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Tackling food and nutrition insecurity in rural Tanzania: Farmers perspectives on kitchen gardening as a sustainable solution

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Introduction

Under nutrition and food insecurity are major problems faced by most of the developing countries including Tanzania. Approximately 42% of children below five years of age are stunted as a result of chronic undernutrition. Vitamin and mineral deficiencies are also very high where by about 59% and 34% of children below five years are iron and vitamin A deficient respectively and 48% of women are iodine deficient (National Bureau of Statistics [NBS] & ICF Macro, 2010). Foods with high nutrient content (vegetables and fruits) are difficult to find in the poorer rural areas during the dry seasons. Moreover rural households are affected with increasing food prices due to their low purchasing power (Adekunle, 2013). During this time, most people in rural areas are dependent on staple foods with little diversity.

Kitchen gardens play an important role in fulfilling dietary and nutritional needs. A kitchen garden can be defined in various ways. These types of gardens are intended to provide the household with some vegetables or fruits primarily for consumption (Kirsten *et al.* 2003). A kitchen garden in this context is a micro-environment composed of a multi vegetable or fruits species, multi-purpose garden situated close to the homestead. It is the traditional land use system around a homestead, where several species of vegetables and fruits are grown and maintained by the household members and their products are primarily intended for the family consumption (Christensen, 2011). There are various advantages that have surfaced from kitchen gardening practices such as better health and nutrition, increased income in case of sale of surplus produce, employment, food security within the household, and community social life (Drescher. *et al.* 2000).

This study sought to investigate the perceptions and practices by farmers on how kitchen gardening can be transformed into a sustainable nutrition and livelihood strategy in order to inform agriculture research and technology that can help to overcome food and nutrition

insecurity through kitchen gardens in rural Tanzania with low cost and ecological friendly cropping patterns.

Material and Methods

The study was conducted in two villages of rural Tanzania; Changarawe village in sub-humid Morogoro region and Iloilo village in semi-arid Dodoma village. Morogoro region receives two rainfall seasons with an average of 600-800mm per annum. Dodoma region receives one rainfall season with an average of 350-500mm per annum. A total of 28 respondents were involved in the study where by 14 were women and 14 were men. Data collection was done by various techniques which included focus group discussions, key informant interviews, observations and face to face interviews. All the techniques were designed to attain set goals and objectives. Demographic and socio economic information was also collected. Respondents were high performing, normal farmers and village leaders. The Statistical Product and Service Solution (SPSS) software version 17 (SPSS Inc., Chicago, IL, USA) was used to analyze the collected data. All categorical variables were described by using the frequencies and percentages.

Results and Discussion

The results of this study are consistent with the literature. Establishing a kitchen garden has different aims. It may aim to cut off the fruits and vegetable budget that would otherwise be bought from the market or from neighbours. It has been reported that food that is grown at home usually has a better taste compared to that purchased from the market (Christensen, 2011). Farmers were asked what could be the most important aim for a household to have a kitchen garden. Table 1 indicates that majority of respondents indicated that the aim of kitchen gardens is to get vegetables and fruits for household consumption.

Table 1: Aims of kitchen gardens

Reason	n (%)
Obtain fruits and vegetables	16 (57)
Cut off budget	7 (25)
Pastime activity	2 (7)
Increase food availability	3 (11)
Total	28 (100)

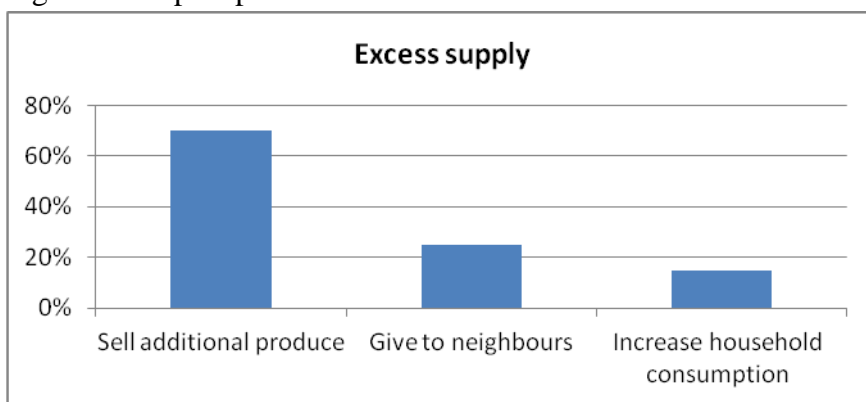
Our study indicated that kitchen gardening was more appealing to women compared to men and other groups. It was revealed that in 78% of households, it was the women who would take care and attend to the gardens (Table 2). In rural communities, women have multiple roles to play to ensure food availability at household level, so it is important to direct resources and opportunities to women. One study also reported that the majority of women considered kitchen garden as any other household chores rather than a means of hobby (Krems *et al.* 2004).

Table 2: Person responsible for caring the garden

Person	Percent
Husband	6%
Wife	78%
Other (Children, relatives etc)	16%

Kitchen gardening provides benefits in various ways. Respondents were asked what they would do with an increased amount of vegetables and fruits, if they were able to produce more in their gardens. The majority indicated that they would sell the surplus sell (Figure 1) to increase household income so that they able to purchase other household needs. Among the challenges that face kitchen gardening, water was cited as a limiting factor in implementing kitchen gardens because the water sources are located very far and that they would rather utilize the water for household needs than watering the vegetables. Similarly, the majority of respondents claimed that they had no resources to purchase inputs including seeds, manure and insecticides that are required for vegetable production together with lack of knowledge on principles of cultivation was limiting majority of farmers to engage in the activity.

Figure 1: Surplus produce



Conclusions and Outlook

The level of financial status of a household determines the readiness to engage in kitchen gardening. Involving men and other household members could make this practice a sustainable one. The spread of home gardening information through media could be a promising strategy as the majority possesses mobile phones with built in radios. Pocket/ bag gardens that use little water could be a perfect option in such areas. Generally, farmers' perspectives were in favor of kitchen gardening as a sustainable solution to solving the problems of nutrition and food availability in rural areas. There is need of training especially for women who play a very important role in promoting the activity and taking care of the of kitchen gardens.

References

Adekunle, O.O. (2013). The Role of Home Gardens in Household Food Security in Eastern Cape: A Case Study of Three Villages in Nkonkobe Municipality. *Journal of Agricultural Science*; Vol. 5, No. 10.

Christensen, T. E. 2011. What is a kitchen Garden? Kitchen gardening technology introduced in LCWU. *Pakistan Educational News Keiko*.

Drescher et al. 2000. "Urban Food Security: Urban agriculture, a response to crisis?" *UA Magazine*(2000).

Kirsten, J., May J., Hendriks, S., Lyne M., Machete, C. & Punts, C. (2003). *The Poverty and Food Security Role of Agriculture*. Paper Prepared For the Roles of Agriculture International Conference, 22-23 October, 2003, Rome, Italy: Agricultural and Development Economics Division (ESA) of the Food and Agriculture Organization (FAO) of the United Nations

Krems C, PM Lehrmann, M Neuhuser-Berthold. 2004. "Physical activity in young and elderly subjects." *Journal of Sports Medicine & Physical Fitness*. 44(1):71-6, Mar.

National Bureau of Statistics (NBS) [Tanzania] and ICF Macro (2010). *Tanzania Demographic and Health Survey 2010*. Dar es Salaam, Tanzania: NBS and ICF Macro