African leafy vegetable enterprise boosts livelihood of rural communities in Kenya

Above: Figure 1: This was our training session where we briefed members on the basic principles, concepts and operationalization of Food Sovereignty

Figure 2: This is one of the farmer's training sessions at one of our collaborators

Figure 3: This is a manual thrusher for vegetables, cassava, napier grass and any other farm produce into smaller particles as part of the value adding process

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Introduction

In Africa and in particular, Sub-Saharan Africa, it is estimated that there are more than 45,000 species of plants, of which about 1,000 can be eaten as green leafy vegetables. Most of the latter fall within the category of African Leafy Vegetables (ALVs). ALVs are also known to be rich in vitamins, proteins, minerals and micronutrients such as selenium, zinc, potassium, beta-carotene, iron, folate, copper and iodine. They have also been found to have medicinal value in addressing illnesses such a diarrhoea, eye and renal ailments, hypertension and even HIV/AIDs.

A two-year project focusing on setting up community enterprises producing and marketing ALVs was initiated by the Participatory Ecological Land Use Management (PELUM) Network in January 2009. Entitled "Scaling-Up Sustainable Agriculture and Livelihood Improvement (SUSALI), the project focused on enhancing the production, consumption, value addition and marketing of ALVs within the four cultural groups in Kenya. This was part of PELUM's initiative to promote culturally favoured ecological farming systems in a bid to address rampant poverty, food insecurity and malnutrition among resource poor local farming communities.

Thanks to projects like these, ALVs, traditionally eaten by mainly rural communities, are fast becoming popular among the middle and upper sectors of African society while improving farmers' livelihoods substantially.

Project Stakeholders, Objectives & Strategies

Stakeholders

PELUM invited member organizations from the four cultural groups in Kenya and Busia Environmental Management Program (BERMA) was selected to represent the Abaluhya cultural group in Western Kenya. BERMA was also designated to be the lead implementing and coordinating organization for the initiative. It is a registered local non-governmental organization which is in effect a network of 20 self-help groups with a direct membership of 100 small-scale farmers and over 1,000 indirect members drawn from the extended family networks. Over 80% of the members are women.

Twenty active farmer members of BERMA were chosen, along with over 200 immediate and other community members. Thirteen villages in Elugulu, Elukhari and Marachi in Butula Sub-County, Busia County in Western Kenya were involved: Bulwani, Bwaliro, Imanga, Esikarira, Busirangombe, Bulemia, Namusala, Enakaywa, Siololo, Budunga, Esiguli, Tingolo and Elukhari.

Objectives

Smallholder farmers cultivating and marketing ALVs were facing several challenges such as the high levels of perishability of ALVs; the lack of water during the dry seasons; and not being able to afford to package and transport their produce to distant and lucrative urban markets. There was no government support for the cultivation of ALVs and very little research done on how to improve their productivity. The objectives of the project were thus as follows:

- To revive and promote production, consumption, value-addition and marketing of the natural heritage i.e., ALVs, in the project communities.
- To initiate advocacy dialogue with the government, agricultural institutions of higher learning and training colleges to incorporate ALVs cultivation in their training programs.
- To raise awareness about the positive nutritional and health benefits arising from the regular consumption of ALVs.
- To encourage youth to consume and plant ALVs.
  To establish reliable sources of quality seeds in adequate quantities through seed bulking and maintenance of a seed bank within the community.
- To establish and promote indigenous seed saving and multiplication as an income-generating activity.

"Now we are able to generate respectable revenues from the sale of our vegetables directly in the Nairobi markets."

– a woman farmer from the project

Figure 5: These are field demonstration and demonstrations on ALVs planted on raised beds

Strategies

- Institutional capacity-building and training.
  - → A three-day project launch workshop was organised to create awareness and train participants on the objectives, content and expected results from the project activities.
  - → Fortnightly institutional capacity-building seminars and workshops were held. These were both formal and informal forums which included field sessions.
- Support for 20 selected farmers in the form of farm inputs, implements and other services.
- Campaigns and advocacy through partnerships, collaboration and networking with different groups and agencies. This included farmer-to-farmer exchange visits.
- Product development and marketing initiatives.
- Support through micro-financing using a revolving fund mechanism.
- Monitoring, evaluation and impact assessment.
- Project management and coordination.

Figure 4: This is the outside and inside of the seed store at one of the member's homestead

Farmers' Responsibilities

The focal group of the 20 selected farmers were given seeds of seven types of ALVs to cultivate: black nightshade, spider plant, crotolaria, pumpkin, amaranth, pigeon peas and jute. These were well known to the local communities.

Some of the farmers were specially designated to undertake seed bulking while one was assigned to maintain a seed store. The specific responsibilities of the farmers are described below.

Production

This involved the following activities:

- Seed collection and treatment.
- Preparation of organic manure by composting and making organic pesticides using local materials like dried and powdered leaves of the Mexican marigold and tithonium mixed with slurry and pepper.
- Making of raised seed beds measuring 3 x 1 metres, and 'mandela' and 'mountain' structures.
- Each farmer had to make at least ten raised beds. Each of the raised beds and mandela and mountain structures holds a variety of vegetable varieties.
- Planting of the vegetables at the onset of the long and short rainy season in mid-March and mid-September, respectively.
- Harvesting of the vegetables after 2–3 months between May to June and November to December, respectively. The vegetables were for household consumption in the farmers' own communities as well as for sale locally.
- Selling the harvested seeds as well as saving some for the next planting season. Some farmers were assigned to do seed bulking. BERMA also established a seed storage facility for its members.

Consumption

Consumption of the vegetables was promoted amongst the member households as well as the local community at large. The cultivated ALVs have become very popular with consumers and food outlets in urban areas. Many small and large restaurants order them on a regular basis.

Value addition

The farmers were taught a new and innovative technique of boiling the green vegetable leaves in salt water, then drying them under the shade, and packaging them in sealed small plastic packets. These packets have a long shelf life. They have proven very popular with small and single-person households in both rural and urban areas.

Marketing

This focused on the sale of the green vegetables, seeds, and packed dried vegetables within the farmers' communities and external market outlets. Local eateries have proved to be captive markets for the cultivated ALVs. With better marketing strategies, the local farming communities should be able to access more lucrative markets in urban areas.

Figure 6: Women farmers and traders are displaying and selling their produce in the local market

"We now do not have to make frequent visits to the local health centre for minor infections."

– a woman farmer from the project

Figure 7: These are field demonstration and demonstrations on ALVs planted on raised beds

Outcomes/Impacts

The most significant change has been the uptake of ALVs as an income -generating activity among smallholder farmers and as a preferred food by the middle and upper strata of African society. Being highly nutritious, ALVs have also improved the state of health of the farmers as well as the consumers. Traditionally just subsistence crops, growing ALVs has turned into a major driver for poverty and hunger alleviation for small marginalized farming communities at the project site. The change in the attitude of the farmers is considered the lynchpin in that they now see that farming can be a viable business.

The major impacts of the project are:

i) The uptake of planting, production, consumption and marketing of ALVs among local farming communities as a commercial enterprise.

ii) Increased crop acreage under ALVs within the project farming communities.

iii) Increased output of ALVs within Butula Sub-County.

iv) Reduced food insecurity and malnutrition at the household level through consumption of ALVs.

v) Realization of higher incomes from the sale of ALVs at premium prices.

vi) Enactment of government policies supporting the cultivation and marketing of ALVs and the inclusion of ALVs in the curricula of local agricultural training and research institutions.

Resources

The project was implemented over 24 months between January 2009 and December 2010 at a total cost of Kshs 300,000 (US$3,489). PELUM had provided a grant of Kshs 200,000 (US$2,326) and the remaining Kshs 100,000 (US$1,163) was generated from members' contributions in the form of cash, materials and labor.

It is estimated that for the continued implementation and upscaling of the project to involve at least 1,000 farmers from Butula Sub-County, Kshs 1.0 million (US$ 11,627) will be needed with the community contributing Kshs 500,000 (US$ 5,814) in the form of cash, materials and labour.

Opportunities For Upscaling

The success of the project has been notable, namely, the uptake of modern and sustainable agronomic technologies, handling and marketing technologies in establishing ALV-cultivation as a vibrant income-generating activity by traditionally conservative subsistence farming communities.

The enterprise has exposed the local farming communities to the rigours of markets and helped them meet the standards of high quality, consistency and reliability in supply that the market demands.

The gains of the initiative continue to manifest and have been reported in public forums as well as scientific publications such as the African Journal of Food, Agriculture, Nutrition and Development.

The opportunities for upscaling this easily replicable model are real indeed. The simple and appropriate technological packages recommended in the cultivation of the ALVs use readily available local materials, rendering them appropriate tools for resource-poor smallholder farmers. Expanding domestic as well as international markets for organic ALVs sold at premium prices is also another opportunity at hand.

Upscaling will need governmental support through policy such as the proposed National Policy on Organic Agriculture, reinforced by the incorporation of ALV-cultivation in the government's agricultural programmes.

Challenges

No endeavour is without challenge however. Some of the challenges are:

i) Forming and maintaining an effective, efficient marketing organization to manage group activities.

ii) Having to establish and maintain close collaboration among the producers/farmers, traders/brokers, handlers/transporters and consumers.

iii) Ensuring good quality control, reliability in supply and optimal pricing.

iv) Ensuring the constant availability of quality farm inputs, in particular seeds, organic manure and pesticides, and other organic environmentally friendly soil additives.

Figure 8: Women farmers and traders are displaying and selling their produce in the local market

Figures 11 & 12: These are advocacy and networking initiatives on promoting production and consumption of organic foods far away in the Indian villages on the Himalayan slopes

v) Getting the ALVs to market fast as they are perishable goods.
vi) Advocating for stronger support from the government and research and training institutions.
vii) Protecting the smallholder farmers from the threat of larger commercial players entering and monopolising this potentially lucrative market.

Figure 10: This was a field demonstration event at Busia Farmer's Training Centre

Advancing Food Sovereignty In Africa

Food sovereignty is defined as the right of people, communities and countries to define their own agricultural, labour, food and land policies to be ecologically and culturally appropriate to their unique circumstances so as to reconnect food, nature and community.

A project like SUSALI advances the food sovereignty of African farmers as it is puts smallholder farmers in control of productive resources and agricultural production, strengthens their food security, enhances local food systems, builds on local knowledge and skills, protects a local natural heritage (ALVs), and works in harmony with nature.

ALVs are emerging as a new, significant and marketable farm commodity in the food scene in Kenya. The ALV enterprise has the potential to emerge as a key revenue earner bringing in substantial earnings for small farming communities. It should therefore be strongly supported by public policy and research.

More advocacy initiatives will be undertaken by the project stakeholders from county to national level to promote ALV cultivation and consumption and the interests of smallholder producers through the integration of the issue into policy and public research as well as by raising public awareness.

This case study is dated March 2014. The information was provided by BERMA. Questions may be sent to the author: Francis Khadudu, Executive Director, Busia Environmental Management Program (BERMA), Kenya, at fkwere@yahoo.com