

School Feeding and Nutrition Program in the Kamuli District of Uganda

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Introduction

Many primary students attending Nakanyonyi and Namasagali Primary Schools suffer from nutritional food insecurity. It can be incredibly difficult for students to focus on school subjects when they have not recently eaten a meal. If students receive food during the school day, they can focus better on the course material being taught and perform better on exams. The school feeding program was started by the Iowa State University - Uganda Program and provides students a lunch of nyoyo. Nyoyo consists of maize, beans, vegetables, vegetable oil, iodized salt, and sometimes eggs, and provides 850Kcal. The school feeding program provides an incentive for parents to keep sending their children to school, and has improved the quality of life for many families in the Kamuli District of Uganda.

Our goal was to improve the efficiency of the school feeding programs by:

1. Assisting with meal preparation (Fig. 1)
2. Constructing sack gardens (Fig. 2) and keyhole-kitchen gardens (Fig. 3) near kitchens as a convenient source of vegetables and to utilize waste water.
3. Constructing benches for students to sit on while eating
4. Comparing the number of meals prepared and number of students who ate (Fig. 5). By better planning quantities of food needed prepared to reduce food waste and use maize stores more effectively.



Figure 3. Sack gardens at Namasagali Primary School



Figure 3. Keyhole-kitchen garden outside Nakanyonyi Primary School kitchen

Results

- A keyhole-kitchen garden was constructed and planted with collards and leafy amaranth at Nakanyonyi Primary School. Keyhole-kitchen gardens reduce the risk pests, it naturally improves plant health, and they are low maintenance (Fig. 3).
- Five sack gardens were built to grow eggplants and collards. This is also a low maintenance, space efficient option for areas with less soil fertility (Fig. 2).
- Benches were created so the children have something to sit on during school lunch to decrease the risks of food contamination.
- There was a large fluctuation between amount of students eating school lunch at Namasagali compared to how many were expected (see figure 5). We believe this is due to lack of school fees, illness, or family obligations on the farm
- A cultivar trial of grain amaranth was planted to evaluate new cultivars and investigate grain amaranth's inclusion in nyoyo.



Figure 4. Students in line for school lunch



Figure 6. Grain amaranth cultivar trial



Figure 1. Preparing lunch



Figure 2. Student eating school lunch

Methods and Materials

- We worked with school staff to harvest vegetables from school gardens, clean and prepare meals, and serve porridge and nyoyo to students.
- Keyhole-kitchen and sack gardens were constructed using locally available materials and planted with collards, onions, and eggplants.
- Benches were built with the assistance of a local carpenter.
- We worked with school teachers and staff to review how attendance is used to estimate the number of lunches needed.

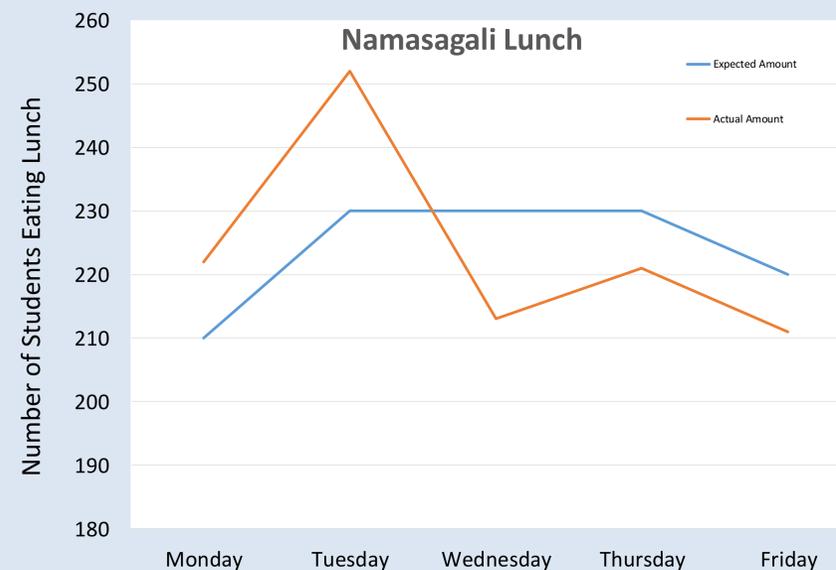


Figure 5. Comparison of planned meals and actual meals distributed.

Conclusions and Recommendations

Efforts to increase effectiveness and efficiency of the school lunch program have potential to increase production using land and labor efficient agriculture production practices such as keyhole-kitchen gardens and sack gardens. By tracking the number of students kitchen staff will be more able to more accurately plan for school meals and reduce food waste. In addition we recommend the following.

- Investigate innovative ways to address post harvest loss such as fermentation.
- Create more benches for Namasagali and Nakanyoni Primary Schools to help reduce contamination from eating on the ground
- Investigate adding protein rich grain amaranth into the Nyoyo. This will increase protein intake and calorie count of the school lunches.
- Analyze the amount of students eating school lunch at Nakanyonyi

To conclude the Iowa State Uganda Program has thrived in the Kamuli district and many primary students are no longer going hungry. Continuing to work towards providing Nyoyo everyday in the Kamuli is the ultimate goal, and through the Iowa State Uganda Program this will be achieved.

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