Homegrown nutrition: exploring the potential for women's household gardens to reduce undernutrition

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Introduction

I work in The Gambia in collaboration with a local NGO, contributing to a project aimed at reducing undernutrition through promoting high-nutrient crops in women's community gardens.

The Gambia is considered a particularly relevant site for nutrition interventions - the 2013 Demographic and Health Survey showed that iron deficiency (anemia) is present in 73% of children under five and in 60% of women of childbearing age (GBOS 2014). Especially in rural areas where the majority of people are subsistence farmers, many households struggle to meet their nutritional needs on a daily basis.

It has been argued that one way to help improve nutrition is through women's community gardens, which provide households with regular access to locally grown high-nutrient foods (Ruel and Alderman 2013). Gardens target women because they tend to be the primary decision makers for the household when it comes to diet. This summer, I worked with women's community gardens to study the promotion of high-iron indigenous **African leafy vegetables**, and **orange-fleshed sweet potatoes** which are high in vitamin A, as compared to the white-fleshed alternative. The NGO promotes these crops by providing low-cost access to seeds, community garden infrastructure improvements, nutritional education, and cooking courses.

The crux of my research rests on the fact that women's community gardens represent only half the battle for reducing undernutrition. It is one thing for women to grow nutritionally-rich crops, and another for the crops to be adopted into diets and larger market systems, which may be bound by cultural norms and economic constraints.

Plots in a women's community garden

Project Goals

My goal was to conduct a baseline study of the women's community gardens which are targeted to benefit from this project. This study established a baseline from which the NGO can measure progress. It was also an opportunity for me to explore larger themes relevant to my dissertation work, focused on critically examining nutrition projects like this one, and thinking towards contextualized solutions.

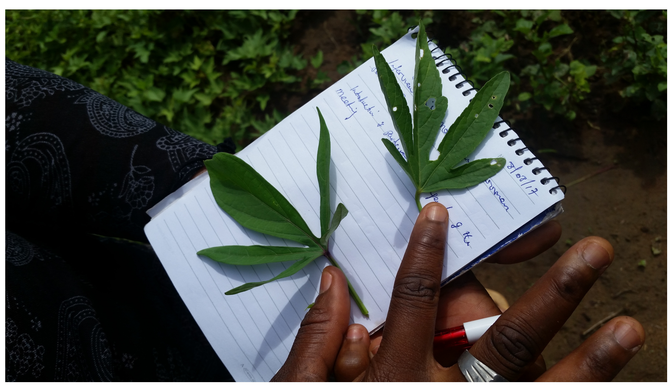
I had three main objectives:

1. Understand current production and consumption patterns for orange-fleshed sweet potatoes and African leafy vegetables in women's community gardens
2. Explore how gardeners understand malnutrition in their communities
3. Explore how gardeners understand the particular health benefits of orange-fleshed sweet potatoes and African leafy vegetables

Materials and Methods

Sampling strategy: Research was conducted in all of The Gambia's five administrative regions. In each region two gardens were selected: one garden that is targeted to benefit from the project, paired with one control garden. The gardens themselves are preexisting, and the project aims to improve them. The gardens have the following characteristics: fenced, minimum 1 hectare, local collective ownership and management, membership from 50-200 women, access to a water source, and diversified horticultural crops. Interviewees were selected using snowball sampling.

Data collection: Data was collected over four weeks in August 2017, using quantitative surveys and qualitative interviews. Surveys were conducted with 40 gardeners, and semi-structured interviews were conducted with 20 of the same gardeners, plus 5 key informants. Surveys with close-ended questions explored production and consumption rates. Semi-structured interviews explored gardeners' understandings of malnutrition and the health benefits of crops being promoted.



African leafy vegetable referenced in survey

Results and Outcomes

Approximately 75% of gardeners grow African leafy vegetables in community gardens and consume them at least once a week, with little seasonal variation. Gardeners were very knowledgeable about health benefits of leafy greens, referencing their high iron content. Gardeners also mentioned that African leafy vegetables are particularly important for pregnant women, high at risk for anemia.

"I believe these leafy vegetables are very important for the body because they give you a lot of red blood cells" (female gardener)

Approximately 40% of gardeners already grow orange sweet potatoes in community gardens. Approximately 75% consume them at least once per week, with a slight increase during the dry season. Gardeners were largely unaware of health benefits of orange sweet potatoes, and there was no clear preference between orange sweet potatoes and white-fleshed alternatives.

When asked about how these vegetables and potatoes could help improve malnutrition, gardeners tended to reorient the conversation towards poverty. Gardeners easily named the high-nutrient foods they wished to feed their families, though they emphasized that poverty was the biggest barrier.

"It is because of poverty, having plenty food is one [thing] but hav[ing] food that has nutrients is another thing and people are not the same." (female gardener)

Interview with a key informant

Conclusions

The women's community gardens produce significant amounts of African leafy vegetables, and households consume them frequently. Gardener knowledge of nutritional benefits of these vegetables is strong. Less than half of gardeners grow orange sweet potatoes in gardens, though their households consume them with relative frequency. Gardener knowledge of nutritional benefits of sweet potatoes is low.

If there is a direct correlation between knowledgeable women growing high-nutrient foods, and improved household-level nutrition, then baseline findings indicate that the target populations are on the right track. Developing to high rates of production, consumption, and nutritional knowledge all indicate that with material and financial assistance these trends could continue to improve. However, there appears to be a disconnect in how gardeners understand the fundamental source of malnutrition. Gardeners spoke to the systemic causes of malnutrition - poverty - whereas the project addresses more immediate causes, through diet modification.

Future Goals

These findings make up part of my PhD pre-dissertation research. In the future, I aim to explore how malnutrition is problematized, and how nutrition projects may be understood differently by NGOs as opposed to the communities they work with. How and why have high-nutrient gardens emerged as the answer to micronutrient deficiency? Who defines what problem is being addressed?

Gardener harvesting leafy vegetables

Literature Cited

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Ruel, Marie T., and Harold Alderman. 2013. "Nutrition-Sensitive Interventions and Programmes: How Can They Help to Accelerate Progress in Improving Maternal and Child Nutrition?" *The Lancet* 382 (9891): 536–51.

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