

**MOMBASA INTERNATIONAL AGRICULTURAL  
SHOW 2004**

**GEDE REGIONAL RESEARCH CENTRE**



**Mombasa City, Gateway to Kenya**



**A section of the show goes during one of the show days**

**SHEIKH M.A., KIMANI G.K. WELIMO O.M and WAIRUNGU S.N.**

## **Acronyms**

- ASK - Agricultural Shows of Kenya
- DDC - District Development Committee
- KEFRI -Kenya Forestry Research Institute
- GRRC -Gede Regional Research Centre
- MRRC - Muguga Regional Research Centre
- DDR&D – Deputy Director Research and Development
- PFM - Participatory Forestry Management
- FAC - Forest Adjacent Communities
- ESDA - Energy for Sustainable Development in Africa
- SIBIRI - A laxative derived from *Aloe* plants

#### **AKNOWLEDGEMENTS:**

We are grateful to the Director, Kenya Forestry Research Institute (KEFRI) and the Deputy Director, Research and Development (DDR&D) for the timely disbursement of funds that enabled the Gede Regional Research Centre (GRRC), to participate in the Mombasa International show 2004.

The Centre is highly indebted to the Malindi District Stand Committee for giving us space to exhibit our materials and posters; since for the second year running the ministerial stand was not ready. The committee members are also acknowledged for the teamwork, which enabled the Malindi district stand to get the 1<sup>st</sup> position for the first time in Mombasa International Agricultural Show.

Lastly but not least, we are thanking the Centre Director and the entire staff of GRRC for the cooperation and assistance they offered to the show coordinating team during the pre and post show period, as well as for the facilitation offered in the show ground.

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## 1.0 INTRODUCTION

Agricultural Shows in Kenya (ASK) are major annual events which occurs in the capital city of Nairobi, Provincial and District headquarters in different months, through-out the year. They are used to show the various technologies used by different categories of people in different areas of the country and especially farmers, professionals/institutions, ministerial or departmental, sectors, manufacturers/industries, etc.

They are avenues for technology transfers because the show goers learn new techniques, which are used by people elsewhere and they can replicate such in their areas if they prove to be beneficial. Such events are particularly important to the general multitude comprised mostly of farmers and school going children. Professionals as well learn of new techniques used by others to improve production and those for reduction of costs.

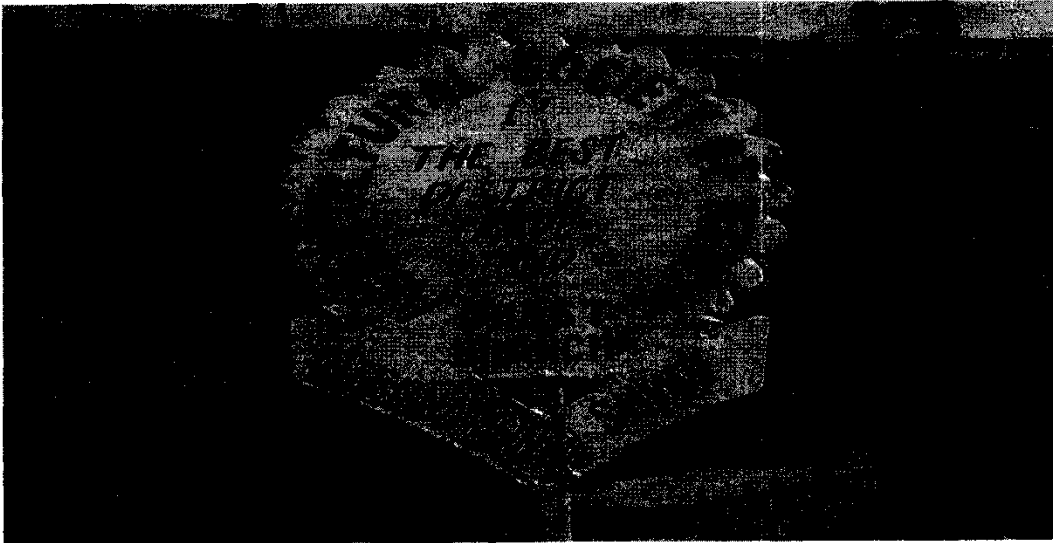
### 1.1 MOMBASA ASK SHOW

Mombasa International Show is an annual event that brings together several participants from different sectors/sections, departments as well as institutions from all over the country, and other parts of the world. This year's show was held from 23<sup>rd</sup> – 29<sup>th</sup> August 2004. His Excellency the President, Hon. Mwai Kibaki officiated the opening ceremony on Wednesday 25<sup>th</sup> August 2004. The theme of the show was **Building an Industrial and Agricultural Working Nation**. The Centre had to do some changes in the planning for participation after it became evident that, for the second year running, the ministerial stand could not be used because it was not ready, since it still required some renovations. The team had to liaise with the District Commissioner Malindi who is the Chairman of the Malindi DDC stand to allow the Centre to take some exhibits for display at the district stand as it was done last year.

A.S.K shows have gained a wide recognition in the country, as they have continued to act as means of educating the public through seeing and sharing of experiences with others, in areas/fields like Agriculture, Agro-forestry, the business sector, banking, Research in different fields, the industrial sector etc. Mombasa Show has also continued to attract participants in most of these fields with a lot of people attending because of their different interests. People have interests in different fields like Agriculture, Livestock production, bee keeping, Engineering, Forestry and many other areas. Other people also came for leisure without any particular area of interest. This is always evident from the amount of time the show goers take to concentrate in a given stand. Some people come without any particular area of interest, and this required the exhibitors to use extension skills to assist them to visualize and understand the various technologies, which were on display.

The Centre had to continue communicating with the District Show Committee in preparation in order to strategize on all displays, exhibits, posters, technical notes and transportation of the same. The stand this year was the best district's stand in the "district trade stands category" ahead of the other six (6) districts in the coast province. The performance was attributed to the good organization, collaboration and teamwork of the committee. Malindi district had the honor of being the best district since its inception after being curved-out from Kilifi district, in the mid 1990's.

This year's Mombasa show attracted a variety of show goers ranging from private farmers, business people, organized groups and institutions of both lower and higher learning. In general the turnout of participant was good as most Institutions of learning were still on holidays and it was one week before the schools opened for the third term.



**Photo 1: Malindi district had the best stand during this year's show (2004), the centre had to share the glory with the other participants in the district.**

### **1.2 PARTICIPATION BY KEFRI IN THE SHOW.**

Gede Regional Research Centre participated in this year Mombasa Show on behalf of KEFRI. Since KEFRI does not have its own stand, the Centre took the exhibits/posters and other displays to the Malindi District Stand. This is where all the departments within any given District exhibit their displays in the stand, which is usually referred to as the D.D.C stand. On the surround walls, the name of each district is usually indicated and incase a person does not know in which District a given institution falls, for instance KEFRI, it will be very hard for him/ her to trace the institution. This is exactly where KEFRI is loosing out.

Among the exhibits the Centre prepared were brief write-ups on manila papers, Publications, seed samples, and *Aloe vera* seedlings. The manila papers contained information concerning the following areas: KEFRI Mission, Mandate, Objectives, the KEFRI regional centres and stations countrywide, seed technology, On-station and On-farm trials, Biodiversity in general, Mangrove Forestry and its conservation. Participatory Forest Management (PFM) piloting project, Traditional medicine, and Policy issues related to forestry and the Kaya forests in general. On Policy Research matters, the show-goers were interested in the harmonization of laws Governing forest products in order to have one office to give licenses and permits instead of one been sent to the chiefs, District officer, Agricultural officers and forest officers. They claim a lot of time is wasted and sometimes so many problems are encountered while tracking from one office to the other. The procedure is for one to get a letter from the area chief, certificate of origin from the divisional forester and then the movement permit from the District Forest Officer (DFO). However, this is a standard measure taken in the whole country, aimed at controlling over-exploitation of the already scarce resources, and so nothing much can be done to shorten the process.

An example the farmers had given was that after burning one bag of charcoal on one's farm during the time of preparation the farms, and one can encounter a lot of problems transporting and selling the charcoal. The participants were informed at the stand by the KEFRI staff that a study has been done by KEFRI/ESDA collaboration for ministry of Energy and their views shall be taken up in order to streamline the policies and the issue now lies with Nairobi headquarters at policy level.

It was thus good news to the participant that we in KEFRI intend to research on the traditional medicines and are encouraging the use, where possible. Most of the participants wanted to be enlightened more on any information concerning Neem tree products like soaps, shampoos and other medicinal products.

## **2.0 GAPS, WHICH WERE IDENTIFIED BY SHOW GOERS**

### **2.1 Tree Seeds in general.**

The following were some of the concerns of the show goers as pertains to tree seeds: -

- The farmers requested for free issue of forest seeds for effective reforestation on their farms and needy communal lands.
- Some suggested smaller quantities of packed seeds to be given out free of charge to show goers during future Mombasa shows.
- The procedure of purchasing tree seeds from the Kenya Forestry Seed Centre (KFSC) based at Muguga was said to be expensive for small-scale farmers.
- Some farmers agreed that they did not know most of the valuable forest seeds/species.
- Some farmers were inquiring prices of some seeds and requested that they be packed in smaller quantities to make them more affordable.
- They requested that the seeds be sold at the collection centre level to promote the establishment of small-scale tree nurseries and woodlots locally.

### **2.2 Extension services.**

Below are some of the issues captured as far as Forest extension matters are concerned.

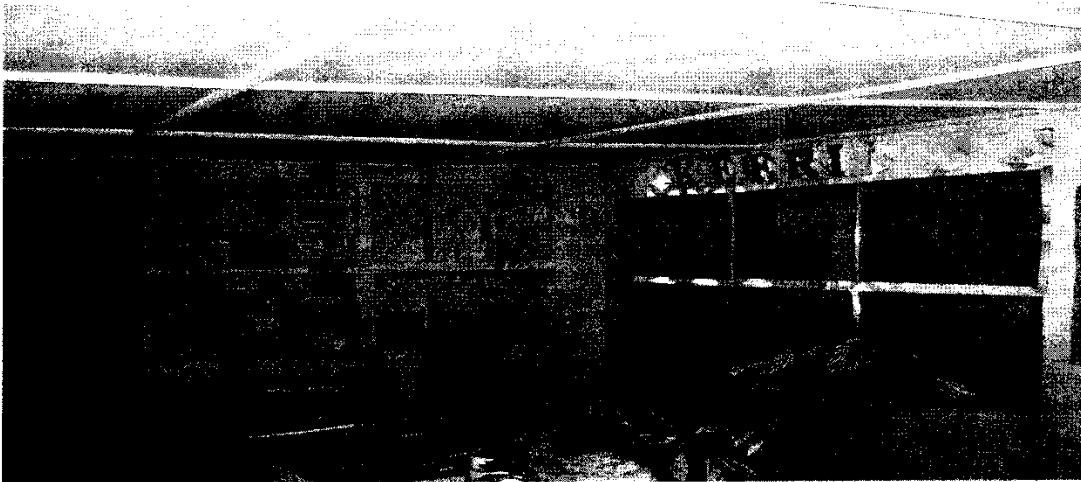
- Farmers were seeking for information on how *Aloe vera* seedlings can be propagated on the farms around Machakos District and Marereni in Malindi District to tap the growing potential of soap and shampoo production locally.
- General tree planting techniques around Maseno to sustain the growing demand for trees and tree products in the neighboring Kisumu and Luanda towns.
- Sharing experiences on *Casuarina equisetifolia* seed sowing, nursery and woodlot management around Shimba hills in Kwale District.
- How to utilize a sloppy piece of land for tree farming in Changanwe.
- Propagation of some valuable trees whose seeds are not viable, or have no seeds completely.
- Sowing of tree seeds and in particular the tinny seeds like those of the Eucalyptus species, *Milicia excelsa* etc.
- People wanted to know how long seeds of particular species take to germinate, whether there is any pre-treatments required etc.
- How to establish a small-scale tree nursery for commercial purposes.

- The controversy of Eucalyptus tree growing and its relation to excessive water uptake.

Question relating to the following areas were very common meaning that already there was a big gap between the Forest Extension staff and the farmers. Forest extension services needs to be intensified in both high and low potential areas to promote forest expansion in the country. Most of those who went through our section agreed that although most people had the willingness to plant trees on the farms, what was lacking was mainly the technical know how. In one of the discussions with a group of farmers, one of them admitted that most of the mistakes they were doing are purely technical and without someone to guide them on the ground, they can't achieve much.

### **2.3 Dissemination of research findings.**

Most of the farmers and other show goers expressed their concern over the method KEFRI uses to disseminate research findings. Most of the experiments KEFRI has been undertaking are On-Station, and this is quite hard for the expected recipients of the information (farmers) to come in and receive the technology from the relevant scientists. They challenged KEFRI to improve on its dissemination of research findings and technology transfer to the different target groups, especially the small-scale farmers, so that the results could be put into use adequately. The following therefore is a summary of the most common questions relating to lack of proper dissemination of research findings and technology transfer.



**Photo 2: Dissemination of research findings is one of the core roles of the institute. This is done in form of publications, posters, articles, brochures, technical notes etc.**

### **2.4 Other issues of concern to the show goers**

- Some wanted to know whether there is literature on *Aloe vera* farming in the country and if so, how to get it.
- They asked KEFRI to be availing the research findings to the farmers and other users instead of shelving it in offices.



- They wanted the farmers in the region to benefit from the KEFRI publications on the various tree species grown at the coast.
- If there are any On-station Research/ Demonstration plots in Gede and the procedure for the farmers to come in and see so that they can be in a better position to decide on what to plant as per the identified needs.
- One member of staff from Muguga Regional Research Centre (MRRC), wondered why reports from GRRC were not available in the library at Muguga i.e. Headquarters.
- There was also a concern as to why the center was not producing booklets; publications, brochures, pamphlets, newsletters and such other related materials to disseminate research findings for the sake of take away during the ASK show and open days. However, there was a confirmation from Mr. Mukolwe, who was also part of the show goers that some materials including KEFRI newsletters, Miti Ni Mali booklets, publications, Brochures, and technical notes can always be availed to the center during such occasions. Never the less, he challenged the GRRC to try and come up with it's own such related materials in future.
- Other centres were also challenged to come up with quality reports like that of Muguga Regional Research Centre 2002/2003 annual report.
- Some forestry related books to be sold to farmers during the show.

### 3.0 Specific problems.

- *Aloe vera* propagation, farming, any indigenous species countrywide and their economic value to the local community
- A farmer wanted to know the potential of establishing farms of *Aloe vera* in Marereni area of Malindi district.
- People wanted to know the different species of mangroves in the country and their economic importance.
- Others inquired about the different products from the mangroves in addition to the poles
- Others wanted to get information about making soap from Neem, and the exact parts of the tree, which are used.
- Also people wanted to know which other species of trees/plants that can be used for production of soap and other products
- Some wanted to know the possibilities of starting *Aloe vera* farming for consumption by the local industry as raw materials.
- Tree nursery owners wanted to know how to manage Termite attack on the young seedlings in the nursery.
- They also inquired about other management issues in the nursery e.g. location, watering frequency, root pruning etc.



**Photo 3: Some of the exhibits included *Aloe vera* and other plants used for Herbal medicine.**

The officers who were participating in the show had a busy time and were fully engaged in explaining all the above listed and other issues of interest to the show goers.

It was evident from the questions and interest people had in the KEFRI displays, there is more that the institute can do to assist the local people, since there is potential. It is even advisable for KEFRI to get her own stand so as to get enough space for the various items, which are of importance to the different stakeholders in the region. The local people are interested in activities that can improve their livelihoods, therefore improving their standards of living. Such activities are better addressed in form of income generating activities (IGA's), dealing with Natural Resource Management (NRM).

There are several forest and agricultural based IGA's, which can be implemented by the local people easily because they require less financial resources, some of which include the following:- bee-keeping, butterfly farming, tree nurseries, woodlot establishment, Aloe farming etc.



**Photo 4: Multiplication of Aloe in the research nursery at KEFRI Gede, Malindi district.**

#### **4.0 AREAS THAT PEOPLE SHOWED INTEREST**

Different areas of interest were identified according to the different age sets and sex.

- The adult male came with an interest of general knowledge of how and where they could acquire planting materials for On-farm tree planting, since most of them had realized the need of investing in tree farming as a commercial activity. This happened after a short discussion of the contents of the Forest Bill 2004, targeting On-farm tree planting. This can be taken advantage of at the moment since the department has stopped exploitation of its existing plantations leaving the only source of tree and tree products to be the private farms.
- Students from the polytechnics, technical institutions, colleges and universities, had an interest in more technical areas and processes like extraction of gel/sap from *Aloe vera* and making soap from Neem etc. Also they inquired about the Participatory Forest Management (P.F.M) process, steps that have been undertaken from initiation to the current/completion, its achievements and failures, and the support offered by the government and other institutions/ organizations, as another alternative forest management system. In P.F.M, the Forest Adjacent Communities (FAC), participate in daily management of that particular forest area with little assistance from Technical or even Law Enforcement Officers.
- They admitted that in the past, there had been numerous blames both from the Forest Department and the community side blaming each other for the mistakes currently being experienced in the forestry sector. The show goers agreed that since the past management approach had failed, it was now necessary for us to support the later where communities adjacent to the forests participate in its management together with the Forest Department and other interested stakeholders.

- Primary school going children had an interest in knowing names of trees both local and Botanical commonly found in Arabuko Sokoke forest.
- The other area of interest was on the reports and publications. They had an interest of knowing what was contained in some of the reports but complained that time could not allow them to sit down and read all of them. “A good example is the report on Soil analysis for Ganda, Goshi and Jilore Locations”.
- On-farm tree planting section which its main task is to transfer the technology already tested On-station to a few selected farms attracted a number of people with some inquiring how they could too be involved in the process. They were happy and all of us agree that it is quite hard for the farmers to come for the technology, so it is a challenge to us to ensure that all that is meant for the farmers reaches them at the required time and in the best way possible. Three or four demonstration plots strategically set in an area with KEFRI’s technical input will help transfer technology about On-farm tree planting to quite a number of people in that particular area. This has already been done in some parts of Malindi, Kilifi and Kwale districts although not enough. Given time and resources, more shall be added.

### 5.0 Other activities

1. Seeds technology: This is from flowering survey, seeds survey, seeds collection, handling, extraction and storage.
2. Field Trials: Some of these are;
  - Species Trials: Trying different tree species from same Ecological Zone on the same site.
  - Provenance Trials: Trying a promising, same tree species, collected from many different parts of the world of the same Ecological Zone on one given site.
  - Hybridization: Cross breeding between two superior tree species e.g. *Eucalyptus grandis* X *Eucalyptus camadulensis* to produce a GC.
  - Cloning: A scientific process whereby tissue from a living Organism is made to produce the whole organism e.g. a tree plantlet which is then subjected to favorable rooting and shooting media, then potted to grow in the nursery into a ready seedling for planting.
3. Agroforestry was explained as the Interplanting of compatible trees and food crops on the same piece of land.
4. Farm forestry was explained as the general tree planting on private farms to ease pressure from the already mostly degraded gazetted forests.
5. Conservation: This is conserving and improving what is already existing. For example,
  - a) Mangrove ecosystems: This comprises the different mangrove species found along the Kenyan coast with many uses some of which are extractive and others non-extractive. The non-extractive ones include their importance, as breeding grounds for fish and the role they play in protecting the coastline from erosion, are habitats for a varied species of birds and other animals which form basis for eco-tourism etc. Some of the extractive uses include boat/canoe making, lime making, charcoal burning, source of dye, construction wood in form of posts and poles etc.
  - b) Kaya Forests: These are among the few remaining Biodiversity Banks in the Republic. They are an important source of herbal medicinal, though their known

use is as cultural sites where traditional sacrifices are offered to overcome calamities etc. Exhibits, which really attracted the participants, include the herbal medicine/traditional medicine at out stand. The medicines include an aloe-derived product SIBIRI in Kiswahili, which is a laxative, and helps clear the stomach and makes one have more appetite. Other exhibits include castor oil, which is liquid, and people add a drop to the juice, tea, porridge taken in the morning locally named "habasaudha" (Arabic). It has been said it can cure many diseases and local population especially Islamic faith followers use much.

- c) Biodiversity, which is the totality of species, both fauna and Flora in an ecosystem. The species of trees that are used for known economic activities e.g. Sawn timber, pulp and paper, herbal medicine etc. The rare species of birds in the coastal forests and especially ASF, The species of animals that can form IGA's e.g. eco-tourism, source of venom, pupae for export, honey etc.

### **6.0 Learning experience.**

Since the A.S.K shows are meant for the farmers to learn from each other, we were able to learn that Kwale district had moved a big step ahead as pertains *Aloe vera* soap and shampoo local industry is concerned, unlike the rest of the Coast province districts. Already there are existing groups working on this activity as reflected from the exhibits brought to their stand. We could not confirm and therefore not sure whether the species being used in this process is the correct *Aloe vera*, are they getting any technical assistance as pertains correct harvesting techniques, conservation, propagation and many other related issues. Do we have any existing measures put in place to ensure that there is no over-exploitation of the already scarce resources?

### **7.0 Suggestions and the way forward:**

- ❖ KEFRI has to try to have its own stand at Mombasa International show to create more awareness and have more impact in the region. Suggestion has been due to the sharing of stand with other members or ministerial heads has not allowed us to exhibit well our message due to limitations due to space and time.
- ❖ The Institute strengthens publicity and participation in the International show in that more staff on specialized sections like soils, Biotechnology, and social forestry can join the Gede Regional Research Centre staff in participation in the stand to give a complete impact.
- ❖ Demonstration farms and models as opposed to explanation by posters and Manila papers should do more effective in transfers of technologies. The posters and models assist in that show-goers and especially adults will take up what they see practically as possible and will afterwards try by themselves.

Preparations should start early enough for demonstration plots and ground work to allow for more impact on transfer of technologies.