

## COMMENTARY

# Food and nutrition security support groups: A safety net strategy for sustaining gains from a livelihood program in Uganda

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Submitted September 26, 2025 / Accepted December 15, 2025 / Published online March 3, 2026

*Citation:* Mbeiza, M., Nambafu, C., Banige, D., Ikendi, S., Masinde, D., Burras, L., Nadiope, G., & Owusu, F. (2026). Food and nutrition security support groups: A safety net strategy for sustaining gains from a livelihood program in Uganda [Commentary]. *Journal of Agriculture, Food Systems, and Community Development*. Advance online publication. <https://doi.org/10.5304/jafscd.2026.152.029>

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## Introduction

In 2015, world leaders set the target to achieve zero hunger by 2030 through the launch and operation-

alization of the Sustainable Development Goals (United Nations, 2015). However, progress reports show that the world is still off track, with projections indicating persistent hunger and malnutrition (Food and Agriculture Organization [FAO] et al.,

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2024; 2025). These reports are synonymous with the global hunger index, which has consistently marked Uganda as *serious* in hunger severity (Scherer et al., 2025). Moreover, the 2024 national census also showed that 46% of Ugandans were experiencing food insecurity (Uganda Bureau of Statistics, 2024), and trend studies and models indicated increasing levels of food and nutrition insecurity in the country (Akumu et al., 2023; Maniragaba et al., 2023; Ogenrwoth et al., 2022).

The government of Uganda has directly invested in interventions to improve food and nutrition security (FAO, 2024, p. 180; Office of the President, 2025) and through public-private partnerships (Office of the Prime Minister, 2020) to ensure consistent food production to nourish the population and sustain the gains. These partnerships are consistent with the sustainable livelihood programs of our study between Uganda and the U.S. (Butler & Acker, 2015; Ikendi & Retallick,

2025; Ikendi, Mwenyi & Retallick, 2025; Thurow, 2024).

### The Iowa State University Sustainable Livelihood Program in Uganda

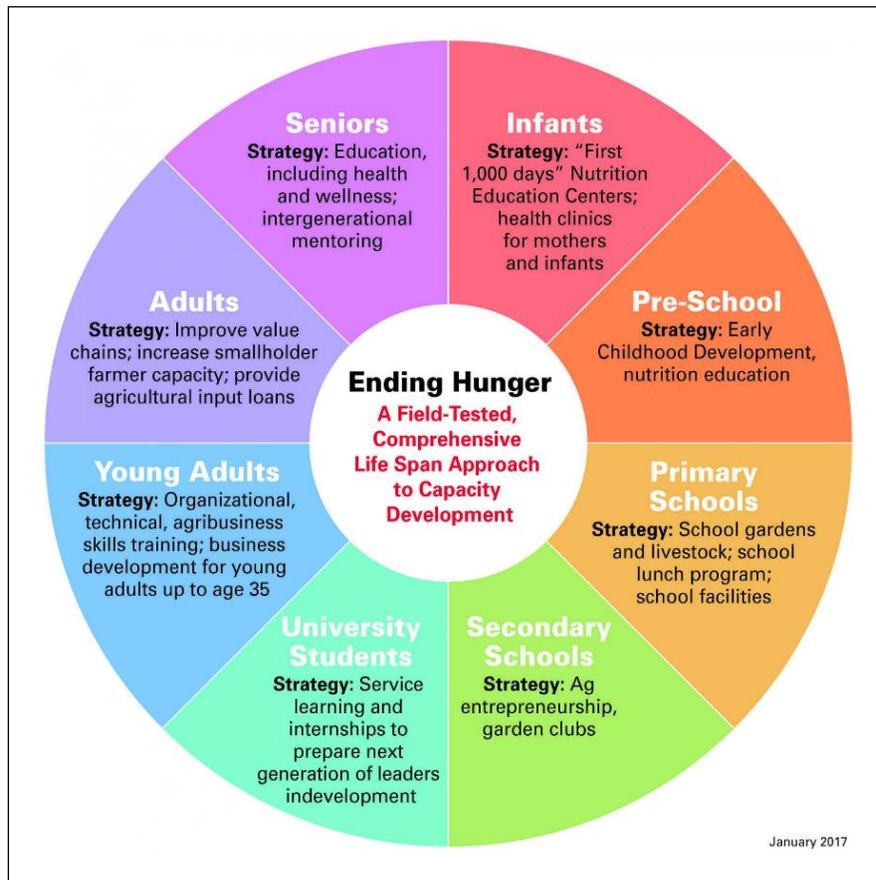
In this commentary, we describe a U.S.-based sustainable livelihood program as a related public-private partnership between the Center for Sustainable Livelihoods (CSRL), based at Iowa State University (ISU), the ISU Uganda Program (ISU-UP), and Makerere University, located in Kampala, Uganda, that implements programs geared toward ending hunger in rural Uganda (Butler & Acker, 2015; Ikendi & Retallick, 2025; Ikendi, Mwenyi & Retallick, 2025; Thurow, 2024). The CSRL programs have focused on human capacity development (Figure 1) to foster food production and food access (Ikendi et al., 2023a; Ikendi, Owusu, Masinde, Bain, & Oberhauser, 2025) through research, teaching, and extension in soil improve-

ments, crop production, agroforestry and orchard management, postharvest technologies, livestock management, nutrition and feeding, school gardens, income innovations, and youth entrepreneurship programs (Ikendi, Mwenyi & Retallick, 2025).

The CSRL programs also emphasize nutrition security (Ikendi et al., 2023b; Masinde, McMillan et al., 2015; Masinde, Ikendi et al., 2025), through several livelihood education programs in water and public health, nutrition and infant feeding, and complementary services such as nutrient-dense therapeutic porridge through the nutrition education centers and school feeding programs (Ikendi, Mwenyi & Retallick, 2025).

Despite those livelihood

**Figure 1. The CSRL/ISU-UP Human Capacity Development Model**



program efforts, food insecurity (Ikendi et al., 2023a; Sseguya et al., 2018), low dietary diversity and caloric intake (Ikendi, Owusu, Masinde, Bain, & Oberhauser, 2025) in communities, and nutrition insecurity in schools (Byaruhanga et al., 2017) and communities (Masinde, Ikendi et al., 2025) persist, but to a lower extent among program participants compared to non-program participants. Through programmatic restructuring, the food and nutrition security support groups were initiated in 2019 as safety nets to sustain the livelihood gains and foster further diversification of household livelihood strategies to support related programs such as mothers' craft programs operationalized in 2016 (Ikendi, Mwenyi & Retallick, 2025; Martin, 2018).

### **The Food and Nutrition Security Support Groups (FNSSGs)**

The FNSSGs are groups of mainly women (men are welcome to join) of any age who come together to learn about and discuss issues of food and nutrition security that impact their households. The goal of FNSSGs is to improve food and nutrition security among households, especially nutrition education center (NEC) graduates (at-risk-for-malnutrition rehabilitated clients [Ikendi et al., 2023b; Masinde, Ikendi et al., 2025; Masinde, McMillan et al., 2015]), through the provision of technical support to help them initiate sustainable food production and income-generating activities. The identification, recruitment, training, and supervision of support group members are done by community-based FNSSGs Coordinators with additional support from other Extension and Outreach Assistants of the ISU-UP in Kamuli district, Uganda.

To foster effective operations, the FNSSGs form their committee, rules, policies, and procedures to follow under the guidance of the program Extension and Outreach Coordinator. This kind of organization and leadership supports the orderly operationalization of FNSSGs. Such procedures have been the backbone of food security group operations in the CSRL program under the earlier partnership with Volunteer Efforts for Development Concerns from 2004-2014 (Sseguya et al., 2015). Through the CSRL/ISU-UP partnership, from 2014 to present (Ikendi & Retallick, 2025),

the conceptualization of the FNSSGs in 2019 under the management of a community-based coordinator was intentional. These coordinators have been trained by the program and are influential in their communities to cause behavioral changes towards food and nutrition practices, the essence of the theory of planned behavior in community development (Ajzen & Schmidt, 2020), as well as the technology transfer models (Rogers, 2003; Seevers & Graham, 2012).

### **Operationalization of the FNSSGs**

The FNSSGs Coordinator supervises all support groups and their activities weekly. In the first three months, each group meets once a week to train and discuss progress; thereafter, the group meets twice a month. Each group chooses a chairperson to mobilize and oversee activities, and also serves as a mentor. Leaders use member-to-member support, a foundational extension model of the CSRL program (Masinde, Butler et al., 2015; Sseguya et al., 2015). The CSRL/ISU-UP uses a positive deviance approach to improve the food, nutrition, income, and health security in member households. This approach identifies members of a similar community struggling with similar issues, but can register more positive outcomes to overcome their challenges by deploying uncommon means. Therefore, their creativity places them at an advantage as influencers in the community (Baxter & Lawton, 2022; Natukunda et al., 2026).

Additionally, the FNSSGs involve male household heads as an important pillar in the support group activities. Involving fathers has had a positive impact on household food, nutrition, and welfare (Galvin et al., 2023; Ikendi, Owusu, Masinde, Bain, & Oberhauser, 2025; Ng et al., 2025; Orkaido et al., 2025). Group members meet in the homes of different members as they work with available materials to improve nutrition, hygiene/sanitation, income, livestock, and crop production. The CSRL/ISU-UP improves food security by distributing seeds such as soybean, amaranth, and millet for planting (Ikendi et al., 2024). Each group's clients specialize in one or two types of crops, and then barter trade (exchange of goods for goods) is promoted among members so that all members acquire the items they need, for instance, ingredi-

ents for the nutrient-dense therapeutic porridge (Ikendi et al., 2023b). In the groups, a percentage of the harvest and porridge flour made is sold, and a proportion of the sales revenue is put into the group's savings to support continuity of the project. Promoting the savings culture supports the development of financial independence among households and also reduces the burden of seeking financial support from financial institutions who may require substantial collateral security (Bagire & Namagembe, 2022).

### Key FNSSGs Activities

Most of the FNSSGs' activities revolve around human capacity development to improve food security; fight illnesses, infections, and malnutrition; and improve household income and assets. Key activities include:

- **Technical support:** Extension visits at the group level; group leaders attend training at the NECs and train the group members
- **Sanitation and hygiene enforcement:** Encouraging and working together to support the construction and sustainable use of water resources and hygiene and sanitation facilities such as latrines, tip taps, plate stands, kitchens, rubbish pits, and bathrooms
- **Crop production:** Increasing household crop production as a way of improving food production and access to diversify diets and incomes through sales
- **Livestock production:** Improving livestock production for income and supporting the consumption of animal source proteins, and also benefiting from crop-livestock interaction, such as animal manure production and use
- **Table banking:** Enhancing income for group members through sales, promoting savings, and re-investing in income-generating activities
- **Nutrition and health counseling:** A priority target to keep families healthy at all times.

### Monitoring and Evaluation of Key FNSSGs Indicators

Activity monitoring is routinely conducted to assess members' progress and sustainability in key

food and nutrition indicators. The indicators monitored include:

- Quantity of inputs and harvested produce
- Morbidity and mortality rates among families of group members
- Quantity of composite flour for therapeutic porridge produced in the homes of members
- Number of sanitation and hygiene facilities, such as latrines, and their cleanliness in the homes of members
- Amount of savings per member and per group
- Food security scores per household to assess levels of food security (Coates et al., 2007)
- Dietary diversity scores per household to assess levels of dietary diversity (Swindale & Bilinsky, 2006)
- Food consumption scores per household to assess levels of caloric intake (Swindale & Bilinsky, 2006)
- Anthropometric indices to assess the nutrition security of mothers for underweight and overweight, and children for underweight, stunting, and wasting (World Health Organization [WHO], 1995; WHO & Onis, 2007)

### Achievements of the FNSSGs

In the first year of its launch in February 2019, the FNSSGs registered 14 groups with 300 clients (CSRL, 2020). After five years, the FNSSGs recorded a total of 60 groups with over 1000 members (CSRL, 2024). Capacity building through routine training has been the cornerstone of the FNSSGs in line with the CSRL/ISU-UP mission of using the power of education to uplift communities toward food and nutrition security (Ikendi & Retallick, 2025). Members are trained in several food security programs in soils, agronomy, post-harvest, orchards, and agroforestry (Ikendi et al., 2024), based on research and experimental studies conducted in the communities in soil improvements (Akitwine et al., 2025; Wokibula et al., 2024; 2025), crop production (Kwikipiriza et al., 2026; Muyonga et al., 2010; Tusiime et al., 2019) and postharvest technologies (Asimo et al., 2024; Bbosa et al., 2017; Brumm et al., 2021; Mayanja et al., 2018; Tibagonzeka et al., 2018; Tumutegereize et

al., 2022); and livestock management (Ikendi, Owusu, Masinde, Oberhauser, & Bain 2025; Masinde, McMillan et al., 2015), based on research and experimental studies conducted in the communities (Ampaire & Rothschild, 2010; Kugonza et al., 2014; Lubandi et al., 2019; Semahoro et al., 2018; Walugembe et al., 2014).

Similarly, FNSSGs receive routine training in nutrition security programs such as nutrition and infant feeding (Ikendi, Owusu, & Masinde, 2025), water and public health (Ikendi, Masinde, & Owusu, 2025), which are also based on studies in food safety (Nabwiire et al., 2023; Ssabika et al., 2024), public health (Buyinza et al., 2024; 2025), and other food stability programs such as income innovations (Ikendi, Mwenyi, & Retallick, 2025; Martin, 2018).

In addition to capacity building, the CSRL/ISU-UP supports the FNSSGs with quality seeds for multiplication, such as soybean, grain amaranths, sacks of orange-fleshed sweet potato vines, and provides fertilizers such as diammonium phosphate for group gardens (Ikendi et al., 2024). The groups have been able to grow other foods to diversify their diets, such as beans, sweet potatoes, cassava, vegetables, bananas, and maize, to ensure food security. Members established group activities like planting gardens together with different crops, making energy-saving stoves, plate stands, and compost pits. These activities have improved relationships in the community, a social capital strategy in food security programs (Craig et al., 2023; Campos & Campos, 2025; Sseguya et al., 2018; Wanyonyi et al., 2025).

To foster nutrition security, the groups have been able to grow nutritious porridge ingredients derived from crops such as millet, grain amaranths, and soybeans, both at the household and group level, to ensure they continue consuming porridge. The therapeutic porridge made from those ingredients is similar to what they were served during malnutrition rehabilitation (for mothers) at the NECs (Ikendi et al., 2023b; Masinde, McMillan et al., 2015). Members collect flour ingredients that they bulk, and the program supports them with silverfish to make a complete porridge flour composition.

The FNSSGs members also have savings and lending schemes, specifically table banking, a community-based financial system where members collect money from themselves, disburse it for their business, and are repaid with interest (Kathambi, 2023). The FNSSGs members collect money through table banking, from which they share weekly per member in terms of purchase of goats, pigs, chickens, and cows to increase income through production and sales, and improve nutrition through consumption of animal-source proteins. Also, from the amount saved, members share and buy household assets such as saucepans, plates, basins, and tarpaulins to improve the quality of dried grains. Some members buy goats and chickens for reproduction to multiply their stock. Table banking has had a positive multiplier in the economic and social empowerment of women (Akeju, 2024; Cherotich et al., 2022; Minja et al., 2023).

### **Facilitators of FNSSGs' Success**

Many factors enabled the successful launch and operationalization of the FNSSGs, and these factors include:

- The groups operate in areas where NECs once operated; however were shifted to other communities where their demand was higher due to high malnutrition levels (Masinde, Ikendi et al., 2025).
- The target populations are mostly households that were once clients at the NECs, but graduated (malnutrition rehabilitated household [Ikendi et al., 2023b]). NEC clients who are members of other ISU-UP projects are also welcome to be part of the groups.
- The members should have some land to grow crops. The program recognizes the challenge of land shrinkage and supports production using land sparing techniques and micronutrient vegetable gardens, such as keyhole gardens and sack gardens (Ikendi et al., 2024). These techniques have been in use since the program's inception in 2004 (Masinde, Butler et al., 2015) and promoted in schools as part of the larger community food system ecology (Banige et al., 2026).

## Conclusion

Food and nutrition security support groups (FNSSGs) are important safety net strategies of food and nutrition security interventions to manage relapses at the end of the intensive primary interventions. These groups can further be strengthened towards sustainability at the termination of the client–agent relationship to ensure communities move on their own after the interventions. In the diffusion of innovation (Rogers, 2003), this approach represents the last stage of adoption of innovations without the direct support of the agent, at the end of the intervention, and/or once the program funding sources dry up or cease. The FNSSGs demonstrate how community development can be fostered through public-private part-

nership, with communities taking ownership of their development efforts through a positive deviance approach (Baxter & Lawton, 2022; Natukunda et al., 2026), with support from development partners through teaching, research, and extension services. Similar studies, such as Tibagonzeka et al. (2025) also echo on a call for public-private collaborations in food and nutrition interventions in the regional district hit by high malnutrition like Buyende, in the neighborhood of Kamuli district. Also, the use of community-based trainers in the FNSSGs that members are familiar with in their training programs fosters adoption of innovations through influence, a key aspect in influencing behavioral change for community development (Ajzen & Schmidt, 2020). 

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