

# **KAMURUGU/RIDA - KAPAP**

## **Fruits Value Chain**



## **PROGRESS REPORT**

**By: Adrian Muriithi & Peter Mbogo**

**Project Title:** Improving incomes for smallholder farmers and other value chain actors through enhanced productivity, post harvest methodologies, value addition and marketing of mango and passion fruit products

**Goal:** To contribute towards improving agricultural productivity and incomes of smallholder farmers

**Overall objective:** To improve incomes for smallholder farmers and other value chain actors through enhanced productivity, post harvest methodologies, value addition and marketing of mango and passion fruit products

### **Objectives**

1. To enhance production, quality and commercialization of mango and passion fruits
2. To improve post harvest handling and value addition of mango and passion fruits at smallholder farmer group level.
3. To improve and promote marketing of mango and passion fruits products
4. To establish information, communication and knowledge sharing pathways and uptake strategies for mango and passion fruits

### **Output 1:**

The following groups were trained on value addition and GMP;

- a) Tumaini Mwiteria women group – 21 members
- b) Kanyuambora mango growers and processors – 18 members
- c) Kawala self-help group – 41 members
- d) Mkongo FFS – 19 members
- e) Makiyika mango growers - 28 members

### **Output 2:**

Following groups were trained on fruit nursery management:

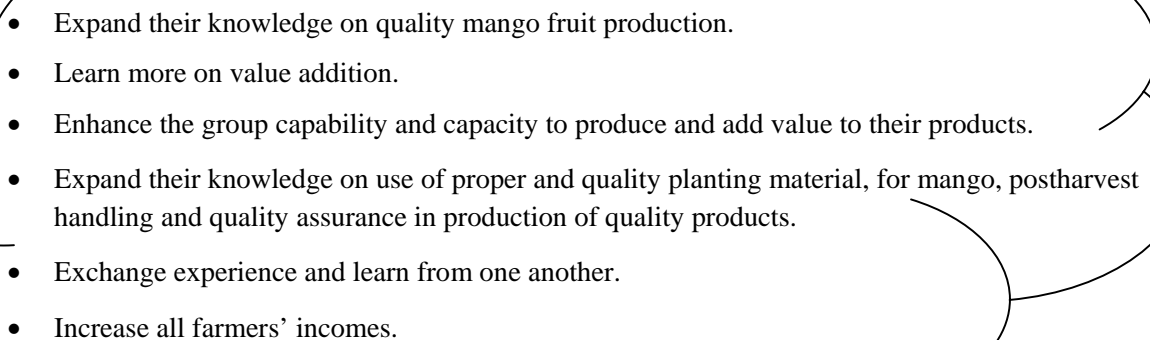
- a) Harmony Agroforestry SHG – 40 members
- b) Gacegethiuri SHG – 16 members

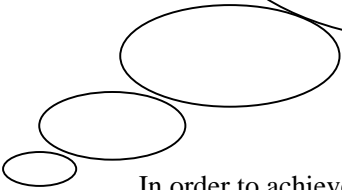
Constructed a mango solar drying unit at Kamurugu Farm which is being utilized to dry mangoes during surplus.

## **DETAILS OF THE TRAINING AND TOPICS COVERED**

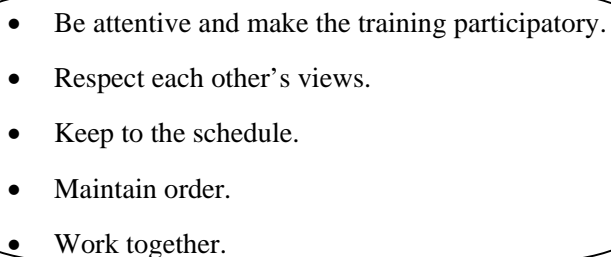
### **1) Opening and Introduction**

The sessions started with introduction and discussions on course objectives and the Expectations of the participants, the objectives of KAPAP Fruit Value chain which covered the bulk of course objectives had already been posted on a flipchart by the Trainers (Mr.Mbogo and Mr. Muriithi). They also led discussions regarding the goals and objectives of the KAPAP fruit Value chain and the expected output for the smallholder fruit farmers. Participants looked at The training as an opportunity to:

- 
- Expand their knowledge on quality mango fruit production.
  - Learn more on value addition.
  - Enhance the group capability and capacity to produce and add value to their products.
  - Expand their knowledge on use of proper and quality planting material, for mango, postharvest handling and quality assurance in production of quality products.
  - Exchange experience and learn from one another.
  - Increase all farmers' incomes.



In order to achieve the goals and objectives of KAPAP fruit value chain and the participants' expectations as outlined above, the participants and trainers jointly agreed to:

- 
- Be attentive and make the training participatory.
  - Respect each other's views.
  - Keep to the schedule.
  - Maintain order.
  - Work together.

## **1) Fruit Tree Nursery Management (Mr.Peter Mbogo)**

This session was presented to help participants to increase their awareness and knowledge on tree Nursery management. The following topics were discussed with the participants.

### **Location and design of a tree nursery.**

#### **What are the requirements of a tree nursery?**

- Seeds
- Fencing
- Water source
- Shed
- Nursery tools
- Personnel
- Pesticides
- **Seed bed Preparation**
  - Types of seedbeds
  - Seedbed construction
- **Sowing the nursery**
  - Aspects to consider during sowing
  - Sowing methods
- **Nursery maintenance**
  - Check drainage channels
  - Carry out repairs
  - Check fence regularly
  - Thinning/pricking the seedlings
  - Replacing the soil after planting.
- **Transplanting**
  - How is the transplanting done
  - Points to consider when transplanting.
  - Selection of seedlings to transplant
  - Care of seedlings.
  - Preparing for transplanting (hardening off)
  - Transplanting.

## **2) Postharvest Handling, Value Addition (GAP,GMP) and Quality Assurance of products**

This session was presented to create awareness and help participants to acquire knowledge on postharvest handling systems, value addition and good manufacturing practices (GMPs).

The topics discussed with the participants included:

- **Introduction to Fruit Processing and Products**
  - Characteristics of fruits
  - Checklist for raw materials and products
  
- **What to consider on Production Facilities**
  - The site
  - Source of raw materials
  - The building
  - Roofs and ceilings
  - Walls, windows and doors
  - Floors
  - Services
  - Lighting and power
  - Water supply and sanitation
- **Production Planning**
  - Raw materials
  - Packaging
  - Equipment
  - Staff
  - Record-keeping
- **Products and Production Methods –Mango**
  - Dried fruits –Mango crisps
  - Juices- Mango
  - Sauces
  - Mango jam
  - Wines
  - Pastes and purees
- **Quality Assurance**
  - Raw materials
  - Processing, packing and storage
  - Testing ingredients and products
  - Acidity ,i.e., PH
  - Moisture content
  - Packaging
  - Salt

- **Legislation and Regulation**

- International, eg HACCP, EUREPGAP, FAIR TRADE, GAP, GMP
- Kenya (KEBS, KEPHIS, NEMA, Local Authority By-laws, Public Health Act).
- Hygiene and sanitation
- Food composition
- Food labeling
- Water

### **3) Food Safety-Question and way forward for product certification**

This session was presented to enable participants understand that in the supply chain for fruits there is an increasing pull for more attention to food safety. The KAPA Fruit Value Chain project is recognizing the need to respond to this demand.

The participants' feedback session (Question and Answer) would help find out whether there were any issues that were unclear to them concerning the topics covered during the training.

After looking at the issues raised by the participants during the feedback session the Trainers (Mr. Mbogo and Mr. Muriithi) reviewed issues that were identified as needing clarification.

Topics discussed included:

- **Introduction to Food Safety, GAP and GMP**

- What is Food Safety and why is it important?
- What is the difference between food safety and food quality?
- Who is responsible for food safety?
- Good Agricultural Practices (GAP) and other food safety standards
- Does GAP and GMP lead to food safety?
- Does more food safety lead to better marketing opportunities?
- Is food safety important for ALL farmers?

- **Food Safety and Good Practices on-Farm**

- Types of food safety hazards
- Chemical hazards
- Biological hazards
- Physical hazards
- Other hazards
- Sources of contamination of food
- Doing a food safety hazard analysis
- Good Farming Practices to manage food safety
- Site history and management
- Planting materials: seeds, varieties or rootstocks

- Fertilizers and soil additives
- Irrigation water
- Pesticides
- Harvesting and handling produce
- Storage and transport
- Farm Management

### **Challenges**

- a) Low literacy level for group members
- b) Poor infrastructure in most of the refining sites eg.properhousing,running water etc
- c) Slow certification process due to the required standards which the groups were not able to meet immediately
- d) High cost of mileage as compared to the funded

### **Photos;**



**Mkongo FFs Training**



**Makiyika famers trained at the processing site**



**Friut Fly Trap**



**Gacegethiuri Group Nursery**





**Mango weevil control by 1m height stem painting**



**Sweet yellow Passion Fruit intercropped with pawpaw**