

# Keyhole gardens in Lesotho

## for better nutrition and livelihoods

### PROJECT TITLE

“Protecting and Improving Food and Nutrition Security of Orphans and HIV/AIDS-affected Children (GCP/RAF/388/GER)”

### INTERVENTION DOCUMENTED

Home vegetable gardens shaped into a keyhole

### CONTEXT

The district of Mafeteng was selected for a pilot project carried out between November 2004 and May 2008 to support food and nutrition security and livelihoods of vulnerable HIV-affected communities, in particular orphans and vulnerable children (OVC). This initiative was supported under the umbrella of a wider project for southern Africa, and is in line with the National Policy for Food Security. The district is affected by recurrent droughts and high rates of HIV. According to the district situation analysis conducted in 2004, Mafeteng had the country's highest rate of orphans. A baseline study commissioned by the project highlighted high stunting rates and moderate underweight in children under the age of five, particularly in resource-poor households that host OVC. The main problems identified included poor dietary diversity, lack of awareness of nutritional needs and inadequate food safety. In addition, households that look after OVC were less likely to have developed vegetable gardens.

### TARGET POPULATION

Orphans and vulnerable children; food-insecure, HIV affected communities; local institutions.

### STAKEHOLDERS

The project focused on capacity building as well as intersectoral and interagency collaboration. The National Project Steering Committee, responsible for policy guidance and support, was co-chaired by the Ministry of Agriculture and Food Security and the Ministry of Health and Social Welfare and included, among other members, the Ministry of Education and the National AIDS Commission. A Technical Working Group composed of FAO, WFP and UNICEF provided technical assistance to the Project Management Team. The District Child Protection Team composed of professional and technical staff from relevant government departments and development partners oversaw, coordinated and monitored activities at district level. Community groups were involved from the planning process through participatory approaches. This intervention on keyhole gardens and capacity building was implemented by the NGO, Send a Cow Lesotho.

### THE INTERVENTION

Within the framework of the Mafeteng pilot experience, Send a Cow Lesotho implemented a variety of activities aimed at **increasing homestead food production through bio-intensive agriculture, for more healthy diets**. Keyhole gardens were the most effective intervention in this regard.

A keyhole garden (so-called because of its shape) is a round raised garden, supported with stones. Underneath, the first layer of soil has been dug out, levelled and covered with multiple layers of locally-made compost (manure, organic waste, scrap metal, wood ash, plant waste, yard sweepings, etc). A central basket made with sticks and filled with grass and leaves serves for irrigation purposes: water is poured in it, allowing for its dispersal through the whole enclosed garden. A small pathway leading to the central basket allows a person to easily work the garden without bending (**labour-saving**) and without climbing on the structure, thus reducing the risks of damaging it in time. The soil surface is sloped to allow runoff. Keyhole gardens are built in places where it is difficult to build normal gardens (rocky areas, shallow arid/or compacted soils, etc), near the entrance of dwellings to facilitate their watering with household waste water.

Keyhole gardens are **made with low-cost locally available materials**. Compared to regular vegetable gardens, keyhole gardens require less labour (ideal for elderly, children or sick persons), less water and no costly fertilizers or pesticides. A keyhole garden also has important comparative advantages: its structure ensures soil fertility for 5 to 7 years; it **can produce food all year round** even under harsh temperatures; it can support the production of at least 5 varieties of vegetables at a time - thus supporting dietary diversity; and it is so prolific that its produce is more than enough to feed a family of 8 persons.

Crop rotation and growing of insect-repellent plants are important to balance nutrient demands, fight insects and plant diseases, and deter weeds. The garden is divided into four parts allocated for leafy plants (except spinach), root crops and spinach, peas and beans (or other legumes) and the fourth section stays fallow, covered by a thick layer of manure and mulch. Crops should rotate in turn approximately every two months.

Household gardening interventions have been complemented with small livestock rearing, hygiene (tip-taps) and food processing (fuel saving stoves) interventions, to increase their positive impact on food and nutrition security of the recipient households and communities.



Keyhole garden



Keyhole garden structure with the central basket for irrigation

### Contacts

Ms. Juliet APHANE  
Nutrition and Consumer  
Protection Division  
FAO Headquarters  
[juliet.aphane@fao.org](mailto:juliet.aphane@fao.org)

## CAPACITY BUILDING

### At community level:

Community groups (including teachers, priests, peer group farmers and others) and community management committees were trained on group dynamics, conflict resolution, meeting management, record-keeping and social skills, to enable communities to collaboratively undertake development activities. Community trainers received training on group dynamics and on bio-intensive, environmentally-friendly horticulture techniques such as:

- building and maintaining keyhole gardens;
- making liquid manure and natural pesticides from plant origin;
- saving waste water (“grey water”) from household use for irrigation;
- protecting plants from excessive temperatures and hail stones (use of mulch and hail-nets);
- growing medicinal and insect-repellent plants.

Communities also benefited from nutrition education (sessions on nutrition for children, nutrition and HIV, etc) and from training on marketing of surplus production to increase household income.

### At district and national level:

Relevant government and NGO staff benefited from capacity building interventions that raised their awareness of nutrition issues and on the linkages between nutrition and HIV. The knowledge acquired enhanced their ability to plan and implement effective responses.

## MATERIAL PRODUCED

The compiled *Training Modules for trainers* will be refined for distribution. They include relevant “how-to” training materials on organic gardening, group dynamics, livestock husbandry, dam-building, fuel saving stoves, tip-taps and marketing.

## CHALLENGES AND...

- initial construction of keyhole gardens is labour-intensive;
- social and human factors are unpredictable and can determine the success or failure of an intervention;
- lack of communication and coordination with other projects in the same area of intervention can lead to tension;
- solutions must be explored to allow peer farmers to attend training sessions with the rest of the community and support the intervention without neglecting their own crops.

## ...OPPORTUNITIES

- productivity of keyhole gardens is high;
- maintenance of keyhole gardens is easy, low-cost requires few inputs and minimal labour;
- materials for keyhole gardens can be replaced by similar products obtainable locally;
- the intervention strengthens and creates social networks and capacities which contribute to the community’s ability to deal with other development/social issues.

## IMPACT ASSESSMENT

Qualitative impact assessments have highlighted that the promotion of vegetable gardens – in particular keyhole gardens - to improve access to a variety of food, even during the winter months, proved particularly successful. Participating households noted the increase in the availability of food, the wider diversity of their diet and the surplus in vegetables which they were able to sell to generate income. Implementing Partners noted that neighbouring villages outside the project intervention area were reproducing keyhole gardens on their own initiative, clearly indicating the success of the intervention and its potential sustainability.



Home-made tip-tap for hand washing



Fuel saving stoves



Beneficiaries cooking and consuming the food they have produced

## UPSCALING/REPLICABILITY OF THE INTERVENTION

The experience described here can be successfully up-scaled/replicated under the following conditions:

- the intervention is carried out within an integrated policy and programme development framework at district, national (and sometimes regional) level, rather than in isolation, to ensure that all stakeholders are involved and gain ownership, and that it is sustainable and coherent with other interventions;
- through participatory approaches, beneficiaries are involved in all stages of project activities: planning, implementation, monitoring and evaluation;
- the building of keyhole gardens is preceded by community group formation and capacity building (basic management, conflict resolution, etc) to ensure effective participation, ownership and sustainability;
- the construction of keyhole gardens is implemented by the whole community to alleviate the burden on the elderly and the chronically ill;
- the development of keyhole gardens is accompanied by relevant training, in particular in nutrition education, hygiene and food safety and food processing techniques;
- the selection of the most appropriate local varieties for cultivation in keyhole gardens is based on their nutrient content and potential for inclusion in diets;
- systematic retrieval of knowledge and experience of local populations is applied: nobody knows the constraints and opportunities of their environment better.