

# A Garden in a Sack: Experiences in Kibera, Nairobi

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**More than 60 percent of the population of Nairobi lives in the numerous slums located around the city. Kibera slum is one of the 146 slums of the Kenyan capital and the second biggest slum in Africa (after Soweto in South Africa). Around one million people are currently living in Kibera and the population is increasing daily. In the slum, landslides are frequent and the unemployment rate is very high. Most of the land is dedicated to housing, and agricultural land remains scarce.**

In December 2007, Kibera was one of the two slums struck by the post-election violence that hit Kenya. These riots were the result of various factors compounded by the high level of poverty and increasing vulnerability. Most of the families living in the slums had recently settled there, after leaving the overpopulated rural areas. During 2008, food and non-food prices rose by up to 50 percent in six months<sup>1</sup>. Resulting dietary changes are evident, including a reduction in the composition and frequency of meals, which could lead to a rise in malnutrition and susceptibility to disease.

The French relief NGO Solidarités supports the communities in Nairobi's slums, including in Kibera, with its "garden in a sack" project.

## Objectives of the project

The project implemented by Solidarités and funded by the French government involves planting vegetable seedlings on top of and around the sides of earth-filled sacks, which are placed on doorsteps. Solidarités' strategy is based on two major objectives:

- To increase access to food using the garden in a sack concept.
- To increase the income available for household use through the sale of vegetables from the garden in a sack.

The target groups are low-income populations and those affected by HIV/Aids (who need better nutrition)<sup>2</sup>. The inhabitants of the slums have the appropriate know-how to cultivate vegetables. The main problem preventing the development of agriculture is the lack of land and cash to buy agricultural inputs.

During the first phase of the programme in Kibera, over 11,000 beneficiary households adopted the technique and



*Woman cultivating kale in Kibera*  
Photo: Solidarités

produced vegetables on their doorsteps. The current phase targets 32,000 households, some of which are now cultivating tomatoes, onions, kale or spinach. Over 18 nursery beds have been established in the Kibera slum. Some selected community members are responsible for the management of the nursery, whereas another group is in charge of training the beneficiaries.

According to Francis Owino Waneno, the area chief, the project has boosted food security in the slum. "People can now eat and in some cases sell their own produce and that means a lot to dwellers of this slum", he says (*The East African Magazine*, June 2-8, 2008).

## Preparation

Small plots were voluntarily given by the communities (without compensation) for the establishment of nursery beds. Solidarités provides the seeds, and community mobilisers support the community members in management of the nurseries.

It takes at least three weeks for the seedlings to mature enough to be transplanted into the sacks or kitchen gardens. And already at this stage community participation is important. It is important to explain that the seedlings will be distributed for free to community members who qualify as per the selection criteria.

In the context of a slum, crops with a short growing period and long-term benefits are needed. For instance, in the first phase of the programme it was noted that (crop bulb) onions took too long to mature, so the participants opted for leafy onions. Furthermore, the quality of the soil and water for irri-

gation present challenges. However difficult, it is important to ensure that hygiene and good sanitation are practiced, especially near the seedbeds, to prevent contamination.

### Training and community mobilisation

Having a demonstration farm proved to be crucial for training; and community mobilisers were instrumental to the success of the first phase of the programme because of their effective communication, monitoring and follow up. It is important to have community members as mobilisers. The local administration and village elders assisted in the identification of these individuals; but to prevent political interference, the role of the local administration should be clear and the names given need to be well verified.

The team of mobilisers was composed of varied age groups (between 25 years and 80 years of age) and was balanced in gender. This increased the group cohesiveness and the level of acceptance by their communities. It also proved to be important that these community mobilisers were adequately paid (with a monthly salary and any other benefits) to ensure full commitment without the need to supplement their salaries.

### Preparing the sacks

Each sack has a volume of 0.1 to 0.5 m<sup>3</sup>. The most appropriate crops for the bags are leafy vegetables since they keep on growing even after the leaves have been harvested. Vegetables are planted at the top of the sack and through small holes on the sides. On average, one single sack contains 30 to 40 seedlings of kale or spinach and 20 tomato plants. These are crops that the communities were already familiar with; but other vegetables, such as capsicum, leafy onions, and coriander, were also introduced.

Two models of vegetable sacks have been tried out: one with a stone spine and one with layers of stones. The latter appeared to be less interesting since the planting area is smaller than in model 1, which offers planting area for seedlings all around the bags.



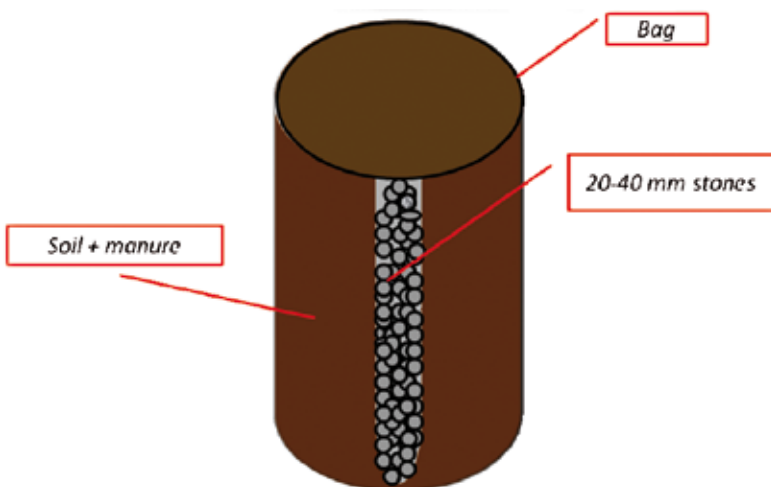
Ongoing training in seed bed  
Photo: Solidarités

The sacks are prepared by the households, which have to find or buy a sack (which are inexpensive (Kshs.10) and easily available) and find the soil and stones before receiving the seedlings. Once the bags are ready, Solidarités provides the seedlings. This approach helps select households that are really motivated and strengthens ownership.

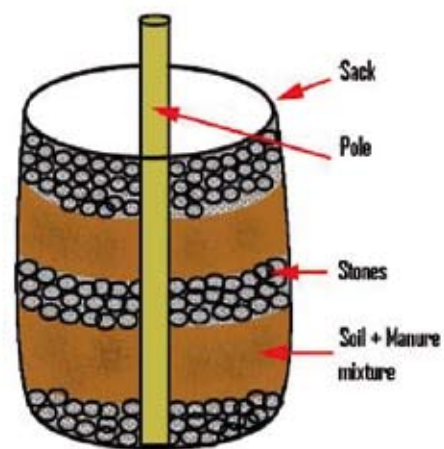
In some slums, good soil for planting is difficult to obtain. In some cases, beneficiaries had to buy their own soil to be able to participate in the programme. This demonstrates the household's commitment, but it also leads to additional costs to the beneficiaries and might limit the number of beneficiaries of the programme. A second challenge is access to water, as there are no reliable water supply systems in the slum areas. Some sacks and kitchen gardens withered during the dry periods of July - November as a result of lack of water. Most slum dwellers purchase water from water vendors, who are not subject to any regulations in setting the price of water.

### Impacts

Vegetables from the sacks are used for consumption or they are sold, thereby increasing a household's access to cash for other needs and for education of the children. Families that are producing vegetables are able to prepare a full meal two to three times a week. On average, each household also increases its weekly income by 5 USD. Given that house rental in Kibera costs around 6 USD/month, this additional cash represents an important source of income. Households with access to three or more sacks have an estimated revenue of



Model 1: Vertical spine made with stone to facilitate the infiltration of water



Model 2: Layers of stones





Spinach in a bag in Kibera  
Photo: Solidarités

around 33 USD per month, which is more than the average monthly income per family (June 2008)<sup>4</sup>.

The approach is cheap and readily embraced by the slum inhabitants, most of whom practiced agriculture in rural areas before coming to the city to look for jobs. It is a self-sustaining programme in which Solidarités is responsible for initial capacity building, general management of the programme, and the initial purchase of seeds. The other activities are taken up by the communities themselves. However, the presence of dedicated and diverse (in culture and age) community mobilisers plays a significant role in ensuring that the programme is well embraced by the communities. Solidarités started its work with WOFAK (Women Fighting Aids in Kenya), which has been active in Kibera for ten years dealing with HIV/Aids-vulnerable people in the community and KENWA (Kenya Network of Women with Aids).

### Conclusion

People living in urban areas are particularly vulnerable to soaring food prices. The garden in a sack concept is an effec-

tive, simple and sustainable method of ensuring food security for slum dwellers. The households are either able to earn an income or save on costs that they would otherwise incur to buy food. The biggest challenges identified by the beneficiaries of this programme are the presence of pests (and lack of access to pest control), access to water, vegetable diseases and the theft of vegetables<sup>3</sup>. Solidarités assists the communities in implementing pest control measures.

Solidarités strongly believes that urban agriculture should be one of the pillars of food security strategies in the coming years. The organisation has therefore extended the project to other areas in the Kibera and Kiambiu slums and is also introducing it in two other slums: Mathare (also near Nairobi) and Juba (southern Sudan). Juba is a big slum with very poor access to safe water and sanitation facilities, but very little NGOs work in the city.

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#### Notes

- 1) The price of maize, the main staple food, even increased by 100 percent in just a few months.
- 2) The HIV rate in Kenya is 6 percent and the disease is a major problem. At least 1.3 million people are currently living with HIV/Aids in Kenya, 65 percent of whom are women between the ages of 19 and 45, according to NACC statistics.
- 3) Interviews and data collection were done in three primary villages of Kibera and in Kiambiu village as a whole. The villages selected in Kibera were Makina, Lindi and Kisumu Ndogo. 200 questionnaires were completed by beneficiaries of Solidarités intervention; 183 of which were considered valid for further analysis of the impact of the intervention.
- 4) This information does not consider income generated from onions, which were mostly grown in kitchen gardens and not in sacks, in order to allow for growth of the bulbs.

A nursery bed in Kiambi slum

Photo: Solidarités

