

Soaring food prices and nutrition in urban areas

- Sack gardens in KENYA -

PROJECT TITLE

"Food security for the vulnerable population of Kibera, Kiambiu and Mathare slums"

PROJECT OBJECTIVE

Support sustainable increase of household food production, in quantity and quality, and of household incomes in poor urban areas.

CONTEXT

About 60% of the population of Nairobi lives in informal settlements (slums). Slums are unplanned and most of them have no sanitation services. Land slides are frequent and many people mainly rely on daily work opportunities. Most of the land is dedicated to housing. The acute poverty and soaring prices of basic food stuffs cause poor dietary diversity and malnutrition. After the post-election violence in Kenya in early 2007, shortages and soaring prices of food stuffs started to arise. Solidarités, a French NGO, intervened in Nairobi's slums.

VULNERABLE POPULATIONS TARGETED

Low income and HIV/AIDS-affected populations living in slums.

THE PROJECT

The project, funded by the French government and TROCAIRE, involves growing vegetables in earth-filled sacks which are placed on doorsteps. These sack gardens:

- do not require agricultural land or much water;
- are easy to prepare and do not require any specific technical knowledge;
- require simple and inexpensive materials (sack, stones, soil and manure);
- allow diversifying diets and thus address micronutrient deficiencies;
- increase income through the sale of surplus produce which are easily replicable.

Two designs of the sacks were tested during the program: (1) a sack filled with horizontal layers of stones and soil and (2) a sack with a central well of about 5cm of diameter filled with stones surrounded by soil. The second model has proven more efficient as it also allows the planting of seedlings on sides (see illustration on the right column).

The intervention followed several steps:

1. Community mobilizers were selected and trained in various tasks, such as the training of beneficiaries and the management of nursery beds.
2. Appropriate land was identified for the setup of nursery beds and demonstration farms. The land was owned by community members and Solidarités acted as mediator to guarantee that beneficiaries had free access to activities and inputs.
3. Beneficiaries were trained on (a) sack-garden preparation and maintenance (b) traditional and non-costly methods of disease and pest control (c) income generation from the sale of surplus production. At the end of the training course, beneficiaries were encouraged to prepare 3 sacks per family.
4. In parallel to the training of beneficiaries, seedlings of kale (*Sukuma wiki*), spinach and tomatoes were planted in the nursery beds, to be ready for transplantation after 3 to 4 weeks.
5. Seedlings ready to be transplanted were distributed only to beneficiaries who had prepared their sack-gardens according to the training provided. Regular watering, monitoring of the sack, pests and disease control were ensured by the community mobilizers.
6. The sixth step was the harvest: for leafy vegetables, only lower leaves were cut leaving the top ones for continual growth. For most vegetables, harvesting is done twice a month, although other species have a shorter span; e.g. kale can be harvested once a week.

Each sack used by the project was about 0.5m³, for a crop surface of 5m² (vegetables grow out of holes on the sides of the sacks and on the top). Each sack may contain up to 50 plants of kale or 20 plants of tomatoes and can produce several kilos of vegetable each month.

STAKEHOLDERS

District level: district officers and area chiefs were involved in negotiations to obtain land for the nursery beds, in charge of securing access to water through the Nairobi City Council and Nairobi Water Company and of ensuring security of the staff and of seed nursery beds.

Community level: community mobilizers were chosen among locally respected figures that had previous experience in development activities, with a good variety in gender, age and culture. This ensured an adequate understanding of the local problems and a good acceptance of the programme within communities. To strengthen community acceptance and appropriation, Solidarités also involved community HIV/AIDS organizations as well as elderly people in the preparation phase and in the implementation of the project.



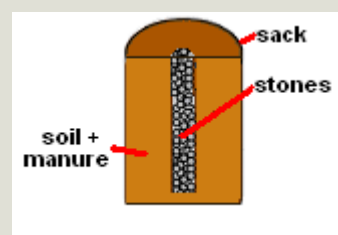
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Seedlings are planted on top and sides of sack-gardens



Half-cut view of a sack garden with central stone well



RESULTS

The intervention was setup in an emergency context in early 2008: no baseline survey was made at that time. However, a strong monitoring system was put in place and impact study/lessons learned exercise took place at the end of the first phase. So far, approximately 14,000 beneficiaries have received seedlings from the nursery beds. Solidarités has now expanded its program to cover Mathare slums, the second largest slum in the country. Project staff report that:

- Most families living in the slum have recently left rural areas, and still have the appropriate know-how to grow crop vegetables. The main problems are the lack of land and cash to buy agricultural inputs.
- 80% of the production is self-consumed, contributing to the diversification of family diets, and enables the reduction of the family budget share dedicated to food purchases and thus increases the share of budget dedicated to other expenses (education, health, etc).
- Through self-consumption and the sale of surplus production on local markets, a family can save up to 20 USD/month. N.B.: the average rent in Kibera is about 6 USD/month.
- By increasing livelihoods' resilience and reducing vulnerability to food price increases, the project has allowed households to maintain and improve their nutritional status without having to cut back on other expenses such as health and education.
- The project is also useful to support the social reinsertion of marginalised people (pick pockets, unemployed youth, etc, who were the main targets for riots and chaos in the slums). As a result, local Authorities reported the project had a positive side impact on social cohesion.

CHALLENGES

The biggest challenges identified by the beneficiaries were plant pests and diseases, lack of access to pest control and water as well as the theft of vegetables. However, most of them reported that they received help from Solidarités, for example through spraying of infected plants.

Sanitation systems in slums are very poor. Laboratory tests conducted on soil, irrigated water and foliar samples from sack production at the household level or in the markets, have shown that soils and leaves were contaminated by *Escherichia coli*. However cooked samples of vegetables were not contaminated.

Getting accurate information is a challenge in the slums: there is no formal way of tracing a house in slums, and slum dwellers exaggerate the description of their situation to ensure they receive emergency aid.

Availability of arable soil is becoming a challenge. Most of the new areas of intervention are very densely populated and community members have to trek for long distances to have access to arable soil to fill their sack gardens, set up nursery beds and demonstration farms. In most cases, the beneficiaries have to source for manure to enhance the fertility of their soils.

THIS IS A SELF-SUSTAINING PROGRAMME

During the implementation of the project, Solidarités only carried out the initial purchase of seeds, capacity building and general management of the program, while the other activities are taken up by the communities that are then able to continue with minimal support.



UPSCALING/REPLICABILITY OF THE PROJECT

Solidarités strongly believes that urban agriculture should be one of the pillars of food security strategies in the coming years. The experience described here can be successfully scaled up/replicated in similar contexts, if the following conditions are applied:

- With local traditional and official authorities, select dedicated and diverse (in age, gender and culture) slum dwellers to train them as community mobilizers: they will ensure community ownership and sustainability of the programme.
- Women should be granted priority among beneficiaries as they are the main household stakeholders for nutrition.
- Select seedlings prior to distribution, according to their agronomical particularities (productivity, resistance, maturation length, compatibility with local conditions, etc), and to their nutritional and economical value. In slums, use vegetable crops which have a short maturity period and long term benefits.
- Use sacks with central stone wells rather than sacks with horizontal layers of stones and soil: the first ones allow growing plants on the sides of sacks too, thus increasing the sacks' productivity.
- Give priority to vegetables that people are familiar with, such as capsicum, leafy onions, coriander and other traditional vegetables. For the introduction of new vegetables, make sure that people like the taste and know how to use them (cooking demonstrations and basic information on nutrition is necessary).
- Use leafy vegetables that keep on growing even after the leaves have been harvested (kale, spinach, leafy onions, etc).
- Ensure that hygiene and good sanitation is practised especially near the seedbeds to reduce the risk of plant contamination.
- Clarify the role of local authorities before starting the project, and ensure that the identity of community mobilizers is checked and that they are adequately paid.
- Encourage beneficiaries to collect their own material to assess their motivation and intervene when collection is too difficult or expensive.
- Consider rainwater harvest and storage techniques, to allow watering the gardens even in summer without depending solely on water vendors.
- For monitoring and evaluation, ensure that community mobilizers are adequately trained in data collection interpretation of information received from the beneficiaries.