

**More than ten years ago, scientists at Bioversity's regional office in Kenya noticed an alarming development. The traditional African leafy vegetables they had eaten as children were rapidly disappearing from farmers' fields and people's tables. Bioversity and its partners set out to reverse this trend.**

## Back by popular demand



Mary Wangari is fresh produce assistant at a Tusker supermarket in Nairobi, Kenya. Over the past few years, Mary has noticed a real change in the leafy vegetable corner of the fresh produce section. Since the supermarket began stocking traditional African leafy vegetables about four years ago, demand has increased to such an extent that, despite daily deliveries, by the time the afternoon arrives there is often not enough left to meet shoppers' needs. Demand for leafy vegetables now outweighs supply, with an astonishing increase in sales of 1100% in just two years (see *What's on the menu*, Annual Report 2005, p. 6). But things haven't always been this good.

Until recently, traditional African leafy vegetables were considered by many to be inferior to and less fashionable than introduced vegetables such as cabbage and kale. The conditions in which the indigenous leafy vegetables were grown and sold did little to improve their image, with consumers fearing that they were dirty and unhygienic. Faced with a lack of demand, farmers stopped growing them.

Two major projects led by Bioversity International set out to change this situation. They worked with farmers, NGOs, universities, hospitals, national research institutes and others across sub-Saharan Africa to improve livelihoods and nutrition by increasing production and consumption of leafy vegetables. This would also serve to ensure the conservation of the crops. The projects came to a close three years ago and although there was evidence of their success (see *Assessing the impact of our work*, Annual Report 2006, p. 24), no formal impact assessment had been carried out.



S. Mann/Bioversity International

Mary Wangari at work at a Tusker supermarket in Nairobi, Kenya.

Elisabetta Gotor, an Italian Associate Expert at Bioversity, recently carried out a study to assess the impact and sustainability of the projects' efforts in Kenya. "Ten years have passed since these efforts first began and we wanted to know what the impact had been on people's lives," explained Gotor. But the impact study went further. "We also wanted to find out exactly what Bioversity's contribution was and whether this role could have been played by anyone else," Gotor continued.

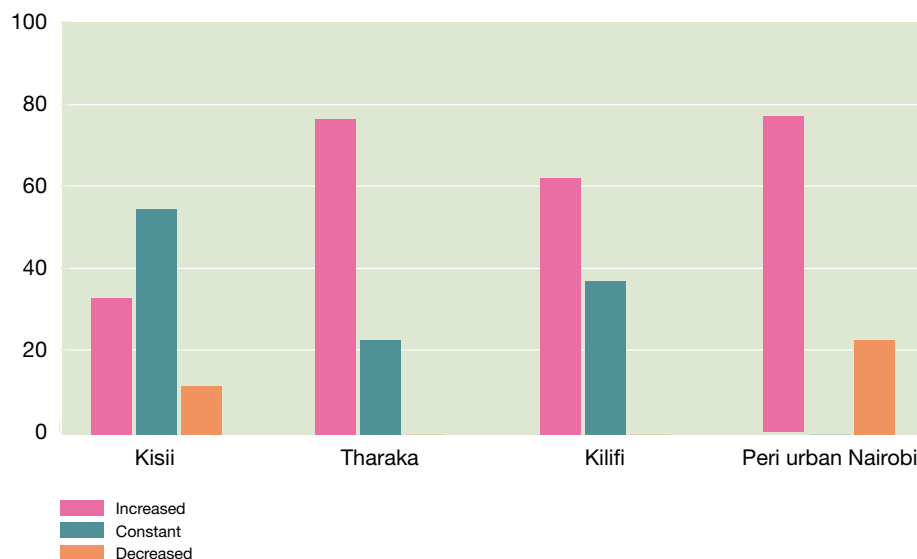
In addition to interviews with partners, the study sampled a total of 211 households from four regions involved in the project: Kisii in western Kenya, Tharaka-Nithi in the eastern province, Kilifi on the coast and peri-urban Nairobi, including the Kiambu and Thika districts. A combination of quantitative and qualitative methods, including focus groups, interviews and surveys, was used to ensure accuracy. Where possible, data collected at the beginning of the projects were used to provide a baseline for the impact study.

Results confirmed that the project's efforts were successful. Production of leafy vegetables in peri-urban Nairobi, for example, has increased more than tenfold since 1997. Incomes have increased too, particularly where farmers have been successfully linked to markets (see figure). And women, the main producers of leafy vegetables, were the main beneficiaries. In almost 80% of the households it was the women exclusively who kept the cash from sales of leafy vegetables and who decided what it would be spent on—mostly on more and better food and paying for schooling for their children. (This mirrors the impact of research on informal seed systems in Mali; see *Saving seeds in the Sahel*, page 13.)

"Some of these developments need to be monitored," warned Gotor, noting that as commercialization increases, gender issues may come into play. "There is a real danger that men will take over as leafy vegetables become more profitable," she said. It will be important

## Farmers believe their incomes have risen from 1997 to 2007.

In three of the four districts studied, the majority of farmers believed their incomes had increased.<sup>1</sup>



<sup>1</sup> The data refer to the perception of the respondents, when asked to compare the incomes they earned from ALVs in 1997 and 2007. This does not take into account the actual income value but the perceived percentage increase or decrease.

to ensure that women continue to be the main producers and marketers of traditional leafy vegetables, and in charge of cashing in the returns.

Things have clearly improved on the production side of things. But the study also found that people are buying and eating more leafy vegetables too. More than 80% of the households surveyed reported that they had eaten leafy vegetables over the past couple of days. Many households (37.5%) reported improvements in their health since they started eating leafy vegetables, saying

that they fell ill less often and were less anaemic. The study underlined the need for more research into the nutritional properties of traditional leafy vegetables and their impact on health so as to be able to build on this anecdotal evidence.

Among partners, more than 70% said that Bioversity had played a positive role in bringing traditional leafy vegetables to where they are now. More than 90% said that general efforts to promote leafy vegetables in the country had increased as a result of



E. Gotor/Bioversity International

In the village of Mariakani, Kenya, women study a pamphlet showing the nutritional value of various leafy vegetables. Public awareness like this was an area in which Bioversity played a significant role, informing consumers and farmers of the nutritional benefits of leafy vegetables.

project interventions. Further evidence of Bioversity's leading role and the effectiveness of its modus operandi emerged strongly from the study. The success of the project resulted in the launch of several other efforts by project partners, further evidence of impact.

Partners viewed Bioversity as the single most important organization with respect to initiatives to promote African leafy vegetables, with more than 60% of respondents rating collaboration with Bioversity as 'very beneficial'. Respondents saw Bioversity as a catalyst and an enabler, facilitating and driving work on African leafy vegetables in Kenya. One collaborator said that Bioversity was like the director of a big orchestra, directing and guiding all the players in the same direction in order to maximize the efficacy of results.

Respondents rated public awareness as one of the areas where Bioversity had played the most significant role. The study identified increased awareness of the nutritional value of traditional leafy vegetables as one of the key drivers of growth in consumption and demand. Much of the awareness-raising work took place in urban Nairobi and the study highlighted the need for more efforts to increase awareness in rural areas.

Public awareness can help increase demand, but the study also identified the need for more work at the supply end of the market chain. Increased production of leafy vegetables has brought with it the need for more research into storage methods and technologies that will help farmers reduce losses in periods when supply outweighs demand, such as the rainy season.

"There is no doubt that Bioversity played a unique role in bringing leafy vegetables back into the lives of Kenyans," says Gotor. "Efforts now need to focus on keeping them there."

**Further information**  
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*A woman selling leafy vegetables in a street market near Embu, South Tharaka, a very dry and poor rural area in central Kenya. Indigenous leafy vegetables grow well in marginal environments like that of Embu.*

### Who does the work? Gender roles in farming African leafy vegetables

Women are generally responsible for carrying out most of the farming activities relating to African leafy vegetables. Some activities are carried out jointly by husband and wife.

Farming activity	Household member performing activity			
	Wife	Husband	Both	% women
Land preparation	94	19	36	75
Planting	110	13	35	81
Manuring	92	16	31	78
Weeding	104	12	35	81
Crop protection	63	30	22	64
Irrigation	21	7	7	71
Harvesting	113	10	30	83
Marketing	62	12	15	79
Total	659	119	211	

### Who makes the decisions? Gender roles in decision-making for African leafy vegetables

Women are also responsible for much of the decision-making, although the figures also suggest that men are more involved in decision-making processes than they are in the farming itself.

Farming activity	Household member making decision on the activity			
	Wife	Husband	Both	% women
Land preparation	97	59	23	61
Planting	110	50	20	67
Manuring	98	47	20	65
Weeding	119	38	23	73
Crop protection	66	54	18	54
Irrigation	28	16	6	62
Harvesting	121	35	23	74
Marketing	57	25	16	66
Total	696	324	149	