

## **Serving the Disabled with SHGs and Assistive Technologies**

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### **ABSTRACT**

Farming is a difficult and dangerous occupation. When disability becomes a defactor in the agricultural workplace both the difficulty and danger increase markedly. This does not mean that a career in agriculture is automatically no longer an option for the person with a disability but that specialist skills and services need to be applied to assess the realities and viability of farming with a disability and ensure an accessible and safe working environment. Estimating the prevalence of disability in India has been hampered by complex and multiple factors. The World Bank's (2007) study shows that the rural disabled have lower access to health care, not only due to inadequate system of disability identification and certification, but also because of poor awareness about disability issues. People with disabilities in rural areas are largely excluded from mainstream poverty alleviation programmes due to attitudinal and physical barriers. Besides, in a situation where a family is poor and dependent on farming, children with disabilities often neglected because, the family believes that it is not worth educating them. Discrimination, or treating people unfairly because of prejudice, can make the lives of people with disabilities very difficult. Despite having the same hopes and ambitions as non-disabled persons, they encounter barriers that make it much harder for them to succeed.

The current paper highlights the challenges that are especially evident with those individuals with a disability involved in agriculture. The main highlight of the paper is the assistive technologies needed for disabled farmers. In India, many research studies reveals that dangerous machines causes accidents in farming due to operator's attitude, outdated machinery and lack of maintenance, etc. Assistive technology includes any kind of device, modification, or service that will help a person with a disability work and live more independently. The use of assistive technology can simplify tasks that need to be completed, create efficiency in labour-

intensive work processes, and reduce fatigue. Finally, the authors concluded with certain suggestions in favour of the disabled farmers such as; need for change in the attitudes of people towards disabled individuals, encouraging self help-organizations and self reliance among disabled farmers, to be increased to improve the quality of life, rehabilitation services etc.

**Keywords:** Disability, Accidents, Self Help Groups, and Assistive Technology.

## INTRODUCTION

There are 600 million persons with disabilities in the world today. Eighty percent of them live in developing countries. A staggering 90 million people in India are disabled. That is almost one in every ten. The newly released disability data from Census 2011 shows that in a country of 2.68 crore disabled, nearly 69.5% of population stays in rural area. Back in 2001, about 75% of the country's disabled resided in rural areas. The population of rural disabled persons has increased from about 1.64 crore in 2001 to 1.86 crore in 2011 i.e. by 13.7 percent. However, the population of urban disabled persons has increased from roughly 0.55 crore in 2001 to 0.82 crore i.e. by 48.2 percent. The urban disabled person's population growth exceeding its rural counterpart during the past one decade can be partly attributed to changes in definitions of various types of disabilities between the two censuses. For example, in the area of sight, one eyed persons were treated as disabled at Census 2001. During the Census 2011 such persons have not been treated as disabled in seeing.

It is claimed that the Census 2011 has been designed to cover most of the disabilities listed in the "Persons with Disabilities Act, 1995" and "The National Trust Act, 1999". However, disability rights groups have been demanding for a comprehensive Bill on disability that not only harmonizes four disability specific legislations i.e. the Mental Health Act 1987, Rehabilitation Council of India Act 1992, Persons with Disability (Equal Opportunities, Protection of Rights and Full Participation) Act 1995 and the National Trust Act 1999 but a Bill that also broadens the definition of disability. The new Census data reveals that there has been a marginal rise in the proportion of disabled in the entire population from 2.13% in 2001 to 2.21% in 2011. The proportion of disabled population by type of disability is as follows: in seeing (18.8%); in hearing (18.9%); in speech (7.5%); in movement (20.3%); mental retardation (5.6%); mental illness (2.7%); any other (18.4%); and multiple disabilities (7.9%). Activists assert that road and industrial accidents and medical injuries are responsible for the high proportion of disabled with movement disability. About 44.1% of disabled population in 2011 comprised females. However, female disabled person's population growth (27.1%) exceeded its male counterpart (18.9%) between 2001 and 2011.

These figures in the very beginning of this article are not mentioned to create any sympathy for persons with disabilities. The aim of mentioning these figures here is to illustrate that still 600 million persons with disabilities are being prevented from contributing to the world society (whether socially or economically) because of the barrier called disability. The

world for and of the disabled is changing at a rapid pace and the aspirations as well as expectations of people are also changing as fast. It is now recognized that the disabled deserve a dignified status in society on the same terms as the non-disabled. Disabled people are a vast minority group, which has been subjected to direct and indirect discrimination for centuries in most countries of the world, including India. The human rights movement has boldly and categorically shifted the attention of policy-makers from the mere provision of charitable services to vigorously protecting their basic right to dignity and self-respect. In the new scenario, the disabled are viewed as individuals with a wide range of abilities and each one of them willing and capable of utilizing his / her potential and talents.

The Disabilities Convention defines, “Those persons with disabilities “includes those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others”. The Person with Disability Act defines “Persons with disabilities as anyone having 40% disability or more in seven specific categories which are: locomotors disability, blindness, low vision, hearing impairment, leprosy affected, mental illness and mental retardation” (Kothari J., 2010). India has witnessed a speedy growth of Self-Help Groups (SHGs) in last one decade or so. The SHG movement represents a massive grassroots level mobilization of the poor rural women earlier and disabled now into small informal systems to get financial access and other services needed for their socio-economic advancement. The National Sample Survey Organisation (2003) data shows that only 26% of disabled people in rural India are employed. There is a great need for doing something more impressive and concrete to promote the formation of SHGs of disabled for bringing them to main stream of development as the normal / non-disable do.

In the world population, people with disabilities are the biggest minority. They are facing social exclusion, starved of services and facilities available to the non-disabled and consequently they are least healthy, least educated and least employed. They are subjected to a long history of neglect, isolation, segregation, poverty, deprivation, charity and even pity (Ali Baquer and Angali Sharma, 1997). The plight of disabled in India is not dramatically different. The immense responsibility for the care of the disabled is generally left to their families and a few institutions managed by voluntary organization and government. Since the disabled, as yet, do not have any economic or political or media power in India, they tend to be mostly ignored by society. India is home to largest population of disabled people in the world (Karna, 2000), possibly second to China. The National Sample Survey of India (NSSO) estimates suggests that there were 12 million disabled people in 1981, 16.15 million in 1991 and 18.49 million in 2002, which constitute 1.8, 1.9 and 1.9% of the total population respectively. Baquer and Sharma (1997) allege that as many as 90 million people are disabled in present day India. The United Nations Development Programmes (UNDP) estimates a global average of 5% (Helander, 1993). The estimates of Nepal, Pakistan and Srilanka are 5, 4.9 and 3.9% respectively (United Nations, 1996). The multiple deprivation of social, educational, health, transport and residential arrangements leads to more vulnerability of disabled. Various government and NGO programmes are designed to promote dependence,

charity and segregation of the disabled rather than making independent, realize the self respect and dignity and inclusion to main stream society. Also these practices leads to the misguided stereotype that continue to project people with disabilities as deserving pity, alms and charity. The prejudices against the disabled and ignorance about their potential get institutionalized and are inevitably reflected in policy making, resource allocation, service provision and the status accorded to them.

In 2008, UNDP, India in partnership with the Planning Commission launched the Livelihood Promotion Strategies Project in the country focused on seven states. The project recognizes that the seven UN focus States (Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Odissa, Rajasthan and Uttar Pradesh) have relatively higher concentration of poor and disadvantaged groups than other States. These disadvantaged women and men have limited livelihood options and are highly dependent on agriculture and the informal economy. Empirical evidence also shows that 'Disabled people living in poverty' have always suffered from double disadvantage and are also at a higher risk of becoming even poorer. The same is true for all people living in poverty, who have a higher risk of facing a disabling condition due to their limited access to basic services such as health, education, and sanitation and higher rates of exposure to hazardous working conditions. 'Women with disabilities' suffer a double discrimination, both on the grounds of gender and of impairment. The consequences of deficiencies and disablement are particularly serious for women. Women are subjected to social, cultural and economic disadvantages, which impede their access to, for example, health care, education, vocational training and employment. If, in addition, they are physically or mentally disabled, their chances of overcoming their disablement are diminished, which makes it all the more difficult for them to take part in community life.

All women and men with disabilities can and want to be productive members of society. In both developed and developing countries, promoting more inclusive societies and employment opportunities for people with disabilities requires improved access to basic education, vocational training relevant to labour market needs and jobs suited to their skills, interests and abilities, with adaptations as needed. Many societies are also recognizing the need to dismantle other barriers, making the physical environment more accessible, and providing information in a variety of formats, and challenging attitudes and mistaken assumptions about Persons with Disabilities (PwDs).

The SHGs have been differently defined under various disciplines. Commonly accepted definitions put fourth by Katz and Bender (1976) defines SHGs as voluntary, small group structures that work together to accomplish specific goals; for mutual assistance; for overcoming a common obstacle or live destructive situation; for the purpose of personal and social change. SHGs in addition to find solutions to their common problems have provide an arena for individuals to consolidate their identity; promote a feeling of belongingness and coping action skills. In the last one decade or so, especially in the southern states of India, the Non-Governmental Organizations (NGOs) have been organizing SHGs of disabled people and mobilizing them to form collectives e.g. SHGs at village level and federation at district level (Ramachandran, 2003) these collectives are meant to provide a platform to raise awareness, to

advocate, to enable self-representation, and to monitor proper implementation of provisions of the disability Act in their area. The confederation is organized by hundreds of disabled people campaigning for their rights to earn a living, to loans, to pensions, to subsidized transportation, to orthopaedic support and to scholarship for education and training.

The model of disabled people SHGs is gaining popularity and many NGOs in India. Andhra Pradesh Rural Poverty Reduction Project (APRPRP, 2003) is an example of a state project, funded by the World Bank that is organizing self-help groups of the disabled on a large scale. A qualitative study was organized by Peter Lang (1999) which explores issues of participation, ownership and organizational structure of disabled people's SHGs in India. The study pointed out that through group process was more empowering than the earlier service delivery approach; the participation did not translate to wider sphere of influence. SHGs play very important role in promoting and protecting the rights of person with disability; also SHGs are successful in actively addressing disability as an issue of poverty, development and human rights. This leads to active contribution to the overall development of the village and helps to prevent disability. These groups and federations helps to initiate processes towards inclusion of disabled people in family and community life like early childhood protection to disability (From Neglect and Over-protection). Groups protect persons with disability from verbal, physical and sexual abuse; ensure participation of people with severe / multiple / cognitive / sensory disabilities in the SHGs activities through their own participation or through their care givers. These SHGs and federation of disabled persons act as pressure group to implement legal provisions such as Persons with Disability act, 1995; access to benefits from Government schemes; work toward to create non-handicapping environment; influence other Federation to include disability as human rights issue' enable disabled people to access rehabilitation services. These groups also ensure the appropriate use of assistive devices; provide home based rehabilitation and other services towards social inclusion; ensure provisions for adequate care to people with severe/multiple disabilities at their homes.

The Self Help Groups and empowerment are linked to each other. Empowerment is the process of acquiring the ability to make strategic life choices. There is much evidence that the formation of SHGs in India has lead to the empowerment of women. The SHGs are well known as women's SHGs that got a distinctive identity from 1992 onwards thanks to leadership role provided by Reserve Bank of India and National Bank for Agriculture and Rural Development (NABARD). It is true that SHGs have been seen fundamentally as entities for saving and borrowing, but today, SHGs of disabled persons are playing new roles and sharing responsibility of providing livelihood and security to poor and particularly empowering the persons with disabilities.

It was seen that majority of the members of this SHG are into tailoring job (60%) and running petty shops (General Stores, Laundry shop, Bangle Stores, electrical shop), also some were into other economic activities like animal husbandry, group education, agriculture, agarbati and Aloe Vera oil making. Young respondents utilized their loans for education and Farmers took the loans for agriculture development. It was analyzed that the SHGs are the instrument for the empowerment of disables and proved as boon for their inclusion into main stream development.

Most efforts to present a cost-benefit analysis of disability have focused on the cost side. Assessing the benefits of addressing issues relating to disability (for individuals, households and society as a whole) is closely related to, though not the same as, assessing these costs. Cost estimates demonstrate the potential benefits to individuals, households and societies for addressing these costs, but most studies do not examine these in detail, and none were found that seek to quantify them. The main barrier to quantifying the economic benefits is a lack of data. The economic costs (and by extension the benefits) can occur at two levels: they can relate to people with disability themselves and their families or households, and to society as a whole. The following costs are beared by the people with disabilities and their families:

- Additional costs of disability: People with disabilities and their families often incur additional costs in achieving a standard of living equivalent to that of non-disabled people. Additional costs may relate to health care services, assistive devices, transport, heating, laundry services, special diets or personal assistance. A study from the UK finds that additional cost estimates range from between 11% to 69% of an individual's income.
- Loss of income for people with disabilities and their families due to lower pay and unemployment: The unemployment rate of people with disabilities is usually double that of the general population in the Asia Pacific region, and often as high as 80% or more. People with disabilities usually have a higher rate of unemployment than the rest of the population. People with disabilities living in developing countries are predominantly self-employed and work in the informal sector.
- Loss of education for people with disabilities and their families / households: The UN has estimated that a quarter of the World's population is adversely affected as a result of disabilities (DFID 2000). The burden of care most often falls on family members, usually mothers or other female relatives.

It should be taken care of that all disabled people in a village should be encouraged to involve themselves in SHGs at all levels. The reasons for joining the SHGs are found out under study are: to enjoy the benefits of Government schemes; to cope with the economic problems and become economically stable; to get bus passes; for saving money for rainy days; get loans, pension; to be aware of disability and to built their self confidence and finally to exhibit the problems of disabled through SHGs. Employment is a vital for one's living. It is means to fill empty stomachs and give an individual sense of purpose. But in rural India employment is beyond the reach of the majority of the disabled people. Thanks to SHGs and its microfinance activities which are enabling the disabled to become self-employed through various livelihood activities like: telephone booths, to run a bangle store, tailoring, working as a Community Development Worker (CDW) for IKP, leaf plate making, dairy, agricultural work, cattle rearing etc.

- Addressing barriers to support and assistance services: Transitioning to community living, providing a range of support and assistance services, and supporting informal caregivers will enable people with disabilities and their family members to participate in economic and social activities.

- Creating enabling environments: Requirements for addressing accessibility and reducing negative attitudes are: access standards; cooperation between the public and private sector; a lead agency responsible for coordinating implementation; training in accessibility; universal design for planners, architects, and designers; user participation; and public education.
- Addressing barriers to education: The inclusion of children with disabilities in mainstream schools promotes universal primary completion, is cost-effective and contributes to the elimination of discrimination.
- Addressing barriers to employment: This is likely to require antidiscrimination laws, and tax and other financial incentives for employers. In addition to mainstream vocational training, peer training, mentoring and early intervention show promise in improving disabled people's skills.
- Adopt a national disability strategy and plan of action. Their development, implementation and monitoring should bring together the full range of sectors and stakeholders.
- Involve people with disabilities. Disabled people's organisations may need capacity building and support to empower people with disabilities and advocate for their needs.
- Provide adequate funding for services and improve the affordability of goods and services for people with disabilities.
- Increase public awareness and understanding of disability. Surveying attitudes to disability can help identify education and public information needs.
- Improve disability data collection. International methodologies for collecting data on people with disabilities need to be developed and tested cross-culturally. Research is essential for informing disability policy and programmes and for efficiently allocating resources.
- Encouraging employers to hire persons with disabilities, while at the same time providing specific support to prepare them, or the workplace (e.g. accessibility, technical solutions, vocational training, changes in laws and policies to support reasonable accommodation).
- Ensuring microfinance groups make loans to persons with disabilities, while at the same time supporting disabled individuals or groups of persons with disabilities to access loans.
- Ensuring vocational training is accessible to people with disabilities, while at the same time providing opportunities for skills training to disabled people who cannot be integrated in mainstream vocational training.

In India, persons with disabilities are more likely to be poor, hold fewer assets, and incur greater debts. The causal relationship between disability and chronic poverty has been widely discussed but still lacks wider comprehensive research showing how this relationship really operates and can be self-fuelling. A few studies have been made, which show that persons with disabilities, more often than other groups, lack access to basic services, employment, credit, land and other resources that could reduce poverty. The vicious circle between disability and poverty varies as well within and between cultures and contexts, but is generally acknowledged to be strong. Poverty has to be seen not only from the economic perspective, but also from the point of social exclusion and powerlessness. In developing

countries, persons with disabilities and their families often live in poor and unsafe conditions and all persons with disabilities experience discrimination. Exclusion from full participation in social and economic life and from education opportunities substantially increases the risk of poverty.

In India people living in poverty are at higher risk of serious health problems and accidents due to restricted access to health care, poor nutritional access, poor working and living conditions, which might lead to impairment and worsen the present condition. If a person acquires a type of impairment, he or she usually faces barriers to health services, education, employment, and other public services, and finds himself / herself often denied the opportunities that could help them to escape poverty. Disability can lead and cause poverty by preventing the full participation of persons with disabilities in the economic and social life of their communities, especially if appropriate support services and reasonable accommodation are not available. The link between poverty and disability is due to discrimination, social exclusion and denial of rights together with lack of access to basic services, not the impairment itself. Some persons with disabilities, such as women, persons with intellectual, psychosocial or multiple disabilities as well as elderly people, are more at risk of experiencing poverty than others. In some communities girls and women with disabilities receive less care and food, have less access to health care and rehabilitation services and fewer education and employment opportunities. They also tend to have lower marriage prospects than boys or men with disabilities, and to be at a higher risk of physical, sexual and mental abuse.

The number of handicapped people in India increases by about 5 million every year. Majority of them cannot hope for medical, educational and vocational aid. According to the report of National Statistical Survey (NSS) disability transition in India is predicted to be most rapid.

**Assistive Technologies for Disabled Farmers:** Agricultural machinery safety is a perpetual theme of the human society which is a complicated and challenging one. No single policy instrument is likely to be wholly effective other than national / regional systematic strategy. According to experience and lessons, education, training and sharing information play a crucial role in preventing accidents.

Farming is traditionally a labour-intensive profession that involves physically demanding work. Everyone can utilize tools and technology to make life easier and perform tasks with more efficiency. However people with disabilities face even greater challenges in performing essential tasks in life. These challenges are especially evident with those individuals with a disability involved in agriculture. With the use of assistive technology, farmers with a disability can maintain their independence and productive lifestyle on the farm.

Assistive Technology (AT) commonly refers to both assistive and adaptive devices, which may be either high or low technology, and various services such as evaluations, fabrication and training. Examples of high and low technology assistive devices which farmers with disabilities might find beneficial could range from mounted chair lifts to easy grip hand tools respectively. Assistive technology includes any kind of device, modification, or service that will help a person with a disability work and live more independently. It may be low tech

or high tech, expensive or inexpensive, but ultimately it helps make it possible for someone to complete a job that might otherwise be difficult. While technology can make life easier on everyone, assistive technology can make farming possible for individuals with a disability (Dee Jepsen, and Kent McGuire).

Assistive technology (AT) is the bridge that can help those farmers who have disabilities or primary injuries to continue to be productive while reducing opportunities for secondary injuries. In simple terms, any technology that helps an individual with a disability to carry out a functional activity is defined as assistive technology. Assistive technologies are primarily used to improve functional outcomes for persons with disabilities. Disabilities and the needs they create vary from individual to individual, so adaptation of any assistive technology must be done on an individual basis. Appropriate tools and machinery for successful activity may require for adapting or modifying according to the disability of the users and machinery for processing agriculture products should be provided or made available to the disabled farmers. A broad range of devices, services, strategies, and practices are designed to accomplish this overall goal. An AT system may involve the use of commercially available or custom-made, low- or high-tech devices. The purpose of AT intervention is neither remediation nor rehabilitation, but to enable the individual with a disability to carry out a certain activity in a safe and effective manner. Farmers with disabilities have been using Assistive Technologies to enable them to carry out different farming related activities for many years. These technologies can be grouped into two categories: some are common to all operations, whereas others are specific to the type of operation. For example, a wheelchair used by a disabled farmer for mobility is a common Assistive Technology, used irrespective of the type of operation. An Assistive Technology used on a tractor to meet the special needs of a disabled operator will also fall in the first category. On the other hand, a remotely operated gate for guiding animals is a good example of an AT in the second category because it is specific to animal production (Vergenia Tech, 2010).

Farming with limitations or disabilities can increase risk in an already dangerous occupation and lead to secondary injuries. Assistive technologies have been developed for the farmstead to help individuals maintain productivity and independence, but can also assist in the prevention of secondary injuries. In simple terms, secondary injuries can be defined as injuries resulting from a previous injury or health condition. Often these secondary injuries occur because the farmer may attempt work tasks that exceed his or her abilities. The use of assistive technology can simplify tasks that need to be completed, create efficiency in labour-intensive work processes, and reduce fatigue.

Several assistive technology categories can be used on the farm. Depending on the disability and the challenges being faced, some or all of the categories may be used. These assistive technologies may be designed specifically for a person with a disability to perform a task, they may be technologies that are designed for the general public but have special value to people with disabilities, or they may involve innovative work practices that change the way a task is performed.

The greatest achievement and a positive change have been observed and studied among the disabled is their boosting self confidence, their financial stability. Now they learn

how to save and invest; also their awareness about reasons for disability and various policies of Government for disability is seems to be one of the great achievements in empowering them through SHGs. Majority of the respondents felt that after joining in the SHG they became aware about the loans and policies of government for disabled, learned to save money, they are able to communicate with others easily. Their mental strength and self confidence has increased and zeal to achieve things developed a lot. As per the social model of disability, it is not the individual medical condition but society which disables people with impairments. It is the way in which others react to disabled people that determines whether impairment will result in the exclusion of disabled people from mainstream activities. It is discrimination and prejudice that create sense of being disabled, and from this perspective, the social exclusion is the most crucial aspect of disability. It is strongly recommended that SHGs and NGOs should design some programme to integrate the disabled persons with fellow human-being without disabilities through awareness programmes and special workshops and cultural activities like drama, street shows etc. Also disabled should be encouraged to take part in all economic, social, cultural, religious and political activities as non-disabled person do.

## **CONCLUSION**

The knowledge about what is disability, impairment and handicap along with constitutional safeguards and rights of disabled, statues for disabled persons is must for the members of the disability-SHG. The disabled person can fight better for their rights and against the discrimination and prejudice than any other activist or organization. It is recommended that the disabled member of SHGs should consolidate their political position, improve rapport with government officials to get the privileges of all rights they deserve as fellow human beings do. So, it is recommended that disabled should be made aware about all issues related to disability and encourage through motivational counselling to stand firm for their own rights and fight against all kind of discriminations against them.

Social, educational and vocational rehabilitation of the physically handicapped is a Herculean task indeed. Disabilities and the needs they create vary from individual to individual, so adaptation of any assistive technology must be done on an individual basis. Persons with disabilities seeking adaptation must work with an AT practitioner. These individuals are trained to select or design an AT system while taking into consideration the disability of the individual, their needs, and the functioning environment. Specialists associated with the assistive technology program will generally be involved in the training and the evaluation of the AT selected. One such measure is itself the formation of SHGs, through this all disabled in a village come together. The power of collectivism can overpower ridicule and discrimination against them.

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