

MICRO GARDENING AS A CONTRIBUTION TO FOOD SECURITY AND NUTRITION IN AFRICA

Leregger, F., Institute for Environment – Peace – Development, Vienna, Austria

Nalubwama, C., Makerere University, Kampala, Uganda

Kehli, N., University of Copenhagen, Copenhagen, Denmark

Times of food shortage, high prices and increasing risks for the local agriculture due to climate change, calls for new approaches to guarantee sufficient food supplies for the population in Africa. New ways are needed in farming to save land area, reduce inputs like fertilizers and water, stop degradation and increase productivity. It is important to make these activities participatory and accessible for a wide range of people. The implementation should be easy on the levels of households, communities, regions and states.

One approach towards achieving this could be micro gardening as an agricultural concept that focuses on enhancing farming productivity for families with limited farming space in urban, semi-urban and rural areas. It involves planting crops on balconies, patios, terraces and rooftops and also cultivating plants in recycled locally available materials (e.g. plastic tins, old car tires and polythene bags).³ Micro gardening is not a new concept but in large (urban) regions of Africa there is decreasing attention on this topic. In the case of future

challenges such as urbanization, population growth and malnutrition, the revitalization of micro gardening has a high social, economic and ecological value.⁵

In Africa the population is rapidly increasing with a high rate of rural-urban migration (expected urban population in 2050: 5.2 billion, compared to 2010: 2.6 billion).⁸ Hence, a fall in production in the rural areas due to alternating division of labor and inadequate labor force is predictable. One of the effects of this development is increasing insecurity and revolving poverty. Micro gardening presents a good innovative solution to ensure food security, employment of young people and an alternative way for households to generate an extra income in developing countries.⁴

Additional benefits of micro gardening as an environmentally smart approach:^{2;7}

- ❖ The integrated use of household waste as compost and manure to improve productivity.
- ❖ Engaging in conservation farming practices such as zero-tillage, mulching

and vermin culturing which aims at an increasing biodiversity.

- ❖ Encouraging the planting of trees, especially fruit trees, to boost household fruit consumption yet protecting the environment.
- ❖ Various items are used as platters or seedbeds and bottle irrigation equipment thus recycling of plastic wastes.

Examples from the Uganda Micro Gardening Initiative (UMGI):

- ❖ An average household in Uganda consumes six tomatoes a day that would at least cost US-\$ 0.5. This means spending US-\$ 15 per month and US-\$ 180 per year on just tomatoes. UMGI says: “When we talk about micro gardening where you grow various crops we are not only helping you to save your money and generate incomes, but also saving your health through healthy vegetables and fruits. The US-\$ 180 is enough to help your child go to a better school or even start another enterprise in Uganda.”⁹
- ❖ The micro garden can be fertilized regularly with composite from household biodegradable waste and vermin-compost on a low cost level.⁹
- ❖ In one year a micro garden consumes about 1000 liters of water, less than 3 liters per day. It is affordable for families to pay these water bills.⁶

Research from the Food and Agricultural Organization of the United Nations (FAO)

shows that, a micro garden with a size of one square meter can produce any one of the following: 36 heads of lettuce every 60 days, around 200 tomatoes (30kg) per year, 100 onions every 120 days and 10 cabbages every 90 days.⁶ Thus, families can easily produce food for their members and a surplus for sale. For nutrition this enables low-income families to meet their needs for vitamins, minerals and plant proteins through the provision of fresh nutritious vegetables every day. Thus, they could be able to reach the WHO-recommended consumption of 400g per person/day of vegetables and fruits.¹⁰ In addition, this has positive effects on the cognitive development of children. Using Uganda as an example: The averaged Ugandan consumption of vegetables and fruits is 160g per person/day (during the rainy season). Especially urban dwellers have a very low intake (estimated 12g per person/day), which is very low compared to the recommended consumption.¹

Summarized, micro gardening can effectively contribute to food security by being highly productive. Furthermore, people irrespective of their age, physical abilities and other forms of barriers can manage it. In general, micro gardening can give substantial contribution to solve food insecurity especially in urban areas with a lack of fertile soil.

UGANDA MICRO GARDENING INITIATIVE of Makerere University (UMGI)

UMGI is a student community partnership started in 2013 to transform the lives of poor urban and semi-urban communities through micro-gardening projects. An extension team of around 30 students in cooperation with lectures and workers of Makerere University trains and empowers other students in different skills of gardening such as plant growth, soil testing, pest and diseases etc.

Information: [Trailer](#) | [Facebook](#)

E-Mail: ugmicrogardening@gmail.com



*Images: Crop growing of UMGI – herbs, trees and tomatoes
(Source: UMGI, 2014)*

References

- 1) Smith, I.F. and Eyzaguirre, P., 2007. African leafy vegetables: Their role in the World Health Organization's global fruit and vegetable initiative. *Africa Journal of Food Agriculture, Nutrition and Development*, Volume 7 (3).
- 2) Ba, A. and Ba, N., 2007. Micro-gardens in Dakar. December 2007, 30-31. In: <http://www.ruaf.org/sites/default/files/UAmagazine%2019%20H11.pdf> (November 2014).
- 3) Barclay, E., 2013. Why Micro-Gardening Could Go Big. In: <http://www.northcountrypublicradio.org/news/npr/197998315/why-micro-gardening-could-go-big> (November 2014).
- 4) BBC, 2012. Africa: Feeding the rising urban population. In: <http://www.bbc.com/news/business-19541723> (November 2014).
- 5) Climate Action, 2010. UN promotes the benefits of micro-gardens in Africa. In: http://www.climateactionprogramme.org/news/un_promotes_the_benefits_of_microgardens_in_africa (November 2014).
- 6) FAO, 2010. Urban and peri-urban horticulture: With micro-gardens, urban poor "grow their own". In: <http://www.fao.org/ag/agp/greenercities/pdf/FS/UPH-FS-6.pdf> (November 2014).
- 7) Metropolis, 2014. Study: Micro-Gardens in Dakar, Senegal. In: <http://policytransfer.metropolis.org/case-studies/micro-gardens-in-dakar.pdf> (November 2014).
- 8) UN – Department of Economic and Social Affairs, Population Division, 2011. Population Distribution, Urbanization, Internal Migration and Development: An International Perspective. In: <http://www.un.org/esa/population/publications/PopDistribUrbanization/PopulationDistributionUrbanization.pdf> (November 2014).
- 9) UMGI-Uganda Micro Gardening Initiative, 2014. Research: Tomato-consumption on household level in Uganda.
- 10) WHO/FAO, 2003. Diet, nutrition and the prevention of chronic diseases. WHO Technical Report Series 916. In: http://whqlibdoc.who.int/trs/who_trs_916.pdf (November 2014).