Innovative Poster

Abstract Title: Empowering Urban Youth Through Container Gardening in a Rapidly Urbanizing Context.

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Introduction / Need for Innovation or Idea

Urban food insecurity poses a critical challenge in many developing regions, where population growth, rapid urbanization, and economic volatility have compounded limited access to land and stable food systems. According to the Global Hunger Index, food insecurity disproportionately affects urban populations in the Global South, with youth often among the most impacted due to their socio-economic vulnerability and limited access to agricultural education (Welthungerhilfe & Concern Worldwide, 2023). In many urban centers in these regions, schools lack both the infrastructure and curriculum to engage students in practical, food-producing agricultural activities, thus missing a vital opportunity to equip the next generation with the skills necessary to contribute to local food systems and household nutrition (McFarlane, 2010,Guma, 2022).

Traditional models of agricultural instruction often assume access to rural land, which is incompatible with the lived realities of many urban students. This disconnect not only perpetuates disinterest in agricultural careers but also excludes students from participating in community-based solutions to food insecurity. In response to these challenges, there is a need for an innovative, accessible model of agricultural education that is scalable, context-appropriate, and aligned with the infrastructural limitations of public schools in developing countries.

The Urban Youth Gardening Initiative responds to this need by reimagining agricultural education through the lens of container gardening which is a low-cost, space-efficient method that allows students to grow food in sacks or containers within school compounds or their homes. By combining hands-on training with multimedia-based instruction, the program introduces a transformative approach to youth empowerment, urban agriculture, and food resilience.

Project Phases/Steps

The initiative was implemented at an Urban High school in Nigeria utilizing a five-phase implementation model:

1. Community entry: The process begins by identifying target locations based on the community's socioeconomic status, with particular attention to living conditions such as housing quality and neighborhood environment. Following this assessment, we establish contact with selected school administrators and Agricultural Science teachers to present and discuss the project, aiming to secure their support and involvement.
2. Participant Selection & Orientation: 10th-grade students from underserved public schools are enrolled, specifically those who have previously participated in an Agricultural Science class.
3. Theoretical Training: Students are introduced to container gardening through a combination of Google Slides, YouTube clips, and instructor-led sessions.
4. Hands-On Learning: Participants were split into teams, with each student receiving their own materials and inputs for the project.

5. Mentorship & Peer Collaboration: Students work in teams and receive instructor support throughout the growing cycle.
6. Harvesting & Transfer: Participants collect the produce and materials are transferred to the school Ag teacher

Results to Date / Implications

- 25 student participants in the pilot phase.
- Students successfully cultivated and harvested tomato fruits in 25 sacks learning a range of agricultural concepts like efficient use of space, water conservation, soil drainage and nutrient management, identifying fruit maturity indicators, teamwork and responsibility, record keeping.
- Students reported increased confidence in their ability to grow food and engage with agricultural topics.

Selected Feedback from Student Participants

"The program has helped a lot, I never thought of involving in Agriculture practically, I am feeling more confident. — E.A.

"I initially thought that balancing school work and production agriculture was a struggle. Now I am more confident that I could combine both". — F.S.

Future Plans/Advice to others

- Recruit and retain facilitators by providing stipends
- Establish an alumni network to ensure the program's long-term sustainability.
- Collaborate closely with Agricultural Science teachers and involve them in mentoring students throughout each activity.
- Select schools that have a reliable and consistent supply of clean water for irrigation.
- Allow flexibility in the choice of vegetables based on their maturation periods.

Costs / Resources Needed

Year 1 Total expenses: $240.00 USD
Breakdown:

- Sack materials, compost, seeds and other inputs: $68.50
- Transportation and logistics: $61.50
- Volunteer stipends: $110.00. The volunteers were individuals with prior experience working with youth in similar activities. One volunteer is a crop scientist with expertise in urban gardening, while the other has a background in agricultural economics. Due to their experience, the training provided was not intensive.
- The program minimizes cost by using existing school infrastructure, sourcing media equipment from community members and using offline alternatives to address limited internet access.
- The program extended over a period of five months, approximately corresponding to the duration of an academic semester.

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