



Developing School-Based Agriculture Education Through School Gardens



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Need for Research

- School-based agriculture education (SBAE) is among the formal learning pedagogy that disseminates agriculture info to communities from students.
- Agriculture educators indicated a need for early exposure of students to agriculture education¹.
- In Uganda, SBAE has been implemented through:
 - 1) school gardens (SGs) as learning laboratories within schools and
 - 2) pupils' home gardens for skills transfer to communities².
- The purpose of this study was to determine the rate of pupils' participation in SG clubs and to assess whether club members practice learned lessons at home.

Conceptual Framework

- The study was based on the SG concept of the 1800s by Friedrich Froebel³.
- SGs were popularized in the U.S. after World War I in 1918 through the U.S. School Garden Army under the motto:

“A Garden for Every Child. Every Child in a Garden”⁴
- The goal of these SGs was two-fold:
 - 1) providing food to veterans and
 - 2) as a form of patriotic movement.
- Students who participated were within 9-15 years of age under the slogan I

“consecrate my head, heart, hand, and health through food production and food conservation to help the World War and world peace”⁵
- The U.S. victory in WWII rebranded the SGs into Victory Gardens.
- Over 20 million gardens were planted on an estimated of 169,000 acres⁶. Students produced 40% of the U.S. vegetables.

School Garden Concept in Uganda

- In Kamuli district of Uganda, the SGs concept was introduced in 2006 through the service-learning program of the Center for Sustainable Rural Livelihoods (CSRL) based at Iowa State in partnership with Makerere University [MAK]².
- It was operationalized under the name

“Creating a School Garden: Service-learning in Uganda”.
- Pupils engage in SGs activities to increase food supplies for school lunch.



Mulching and harvesting Collards

Methodology

- A cross-sectional survey was utilized. The sample was drawn from 355 pupils who had participated in school clubs in four primary schools supported by the CSRL through ISU-Uganda Program (ISU-UP) by 2018.
- We established a sample size of 185 participants. Approval to conduct the study was obtained from ISU under IRB #18-356-01.
- Children were presented with parental consent and child assent forms.
- School teachers appended their signatures on behalf of parents.
- Pupils (n=139) accepted to participate, assented, and signed on assent forms.
- Bivariant analysis was conducted at a 5% significance to determine whether there existed any significant associations among pupils. Data are presented as percentages.

Results and Findings

- Overall, 78.4% were members of the SGs club (See Fig.1). Most children were between 11-14 years of age. Children had spent 4.20(±3.61) terms in the SG clubs.
- Majority (95.4%) were active in SGs activities and 4.6% had left the club to join other clubs like agroforestry; beekeeping; livestock; school feeding; postharvest; sanitation; composting; holiday; music; art & craft; and sports & games.

Fig.1: Percentage of Pupil's Membership to School Garden Clubs

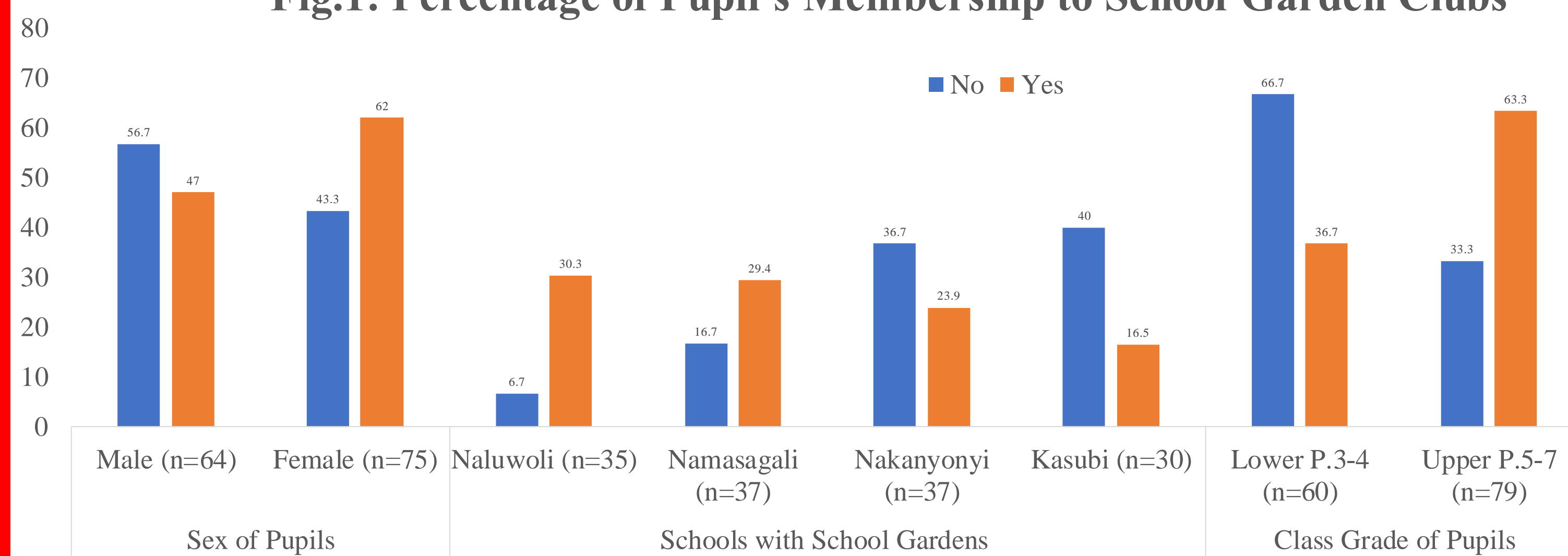
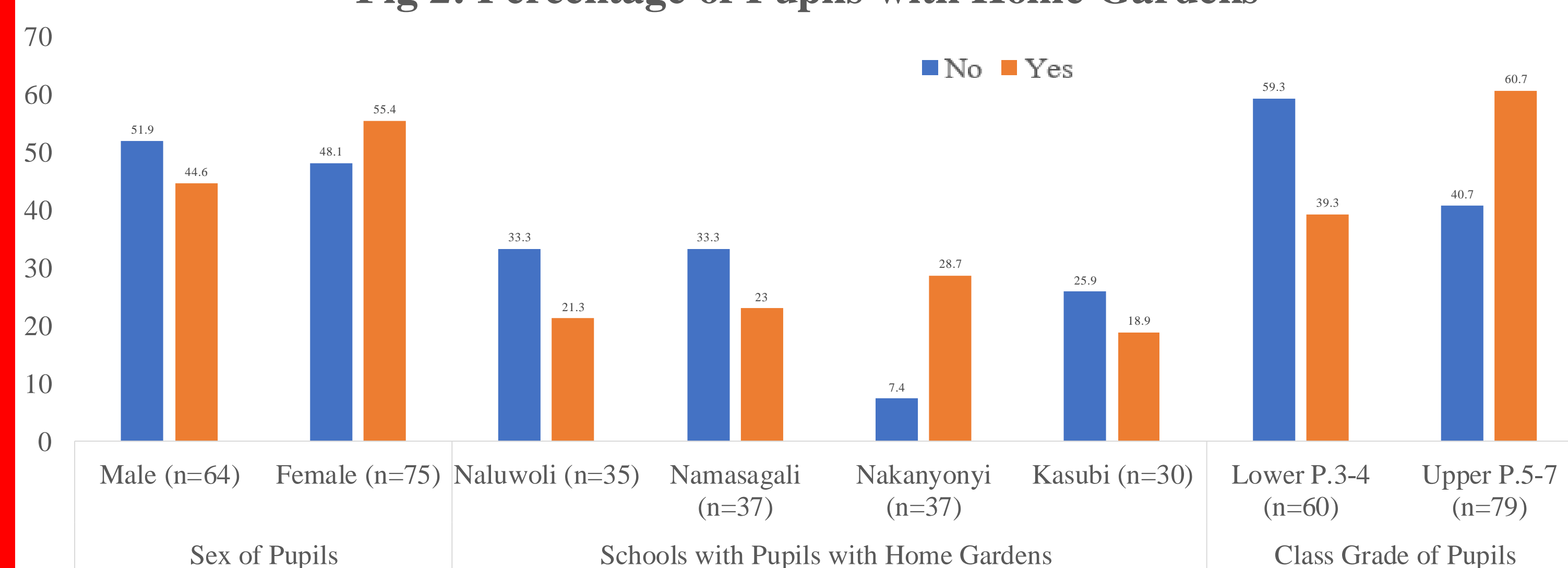


Fig 2: Percentage of Pupils with Home Gardens



Results and Findings Conti...

In sales, 47.8% of the SGs club members had made sales by 2018. The proceedings were used to purchase school items – books, uniforms; home items – foods, soap; personal – like clothes, sanitary towels; and livestock – goats, hens.



Children's grain amaranth home garden



Grain amaranth training in the school garden

Conclusions

- SGs Clubs have had the potential to promote SBAE in schools. Children of the SG clubs attained the knowledge and put it into practice by growing the vegetables in their home gardens.
- Almost the same vegetables grown in sack gardens were grown in their field gardens because of the need to share seeds and seedlings
- Children were able to secure some of their school, home, personal, and livestock items from vegetable sales.
- Engagement in SGs activities leads to social growth and community engagement as students work in their clubs at schools and at home with parents and outreach staff.

Implications

- Learning through SGs as an approach in SBAE should be well planned and incorporated into the school curriculum.
- Children need support from their parents, outreach personnel, and teachers to monitor their gardens.
- Parents should be educated on the academic importance of SGs through their parent-teacher meetings at schools.

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