PRODUCTION AND DISSEMINATION OF IPROVED FRUIT SEEDLINGS IN SOUTHERN HIGHLANDS ZONE

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ARI - UYOLE

INTRODUCTION

- **The southern Highlands Zone of Tanzania comprises seven regions which are:-**

✓ **Mbeya, Ruvuma**

✓ **Iringa , Katavi**

✓ **Rukwa, Songwe and**

✓ **Njombe**

Map of Tanzania showing SHZ Regions

HORTICULTURAL PRODUCTION IN SHZ

- **In SHZ the following crops are introduced:-**

✓ **Fruits**

✓ **Vegetables**

✓ **Ornamental crops and**

✓ **Spices in small scale**

- **In recent years commercial flowers production**

✓ **Njombe District**

✓ **Mufindi district**

Mango and avocado situation

- These are the most popular fruits in SHZT
- Avocado were previously grown in Mbeya region
- Mango were produced in low land of SHZ
- Most of the areas produce local varieties which are extremely inconsistent and produce very huge trees
- Only Rungwe had recommended avocado varieties after receiving training from ARI - Uyole

- Nowadays farmers in Rungwe and Njombe have well organized avocado orchards
- They export their produce through RAC and other companies
- In other regions of SH, the situation is not good
- Presently, farmers in other parts of S H regions have shown interest on fruits due to its commercial and nutrition value.
- But the source of planting materials is very far
- The varieties suitable to their environment are not known

Selected locations

Avocado

- Sumbawanga
- Mbeya
- Mufindi
- Wanging`ombe
- Mbozi

Mango

- Mbarali
- Chunya
- Sumbawanga DC
- Iringa DC
- Mpanda

- Have land with potential for growing fruits
- But the planting speed is low due to lack of suitable planting material
- The study (2009 - 2011) shown high demand for production techniques (Meela *et al.,* 2013)

- In Rukwa 133 farmers were trained to produce seedlings
- where managed to produce 9,300
- The study also managed to plant two Mango demonstration plot in Lake Rukwa basin
- Other farmers from other areas also shown interest on fruits
- But only four villages the intervention were carried out (Avos) and three for mangoes

- The project aimed to disseminate Mango and avocado technologies to selected villages and enable farmers to produce their own seedlings of improved materials using propagation techniques.

Farmers are interested in changing cropping pattern to other cash earning crops rather than depending on

- Maize
- Beans
- Rice and
- Sunflower

Famers also indicated great interest in growing fruit trees

Fruit trees are important crops and there is need to promote fruits production in SHZ

fruit trees fit into the agro-ecological conditions of selected locations

limitations to Mango and Avocado

- The inferior characteristics of local trees
- High price of grafted seedlings
- Lack of knowledge to produce improved seedlings
- Improved seedlings are not obtained within their area
- Lack of knowledge on value of improved fruits

limitations to Mango and Avocado

- Vegetative propagation is an efficient way of overcoming the mentioned limitations

- The technology need to be transferred from ARI – Uyole to farmers so as to produce adequate planting materials of desired cultivars.

Adv.

- **Propagation and management skills will help:-**

  - Persuade cultivation expansion
  - Increase productivity
  - Improve consumption and farm income.
  - Small scale farmers and consumers will be the primary beneficiaries.

Adv.

- **Propagation and management skills will:-**

  - Traders will benefit through increased production

- The project aimed to enable farmers produce their own seedlings of improved materials using propagation techniques.

Goal:

To increase food security, nutrition and income of smallholder farmers in SHZ

Main objective:

- To develop strategies and promote sustainable production of Mango and avocado in the SHZT

Expected output

- Improved varieties of avocado and mangoes introduced and adopted by farmers
- Improved mother orchards established for future supply of planting materials
- Improved techniques for seedlings Multiplication acquired
- Mango and Avocado orchards established
- On farm variety observation trials conducted
- Fruits production and consumption increased

- **Criteria for village selection include:-**
  - presence of suitable land for fruit production
  - Presence of active farmer groups
  - willingness of farmers to participate in the project
  - Accessibility.

Five selected varieties

Avocado

- Hass
- Pinkerton
- Fuerte
- Etinger
- Ikulu

Mango

- Kent
- Tommy atkins
- Red Indian
- Palmer
- Apple mango

FIVE AVOCADO VARIETIES

HASS & PINKERTON

FUERTE

ETTINGER

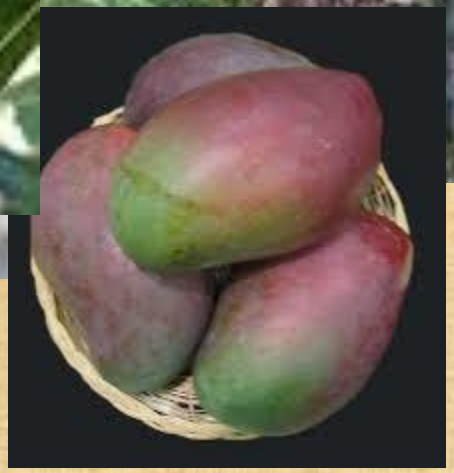
IKULU

FIVE MANGO VARIETIES

TOMMY ATKINS

KENT

PALMER



RED INDIAN

APPLE MANGO

Mthodology.....

- **One nursery to be established in each selected village which will be used for:-**
  - Training farmers
  - Seedling multiplication
  -
- **Farmers to be trained on:-**
  - Nursery establishment
  - Management of rootstock
  - Grafting
  - Management of grafted seedlings at nursery
  - Orchard establishment.

Mthodology……

- **M & E to be done periodically by**
  - Researchers
  - Extension officers and
  - farmers.

- The produced seedlings to be distributed to members for planting on their farm
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- At the end of the project each member to have mango and avocado orchard with all varieties from ARI-Uyole and SUA

Experimental layout

- The experimental Orchards to be arranged in CRBD with three replications in each site selected
- Three seedlings of one variety to be one replication

- The plan is to start with 12 sites

✓ 6 sites for mango

✓ 6 sites for avocado

DATA COLLECTION

- **The following information to be recorded**

❖ **in nursery:**

✓ germinated seedlings

✓ grafted seedlings

✓ seedlings recovered after grafting

✓ Number of seedlings distributed to each member

✓ Seedlings sold to the neighbors

❖ **In established orchard**

✓ Number seedlings transplanted per each member

✓ the number of recovered transplanted plants

✓ the growth of the seedlings will be recorded periodically.

HORTICULTURAL PRODUCTS

HORTICULTURAL PRODUCTS

PRODUCTS AT NURSERY

- Fruits
- Vegetables
- Spices
- Ornamental plants
- Banana

-
- Total seedlings to date
- **15067**

THANK YOU ALL