

Stories of change

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Nigerian women reap benefits from indigenous vegetables

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Key messages

- Radio programs in the local language have raised awareness of the nutrition and income benefits of indigenous vegetables. Consequently, demand for fresh indigenous vegetables, as well as seeds, has increased considerably.
- Farmers have formed 22 registered underutilized vegetable cooperative groups, involving over 1,200 farmers (50% women) in 36 months, facilitating access to credit and inputs.
- Economic analysis shows greater returns from indigenous vegetables compared to conventional vegetables, with an income of US\$3,376/year compared to a pre-project income of US\$1,994/year.

vegetables are often highly nutritious, containing key vitamins and minerals - including high levels of carotenoids (Vitamin A), flavonoids, and phenolics - that support human health. Despite their potential, research systems have failed to prioritize indigenous vegetable species to improve food security, nutrition and income in farming communities. As a result, most of these indigenous vegetables remain uncultivated and their potential untapped.

Working in four administrative states in south-western Nigeria, the *Sustainable Production and Utilization of Underutilized Nigerian Vegetables to Enhance Rural Food Security* project developed new technologies for six high premium indigenous vegetable species, which were selected on the basis of their food values, consumer acceptability, marketing potential and amenability to agronomic practices. The varieties included: local celery (*woorowo*), local amaranth (*teteatetedaye*), fluted pumpkin (*ugu*), African nightshade (*odu*), eggplant (*igbagba*) and scarlet eggplant (*ogunmo*), and the technologies included improvements in land preparation, seeding rates, staking technology, seed treatment and pest control. The project has supported improved production, processing, preservation and marketing of the vegetables.

Context

Rural women in Nigeria generally lack the resources to purchase high value food items (eggs, meat and milk), and instead gather indigenous vegetables, leaves and fruits from the wild to feed their families. Indigenous



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Marketers bunching harvested indigenous vegetables for sale at Osogbo in Nigeria

Emerging outcomes

Increased demand for indigenous vegetables

The project has worked with 1,200 farmers (50% women) who have been formed into 22 vegetable cooperative groups. Each group has received training on agronomic practices, gender issues and savings education. Each cooperative is registered with relevant authorities in each of the four states so that farmers are able to access bank credit and federal government support. Farmer cooperatives have strong potential to further exploit market opportunities, and contribute to the government push to commercialize indigenous vegetables in domestic and export markets.

Radio programs known as ‘Ramo Elefo’ (Ramo the Vegetable Seller) have been aired on popular FM stations in south-western Nigeria to create awareness on production, utilization, and nutritional and health benefits of underutilized vegetables, reaching over 3 million listeners. These and new jingles have helped to stimulate demand for seeds or further information on indigenous vegetable production.

“ I appreciate the program about these indigenous vegetables on the radio concerning this project. It hastens our marketing and increases demand. When people heard that ebolo [a leafy vegetable] is good for their health, they demanded it.

Mrs Fausat Muritala, a 50 year old farmer from Igboho ”

Empowering women’s access to resources

As a result of gender training, over 300 women participating in the project now have access to credit, land and irrigation facilities for the production of indigenous vegetables, and control over seed and fertilizer procurement. This opportunity has enabled women farmers to take independent decisions on choice of land for vegetable production, size of land under cultivation, where and how to source credit, when to buy and apply fertilizer and the quantity to apply, when to irrigate, when to harvest the vegetables, and where and how much to sell the vegetables for.

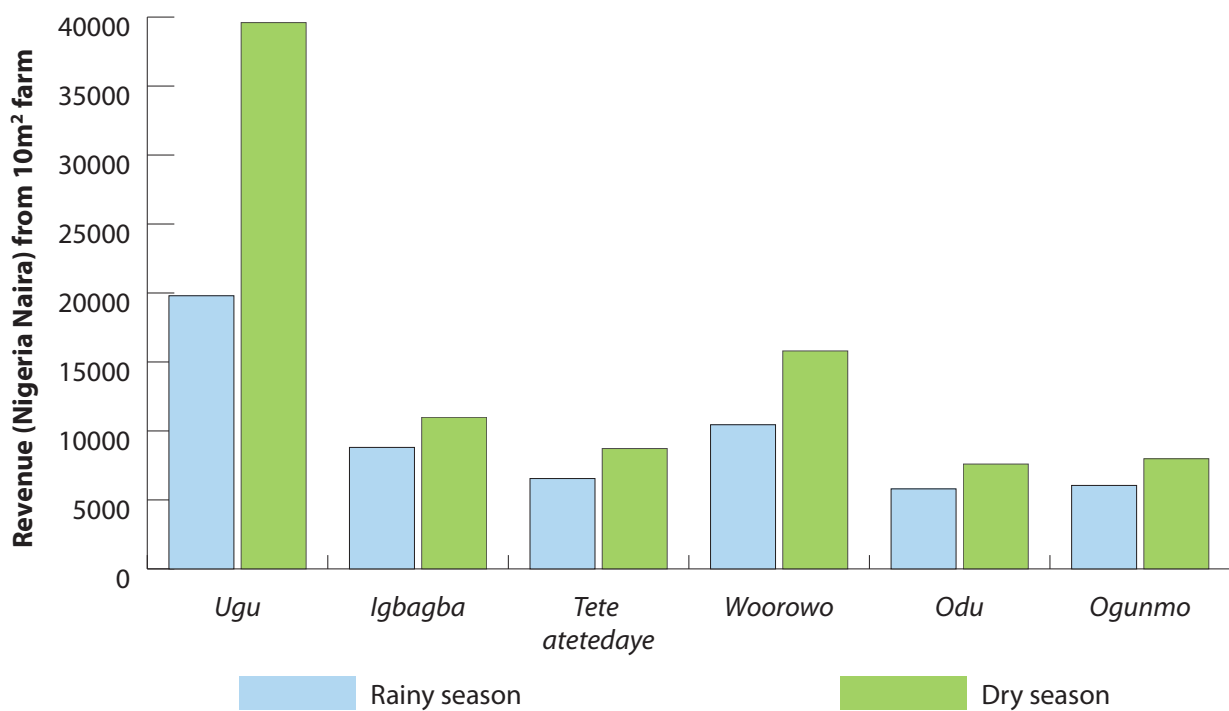


Figure 1: Cumulative revenues of six indigenous vegetables over a three month rainy season and a three month dry season

The formation of cooperative groups has also empowered women to participate actively in decision-making with respect to land acquisition for vegetable production, credit sourcing, profit-sharing, pricing decisions and overall management of group interests and concerns. Involvement in the cooperatives has stimulated a new savings culture, particularly amongst women (10% compared to 8.6% with men).

Improved production for increased income

Participating farmers have adopted a range of technologies, including seed bed preparation, seed treatment to prevent soil-borne diseases and pests, seed planting rate, reduction of germination period, botanical pest control, and staking of ugu and woorowo for improved productivity and economic returns. Adoption of new technologies has led to leaf yields of 40 kg/m² for igbagba, 55 kg/m² for ugu, 5 kg/m² for teteatetedaye and 35 kg/m² for woorowo; previously farmers realized about 50% of these yields or less.

With increased yields, previously marginalized rural women farmers now realize an average income of about US\$3,376/year from the sale of indigenous vegetables compared to a pre-project income figure of US\$1,994/year. As shown in Figure 1, women farmers carry

out continuous harvesting and sale of the six indigenous vegetables during both the rainy and dry seasons. For ugu and igbagba, farmers carry out fortnightly harvests and sales from the same farm and same plant for a period of at least six months. This harvesting schedule developed by the project has assured that farmers have regular income (fortnightly), with higher revenue being realized during the dry season.

“ Most of us in this group have built our personal houses from the profitable vegetables business through new technologies that this project taught us. The technologies are simple in context and easy to adopt for rural farmers like us. We have turned ugu and igbagba into money spinning businesses in Ibadan. ”
Pa Gabriel Olasupo Famuyiwa, a 72 year old male farmer from Akanran, Ibadan

Enhanced dietary diversity

The project made available six indigenous vegetables which have now been adopted in family diets. Women have been given training on food preparation and improved processing technologies. The daily radio jingles have also helped to sensitize the public on the nutritional and health benefits of indigenous vegetables and stimulate dietary diversity. Farmers now report that sales of indigenous vegetables have

increased due to increased consumption and that it is becoming difficult to meet demand. Farmers have also increased household consumption, as they taste better and provide greater nutritional benefits compared to non-indigenous vegetables.

Conclusion

There has been rapid expansion of the project sites, with more farmers joining the training. The awareness programs on radio and television have also created interest in indigenous vegetable production and marketing, and prompted requests from the public for seeds and production technologies. As a result, the project has supported several women farmers to develop seed production businesses. These farmers are earning additional income from sales of indigenous vegetable seed and farmers are acting as trainers for other farmers, who come to the sites to acquire knowledge on a regular basis.

Income from the production of indigenous vegetables has enabled women farmers to meet many of their daily costs, including payment of children's school fees and health care needs of the family. This will continue to sustain their use of improved production and cultivation once the project has ended. Given the successes recorded in the field in south-western Nigeria, especially with respect to income generation and household nutrition among poor families,



Iya Ibeji harvesting elege in Iworo Oka



Marketers in Ile-Ife

the introduction of this system in other areas of Africa has great potential. The development of seed production enterprises, in particular, could widen the income base and improve the living conditions of many more poor rural dwellers, especially women. The researchers are positive that indigenous vegetable production and marketing will assist rural women farmers to escape from poverty.

References

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