

Amaranth Evaluation Highlights (1998-2014)



April-May 2014



The Starting Year: 1999



Ngaamba Village Where
We Started :
8/21 Still Growing
Amaranth

Dr. Mwangi's Teaching on
Amaranth :
Start: Selected Seeds,
Eating, & Promise of Market



Early Results Promising: Amaranth Health & Happiness



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Stories Start Coming

CRWRC
Classis Report by Anja Buwalda
November, 2001

- **Development:** Enoch is a healthy 9 month-old. But it was not that long ago, that he was a malnourished boy with an extended belly, thin arms and a reddish tinge to his otherwise beautiful, black, curly hair. Severe drought had destroyed crops in Kenya for two years in a row, and Enoch's family could not afford to feed him better.
- Then CRWRC and its Kenyan partner organization, the Maasai Rural Training Center, introduced a new, highly nutritious and drought resistant crop - called amaranth - to Enoch's community.
- Enoch's mother planted amaranth on her small plot of land and harvested 5 kg! She was able to use some of it in Enoch's morning porridge. When Enoch's mom took him back to the clinic two months later, the nurse could not believe her eyes. "What have you been feeding this child?" she asked. She weighed Enoch and found he had gained nearly 1.5 kg in the previous two months!

2006 - 2009 : Special Volunteer Amaranth Teachers



Sid Kramer and his wife, Audrey Kramer,
Teaching Amaranth Cooking & Nutrition



Leaf Vegetable Amaranth in Bangladesh



Amaranth Type in Cambodia



2014: Tanzania Farmer Continuing After Minimal Training

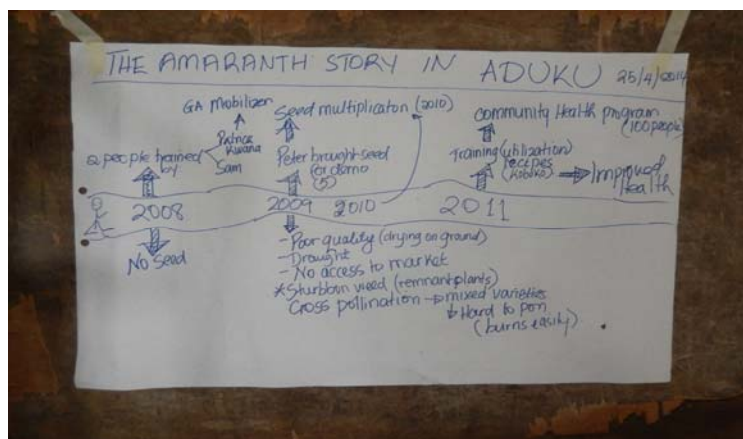


2014: Enthusiastic Testimony: “I felt my baby dancing within me!”



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Focus Group Dynamic: Timeline Story Telling For Lessons Learned



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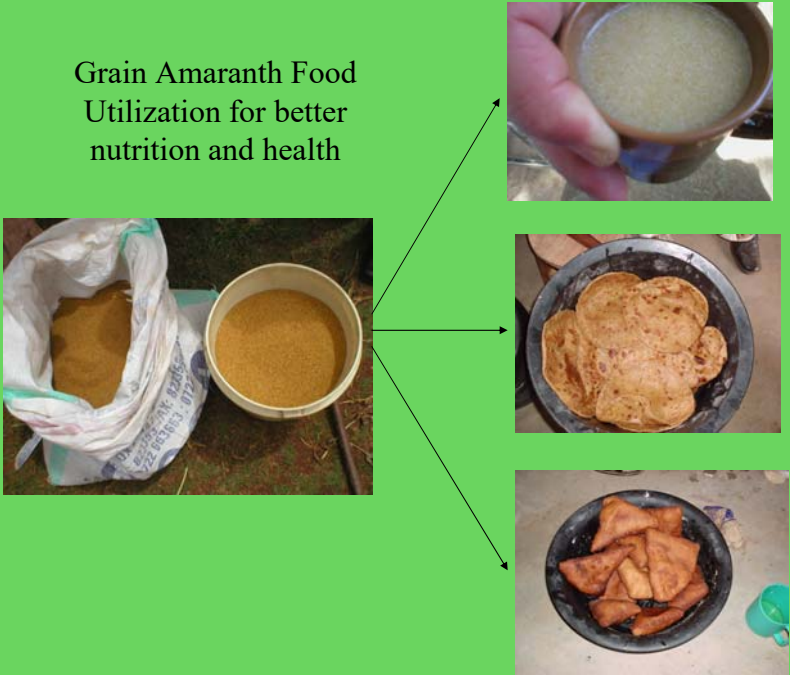
Peter & Friend:
Introducers of Amaranth in Ugandan Village



How to Eat Amaranth 1:3 or 1:4 Mix



Grain Amaranth Food
Utilization for better
nutrition and health



The diagram illustrates the process of utilizing grain amaranth for better nutrition and health. It begins with a bag of grain and a bowl of ground grain. From this starting point, three arrows lead to different food products: a cup of porridge, a plate of flatbread, and a plate of fried snacks.

Doubling the Value: Village Level Grinding or Popping





Marketing Step:
Collecting Center in W.
Kenya



Popularizing Amaranth
Flour in Kenya Western
Super Market



Western Kenya:
2 or 3 Crops Per Year



East Africa Agricultural Environment

- Most of the farmers surveyed are working within an elevation range of 1,000m -1,500m above sea level.
- East Africa region lies at the equator and has two rainy seasons, with one longer than the other, separated by two dry seasons.
- Hunger years are frequent, due to erratic rains and failure of maize crops.
- Farmers in both Uganda and Kenya long for cash crops to replace cotton.
- Many people are living with AIDS and/or malnutrition



Study Methods

- April 2014: Census Survey Sampling of 480 farmers from 3 Countries & 6 Focus Groups: All but six claimed to have grown amaranth at some point, with 366 claiming to be growing it currently.
- In addition Participatory Learning Action focus group activities were done in 6 villages in Kenya and Uganda in late April and early May, 2014 Approximately 100 farmers participated.
- “10 Seed” Voting on Relative Importance of Amaranth to Well Being, 7-Day Dietary Recall of Amaranth Consumption, and Village History Timeline of Amaranth Development



Results: Sustainability Indicators

- 300/480 of the farmers reported not having stopped growing amaranth since the time they started. 380/480 growing it now. Main reason for dropping out: Lack of Market.
- Approx ½ of those currently growing amaranth have done so for between 3 and 10 years. 80% of farmers have taught others.
- 66 % consume leaves and/or grain between 2 to 7 days/wk
- Amaranth ranked highest ag activity for well-being impact by all focus groups.
- Grain amaranth is now a cash crop in parts of Kenya and seed is available from the government ag dept.



Lessons Learned & Recommendations

- Those without marketing experience should introduce amaranth as a nutrition supplement for home consumption before raising expectations about cash cropping.
- For marketing: The collection point facilitation of Anglican Dev. Services offers promise.
- Amaranth shows excellent promise as a nutritional supplement for mothers and for post-weaned children.
- Soil fertility restoration methods--- legume cover crops, fertilizing trees, micro-dosing of chemical fertilizer, etc.----should be taught simultaneously or before amaranth introduction.
- The many testimonies of benefit from people living with AIDS merits further research.



Lessons Learned & Recommendations Con't

- Crossing with wild types is observed in Uganda, and there is a need for sourcing reliable seed & for farmers to be taught seed selection methods.
- There is more potential for farmer to farmer and NGO to NGO exchange learning.



Kids Like The Porridge!



Latin American Version of Porridge: “Atole”



Ex-Post Evaluation of the Introduction and Promotion of Grain Amaranth Program in Eastern Africa (1998-2008)



Lead Evaluators: Thomas Post (Ph.D.) and Dorothy Nakimbugwe (Ph.D.)

Nutrition in Amaranth Leaves

Cook lightly in Oil for Vit A absorption; Eat Vit C to help Iron absorption

One cup (28 grams= 1 oz. of raw amaranth leaves contain) Vit A (16% of daily requirement) , Calcium (6%) and Iron (4%). These are all fairly high in the leaves of amaranth and are so essential for life. To enhance the absorption of Vit A it is recommended that the leaves be cooked lightly in oil. To enhance iron absorption it is recommended that vitamin C, i.e., from eating citrus, accompany or succeed the intake of the leaves. Jason Avent, an amaranth scientist, says that the varieties with red leaves are even better for nutrition than the green leaf types. Note that plant sources of Vit C, iron, and calcium are less easily absorbed by the human body than are these same nutrients from animal sources such as milk, eggs, etc.



Thank You !

Try to get some amaranth seed from ECHO !

