



Disability and Urban Agriculture – An innovative approach

Introduction

Despite growing awareness that agriculture in urban areas has significant implications for income generation, food security and nutrition - particularly among the urban poor - persons with disabilities have been notably absent from discussions. Little is known about the extent to which persons with disabilities rely on agriculture in urban areas for livelihood support, or what - if any - opportunities persons with disabilities have to participate in urban agriculture. There is also limited information on the extent to which urban agricultural projects are, or can be, adapted to a disabled person's capabilities. A number of barriers to, and opportunities for, inclusion can be identified.

Barriers faced by persons with disabilities

- **Lack of knowledge:** persons with disabilities may have received little or no instruction or support in agricultural activities.
- **Environmental barriers:** Without adaptations, some impairments may limit ability to undertake some agricultural techniques; however, adaptations can cost time, energy or

money that individuals with disabilities or members of their household are unwilling or unable to provide.

- **Access to land:** growing space, land tenure and money to cover initial project costs such as tools and seeds, may be limited, and agriculture extension activities or microcredit schemes may be reluctant to include persons with disabilities.
- **Social and cultural stigma:** prejudice against persons with disabilities may limit their ability to sell produce or food. In countries where preparing and selling food is one of the few avenues for women to earn money outside the household, this is a major barrier for women with disabilities.

Opportunities for persons with disabilities

- **Improved nutrition status** of the individual and household, as well as improved food security;
- **Contribution to the household economy**, either in food or income for the household, with the added benefits of greater empowerment of the person



with disability within the household and the wider community, and greater social inclusion at the household and community level.

- **Employment for persons with disabilities**, who often face higher unemployment or underemployment rates than their non-disabled peers. Agriculture is an income generating activity that allows a person with a disability to be self-employed, rather than dependent on others.

The Project

This pilot research project was an attempt at raising awareness and identifying gaps in access to urban agriculture for persons with disabilities through action based-research in Thika, Kenya. Kenya has been identified as a country at particular risk of the impacts of globalisation, including rural to urban migration, food insecurity and inequalities. A high proportion of urban households live in extreme poverty, and it may be expected that many of these have one or more members with a disability. The Kenya National Survey of Persons with Disabilities (2008) gave a prevalence of 4.6% persons with disabilities, many of whom live in urban and peri-urban slum areas.

Though there are a number of initiatives focusing on disability and agriculture in Kenya (for example, the work of the National Disability and Development Fund) few have targeted urban agricultural concerns. Due to a lack of integrated disability policy in Kenya, there is little welfare support for people with disabilities and greater efforts are needed

to integrate their participation into national development initiatives. However, to date, there has been little research to identify specific needs and strategies. The results of this pilot will highlight the policy implications of including persons with disabilities in urban agriculture initiatives and identify areas for further research.

The research was undertaken as part of the Cross-Cutting Disability Research Programme, funded by the Department for International Development, and was implemented in Kenya in collaboration with Research into Use (RiU) partners: Real Impact and the African Centre for Technology Studies (ACTS).

Methodology

From the outset it was decided that the research would be action-based to ensure that existing and new knowledge and practices would be disseminated to potential users. This is a central tenet of the RiU research programme. To do this, demonstration gardens were designed in collaboration with two agronomists and constructed in two selected schools in the Thika area to enable students with disabilities and other members of the community to learn innovative urban agriculture techniques, such as sack gardens (fig. 1), drip irrigation systems (fig. 2), vermiculture and other crop-improving techniques. Lessons on techniques were integrated into the curriculum. In addition, the produce supported school feeding and improved nutrition of pupils and teachers.



As stigma had been identified as a major barrier, the team worked with Well Told Story to develop a storyline in the popular magazine *Shujaaz*, distributed monthly in the *Nation* newspaper. The story about Sifa (who is pictured on the front page) highlighted the exclusion and prejudice persons with disabilities face in Kenya, was very popular and received supportive feedback via Facebook and radio.

Figure 1: Sack garden, Kenya



To compliment these activities, a pilot survey was undertaken to explore issues around livelihoods, food security and nutrition of persons with disabilities living in Kiandutu, a slum area in Thika. This was supported by focus group discussions and key informant interviews with a number of stakeholders.

Results

In total, interviews were undertaken in 140 households (HHs) identified by snowball sampling: 85 of which had at least one member with a disability (just over 60%) and 55 control HHs (39%). The majority of the respondents were female. The largest impairment groups were physical disability (almost 36%); visual impairments (almost 30%), and mental health impairments (almost 15%).

Perhaps unsurprisingly, overall living conditions, such as property ownership, construction materials, household density, access to water and sanitation, fuel and assets did not vary greatly between case and control groups. There was some variation in access to services, with just over half the respondents (53%) having no access to services at all. Of those who did, government social welfare (17%) and religious support (17%) were the most common. Overall, there was also no difference in household expenditure between case and control groups for rent, food, water, household items, transport, fuel (cooking and lighting), education, medical costs, clothing, household repairs and debt repayment.

Households with access to land grow a variety of crops: maize, beans, cowpeas, amaranth, pumpkin and kale being the most common. According to the results, no respondents from control HHs used agriculture or related activities as a source of income, despite having access to land.

Only a very small number of people, (n=7/9%) in case and seven (13%) in control group, use sack gardens. Of those that do, the main crops grown are spinach and kale. Of those who have access to land and/or to sack gardens, very few used improved or certified seeds, but 62% use fertiliser, mainly chemical. A similar number of people in both case and control groups kept animals (around 30%), with chickens being the most common. No one kept rabbits, pigs or fish, but four case households kept cattle.



Figure 2: Drip irrigation system



In the case households who state they have access to land or sack gardens (n=41), 46% (n=19) of HHs had at least one person with disability participating in agricultural activities. In particular, they are involved in thinning, planting, harvesting and weeding; they are less involved in animal farming, marketing, or dairy farming. In the case HHs with access to land where members with disability do not participate in agricultural activities, the main reasons given were physical inaccessibility (45%), lack of assistance (15%), or that persons with disability are 'not allowed' to participate (15%).

Respondents in case HHs were more likely to think there are ways to facilitate the participation of persons with disabilities in agriculture (90%) than respondents in control HHs (71%). Suggestions for the most appropriate strategies to improve participation from both case and control HHs were:

- provision of assistive devices (83%);
- providing capital (76%);
- creating awareness on opportunities for persons with disabilities in agriculture (64%).

According to respondents, the main benefits for persons with disabilities from their involvement would be an improvement in their financial (83%) and social status (73%) and improvement in the household financial (85%) and social status (71%), and improved food security (69%), with no difference between case and control groups.

Among those who do not consider there is any way to improve the participation of persons with disabilities in agriculture, the main reasons given were physical inaccessibility (48%) and the need for assistance (43%) in both cases and control groups.

With regard to food, the majority of all respondents consume three meals a day (53%); however a significant percentage of HHs (more than 40%) consume only two meals per day. There was no difference in amount of food to eat between case and control groups, nor among those with agricultural land.

When asked about food consumed in the previous four weeks, of the 95 respondents who specified the variety of food consumed, the most common types were ugali (84%) kale (41%), githeri (25%), rice (16%), and beans (7%). 66% stated that at least one member of the HH had to eat something they really did not want to due to lack of resources, with no differences between case or control groups or those with access to land. Of those that had to eat something they did not want to, 77% said this problem had happened 3-10 times or more in previous four weeks. The main strategies to ensure



food security in the HH were to reduce portions (64%) and skip meals (61%).

Respondents in HHs where there is at least one child with a disability were asked questions comparing the health status of children with disabilities to their siblings and age-mates. In comparison to other children, the health status of children with disability was generally considered good (52%); nevertheless 40% considered their disabled child's health status as poor. 32% of respondents had children with other medical conditions apart from their disability; a small number also reported health conditions that may be related to malnutrition (i.e. rickets) or problems eating (i.e. stomach ache, vomiting, underlying illness).

Information on basic nutritional status was collected from 134 respondents, including their dietary knowledge, habits, intake and health status. Among these respondents, four (3%) stated they had been diagnosed as diabetic but only one person could specify the type (type 2).

Discussion

This is a small sample, with limited variation between case and control (most likely indicative of the poor conditions in Kiandutu). However, the results of the survey, the focus groups and interviews and the work undertaken in the demonstration gardens, has highlighted a need for expansion and training on innovative urban and peri-urban agriculture methods, such sack gardens, vermiculture, etc., which can be adapted for persons with disabilities.

It was clear from the research that many people felt that persons with disabilities and their families would benefit from increased involvement in urban agriculture activities.

However, it was also clear that participation in these activities is limited for a range of reasons. This included negative perceptions – for example, some parents thought their children with disabilities would not be able to manage to participate in farming activities. This may dictate how parents distribute their inheritance. Some teachers also thought parents limited the participation of their children with disabilities in agriculture by being overprotective, fearful and in some cases, simply not believing in their children's potential. It was felt that this discourages children from developing skills of self-resilience and self-reliance.

Another key point highlighted was the negative perception of agriculture by a society which prefers 'white collar' jobs, and this too may have played a role in keeping persons with disabilities from full participation in agricultural activities. Agriculture has been removed from the curriculum in primary school and reintegrated into other subjects, which some teachers felt reduced the importance of agriculture within society.

Many respondents also felt that the government has a major role to play to improve the inclusion of persons with disabilities in agriculture, through amending and implementing policies to increase the number of persons with disabilities participating in agriculture.



Agricultural Extension Workers also thought the lack of incentives and specific targets by the government did little to encourage persons with disabilities to participate in agricultural activities. Suggestions for future action included:

- Policy formulation and action by the government
- Providing training on adaptive farming techniques (such as sack gardening)
- Improving accessibility (such as to microcredit schemes)
- Civic education and sensitisation of public to issues affecting persons with disabilities
- Marketing strategies for products produced by persons with disabilities

Policy Implications

This research was timely, as the Kenyan government is developing an Urban and Peri-Urban Project through the Ministry of Agriculture, and drafting a National Urban and Peri-urban Agriculture and Livestock Policy (UPAL), which seeks to support urban farming and “to promote and regulate sustainable UPAL development to improve incomes, food security, create employment and reduce poverty to enhance living standards; with focus on land use, public health and environment.” However, as yet, none of these policies mention persons with disabilities. The lack of disability-inclusive agriculture projects means that this issue is not being brought into mainstream programmes where disability awareness and inclusion remains limited. Inclusion of persons with disabilities has the potential to provide greater food security, improved nutrition,

increased income and in some cases employment, for persons with disabilities. It also has significant implications for participation and empowerment.

Legislations and policies that protect and promote human rights and fundamental freedoms of people with disabilities include the Constitution of Kenya (2010); Persons with Disability Act (2003/2012); the UN Convention on the Rights of Person with Disabilities, and the National Disability Policy (draft). None of these policies recognise the participation of persons with disabilities in urban agricultural initiatives; nor is there much mention of persons with disabilities in most current agricultural policies. Where they are mentioned, they are usually classified with other ‘vulnerable groups’. However, while other groups have innovative support ventures in place (such as the Youth Enterprise Fund and Women’s Development fund), persons with disabilities have limited access to agriculture funds, especially in urban areas, due to lack of awareness, resources, and negative attitudes, and a lack of specifically targeted programmes. In particular, there is a need for:

- The inclusion of agriculture in disability policy and persons with disabilities in general agricultural policies
- Awareness raising around persons with disabilities’ capacity to participate in urban agricultural activities;
- Lobbying the National Council for Persons with Disabilities to support urban agriculture projects as a form of livelihood support.



Adaptations to engage persons with disabilities

- **Knowledge of agriculture:** persons with disabilities must be included in programmes available to the general community that provide knowledge and experience of both growing plants and rearing animals, and preparing garden produce for consumption or for the market.
- **Disability specific adaptations:** Low-cost adaptations such as waist high sack gardens and keyhole gardens, often allow persons with disabilities to be more productive. In many cases, these adaptations are needed for the person with a disability to be able to work the garden at all.
- **Access to resources:** Access to a range of often low-cost resources including information, seeds and young animals, tools and land. Also of importance is access to micro-credit and business development opportunities.

Conclusions

The inclusion of persons with disabilities takes on added relevance as **major development agencies, such as DFID have targeted agriculture, nutrition and food security** as key priority research areas.

As NGOs and agricultural groups increasingly promote small-scale vegetable garden projects, in particular in urban areas, as sustainable development initiatives, it is vital that these are disability-inclusive.

Currently, in many countries there are few or no links between disabled people's

organisations, schools, community based rehabilitation programmes and agricultural agents, NGOs and government groups that work on urban agricultural activities. There is a clear need for organisations and advocates in these currently distinct areas to work more closely together.

Agricultural NGOs and relevant agencies must receive appropriate training to support people with disabilities in urban agriculture.

There is limited literature on disability inclusion in agriculture generally and urban agriculture in particular. Detailed studies are needed to identify agricultural practices, and understand food security, nutrition and livelihoods for persons with disabilities. Studies should also include analysis of stakeholders, institutional frameworks and market outlets. There are important aims for future research, in understanding and addressing the inclusion of and challenges faced by persons with disabilities in urban agriculture.

Finally, an **established research and evidence base** for disability-inclusive urban agricultural interventions is essential in promoting sustainable urban agriculture programmes. Much more research is needed on the links between disability-specific and disability-inclusive activities, focusing on what currently exists, and on where synergies can be fostered and promoted for improving food security and nutrition, as well as providing livelihoods and economic benefit through small-scale enterprise.



About the Cross-Cutting Disability Research Programme (CCDRP)

The CCDRP is a three year research programme on disability and development funded by the UK Department for International Development (DFID). Based at the Leonard Cheshire Disability and Inclusive Development Centre, Department of Epidemiology, University College London (UCL) the goal of this project has been to generate new understanding of the links between disability and global poverty in mainstream development and health areas where little attention has previously been directed towards persons with disability: maternal child health, water and sanitation, and agriculture as well as to better understand issues of access to mental health services in peri-urban communities. Research has been concentrated in five countries: Kenya, Zambia, Uganda, India and Nepal. The programme is also supporting a number of other stakeholders, including disabled people's organisations and local academic institutions to mainstream disability and development research.

The overarching aim of this research has been to contribute to an increase in the effective and sustained social and economic inclusion of disabled people in international development and global health efforts through the generation of evidence-based research as well as capacity building of a range of partners to strengthen mutual understanding around disability inclusion.

This research has been funded by UKAID from the UK Government. However the views expressed do not necessarily reflect the UK Government's official policies.

