



Bi-National Agroecological Youth Engagement in Kamuli District, Uganda

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Eixo temático: Juventudes e Agroecologia

Abstract: In order to provide agroecological food to rural public schools in the Kamuli District of Uganda, service learners from the Iowa State University- Uganda Program aided primary students in the construction and management of school gardens. A group of undergraduate service learners from Iowa State University and Makerere University worked at Namasagali and Nakanyonyi Primary Schools over the course of 8 weeks, working with students ranging from 4 to 14 years of age. Service learners worked as teachers at the schools, instructing environmental science and sustainable agriculture classes, while also constructing agroecological research projects. During this experience, service learners engaged in knowledge exchange with Ugandan students, studied agroecological farming techniques of the region, and developed agroecological research projects. As a result, the schools gained improved gardens, binational bonds were formed, and rural knowledge was exchanged amongst the youth involved.

Palavras-Chave: Quintais Escolares; Juventudes; Agroecologia; Conhecimento Rural.

Keywords: School Gardens; Youth; Agroecology; Rural Knowledge.

Context

As a part of an ongoing NGO based initiative lead by the Iowa State University- Uganda Program (ISU-UP), 16 undergraduate students from Iowa State University (USA) and Makerere University (Uganda) were chosen to spend two months, June and July of 2016, in the rural Kamuli District of Eastern Uganda. In the Kamuli District, 78.6% of households rely on subsistence farming to survive (Ugandan Bureau of Statistics, 2017). Since such a large percentage of the population relies on subsistence agriculture, the ISU-UP recognized the importance of youth involvement in sustainable and agroecological farming within the region. With this, the ISU-UP partnered with professors and researchers at Iowa State University (ISU) to develop a service-learning program where undergraduate agriculture students from Iowa State can learn about tropical agroecological techniques while also aiding the local community.

The objectives of this service-learning experience were to develop agroecological research projects that would benefit the primary schools, teach primary students about environmental science and sustainable agriculture in a classroom environment, maintain the agroecological school gardens, engage in cross-cultural rural knowledge exchange, and teach ISU students tropical agroecological techniques.



Description of the Experience

At the beginning of the service-learning program, Iowa State students met with their Makerere research partners to discuss potential agroecological research projects. Projects were separated into several categories including agroforestry, beekeeping, compost, grain storage, irrigation, school feeding/nutrition, and poultry production. The binational student teams worked with ISU-UP locally trained staff to identify the needs of Namasagli Primary School and Nakanyonyi Primary School, develop solutions to these problems using local knowledge and materials, create a work strategy, and assemble a list of materials needed. Every Tuesday and Thursday service-learning teams would spend time working on their projects.



Figure 1. Iowa State University and Makerere University Service Learners, 2016.

ISU and Makerere students were divided into teaching teams, with one Makerere student paired with two ISU students. This allowed for better cross-cultural communication between the ISU service learners and the primary school students. Each teaching team was required to develop interactive lesson plans using the national curriculum standards. Professors from ISU and Makerere University supervised service learners in their lesson planning and encouraged the use of practical learning experiences such as incorporating the school gardens into the daily lessons. Service learners taught classes three days a week, Mondays, Wednesdays, and Fridays.

Service learners studied different agroecological techniques while working in the school gardens. In order to increase the biodiversity of the school gardens, as well as diversify the foods incorporated into the school lunch, service learners spoke with Nakanyonyi and Namasagali Primary School staff to determine which crops should be incorporated into the school garden. Some crops integrated into the school gardens included banana, orange-fleshed sweet potato, eggplant, pumpkin, grain amaranth, collards, and grain amaranth. Every Tuesday and Thursday, as well as whenever service-learners were not teaching, service learners would devote their time to



planting, weeding, mulching, harvesting, and other garden maintenance tasks. Through this practical application, service learners worked with students to develop a more diversified school garden that would provide agroecological food for the school lunches.



Figure 2. Service learners working with students to apply mulch, 2016.

Results

The agroecological projects developed by the Iowa State University and Makerere University binational teams were all created using local materials and local construction techniques. Three new composting pits were created at Nakanyonyi Primary School in order to provide the school garden with composted organic material. Beekeeping became an established activity at Namasagali Primary School and two apiaries were installed. Each of the schools had their grain storage units cleaned and corn was properly dried and stored. New water storage tanks were installed by the irrigation team at the two schools. The nutritional value of the school lunches was increased by adding new vegetables that were grown in the school garden. A poultry production unit was created at Nakanyonyi Primary School in order to introduce animal source protein to the school lunches. Forty-eight laying hens were raised with the help of primary school students.

By having service learners from ISU and Makerere teach primary school classes, there was an opportunity to demonstrate the importance of agroecology globally. The binational teaching teams expressed their passion for sustainable agriculture production and encouraged primary students to get involved with agroecological projects such as joining the poultry club at their schools. Students were also engaged in practical learning activities utilizing the school gardens. Rather than using gardenwork to punish students, as is common within the region, service learners used gardenwork as an opportunity to learn with the students and to engage in knowledge exchange. Environmental science and sustainable agriculture classes discussed pertinent information such as climate change, water conservation, compost production, soil composition, and crop cycling.



The school gardens were maintained by the service learners throughout the course of the project. Service learners planted trees around the perimeter of the Nakanyonyi Primary School garden in order to develop a living fence around the area. Banana trees, orange fleshed sweet potatoes, cowpeas, and eggplants were also planted in the area. At Namasagali Primary School, service learners planted collards, orange fleshed sweet potatoes, banana trees, and onions. In addition to planting, service learners and their students irrigated the crops, used organic material to add nutrients into the soil, and incorporated dead foliage as a mulch. Primary students assisted in the school gardens in order to gain experience working in sustainable agriculture and hopefully develop a passion for the subject.



Figure 3. Students in the Poultry Club of Nakanyonyi pose with their flock, 2016.

Through this service-learning experience, a bi-national exchange of experiences occurred. Service learners from Iowa State learned the importance of agroecological farming in sub-Saharan Africa by working with university and primary school students from Uganda. Makerere University students were able to engage in cross-culture rural knowledge exchange while also encouraging young Ugandans to be active in agroecological farming. Students from Nakanyonyi Primary School and Namasagali Primary School became engaged in school garden production and agroecological techniques. By the end of the program, both the service learners and the primary students gained a better understanding of agroecology and the importance of utilizing rural knowledge.

Acknowledgements

Thank you to the Iowa State University- Uganda Program for the opportunity to serve as a service-learner during June of 2016. Thank you to the staff and students of Nakanyonyi and Namasagali Primary Schools for allowing my service-learning team



and I to learn with you. Thank you to my Makerere counterparts for sharing your knowledge with my US colleagues and I. Webale!

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