Bachelor of Computer Applications (BCA) and Bachelor of Commerce (B.Com) for Deaf students commenced in 2007, at Presidency College, Chennai. These courses are producing graduates who do not match the certificate literacy-wise. The learning gaps will need to be filled first, and that is a monumental task, retreading a few years.

Bachelor of Applied Sign Language Linguistics, in collaboration with University of Lancershire, U.K, began in 2009, as the first-ever degree course through the mode of Indian Sign Language, as an IGNOU programme, at New Delhi, India, which produced excellent role model Deaf teachers of today. It is every Deaf educator's hope that this model and method be followed for Deaf education in our country for great results and "real" learning. Interactive learning, linguistic and cultural knowledge, and the wealth of experience gained through the course has created confidence and a sense of identity among the students and has enabled them to acquire new skills and expertise that most of them want to use to give back to their own community. (iSLanDS’ blog, 2013)
Indian Sign Language Research & Training Center (ISLRTC), is an autonomous body under the aegis of the Department of Empowerment of Persons with Disabilities, Ministry of Social Justice & Empowerment, Government of India, established in September 2015, and the country's premier Institution with the main objectives to develop manpower for teaching, training, and facilitation of communication for the deaf, conducting research in Indian Sign Language, develop courses for interpreters and special educators, and promote the use of ISL, as an educational mode in collaboration with universities, national and international organizations. Besides, National Institute of Speech & Hearing (NISH) Tiruvananthapuram, All India Institute of Speech & Hearing, Mysore, are some of the Institutions worth a mention in the field of education and rehabilitation of deaf.

Due to more awareness in the country now through advocacy by the National Association of the Deaf, India, and Disability Rights Groups & Non Government Agencies, the RPWD Act 2016, recognizes the use of sign language, and promotes sign language interpreters in education settings and for equal accessibility though the progress made so far is very little compared to the distance that we, as a nation, will have to go, in the field of equal opportunities, and accessibility.

Thanks to exposure and advancement of technology, Deaf persons from India have represented the country at World Federation of Deaf Conferences, International Workshops & Training Programmes in other countries and have travelled across the globe, and shared their experiences with Deaf communities. Through exposure and advancement in knowledge, Deaf persons are now role models and have entered fields of education, Information Technology, innovation, hospitality industry, business, sports, media and entertainment. With a rights-based model, Deaf persons demand the rights to inclusion and equality of language.

Numerous studies are being conducted and have been conducted to identify the importance of visual-based learning modes for Hearing Impaired children, rehabilitative therapies for Cochlear Implanters, efficacy of inclusive education in certain parts of the country, etc., but very few studies have been conducted on the themes of sign language, the linguistic aspect of Deaf community, the role of Indian Sign Language in the education of deaf children, efficacy of the curriculums designed for deaf children, involvement or role of trained teachers (B.Ed, HI) in Deaf
education, etc., Not much data is available on socio-economic and cultural context of deaf children, the social well-being of deaf students in school environments, given the present conditions of lack of trained teachers and lack of accessible language, disregard in the community, etc.,

Hence this study has been undertaken to attend to the feelings, expressions, frustrations and emotions of deaf students, their aspirations and ambitions, challenges and barriers, conveyed by themselves, with hope that the findings may elucidate factors and pre-conceived notions that will warrant a paradigm shift. Right policies must be formulated, as is the need of the hour, specifically designed to enhance their scholastic abilities and well-being, paving a way for bright futures, resulting in complete fulfillment, shaping them into equally-participating citizens of the nation, and a model that will empower them to achieve the most in life.

As seen in the last so many pages, deaf persons share a unique history of oppression, domination and audism, and we stand in the twenty first century, equipped with many research studies, findings and evidences on the rich culture and community of Deaf people. Children and youth are the future of our generation, and they certainly deserve better facilities, opportunities, and policies that step up the present education system, and lead to mindset changes, accessible employment structure, a totally new & vibrant environment to improve their lives, careers and the world around them. Hence, moving into the empowerment model of disability, approaches designed by taking into account all factors involving persons with hearing impairment, through scientific means, and in a systematic manner, would certainly benefit not only the Hearing Impaired individuals, but result in a progressive nation.
PROBLEM FORMULATION

FRAMEWORK OF RESEARCH

The study is about social assessment of Hearing Impaired students, with a focus on the key areas of their Social Adjustment, Self Image and Emotional Adjustment. Due to the fact that hearing disability causes communication barriers and possibilities of difficulties in having a self image, differing patterns of social and emotional adjustments may be seen. Hence, in this study, factors contributing to Social Adjustment, Self-Image and Emotional Adjustment are expected to be highlighted from studying the socio economic background of such students via their personal profile, combined with the individual responses to the questionnaire.

Figure. 14