PROGRESS REPORT OF THE NUTRITION ACTIVITIES IN KATITI & SENTEMA VILLAGES

Introduction
At this stage the feeding program was started at both centres. This program involves consumption of a highly nutritious porridge (amaranth porridge) in order to manage undernutrition among the identified individuals. The porridge comprises of mainly grain amaranth flour hence being called amaranth porridge, it also comprises of millet flour, soyabean flour, maize flour and a small amount of silver fish. During preparation of the porridge, milk and sugar are added to the porridge and eggs are added just after cooking.

The identified individuals were measured again, that is, their anthropometric measurements were taken before they were started on the porridge in order to have efficient monitoring of their nutritional status. The details of the selected individuals are shown on the pages 2, 5-11 below. Close monitoring is done to ensure correct consumption of the porridge. The porridge is consumed on daily basis.

NUTRITION EDUCATION SESSION & DEMONSTRATION
A nutrition education session about the amaranth porridge and grain amaranth in general was conducted.

The aim of the session and demonstration was for the mothers/caretakers to learn about grain amaranth and its products plus how to prepare the porridge and the other grain amaranth products in order to improve the feeding of the children and that of the caretakers/mothers too whose nutritional status was poor.

In summary this included the use, importance of amaranth and its different products. Some of these are indicated in summary in the table below:

<table>
<thead>
<tr>
<th>GRAIN AMARANTH PRODUCT</th>
<th>CONDITION MANAGED</th>
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<tbody>
<tr>
<td>PORRIDGE</td>
<td>Moderate acute malnutrition (MAM), anaemia especially in children, provides energy in weak people, important in weight gaining.</td>
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<tr>
<td>POPCORN</td>
<td>Vomiting, diarrhea especially in children, ulcerations in the stomach in HIV/AIDS patients in adults.</td>
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<tr>
<td>SAUCE</td>
<td>Amaranth powder, g.nut paste and silver fish Amaranth powder &amp; silver fish added to fish or vegetables like beans Moderate acute malnutrition and anaemia</td>
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</table>
The amaranth porridge is very nutritious, for instance amaranth has good amounts of carbohydrate 65g per 100g of uncooked amaranth, vitamin C, iron 61%, carotene, calcium 16% per 100g of uncooked amaranth and 21% folic acid, 29% zinc, energy 371kcal. Amaranth seeds are usually high in protein 14g per 100g of uncooked amaranth for a non legume running around 14 to 16% protein. The protein is well balanced in amino acids and is high in lysine, an amino acid most grains are deficient. In addition to that the millet, maize, soya bean flour, silver fish, eggs, milk & sugar are also nutritious.

DEMONSTRATION
The participants were taught how to prepare the porridge and all the participants had a cup of the porridge, but this was only for that day because it was only the identified individuals that were to take the porridge for the remaining days. The identification was done according to the nutritional status of the individuals.

The participants liked the porridge and most of them requested for flour so that they can take home, that is, flour separate from the one of the feeding program. The participants from Katiti were 24 adults and 12 children, in Sentema they were 30 adults and 15 children.

The selected individuals in Sentema include five children and one adult;

Children are as below;
1. Kagenda Moses
2. Nalule Hamida
3. Mubiru Joan
4. Nakawuki Sarah
5. Kabuye Saulo
6. Expectant mother: Zawedde Justine

The selected individuals in Katiti include;
1. Nakyeyune Shamima
2. Coline Senyonga
3. Kyagulanyi
4. Adult: Nalugya

The above individuals all started taking the porridge on daily basis, some take 3 cups (nice cup) others 2 cups depending on various factors such as the nutritional status, age e.t.c.
By the end of one week, all the individual were having positive results. The total number of the individuals on the feeding program is 10 (ten) because for the start the flour brought could only be enough for those few.

**FOOD DEMONSTRATION**

The flour from various seeds was mixed together with the silver fish powder.

Below is the picture of the samples of the flour and amaranth seeds plus a picture of when the flour was being mixed together with the participants.

Samples of grain amaranth seeds, millet flour, Maize flour, soya bean flour, amaranth flour, Silver fish powder and eggs.

**PREPARATION OF THE PORRIDGE**

Four heaped serving spoons were measured and mixed with cold boiled water to make a mixture.

This was poured into the boiling water and prepared together with sugar (minimum) and milk, eggs were added just after boiling and covered for about five minutes.

Below are some of the pictures during the preparation.
Porridge being prepared

Participant adding milk to the porridge

Participant adding eggs to the porridge

Mothers cooling the porridge for their children

Children taking the porridge
The details of the individuals on the feeding program are as below;

**Client 1:**

**Name:** Nakyeyune Shamima  
**Sex:** Female  
**Age:** 3 years

She weighed 5kg at the beginning, which is before any nutrition intervention. The weight increased to 5.5kg and then to 6kg during the nutrition intervention (nutrition counseling, nutrition education sessions & food demonstrations). The weight reduced again to 5.5 due to an illness.

When the child started taking the amaranth porridge, her weight increased to 7kg within a week and then to 8 kg by the end of the second week of taking the porridge. The upper face that was rough improved, she can now walk firmly without any support, can talk much better, she’s energetic, can even stand on the weighing scale by herself to be weighed unlike before when the mother had to carry her in order to obtain her weight. She can now smile and laugh. She takes three nice cups of the porridge on daily basis in addition to a few of other foods, vegetables and fruits. In summary the child has so far gained 3kg. I advised the mother to deworm her.

Below are some of Nakyeyune’s pictures

![Nakyeyune before any nutrition intervention (she could not walk or stand on her own, had a rough skin/skin rash, had no energy e.t.c)](image-url)
During nutrition intervention

Nakyeyune taking the porridge

Current state of Nakyeyune (she can now stand & walk on her own, her skin is clear & shiny, she is energetic, can talk, laugh, play with others e.t.c)

Client 2:

Name: Mubiru Joan   Sex: Female   Age: 1 year & 4 months

By the end of one week of taking amaranth porridge (3 nice cups on daily basis), the skin had improved, some of the hair on the head started turning from thin brown hair to thick black hair, she got energetic, the weight increased from 4.5kg to 5.5 kg. By the end of the second week of taking the porridge, all the hair had turned black & thick, she got more energetic and can walk while holding onto objects, can now talk a bit and laugh, the weight increased to 6kg and the to 7kg by the end of the third week. In summary she has so far gained 2.5kg and this is a fairly good improvement.

Below are pictures of the client.
Client with her mother

**Client 3:**

This one is the mother of the above client (Mubiru Joan) and she was expecting, she also takes the porridge and has now delivered a healthy baby, but unfortunately I couldn’t obtain its weight because she delivered from home. However she also became energetic, the skin became smooth and shinny. She takes three cups on daily basis.
Other clients on porridge.

Client 4

Name: Mukyala Nalugya .R  Age: 57yrs   Sex: Female

She is an adult taking care of the grandchildren. She takes 3 cups of the porridge per day. She used to feel pain and weak in her joints and this all got fine by the end of one week, she’s now energetic. Her weight has increased from 37kg to 38kg and then to 39kg. I started her on the porridge because she is underweight, her BMI (Body Mass Index) was 16.4 it has increased to 17.3 and this is still below the normal BMI but atleast improving. One of the grandsons is also undernourished (Kyagulanyi 11 years as indicated below ) but he became a defaulter because he ran away from her and went to another grandmother after a slight improvement.

Below is a picture of Mukyala Nalugya and Kyagulanyi

Kyagulanyi
Mukyala Nalugya (two weeks after taking the porridge)

Other clients on the feeding program are as below

Name: Kagenda Moses  Age: 1 year
Became energetic can move firmly, increased weight so far from 9 kg to 10 kg, skin became smooth.

Name: Saulo Kabuye
Takes 2 cups per day in addition to other foods. Hair turned black, weight increased.

Name: Colline Senyonga
Before taking the porridge

one week after taking the porridge

He became energetic, the skin was starting to clear. This was after the mother saying that the child’s skin has always been like that and has tried all forms of medication and no changed occurred. But with amaranth porridge, the change was seen within just a week. However the child stopped taking the porridge because the mother did not want to fetch firewood to cook porridge with the rest, so she refused to come back because she wanted to have her own porridge at her home.

This one is Nalule Hamida
This one is Nakawuki Sarah

PLANTING OF THE GRAIN AMARANTH

Grain amaranth was planted at the Demonstration garden and each of the participants was given seeds to go and plant at their homes too. This was in Katiti.

Second ploughing of the land in preparation covering the rows where the seeds were planted for the planting of grain amaranth

THINNING AND WEEDING OF THE GRAIN AMARANTH

This was done together with the participants, the amaranth that was got after thinning was prepared and consumed together with cassava balls that were prepared. This was in Sentema.
OTHER ACTIVITIES

Preparation of the cassava balls

These were made from fresh row cassava (that is boiled) and onions, these were coated with flour and others coated with bread crumbs. The coating of flour is used by those who cannot afford the making of bread crumbs. The participants made the breadcrumbs themselves from the small left over bread that one participant had. The bread was heated on fire to make it dry & hard enough and she crushed it to make the crumbs.

These balls are highly energy giving food, they can be afforded by everyone and can easily be prepared. one can easily get satisfied.
The cassava balls were very delicious, tasted so good for everyone, some participants made some for family members back home. These were eaten together with the amaranth that was got from thinning and they said that this grain amaranth is more delicious than the usual doodo (amaranthus dubius)
Cassava balls coated with breadcrumbs on White plate & those coated with spiced flour in silver dish

cassava balls served with grain amaranth

**Sweet potato fritters**

These are also made from locally available foods; sweet potatoes, cassava flour, soya flour and sweet bananas.

These are very nutritious, they highly contain vitamin A, calories, sodium and some potassium. Sodium is essential for body cells maintenance, sodium together with potassium are required for proper functioning of the nerves and contraction of the muscles. They can easily satisfy one & are so tasty.

Participant smashing the sweet potatoes

participant rubbing –in all the ingredients
Participants making the fritters

Frying the fritters

sweet potato fritters when ready

Participants eating the fritters
OTHER ACTIVITIES
Taking anthropometric measurements of the clients in the feeding program in order to monitor their nutritional status.

CONCLUSION
The participants are so grateful, they appreciate everything now that a lot has changed in the feeding habits, and the nutritional status of those who were undernourished has greatly improved. Most of the participants requested me to get for them the flour for the amaranth porridge for their home consumption. For the meantime I am getting all that flour from Kamuli district (it is in the Eastern region of Uganda), all these plants are there in plenty and hence the flour being cheaper, and also the milling is done efficiently such that the nutrients are conserved. However, I am aiming at obtaining the flour by the participants themselves using the seeds from the amaranth that we planted and the seeds from the plants in the gardens made by the participants themselves and Gerald such that even when the project ends they can continue with the good feeding.

ACHIEVEMENTS
- The feeding program started and is moving on well.
- The clients who were undernourished are improving.
- The grain amaranth that was planted has grown and with time the participants will be able to make their own flour for the amaranth porridge using these grain amaranth seeds and those seeds from the plants in the gardens they made with Gerald for instance soyabeans, maize.
• Participants who used to have one meal at home now have at least three meals a day while maintaining the balanced diet and conserving nutrients plus maintain good hygiene & sanitation.

• Participants now ensure that they consume vegetables and fruits each and every day together with other foods.

• Participants now know and do proper child feeding, they feed in time.

**CHALLENGES**

Heavy rains that affect the means of transport, but I am coping up with it.