



Food and Agriculture Organization
of the United Nations



Integration, efficiency,
sustainability - Keys to the future
of agriculture
The case of Burundi

SO2

TOWARDS SUSTAINABLE

AGRICULTURAL GROWTH IN BURUNDI



Feeding a rapidly increasing global population means that we will need to produce more food in a more efficient and sustainable manner. Fewer inputs must be used to achieve greater yields. The real challenge is not just in producing more, but in doing so against a backdrop of climate change and degradation of natural resources such as fertile land, freshwater and biodiversity.

In Burundi - where an expanding population is living-off limited land, often divided into small parcels - increasing food production will mean focusing on integration and efficiency in farming systems rather than simply bringing more land under cultivation.

Integrated approaches for planning and decision-making processes in different sectors are carried out together in order to improve the overall management of natural and human resources, while meeting the diverse societal demands in the short, medium and long term. Addressing the complex linkages among the different resource users optimizes the development agenda while striving for sustainable food security and nutrition.

It is the more holistic and integrated approaches, such as the *Integrated Landscape Management* or the *Ecosystem Approach*, that help us to secure a sustainable future.

WATERSHED PROJECT LEADS THE WAY

The “*Integrated project to strengthen people’s livelihoods in Ngozi and Mwaro provinces through sustainable and efficient agricultural intensification*” is achieving important results in three watersheds in Burundi. The project works through Farmer Field Schools (FFSs) to help communities living in these watersheds to better manage their land and improve their means of food production and nutrition.

Building on good farming practices from different areas, the project aims to intensify agricultural production in a sustainable manner with the goal of reducing food insecurity, malnutrition and poverty.

One example is **integrated aquaculture and agriculture systems** established in Mwaro province which provide an opportunity to produce a variety of crops, fish and small livestock within a relatively small area, while increasing the availability of nutritious food. The livestock manure fertilizes the ponds which improves fish production while reducing feed requirements. Such activities were previously done separately but are now combined and reinforce one another.



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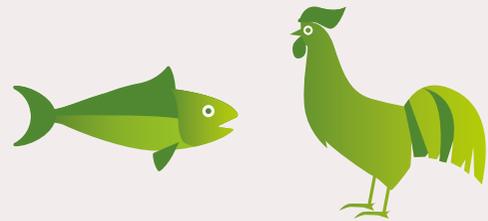


OBJECTIVES

300 ha



300 hectares benefit from integrated landscape management. ✓



+ PROTEINS ✓
+ MICRONUTRIENTS
(VITAMINS, MINERALS AND OMEGA-3) ✓

Small livestock and fish farming enrich local diets by increasing availability of animal protein and micronutrients.



+ PROTEINS ✓
+ MICRONUTRIENTS
(VITAMINS + MINERALS) ✓

Diversified horticultural production, including mushroom cultivation, further improves nutrition.

AGRICULTURAL PRODUCTION FOR FOOD AND INCOME

Diversified income-earning opportunities, such as fish and pig farming, more efficient and **market-oriented crop production**, and specialized activities such as **mushroom cultivation** provide farmers with the means to earn additional income while at the same time improving their access to much needed proteins, vitamins and minerals.

As part of the project, micro-gardens in urban and peri-urban areas were established by nearly 200 households offering smallholders an opportunity to produce despite the very limited availability of land. Improved vegetable seeds have been distributed and have increased yields, and beneficiaries have been trained to grow edible mushrooms on crop residue substrate. All in all, these activities have increased production and promoted professionalism.

Both men and women farmers receive training and assistance in managing their production through Farmer Field Schools. These self-identified groups are guided by a facilitator with the goal of increasing capacity development through training and community research, specifically addressing the needs of women farmers.



ACHIEVEMENTS

THE PROJECT HAS ALREADY ACCOMPLISHED IMPORTANT MILESTONES INCLUDING:

- ★ Reinforcement of **erosion control** and watershed stabilization techniques using integrated forestry practices, perennial forage grasses and field mapping.
- ★ Improvement of goat production using **improved genetic stock**, integrated feeding strategies, breeding networks and veterinarian capacity development.
- ★ Development of **integrated fish ponds with small livestock** (Mwaro province) provided with quality fish feed and fish seed.
- ★ Further **opportunities for income generation** through market gardening, sale of chicken eggs and mushroom cultivation.
- ★ **Capacity development** for individuals and groups in sustainable agricultural production including: composting techniques, edible mushroom cultivation, fish pond management, and erosion control - all achieved through the Farmer Field School approach - while addressing the specific needs of women farmers.

The Farmer Field Schools, in partnership with the Agricultural Research Institute of Burundi (ISABU), have selected improved crop varieties, producing higher yields and better resistance to disease. Farmers' fields, protected from erosion, have been planted with improved seeds of staple crops such as maize, beans, soya and potatoes. More than 49 000 fruit tree saplings, including avocado and Japanese plum, have been propagated by the community and planted.



WHAT'S NEXT

To further promote sustainable intensification and diversification, farmers have received goats that offer a valuable food source while their manure enhances **soil health**. Importantly, the community will distribute the first generation of goat offspring to the most vulnerable households. This revolving fund, already established in Burundi and called the "chain of solidarity", strengthens community cohesion and provides a **social safety net**. The project will also work in support of the **national goat breeding strategy** to ensure the continued availability of strong genetic stock. The use of **high quality forage** crops will also be encouraged as part of the **watershed protection and erosion control activities**. The fast-growing grasses and agroforestry trees that protect the soil are also forage for goats.

The food security and nutrition of the larger community will be further strengthened through awareness raising and promotion of micro-gardens as well as through nutritional education in rural, urban and peri-urban areas.

All activities are carried out in collaboration with existing projects, including FAO's Urban and peri-urban horticulture project and the SUN - Scaling-up nutrition project. Materials are being produced and training undertaken in order to mainstream the focus on nutrition throughout the FAO office, FFS facilitators, and school educators working with the school gardens. In this way the project ensures that the results are anchored within the community, and the momentum can carry these integrated techniques to reach more people.





THE FAO STRATEGIC OBJECTIVES

We all share a common vision of a world free from hunger and malnutrition, where food security and agriculture contribute to improving the living standards of all, especially the poorest, in an economically, socially and environmentally sustainable manner.

Against a backdrop of rising food demand, persistent food insecurity and malnutrition, rural poverty, economic instability and climate change, FAO's work is driven by five cross-cutting Strategic Objectives, closely aligned with the most relevant and urgent development problems faced by member countries and the development community as a whole.

SO1 HELP ELIMINATE HUNGER, FOOD INSECURITY AND MALNUTRITION

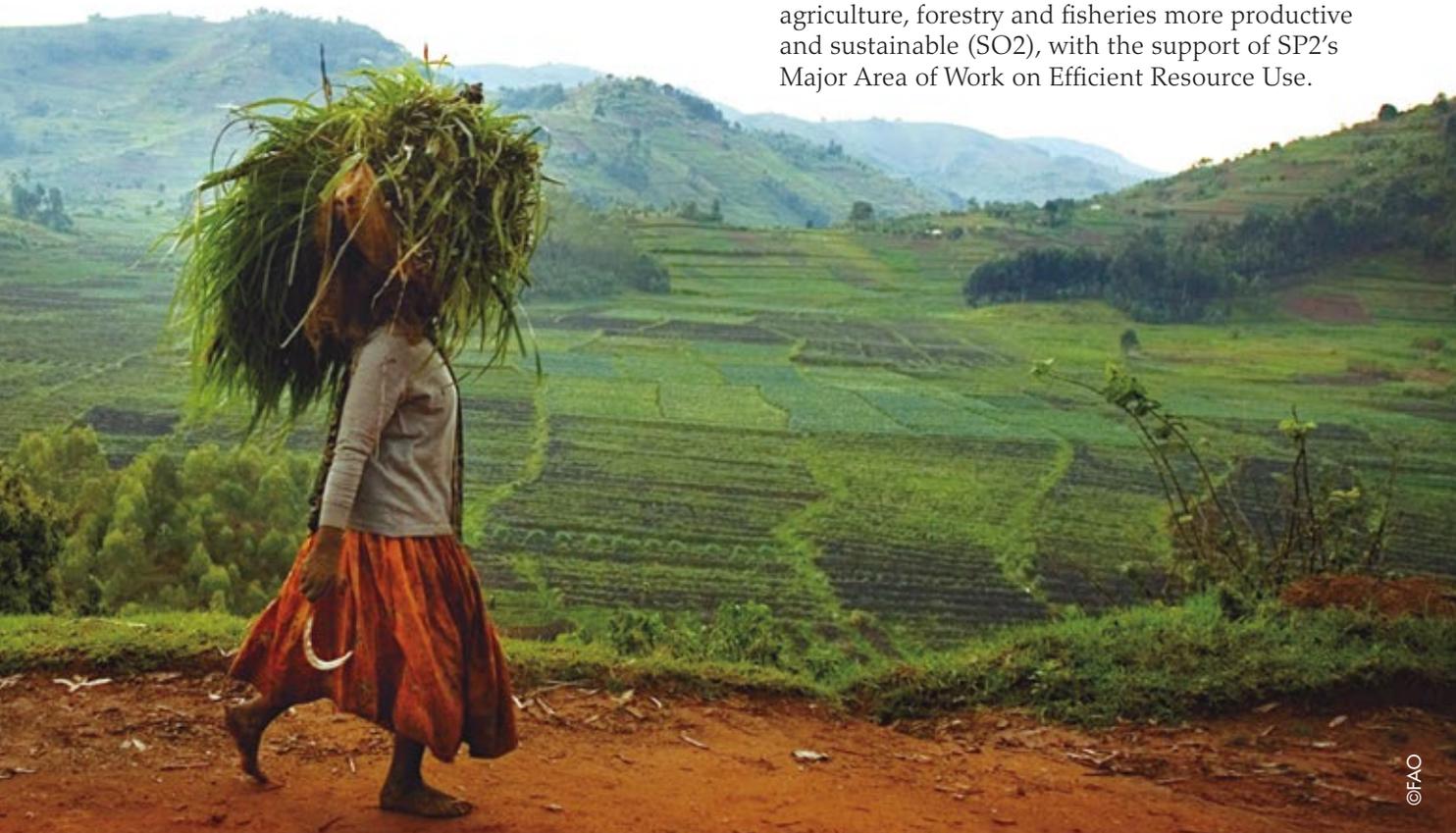
SO2 MAKE AGRICULTURE, FORESTRY AND FISHERIES MORE PRODUCTIVE AND SUSTAINABLE

SO3 REDUCE RURAL POVERTY

SO4 ENABLE INCLUSIVE AND EFFICIENT AGRICULTURAL AND FOOD SYSTEMS

SO5 INCREASE THE RESILIENCE OF LIVELIHOODS TO THREATS AND CRISES

Five Strategic Programmes (SPs) plan and deliver products and services to help achieve each Strategic Objective. The project described in these pages is an example of how FAO works to make agriculture, forestry and fisheries more productive and sustainable (SO2), with the support of SP2's Major Area of Work on Efficient Resource Use.



FAO Strategic Objective 2

MAKE AGRICULTURE, FORESTRY AND FISHERIES MORE PRODUCTIVE AND SUSTAINABLE

TO MAKE IT HAPPEN

- + We develop and share sustainable production strategies with decision-makers.
- + We develop and promote management practices that increase productivity and save natural resources.
- + We help producers to adopt the technologies and practices that best suit their needs.
- + We gather and share the information needed to underpin the development of highly sustainable and productive agriculture.
- + We develop and share analytical tools for planning the management of natural resources in agricultural systems.
- + We help countries to collect relevant data for use in decision-making.
- + We develop tools for setting international policies on sustainable agriculture system production.
- + We help countries to assess the effectiveness of their strategies for sustainable agriculture.
- + We support the development of policies and laws to underpin the transition to sustainable agriculture.
- + We help national institutions to support the transition to sustainable agriculture.
- + We ensure that international commitments on sustainable agriculture are backed by national laws and policies.
- + We strongly advocate country adherence to international agreements and partnerships that promote productive and sustainable agriculture.
- + We support the implementation of national laws and policies on sustainable agriculture.