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Urban Horticulture for Food Security and Livelihood Restoration in Mutare City, Eastern Zimbabwe

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ABSTRACT

Caritas International Zimbabwe implemented a food security restoration project targeting 1,000 vulnerable households in Mutare urban, eastern Zimbabwe. The objectives of the study were to determine whether targeted households were able to improve household income from sale of horticultural produce and to assess if these households were improving their household dietary diversity. Data were collected from a random sample of 100 household heads through interviews in December 2014. Desk reviews of Mutare urban food security project reports (baseline and end line surveys) were done. Results show that the urban horticulture project improved household income of about 70% ($n = 70$) of the targeted households by then. By December 2014 household food consumption score (FCS) among the project targeted households had improved beyond FCS > 35 as compared to baseline status. Mutare urban farmers were coached to practice market oriented horticulture production to enjoy both a diversified diet themselves and to sell to the market, through which they were getting a net profit of at least US\$80/month per household. We conclude that the Mutare urban horticulture project improved food and nutrition security and restore livelihoods for the targeted poor urban dwellers as at December 2014. Such market-led horticulture project formulation is a worthy feasibility studies for options for replication in related project area context which could be proposed.

Keywords: Food security, market linkages, poverty alleviation, urban agriculture.

INTRODUCTION

The United Nations set Millennium Development Goal number one called for a 50% reduction between 1990 and 2015 in the proportion of people who suffered from hunger and whose income was less than US \$2 a day (Foeken, 2008). This goal was elusive to achieve especially in sub-Saharan Africa (Fox and Liebenthal, 2006; Barret et al. 2008; Mbuli, 2008). The problem was further exacerbated by the global financial crisis of 2008, and resultant recession, leading to widespread low levels of donor funding towards the needy developing countries (Grain, 2009). African urban areas tend to experience persistent hunger than the intermittent hunger that can found in rural areas. This is because urban populations depend largely on income to access food, yet prevailing employment and income conditions seem to be stagnating. Foeken (2008) points out that life in urban areas in sub-Saharan Africa has become more expensive, while employment in the formal sector has dropped and real wages have not kept up with price increases or have even declined in real terms. In spite of the widely publicised 'success' stories about Zimbabwe in the 1980s, 50% ($n = 6.5$ million) of the population continues to live in poverty (United States Aid, 2013). Between 2000 and 2009, Zimbabwe experienced a series of socio-economic challenges resulting in loss of livelihoods, widespread poverty, high unemployment and reduced food security (WorldBank, 2010).

Household vulnerability in Zimbabwe urban habitats are perceived to have been further overwhelmed as a result of unplanned 'Operation Restore Order' carried out by the government of Zimbabwe in 2006, which resulted in an abrupt loss of shelter and sources of livelihoods in urban areas (United Nation (UN) Habitat, 2008). The government operation demolished illegal city squatters' homesteads with no immediate planned alternative livelihoods. Informed by a community need assessment, Caritas International Zimbabwe, a Roman Catholic Church humanitarian organisation began emergency and recovery programs through horticulture and household economic growth in the year 2009 in Mutare City, eastern Zimbabwe. The activities addressed the need for under-skilled vulnerable urban people to learn farming practices and gain access to urban markets to improve household income which is linked to household food security (Mashapa *et al.*, 2014a, b). The livelihood and food security project targeted about 1 000 households with various vulnerability contexts. The present study assessed

the impact of smallholder urban horticulture in alleviating household food insecurity in a relief context. The case study focussed on aspects of horticulture in the urban environment of Mutare city as it relates to food production generally known as urban horticulture.

The study assessed the impact of the project directed farming activities on household income and food and nutrition security as a case study. For the purpose of this case study, household food security is attained when a household is able to consistently access food quantities and quality that are needed to meet the household needs. The food could be accessed through home-based production, purchases with improved household income or both. Food security and household income are considered to be major components of poverty alleviation efforts for livelihood restoration. Implications for future urban horticulture value chain development and policies to promote urban agriculture systems at smallholder level were noted and discussed in the context of relief support in Zimbabwe. The study results could inform future programming of the organisations' intervention projects within the agricultural sector and urban poverty reduction. It is hoped that the study findings could provide relevant information to the Zimbabwe Government and its agricultural agencies for reviewing/considering policies related to urban agriculture, food security and social welfare, particularly under urban environment. The case study could also serve as a source of relevant data for researchers, farmers, other relevant stakeholders, interested in funding organisations and non-governmental organisation seeking opportunities to improve food security and livelihoods for the urban vulnerable poor households.

Zimbabwe, Mutare urban community need assessment overview as at 2009

Early in the year 2009, a community need assessment was done by Caritas International, Zimbabwe and it appeared that the food security problems existed in Mutare urban where high incidence of food insecurity among vulnerable households were recorded (Caritas International Zimbabwe, 2010). According to the need assessment report; food gap was reported, varied between 9 and 11 months of the year for the vulnerable households. Household income was usually below US\$35 per month and household food consumption pattern was on average 1 meal per day per adult as measured by the World Food Programme protocol (World Food Programme (WFP), 2013). Food insecurity was mainly caused by low household income, very low yields from informal urban agricultural activities, also because of lack of land. Many households were reported to survive on firewood being collected and sold by the children in the household (often instead of the children going to school, as there was no money for school fees) and on vending of small quantities of agricultural produce. It was reported there were people who during the last two days of the community need assessment exercise who had only eaten vegetables for the day's meal. High numbers of household members per household unit were recorded (up to 14), who reported just having money to rent a single 15m² room (for which they pay US\$70 per month including water and electricity bills), with a consequence that only the children of the household sleep inside the room and the adults outside (Caritas International Zimbabwe, 2010). Household members were reported gathering wild fruits, something that is there normally only done in case of high food insecurity (Mashapa et al., 2014a). The majority of these households with food insecurity were young widows, grandmother headed households, child headed households and households headed by persons living with Acquired Immuno Deficiency Syndrome (AIDS) (Caritas International Zimbabwe, 2010).

During 2009, Zimbabwe went through a series of currency reforms in an attempt to cope with the hyper-inflation the country was experiencing (WorldBank, 2010). The hyper-inflation drastically reduced the total worth of households' past savings, as most had been in the local currency. As a result of hyper-inflation and subsequent dollarization (United States Dollar) of the Zimbabwe local currency, households became bankrupt overnight, losing their savings and ability to finance livelihoods activities from their own resources. Conversion of services and utility bills in urban settlements (electricity, telecommunications and water) from the Zimbabwean dollar to US dollars left most households highly indebted; the loss of past Zimbabwean dollar savings made it virtually impossible for most households to honour these bills. As a result, many lost their electricity, water and telecommunication services with negative impact on related livelihood options (Caritas International Zimbabwe, 2010). Existing informal Mutare urban farmers were characterized by a low capacity to farm efficiently due to lack of training and low access to technological tools, land, water and reliable market linkages. These urban farmers needed new information about techniques and training in agribusiness skills to apply knowledge about improved inputs, management practices, farming techniques for improved urban farming, processing technologies such as grading, sorting, packaging, and capitalisation of opportunities in government policy to suit urban agriculture for food security and livelihood restoration (Caritas International Zimbabwe, 2010). Very few smallholder urban farmers had experience producing in quantity and at quality levels demanded by commercial buyers (Mashapa et al., 2014). Most buyers did not have market linkages with these urban subsistence farmers.

Livelihood and Food security project design in Mutare urban, eastern Zimbabwe

Informed by a community need assessment, food security and livelihood gaps were identified in Mutare urban, eastern Zimbabwe, Caritas International Zimbabwe implemented the promotion of sustainable smallholder horticultural activities with vulnerable households targeted in Mutare urban. Caritas International Zimbabwe supported the individual households to engage in market-led horticulture production on an average of 500 m² of

irrigated land per household. The targeted 1000 urban farmers all got starter pack of horticultural inputs of value US\$150 per household and during the first 3 months of the first cropping season. The targeted beneficiary households had also provision of US\$75 value of household food package to meet their immediate humanitarian food needs under emergency, before their first harvest and earnings from the designed horticultural food security project activities. In addition, Caritas International Zimbabwe supported targeted households through irrigation infrastructure development, crop production training, extension and market linkages. Caritas International Zimbabwe had to meet some certain international humanitarian and development standards in order to ensure food security and livelihood restoration for the targeted vulnerable households.

The three (3) food security and livelihood restoration standards are:

I. Food security and livelihood standard 1; which main focus on supporting the primary production in a project. In that regard, the present project established land plots under irrigation horticulture production by the targeted households.

II. Food security and livelihood standard 2; which calls for employment and income for targeted household beneficiaries. Thus, the project is a form of employment which unveil the opportunity for household income from sale of horticulture produce.

III. The food security and livelihood standard 3; calls for provision of capacitating project beneficiaries in market linkages and access to market. In that regard, the present project had a farmer training and extension service component where urban farmers were trained in farming as a business and market-led production. Horticultural crops are usually perishable and the farmers need ready markets to sell off their produce.

Research objectives

The overall study objective was to assess the impact of smallholder horticulture production as a livelihood activity for food and nutrition security targeting vulnerable households in Mutare urban, eastern Zimbabwe.

Specific objectives were;

- To determine whether targeted households were able to improve household income from sale of horticultural produce.
- To find out if the targeted households improved in their household dietary diversity.
- To assess the determinants of smallholder horticulture under urban environment and to investigate the targeted household farmers' perceptions on the impact of the food security project to their livelihoods.

Scope of the study

The case study was carried out in Mutare urban, eastern region of Zimbabwe and can be generalised to other areas with similar agro-economical characteristics. The study assessed the viability of urban horticulture production and its impact on the targeted households as project beneficiaries. Previous project reports like the baseline survey report, project annual reports and research articles were also included for comparative analysis (Caritas International Zimbabwe, 2014). The areas of interest to the researchers included food diversity and comparative analysis of beneficiary's present household income and the income they obtained at baseline when the project started in 2009. Other areas of coverage are the challenges and opportunities of urban horticulture aimed at food security and livelihood restoration.

Limitations of the study

Measurement of household income in developing countries is fraught with problems and the widely shared consensus is that income is underreported. Some of the farmers could not recall the income they made in the previous months because they said that whenever they sold some horticulture produce, that money would be used to buy other things they could not produce (Caritas International Zimbabwe, 2010). They referred to this as 'hand to mouth' type of living. Some household would underreport household income in anticipation of more donor and social welfare assistance. Other indirect ways of determining the amount of income they got was to get their household expenditure pattern which was not so accurate. Some of the money did not just come from the horticulture production project hence estimates were made by some of the farmers (Caritas International Zimbabwe, 2010). The other problem the researchers encountered was that, most farmers did not keep their production records. This took a lot of time to calculate the horticulture production returns and its costs during the interviews. This showed that most of the targeted urban farmers in Mutare urban did not keep their records despite the fact that they were trained to do so (Caritas International Zimbabwe, 2010). It was then assumed that

even other training methods that they are taught for instance, mulching for soil and water conservation, they can overlook them and keep producing their horticultural produce the way they want to.

METHODOLOGY

Case study area

The case study was conducted in Mutare urban in Manicaland province, eastern Zimbabwe (see Mashapa *et al.*, 2014, for details). It is the third largest city in the country and the capital town of Manicaland Province of Zimbabwe, with an international border to the country Mozambique. Manicaland Province of Zimbabwe covers an area of about 36 459 km². The case study area encompasses Mutare urban, where Caritas International Zimbabwe has been implementing horticultural project for a five years period which commenced in 2009. The study area has a variable climate from wet to semi-arid climate. The mean annual temperature was 19 °C and the mean annual rainfall was 818 mm over the project duration 2009-2014. Most urban households in Mutare urban are smallholder farmers who are active during the wet season (September-March), who produce cereals for home consumption with little left for sales for household income, whereas, most of these households do not own land to cultivate, as land ownership is prohibitively expensive for vulnerable households in urban set up in Zimbabwe. According to ZimStats (2013), Mutare urban had a population of about 188 000 people of which 89 000 are male and 99 000 are females. There were an estimated number of 48 000 households in Mutare urban with an average household size of 4 family members.

Data collection and data analysis

Data were collected through interviews following the methods outlined by White *et al.* (2005). Desk review of project documents availed by Caritas international Zimbabwe (2014) and fieldwork activities were done, including focus group discussions, key informant interviews, a mini household survey, positive deviance inquiry and observations to capture the attitudes and perceptions of beneficiaries. A random sample was used comprising 100 household heads selected in accordance to Mashapa *et al.* (2013) from the project targeted households for mini household surveys (White *et al.*, 2005). The interview guide contained questions about local peoples' perception on urban smallholder horticulture production as a livelihood activity for food security, horticulture value chain development and its contribution to household income, food and nutrition security. Questionnaires were also administered to assess household food consumption pattern following the protocols of WFP (2013) in comparison to the baseline status. Focus group discussions were held with the vendors and key informant interviews were held with Mutare forum of non-governmental organisations NGOs, Mutare City Council, horticulture market players around Mutare urban, the Zimbabwe Government Departments of; Agriculture and Extension Services and the Department of Social Welfare. Data analysis followed as highlighted in the analytical framework (Table 1). Responses were summarised using descriptive statistics

Table 1: Analytical framework

Objective	Data requirements	Method of Analysis
To determine whether targeted households are able to improve household income from sale of horticultural produce.	Monthly mean household income generated from sale of horticulture produce Monthly household expenditure pattern of income generated from horticulture production.	Mann-Whitney U test was used to test for significance difference in mean household income from horticulture between the baseline status and the post-project inception scenario.
To find out if the targeted households are improving in their household dietary diversity.	Household food consumption pattern The different types of horticulture crops grown	United Nations World Food Programme Protocol on assessing household food consumption score was compared at baseline status versus the post project inception
To assess the determinants of urban horticulture and to investigate the targeted household farmers' perceptions on the impact of the food security project to their livelihoods.	Age Sex Level of education Agricultural training Land tenure Market linkages Water availability	Responses were summarised using descriptive statistics Kruskal-Wallis test was used to determine association between people's knowledge about food security and their attitudes towards urban horticulture.

RESULTS AND DISCUSSION

Determinants of smallholder horticulture under urban environment and farmers' perceptions on the impact of the food security project in Mutare urban, eastern Zimbabwe.

The farmers' perception of the livelihood and food security project seemed to be influenced by socio-economic characteristics of households. The key findings of the case study showed that, the average age of the household heads was 46 years. On average, male heads households were older than female heads of households by about 8 years. The minimum and maximum ages were 19 and 67 years respectively though the mode of the age was 44 years. This highlighted that most urban farmers were of middle to old age and this is likely attributed to the prevailing high unemployment rate in the formal sectors in Zimbabwe (World Bank, 2010), thus, the middle aged to old aged household heads find themselves engaging in urban horticulture for self employment to sustain their livelihood. The case study results revealed that most people in study area were educated as 70% ($n = 70$) of the household heads who were study respondents had received at least primary education. About to assess the determinants of urban horticulture and to investigate the targeted household farmers' perceptions on the impact of the food security project to their livelihoods; Age, Sex, Level of education, Agricultural training, Land tenure, Market linkages and Water availability responses were summarised using descriptive statistics. 80% ($n = 80$) of the study respondents were not formally employed but involved in urban agriculture. Age, education and employment status variation factors likely influence peoples' attitudes towards urban horticulture. Various factors which influenced urban horticulture were land tenure, availability of water and horticulture market share which were singled out as critical horticultural productivity determinant factors in Mutare urban, eastern Zimbabwe (Table 2).

Table 2: Determinants of smallholder horticulture under urban environment and attitudes (positive) of local people towards urban horticulture in Mutare, Zimbabwe ($n = 100$)

Variable	%
Urban horticulture could improve household income and ensure household food security	75
Availability of water determines productivity of urban horticulture	70
Market-led production is linked to the profitability of urban horticulture	55
Land tenure is an important natural economic factor of urban horticulture	52
Urban horticulture can provides for household dietary diversity	72

In Zimbabwe, urban agriculture has expanded beyond backyard gardens, with urban dwellers moving to larger pieces of land where they can produce more crops. Open places reserved for future town council planning, water catchment areas and even hills are the targets (Kutiwa *et al.*, 2010). These so called open places were targeted as there were no laws which neither restrict nor allow urban farming in the country. Local government authorities, however, have set by-laws that prohibit crop production in open town council land spaces as they slash down the crops at an early stage to discourage people from producing crops on the council owned land property. Kutiwa *et al.* (2010) suggests that urban farming in Zimbabwe is as a result of people moving from the rural areas to the urban settlements who tend to cling to their rural livelihood activities as a means of providing needs for their households as they search for employment in the urban areas. For some in Zimbabwe urban households, due to vulnerabilities of urban life due to high unemployment rate and underemployment, they resort to urban agriculture as a means to their livelihood upkeep (UN Habitat, 2008). Urban households had little farming experience and background hence there is relatively low adoption rate of best agricultural practices and in that regard, farmer capacity building through agribusiness training was noted as a determinant for viability of urban horticulture in Mutare urban, eastern Zimbabwe (Table 2). Farmer group formation and strengthening training was reported to have been done (Caritas International Zimbabwe, 2014). Farmer working in groups gives farmers better access to services like market linkage and extension services (Mashapa *et al.*, 2014b) and members' pool together scarce resources, own and manage the resources. Farmer groups could be learning laboratories promoting skills, e.g., enterprise management, problem solving as well as being a wealthy source of indigenous knowledge and skills. Farmers working in groups reduce administrative transaction costs. Working in groups reduces default risk through collective risk taking. Farmer group working provides channel for information dissemination, e.g., prices, opportunities, meetings. Peer pressure induced by working in groups encourages members to adopt and perform collectively. In that regard, project targeted households received market linkage training on market search and market-led production orientation, horticulture production planning, and cropping calendars, costing and pricing (main focus on gross margin analysis) and record keeping. As reported by Mashapa *et al.* (2014b), the present case study also recorded that high-value horticultural crop varieties were produced by urban farmers in Mutare urban and these included onions (*Allium cepa*), cabbages (*Brassica oleracea*), rape (*Brassica raparapa*), carrots (*Daucus carota sativus*), spinach (*Brassica oleracea capitata*), tomatoes (*Lycopersicon esculentum*), cucumber (*Cucumis sativus*), eggplant (*Solana melongena*) and butternut (*Cucurbita moschata*) among others. While reliable markets for quality horticultural produce were reported to be available to farmers, formal markets namely;

Mutare Manica produce wholesalers, Mutare urban boarding schools, Mutare chain of supermarkets, Mutare urban food outlets, Mutare urban group of hospitals (Mashapa *et al.*, 2014b).

Household dietary diversity pattern across the targeted households in Mutare urban, eastern Zimbabwe

To test if the diversity of food consumed by households improved in relation to the project outcome, a comparisons was made of the urban farmers household food consumption diversity food items at baseline in 2009 and endline in 2014 (Caritas International Zimbabwe, 2014). Diversity of food is when a person chooses a wide range of food from all food groups to take in all the nutrients needed for a health body at the recommended levels. This is also known as the balanced diet. The meals taken per day by the targeted households showed that households consume an average of two (2) meals per day at baseline and this had improved to 3 meals per day during the present study data collection and end of project. The provision of Mutare urban horticulture production assistance took a human rights approach by ensuring the right to food is upheld for the most vulnerable targeted households.

Focusing on the Mutare urban horticulture food security project and its desk review, the households consuming the five different food types were reported increased at project endline survey and this meant that they were consuming a balanced diet compared to those consuming less than the five different food types at baseline survey (Caritas International Zimbabwe, 2014). Over the project implementation period from 2009 to 2014 and across the project targeted households in Mutare urban, there was a significant increase in the household dietary diversity among the targeted households. Using a World Food Programme (2013) household food consumption score (FCS) measure, the present case study Food consumption score (FCS) profiles indicated that no case study respondents were still vulnerable and food insecure (that is $FCS < 35$). At baseline status, 78.8% ($n = 78$) of targeted households were reported to be food insecure in April 2009. From the project endline assessment, it was later reported that 87% ($n = 87$) of the project targeted households were reported as food secure ($FCS > 35$) in December 2014, compared to the 9.1% detected in the baseline. The average FCS has increased from 17 at baseline to 58 at end line. The case study revealed that nearly 70 % of household income is spent on food, the same as in the baseline. However, expenditure in services (education, health, and social services) had increased from 10 % at baseline to 18%; expenditure related to asset expenses (such as livestock and agricultural) has increased from 5 to 8% and other item expenditure (clothes, gifts, household items, etc.) has decreased from 20% to 7%. This may be due to different inflationary effects that affect local, regional and imported products differently. 41% of households (22% female headed, 78% male respondents) report having used at least one coping strategy during the last 30 days (from date of endline assessment). The use of negative coping strategies had reduced by 45% from the baseline (from 75 to 41%). In Mutare urban, crop diversity has been largely achieved, with at least 80% of direct project beneficiaries growing more than three crops in their gardens. Urban agriculture has been historically practised for the improvement in nutrition and livelihoods of the people. It has been supported externally by International NGOs, donor funded projects and government institutions whilst some are self-supported by individual or family. Urban agriculture has been used to be carried out as a womens activity in the past until it was recognised as a reliable source of household income. The drastic effects of HIV/AIDS and the desire to mitigate the effects of the pandemic resulted in increased garden activities in both rural and urban areas. Most farmers in the urban areas now produce vegetables and field crops for domestic consumption and sale (Mashapa *et al.*, 2014b).

Improved household income from sale of horticultural produce

Some of the beneficiary farmers reported that they do had other sources of income so that they can manage the harsh and prevailing economic climate in Zimbabwe. This consisted of numerous activities done by a household thereby having different income sources. Some farmers receive pension, others engage in other income generating activities including remittances from relatives. Some farmers or family members engage in fishing, cross border trade and skilled trade to mention a few, in order to boost their income. The income from these different sources was summed up including income from the sale of vegetables to come up with the total household income. The vegetable income is the money that the farmers get after selling their vegetables in their respective gardens. The percent household vegetable income to total household income sought to determine the proportion of vegetable income to the total household income and the differences in the ratio from 2009 to 2014. This follows the formula; $\% \text{ Household vegetable income to total household income}$

In 2009, the urban farmer beneficiaries' horticulture income to total household income ratio was lower than the current ratio. We recorded a significant difference in household income realised by the targeted Mutare urban horticulture farmers over the period 2009 to 2014 (Kruskal-Wallis test, $H = 10.11$, $df = 1$, $p = 0.006$). It significantly increased by 30% from 2009 to 2014. This is likely that the Mutare urban horticulture for food security project was very fruitful in 2014 as compared to the baseline of 2009 in terms of improving household purchasing power of the targeted urban farmers. Monthly progress monitoring of targeted urban farmers indicated that there was a general incremental trend of improved household income per household from 2009 to 2014 (Caritas International Zimbabwe, 2014). All study respondents highlighted that they were maintaining a monthly household income at least greater than US\$80 from sale of horticultural produce. Purchasing of food items like

oils, sugar, salt, milk, pulses and cereals, top up on farmer expenditure line items, hence, this could go a long way in improving household food consumption and food diversity which is linked to a healthy status of family. Improved household income strengthens household purchasing power which enables beneficiaries' households to consume diversified food components. Food security continues to be a matter of great concern, particularly in the light of increased drought frequency and the dwindling water table in the semi-arid areas of Zimbabwe (Mashapa *et al.*, 2013). Smallholder commercial horticulture under the provision of adequate water supply and quality extension service can improve household food security through farmers improved household income levels of improved household purchasing power which can render them to be in a position to buy the much needed cereals. In the semi-arid environments like southern Zimbabwe, the present horticulture project is on the verge of breaking the culture of always attempting rain-fed maize production under erratic rainfall pattern with high frequency of drought. The present Mutare urban food security project outcome could change farmers mind set of understanding that they can be in a position to purchase enough staple food with improved household income from a small-scale horticulture production, without any need to indulge in rain-fed dry land maize farming in the semi-arid environments, which is always associated with unsustainable yields. The United Nations Development Programme estimates that 15% of food worldwide is grown in the cities. Elsewhere, Cuba has successfully used urban agriculture as a means to evade food shortages in most of its cities (Smit *et al.*, 1996). In Accra, Ghana, a programme of 'Operation Feed Yourself' was instituted during food shortage period of the mid 1970's; urban residents grew food in their backyards and open spaces for food and nutrition security (Smit *et al.*, 1996). Most urban farmers specialise in the production of perishable and high commercial value agricultural products such as vegetables, milk, milk products, eggs and meat. In Shanghai China, urban agriculture on Gross Domestic Product contributed 2% and 4% in Lima, Peru (Van Veenhizen, 2006).

Ideas for future urban food security and livelihood restoration interventions in related context

As more people congregate in the urban areas in Zimbabwe due to rural-urban migration triggered by climate change effect, which renders dry rural areas drier due to erratic rainfall pattern (more land is turning into marginal lands), thus, more rural folks are emigrating to urban centres with the hope of securing informal/formal employment, but with the ever increasing Zimbabwe's unemployment rate estimated at over 80%, urban poverty is thriving in overpopulated urban areas (ZimStats, 2013). The perception that poverty is largely a rural phenomenon as observed in most development literature has harmed the urban poor. This has resulted in most policies aimed at poverty reduction focusing on rural areas, to the detriment of the urban poor. But increasing urbanization, migration and changing ways of living has meant that rural poverty has shifted to urban areas and their fringes. Strategies addressing poverty thus need to focus and cope with this subtle shift of the phenomenon.

There is the urgent need to promote urban agriculture, where appropriate, using all available land resources to off-set anticipated short falls in relation to climate change and urban poverty. In Zimbabwe, the current government land reform and resettlement is the opportunity for land use planning for urban agriculture while targeting the vulnerable urban farmers (Buckle, 2001; Moyo, 2011). Farm units close to towns and cities have the potential to operate intensive semi-or fully commercial farms to grow vegetables and other horticultural crops (Mashapa *et al.*, 2014b), raise chicken and other small livestock, produce milk and eggs, and develop aquaculture fisheries. When carried out properly under safe conditions, this system of farming can contribute to food security by increasing quantity of food available and enhance the freshness of perishable foods on the urban market and offer opportunities for productive employment to the unemployed and vulnerable urban people. Project planning and appraisal for consolidation of market linkages for sustainable horticultural output market channels prove to be an immediate opportunity, and this can apply to urban beneficiaries where weak market linkages tend to dominate (Mashapa *et al.*, 2014a, b). The aim could be to facilitate the establishment of sustainable output market channels between urban farmers, agro-dealers, retailers, exporters, traders-transporters-processors/manufacturers in programme intervention areas. Project implementing/intervention through this strategy has the added advantage of contributing to the increased production as well as guaranteed high value market-led production with a sustainable win-win mutual relationship between urban farmers and the public-private sector and agro-industrial companies who are prepared to invest where there is value for money (Netherlands Development Organisation, 2013).

CONCLUSION

The smallholder urban horticulture has a good potential to ensure food security of about 70% of the targeted vulnerable food insecure households (4,000 persons) and help them get out of the poverty trap. The Mutare urban food security project capacitated and coached the targeted households to practice market oriented horticulture production on a sufficient scale to enjoy both a diversified diet themselves (FCS >35) and to sell to the market, through which they may get a monthly net profit of at least US\$80/household, which greatly support the amount and diversity of their household food consumption. This improved household income could ensure household food and nutrition security among the project targeted households in Mutare urban, eastern Zimbabwe. However, the unavailability of adequate water supply and unsecured urban land tenure which were

highlighted as the major constraints on the viability of urban horticulture among urban communities need policy intervention to subsidise vulnerable urban farmers.

RECOMMENDATIONS

- Advocating and lobbying for integration of urban agriculture into city development plans by incorporating agro-residential planning in city development plans. Local authorities should devise policies for urban community gardens
- Enhancing low input household gardens that can create integrated humane, environmentally and economically viable agriculture systems.
- Provision of adequate water supply in urban environments
- Provision of agricultural extension service to the urban communities

These recommendations are in line with many earlier findings which advocates for the adoption of participatory approaches in lobbying and advocacy for a supportive policy enactment, institutional environment and functioning infrastructure for urban agriculture in Zimbabwe (Kutiwa *et al.*, 2010; Mashapa *et al.*, 2013, 2014a, b).

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