

Introduction :-

Children with disabilities are among the most stigmatized and excluded groups of children around the world. They are likely to have poor health, less education, less economic opportunity when they grow up and more likely to live in poverty and deal with great inequalities than their peers without disabilities. Girls with disabilities face even more discrimination due to gender, disability and other compounding factor. When children with disabilities are given opportunities to flourish as any other children, they have the potential to lead fulfilling lives and contribute to the social, cultural and economic vitality of their communities. Yet surviving and thriving can be difficult for children with disabilities. It is estimated that approximately 1in every 10 children in the world has a disability and less than10%of the children with disabilities in low income countries go to school.Article7 of the convention on the rights of person with disabilities obliges state parties to take all necessary measures to ensure the full enjoyment of all human rights and fundamental freedoms by children with disabilities on an equal basis with other children. One of the most important requirements for children with disabilities to flourish is to access assistive technology. For many children assist I've technology represents the difference between enjoying their right or being deprived. In many low income countries only 5-15% of those who need assistive technology are able to obtain it.It includes products and services that improves the functioning of children with disabilities. It can be instrumental for children's development and health, as well as participation in various facets of life.

It is estimated that there are more than 150million children with disabilities under the age of18 globally. Children disabilities frequently face challenges to their enjoyment of academic, social and community participation and are subjected to discrimination and social exclusion based on their age, gender, social status, language, ethnicity, religion and living environments. Specially girls with disabilities are particularly at risk of discrimination and abuse. When children with disabilities are given opportunities to flourish as any other children, they have the potential to lead fulfilling lives and to contribute to the social, cultural and economic vitality of their communities. Yet surviving and thriving can be especially difficult for children with disabilities. Assistive technology is one of the key elements to advancing inclusion of children with disabilities together with additional supports such as personal assistance, sign

language interpreters and removal of barriers. Access of assistive technology for children with disabilities is critical for many to access and benefit from education. Access to assistive technology is a precondition for achieving equal opportunities, enjoying human rights and living in dignity. Children with disabilities are entitled to available and affordable assistive technology. Appropriate assistive technology can be a powerful tool to increase a child's independence and improve their participation. It help children to become mobile, communicate more effectively, see and hear better and participate fully in learning and play activities.Understanding Disabilities Globally, 93 million children or 1 in 20 of those aged upto 14 years of age live with moderate or severe disability. As noted by the 2011 monitoring report of the Convention on the rights of the child , children with disabilities are " one of the most marginalized and excluded groups in respect of education. Disabilities continues to be one of the primary causes of educational disadvantages and exclusion creating the largest single group of girls and boys who remain out of school. Even in those countries close to achieving universal primary enrolment, children with disabilities are still not in school, accessing opportunities to meaningful employment and on sustainable routes out of poverty. Today 155 countries have ratified the UN Convention on the Rights of Persons with Disabilities. This commitment by countries to promote and safeguard the rights of person with disabilities, including the right of education, is reflected in the newly adopted Incheon Declaration from the World Education Forum2015 which includes the statement: "No education target should be considered met unless met by all. We therefore commit to making the necessary changes in education policies and focusing our efforts on the most disadvantaged, especially those with disabilities, to ensure that no one is left behind." According to the CRPD, children with disabilities includes children" who have long term physical, mental, intellectual or sensory impairment which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others "Examples of common impairments includes autism, blindness, brain injury, cerebral palsy, congenital anomalies, down syndrome, hearing loss, intellectual and learning disabilities, muscular dystrophy, spinal bifida, traumatic spinal cord injury speech impairment and visual loss.

Assistive Technology

Assistive Technology is a broad concept. Currently only 5-15% of children in low income countries have access to the assistive technologies they require thereby hindering their access to the school, reducing their ability to participate, impacting on their learning achievements and holding back their independence and social inclusion. The term 'Assistive Technology' means any item, piece of equipment or product system, whether acquired commercially off the shelf, modified or customized, that is used to increase, maintain or improve functional capabilities of a child with a disabilities (UN Dept of Education). Assistive Technology or devices includes any product, instrument or technology adapted or specially designed for improving the functioning of a person with disability. They have potential to radically enhance the experience of learners with disabilities, by providing access to learning and teaching materials, promoting better learning and supporting independence and social inclusion.

Devices of Assistive Technology

Mobility: Walking stick, crutch, walking frames, powered wheel chair, tricycle, artificial legs or hands.

Vision: Eyeglasses, magnifying software for computers, GPS- based navigation devices. Braille system for reading and writing, screen reader for computers, talking book player, audio recorder and players, balls that emits sound.

Hearing: Headphone, hearing aids, amplified telephone, hearing loops.

Communication: Communication card with texts, communication board with letters, symbol and pictures, electronic communication device with recorded or synthetic speech.

Cognitive: Task lists, picture schedule and calendar, picture based instruction, automatic reminder, smart phone with adapted task lists, audio recorder, adapted toys and games.

Need of Assistive Technology for disabilities

The global need of assistive technology for children has not yet been adequately quantified. Estimates indicate that about 0.5% of a population needs prosthetic or orthotic devices, about 1% needs a wheelchair and about 3% needs a hearing aids. These needs vary between countries as well as between regions within the country due to factors such as variations in age distribution and prevalence of various impairments. In a situation of crisis and emergency, children with disabilities suffer from a triple disadvantages, they experience the same impact as others, they are less able to cope with deterioration of the environment and responses to their needs are postponed or disregarded. To reduce the impact of crisis and emergencies, children need assistive technology to be alerted or to escape a danger before it strikes or to be able carry out activities of daily living important to their survival and health.

Hurdles to AT

Disability is the outcome of the interaction between a child with an impairment and an impairment with barriers that hinders his or her participation on an equal basis with others. AT can reduce or eliminate such barriers. However, obtaining such technology is not always possible due to product and service related barriers.

Lack of awareness- Many people with disabilities and their families have limited awareness of assistive product and services. This makes it difficult for children and their families to know what assistive technologies are available or suitable and how they can be beneficial.

Lack of governance including legislation, policies and national programmes- The 2005 global survey on government action on the implementation of the standard rules on the equalization of opportunities for persons with disabilities found that of the 114 responding countries 50% had not passed relevant legislation and 48% did not have policies in place relating to the provision of AT. This indicate that for many states the provision of AT is relatively low area of priority.

Lack of services- AT services often in short supply and located far away from where children with disabilities live. In the global survey, 53% of the 114 responding countries had not initiated programmes relating to the provision of AT. Non governmental organization rarely have the financial means or capacity to develop country wide sustainable services delivery system. With limited geographical coverage, their services often focus on specific types of AT for disabilities. Children are more often less likely than adults to access AT.

Lack of products- In many countries, there is no production of assistive products or production occurs on a small scale. It is small not only in terms of quantity, but also in terms of the range of types, model and sizes of the products. Limited access to the materials and equipment needed to produce assistive products can hamper production. Limited awareness of AT or purchasing capacity leads to a limited demand. This results in few incentive to engage in production.

Inaccessible environment- Physically or cognitively inaccessible environment act as barriers to AT. For example, inaccessible transport system or services countries present children from having easy access to the services and products they needs. Barriers are often exacerbated during natural disaster and conflicts.

Lack of human resources- Another barriers to AT is a lack of personnel properly trained in manufacturing or adapting product, or delivering services. Many countries report inadequate numbers of rehabilitation personnel.

Financial barriers- The cost of purchasing, maintaining and replacing assistive products associated services and travelling cost constitute a major barriers. Costs can be especially prohibitive in the case of children, as they need their assistive product replaced or adjusted as they grow.

Advantages of Assistive Technology

When appropriate to the user and the user's environment, AT is a powerful tool to increase independence and improve participation. It helps individual children become mobile, communicate more effectively, see and hear better and participate more fully in learning activities. AT supports children to access and enjoy with their rights, do things they value, and bridges disparities between children with and without disabilities. It provides the means of access to and participate in educational, social and recreational opportunities, empowers greater physical and mental function and improved self esteem and reduces costs for educational services and individual support. Benefits in areas such as health, mobility and education have been linked to the use of AT. By improving access to education and increasing achievement in school, AT can have positive socioeconomic effects on the lives of children with disabilities. By facilitating the participation and inclusion of children with disabilities in all aspects of life. AT can impact on self image, self esteem and sense of self worth. AT reduces costs when it supports early childhood development and educational achievements and avoids repetition of learning missed due to educational barriers. It reduces costs by supporting independent functioning and access to healthcare in lieu of personal support service and independent community living in lieu of institutionalization. AT reduces the need for formal support service, reduces time and physical burden for caregivers, fall injuries, further impairments and premature death. An educated child with disabilities supported AT will have better opportunities for employment. Some children with severe disabilities that are unable to attend school can access education from home and communicate with others with the help of AT, accessible information and communicate technologies. AT offers new ways to break down accessibility barriers and provide children with disabilities the opportunities to exchange knowledge and information and to communicate in ways they otherwise have not been able to do so. AT tools and application are paving the ways for children with disabilities to access educational material and resources in different formats and to engage in the same academic activities as their peers without disabilities.

Children with disabilities have rights that government has an obligation to respect and enforce

The CRC and the CRPD spell out the rights that all children have including children with disabilities. Some of the rights are particularly relevant to AT. The CRC includes rights to protection and care necessary for well being, to survival and the highest attainable standard of health, to facilities for the rehabilitation of health, to develop to the fullest to education, to freedom of expression, to access information and material from a

diversity of sources, and to participate fully in family, cultural and social life.

Children with disabilities enjoy all rights stipulated under the convention including the following. Developmental rights for children with disabilities(Article 23)- children with a physical disability or learning difficulty have the rights to special care, education and training designed to help them to achieve the greatest possible self reliance and to lead a full active life in society. Right to an adequate standard of living(Article 23)- The child has the right to a standard of living adequate for the child's physical, mental, spiritual, moral and social development.

Right to healthcare (Article24)- The child has the right to the enjoyment of the highest attainable standard of health possible and to have access to health and medical services
Right to education (Article 28)- The child has the right to education, the state has a duty to ensure that education supports the development of child's personality, talent , mental and physical abilities to their fullest potential.

Assistance to parents(Article18)- To promote and guarantee the rights of children set forth in the convention, the state must render appropriate assistance to parents and legal guardians in the performance of their child rearing responsibilities.

Non discrimination (Article2)- All rights in the convention apply to all children without exception and the state has an obligation to protect children from any form of discrimination.

Enforcement (Article 4)- The state is obliged to undertake all legislation and administrative and other measures necessary for the implementation of the rights outlined in the convention.

Key Message

- The inclusion of children with disabilities is a moral issues as well as an economic and social issues: The costs of exclusion are significant for both the individual and for society. More ever, excluded children will grow up to be adults who are less likely to work, have poor health outcomes and who are more dependent on their families and on government services.
- Disability inclusion should be mainstreamed in all policies and planes. Accessibility standard should be implemented and supported by international development cooperation.
- Currently1/3 of the 58 millions out of school children are children with disabilities planning and budgeting by national government and development partners needs to include children with disabilities to ensure they are not left further behind.
- There is an immediate need for inclusive reporting and monitoring, for applying disability specific education indicators as well as a need for systematic collection of disaggregated data on disability, age and gender.

- To achieve quality disability inclusive education we must
 - oRequire minimum standards of accessibility for all schools , including emergency setting.
 - o Invest in teacher training that will equip all teachers to respond to diversity in the classroom and disability inclusion in particular.
 - oEnsure that learning materials / resources are available in accessible formats and are easily adaptable.
 - o Invest in AT and devices for children with disabilities.
 - oEnsure participation of disabled people's organization in education planning and monitoring.
- To facilitate this ambition, we call for the establishment of a global inclusive education facility. This facility will have the primary mandate of coordinating responses to support the implementation of the disability target in EFA framework and the SDGs thereby ensuring children with disabilities are able to fully benefit from global progress in educational development.

Conclusion

AT provides creative solutions that enable individuals with disabilities to be more independent, productive and include in society and community life. Today many people with disabilities are breaking barriers through the use of technology. For some individuals with disabilities, AT is a necessary tool that enables them to engage in or perform many tasks. The availability of AT devices and services enables some individuals with disabilities to

- have greater control over their own lives.
- participate in and contribute more fully to activities in their homes, school and work environment.
- Interact to a great extent with non disabled individuals.
- Otherwise benefit from opportunities that are taken for granted by individuals who do not have.

For children with no means of communication, the world is a difficult place. They cannot tell you how to meet their basic needs. Something as simple as wanting a drink of water is out of their reach. Communication is the door to humanism and AT is one of the to opening up a world for the significantly disabled population. AT is the key to making educational environment inclusive for individuals with significant disabilities. The primary aims should be to allow children with disabilities access to AT which meets their needs and provides for maximum participation in social and educational environment. Technology and inclusion go hand in hand. Without technology supports and accommodation, many significantly disabled students cannot take full advantage of their education. without the opportunities for interactions found in inclusive settings, students cannot truly demonstrate their abilities. Technology can increase access to new experience, new activities and new environments bridging the gap imposed by disabilities. Inclusive education and technology go hand in hand. In combination, they support each other for the benefit of the

individuals with significant disabilities to become a purposeful member of a community and succeed to their fullest potential in life.

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