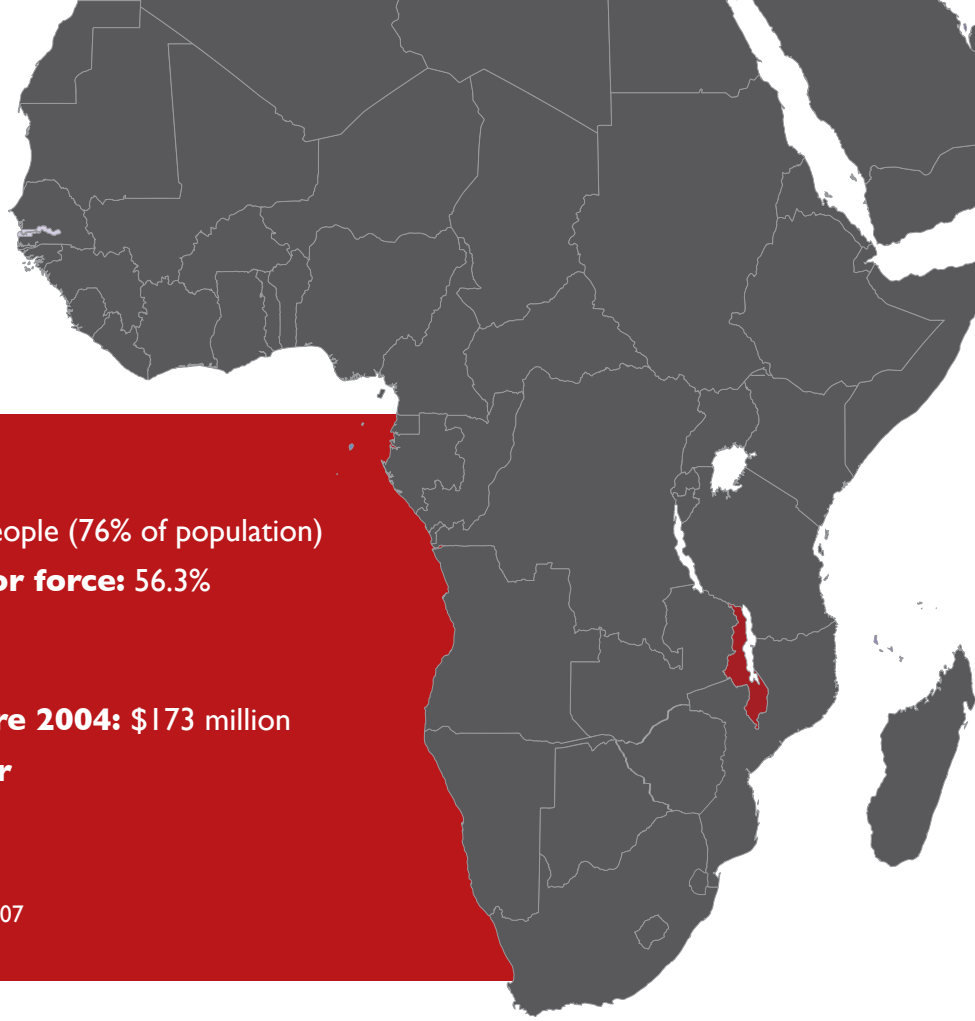
Malawi



Total population: 12.4 million people

Agricultural population: 9.3 million people (76% of population)

Share of women in agricultural labor force: 56.3%

Proportion of undernourished in total population 2001-2003: 34%

Government spending on agriculture 2004: $173 million

Official Development Assistance for agriculture 2003: $60.5 million

% of total ODA for agriculture: 9.5%

Source: World Bank 2008, Human Development Report 2007

Organization: Canadian Foodgrains Bank

Nurturing Soils, Crops and Communities

The Soils, Food and Healthy Communities Project in northern Malawi illustrates the power of conceiving and carrying out community agricultural initiatives with impact across sectors. In terms of resilience, the use of farmer research teams, participatory approaches to knowledge sharing and the inclusion of farmers knowledge clearly highlight s the importance of knowledge sharing and innovation. In terms of diversity, the project contributes to crop and dietary diversity of the community, builds local markets, and recognizes the multifunctionality of agriculture by making household food production and nutrition a key component. Finally, farmer exchanges, community seed banks, and discussion groups at the community and household level provide avenues to promote collective action and to recognize the key role women play in agriculture and household food security.

The background paper for these case studies, "Pathways to Resilience: Smallholder Farmers and the Future of Agriculture" is available online at www.ccic.ca/e/003/food.shtml.

Country context

An emerging democracy in southern Africa, Malawi is classified as one of the least developed countries, ranking 165 out of 177 countries in the United Nations 2005 Human Development Report. According to UN estimates, half of all children under 5 suffer from chronic malnutrition, 1.6 million suffer from hunger on a daily basis and close to 80% of the population make their living from farming. A major drought in 2002 and a prolonged dry spell in 2005 have contributed to recurrent shortages of food in the country.

In 2007 the Malawi government announced a massive subsidy program to enable smallholder farmers to purchase chemical fertilizers and increase their yields. This program reached 1.8 million households and has been credited with allowing Malawi to export maize in 2008. However, simply exporting food does not mean that hunger has ended in Malawi. With the cost of fertilizer tied to the cost of fossil fuels, there are questions about whether increasing dependence on fertilizers will be sustainable in the long term – particularly for those who live on the edge of poverty. In mid 2008, the Malawian government borrowed 77 million US dollars from the International Monetary Fund to offset the rise in fuel and fertilizer cost.

Photo: Kenton Lobe

Building Resilience: soil quality and household nutrition Ekwendeni, Malawi

The community of Ekwendeni in northern Malawi is home to the Ekwendeni hospital where farmers and researchers have been working together with support from the International Development Research Centre, Presbyterian World Service and Development and Canadian Foodgrains Bank to improve the soil and the food security of farm families. The Soils, Food and Healthy Communities project area is characterized by resource-poor smallholder farms with maize as the primary staple crop, harvested in May-June after the annual rainy season. Other important crops include beans, squash, groundnuts and sweet potatoes. The largest cash crop is tobacco. In the past seven years, the project has moved from 30 to 3000 farmers and is now largely driven by farmers themselves who volunteer their time to undertake research on both nutrition and soil fertility at the household and village level. They have had considerable success in identifying and implementing a wide range of agro-ecological approaches to deal with low levels of soil fertility that have also resulted in significant decreases in child malnutrition in participating households.

Building on local knowledge and a participatory approach, the project recognizes that farmer knowledge and participation must be the starting point for determining what will help them feed their families. This participation takes the form of Farmer Research Teams who work together with project researchers to identify edible legumes such as soya, pigeon peas and ground nuts that can be rotated or interplanted with the traditional maize crop. These legumes serve the dual purpose of providing additional nutritious food for the home as well as adding much needed nitrogen to the soil to increase maize yields.

Evaluation of the different rotations and legume plantings were carried out jointly together with farmers using an approach pioneered in Malawi called the "mother-baby system". The mother trials with all five legume options were located centrally in village plots, while individual farmers tested one or two of the options in baby trials on their home farms. Researchers and farmers then carried out pre and post harvest surveys, soil fertility workshops, farmer to farmer exchanges and other collaborative learning activities based on these trials to discern how well the different options had worked in terms of increasing soil fertility.

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The farmers have identified a host of indicators that suggest success. They talk about soil texture improving, darker green leaves and stronger maize crops, about increased maize yields and about having enough food for household consumption during the "hungry season". Farmers also reported that they were able to sell some of their legume production in local markets to generate additional sources of income for the family. Farmers are saving seed of these legumes in community-managed seed banks so that there is an ongoing, local supply available.

Farmers and staff are now working with Bunda College of Agriculture, the University of Western Ontario and Michigan State University researchers to assess the impacts of 6 years of legume intercropping on the amount of nutrients available in their soil. In addition, agriculture and nutrition discussion groups have formed to talk about seed saving, and to share recipes that will encourage the use of legumes for those children who are most at risk of malnutrition. The project also looks specifically at the role of mothers and grandmothers in an effort to include those who play primary roles in decision-making about household food consumption.

From left: Stocker Nyerinda, Mercy Gumbo, and Happy Singini. Photo: Kenton Lobe

Farmers Voices: **Mercy Gumbo**

Mercy Gumbo lives in the village of Makhetani and joined the project in 2000 because her four children were very malnourished. Participating in project workshops, she learned that she could improve their health by incorporating different legumes into their diet. Shortly after she joined, her husband passed away, and as a 35 year old woman, she was very worried about being able to afford fertilizer. She was extremely grateful to have learned how to bury the legume residues; before, she needed fertilizer for top and base layers, but now that she buries the residues she only needs to buy enough for one layer. Using these organic methods, her soils have improved significantly, and she now grows enough food to last her family throughout most of the hungry season. When asked about the recently announced government subsidies for chemical fertilizer, Mercy says "Fertilizer is cheaper today, but what about tomorrow?" and indicates that she will use the subsidized fertilizer for top dressing her fields, but will continue with the methods she has learned from the project, drawing from the community seed bank to continue planting legumes. She is balancing risk, deciding on legumes to avert some potential risk from fertilizer dependency. This is a resilient strategy.

Mercy's children enjoy the legumes, and look forward to eating soy and peanut porridge in the mornings. She says that her children are much stronger now and that she no longer worries about their nutrition.Her fields are thriving, and during the past few years, she has multiplied her seed and shared it with her friends and family who are not as food secure as she is. In addition, she has produced a surplus of soy and peanuts, which she sells in the local market in order to buy soap, salt, and cooking oil, and to pay for her children's school fees. She is hopeful for the future, and looks forward to continuing to learn from the project.

Further information available at soilandfood.org

Photo above: Kenton Lobe

The Way Forward

"Fertilizer on its own doesn't add fertility in the soil. Food for the soil is residue, manure…The farmers themselves they know that, if they apply fertilizer this year, they get high yields, but next year there may not be any fertilizer and yields will be down" notes Stockard Nyirenda, the head of the Farmer Research Team in Ekwendeni. Indeed, depending on fertilizer subsidies means relying on the vagaries of politics, and the market, for food. In Malawi, support for farmer-led approaches to the issues of soil fertility and child malnutrition are contributing to the resilience of small scale agricultural systems that will be able to cope and adapt at the local level to the host of changes that farm families face.