Cropping Interventions for Better Nutrition and Food Security in Central Tanzania

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“Strengthening food and nutrition security through family poultry and crop integration in Tanzania and Zambia”

**Aim:** To reduce childhood under nutrition by improving food and nutrition security at the household level through strengthening crop and family poultry value chain integration

› This project unique in linking agricultural R&D with human health outcomes

› Requires a systems/multidisciplinary approach

› Focused on production systems under the control of women
Location Tanzania Farming Systems Analysis

- Rain-fed cropping with some animal husbandry
- Total rainfall < 600 mm - February being the wettest month
- Rainfall highly variable = high risk of crop failure
- Well water available during dry season by bucket

Study Sites Sanza and Majiri Wards
Tanzania Farming Systems

Flow Diagram of Crop Activities

Stage 4: Impact assessment

Stage 3: Capacity building, trialling, evaluation by farmers

Stage 2: Reporting back to communities

Stage 1: Information gathering and analysis

Food Security and Improved Nutrition for Children

Crop diversity and improved husbandry

Better Storage Access to markets and product quality

Risk Management

Intervention 1

Intervention 2

Intervention 3

FSA Methodology

Iterative Process
Survey Sanza Ward November 2014

Sanza Ward

- 60 participants - randomly selected from baseline participants to enable cross checking of demographics
Rainfall 2014

› Rainfall < 600 mm per annum
› Hunger coincides with wet months
› Hunger due to low production of subsistence crops and poor storage

Key food groups for which there was a shortage 2014:
- 30% meat
- 40% dairy
- 43% grains
- 66% fruit
- 40% vegetables
- 35% groundnuts
Sanza Ward Farming Systems Analysis

Crops grown

Cash Crops
- Sesame
- Maize
- Sunflower
- Millet
- Sweet Potato
- Okra

Subsistence crops
- Maize
- Sorghum
- Millet
- Groundnuts
- Rice
- Bambara Nut
- Pumpkin

Farmers who have animals + crops have less incidence of hunger
Typical Sanza Ward Farming System

Understanding the Goals and Impacts

**Goals**
- Improved nutrition
- Improved food availability
- Improved income

**Environmental Impact**
- Climate variability
- Salinity

**Farm Impacts**
- No Irrigation
- Access to markets
- Poor yields
- Pest and diseases
- Postharvest losses
- Lack of chemicals
- Poor cultivars
- Lack of implements (plough, sprayers, irrigation)
- Fragmented co-operation
- Poor access to microfinance

**Social Impacts**
- Tradition limiting change
- Gender inequality
- Large families
- Knowledge of nutrition
- Access to health facilities
- Education

**Main Cash Crops**
- Sesame
- Sunflower

**Main Food Crops**
- Maize
- Sorghum/Millet
- Groundnut

**Main Animals**
- Chickens
- Sheep/Goats
- Cattle
1. FSA Feedback

2. Community Solutions

3. Priority Setting

4. Possible interventions

Push Pull Pest Control

Hermetic Storage of Grain
Sanza Ward Farming Systems Analysis

Interventions for Better Nutrition Implemented this Season

Manure

Mchicha

African Eggplant

Nutritious Vegetables

Pulses

Green Gram

Drying & Storage
Wild Source of Nutrition During the Dry Season

Mlende growing wild in September in Majiri

Young boy grinding dried Mlende

High in protein, β-carotene, Fe, Zn, Ca
Improved Postharvest Storage

Exposed to pests  Improved storage

Nonchemical cowpea storage using PICS bags

Tying steps

1. Pull the bag far enough so that a lip reaches the top. Mark the lip using a string to ensure it.
2. Ensure that your cowpea is completely dry and clean.
3. Open the inner bag and fill it with cowpea. Close the top of the bag securely.
4. Pull the middle bag up and over the inner bag. Ensure it is completely lined up and secure the top of the inner bag. Repeat for the outer bag.
5. Pull the outer bag over the middle bag. Ensure it is completely lined up and secure the top of the outer bag. Repeat for the inner bag.

Step 1: Inner bag first
Step 2: Middle bag next
Step 3: Outer bag last
What are our desired outcomes?

› Increase household availability and access to nutritious food from own production
› Increase income from sale of product or paid work
› Empower women to make decisions in allocation of food, health and care within the household
› Improve women and children’s nutritional health by providing a range of nutrient food groups
› Improve efficiency of poultry and cropping value chains

Importance of sorghum in diet of children to supplement breastfeeding
Workshop in Sanza in July 2015

Asante Sana
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