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**PRODUCT AND MARKET DEVELOPMENT OF SISAL AND
HENEQUEN PRODUCTS**

SUB-COMPONENT A3-VARIETY TRIALS IN ESTATES-KENYA

PROJECT NO. XA/RAF/96/613

CONTRACT NO. 97/326 between UNIDO and Kenya Sisal Board

**FINAL REPORT ON THE SERVICES PROVIDED BY KENYA
SISAL BOARD IN ESTABLISHING VARIETY TRIAL
NURSERIES AT NAKURU, KILIFI, AND KIBWEZI IN
KENYA**

Report Prepared for UNIDO

Report Prepared by;- J. L. Tipape-National Project Officer(Kenya)

INTRODUCTION

Kenya Sisal Board was contracted by UNIDO through contract No. 97/326 between KSB and UNIDO to establish nurseries at Kilifi, Kibwezi and Nakuru, to produce seedlings for the variety trials in estates in Kenya.

Although the contract was actually signed between December 1997 and February 1998, the work was actually carried out and completed in October-December 1997.

The total cost of the work was US\$5,037 of which US\$448 for bush clearing was financed from the project imprest account, US\$3,269 from the contract plus amendment, and US\$1,320 by Kenya Sisal Board.

On signing the contract, Kenya Sisal Board was paid a down payment of US\$3,000 from the contract sum.

This report gives the final status of the contracted work up to January 1998.

SUMMARY

The object of this contract was to establish nurseries in low, mid, and high altitude sisal growing zones in Kenya, to provide seedlings for variety trials in estates.

A survey was conducted to identify and obtain suitable sites. The selected sites were;-

(a) Low altitude zone;- A smallholder farmer's farm at Kitsoeni in Kilifi, about 58 Km from Mombasa. The altitude here is 20 m.a.s.l.

(b) Mid altitude zone;- An abandoned sisal estate owned by the University of Nairobi in Kibwezi about 215 Km from Nairobi. The altitude here is about 900 m. a. s. l.

(c) High altitude zone;- Alphega sisal estate in Mogotio , 40 Km from Nakuru. The altitude is 1500 m. a. s. l.

Soil samples were collected from each of the sites, analysed at the KARI National agricultural research laboratories, and results obtained. Climatic data from all sites was taken.

A survey was conducted in all sisal growing areas to collect bulbils (seedlings) for nursery establishment. Bulbils of hybrid 11648, hybrid 1300, Agave sisalana, Agave angustifolia, and Hildana were collected in quantities adequate to plant a scientific trial. No bulbils of Agave amaniensis, Agave americana, MLOLA 487, and ML1 were available. A few available suckers of Agave amaniensis were collected and 10 plants planted in each site for observation. Later a few suckers of MLOLA 487, and ML1 were imported from ARI-Mlingano and planted at the plant quarantine station for screening. Once cleared and released for field planting, a few of each of these hybrids will be planted in each trial site for observation.

An enumerator was posted in each site for three months to take care of the plants during establishment stage.

A care taker was posted to the Kibwezi site permanently to particularly protect the nursery from destruction by baboons and wild hogs.

After land preparation hybrid 11648, hybrid 1300, Hildana Agave angustifolia, Agave sisalana were planted in each site. Planting of all nurseries was completed on 27th November, 1997. The nurseries were kept completely weed free.

ESTABLISHMENT OF NURSERIES

Prior to planting, the bulbils were selected and graded to ensure uniformity. Planting coincided with the onset of the elnino rains as such there was no need for irrigation. How ever the exceptionally heavy rains brought about the problem of heavy weed growth. This required that the nurseries be weeded continously to avoid smothering of the small bulbils by weeds. This was particularly very serious in Kilifi. In the first three months, a keen observation on the rate of establishment, pest and disease incidence was maintained on each variety.

KIBWEZI NURSERY

This is the site representing the mid altitude zone. It is located in an abandoned sisal estate which has been in disuse for over twenty years. As a result, it is overgrown with bush including big acacia trees and old sisal. Because of the thick bush, it is also heavily inhabited by troops of baboons and flocks of wild hogs which a menace to sisal.

Two hectares of land were cleared of bush out of which one hectare was ripped, ploughed and harrowed as appropriate and fenced with chain link wire. A quarter hectare of nursery comprising the five varieties indicated above was planted on 21st November, 1997. Before planting the bulbils were dipped in a termite killer solution and sprayed with thiodan to prevent infestation and destruction of the young plants by the sisal weevil and grubs. The plot was given one application of decomposed sisal waste at the rate of 50 tonnes per hectare, and one application of Triple super phosphate.

A temporary house for the care taker was constructed and a care taker posted there immediately. An enumerator was also posted there for three months to look after the nursery and to taker necessary data.

KILIFI NURSERY

This site represents the low altitude zone and is located in a smallholder farm after Rea Vipingo and Kilifi Plantations Ltd declined to have the trial in their estates.

One hectare of land under fallow for along time was cleared of bush, ploughed and harrowed as appropriate. One quarter hectare was planted with the five varieties as in the Kibwezi site on 15 th November, 1997.

The bulbils and the field received the same treatment as in the Kibwezi site but the field was applied with dolomite (lime) to correct the soil Ph. A keen look out was maintained in this

particular site for bole rot which can be devastating during heavy rains.
An enumerator was posted to the site for three months as in the Kibwezi site.

NAKURU NURSERY AT ALPHEGA SISAL ESTATE

I should mention here that Alphega estate was the only sisal estate which accepted to have the variety trial located in their plantation. The site represents the high altitude zone. The nursery was located in an old sisal field gone out of production. Two hectares of old sisal were crushed using heavy machinery, ripped, ploughed and harrowed as appropriate. The bulbils and the field received the same treatment as the Kibwezi site, and the five varieties planted in the other two sites were planted on 27th November, 1997.

An enumerator was posted to the site for three months as in other sites above.

CONCLUSION

This work contracted to the Kenya Sisal Board to establish nurseries to provide seedlings for variety trials in estates, was successfully carried out and completed with all three nurseries having been planted by 27th November, 1997. Due to the changes in siting of the trials occasioned by the refusal of most sisal estate to have the trials in their plantations, most of the alternative sites required more work to open up land under bush. The Kibwezi site posed a bigger challenge in that there was need for a care taker and a house to house him. It also required heavy bush clearing since the land had been fallow for over twenty years and due to the heavy elnino rains continuous weeding become imperative in all sites. This was also the case in Kilifi. This scenario caused the cost of the work to rise considerably. The whole exercise there cost US \$ 5,037, of which US \$ 448 was financed from the project imprest account, US \$ 1,920 by Kenya Sisal board, and US \$ 2.669 from the contract No. 97/326.

The Kenya Sisal Board would therefore like to apply for release of the final contract payment of US \$ 117 due to them, upon acceptance of this report.

RESOURCE (FUNDS) UTILIZATION STATEMENT

Item of expenditure	Cost in US \$			
	Financed from imprest account	Financed from contract + Amendment	Financed buy KSB	Total
Labour for bush clearing at Kibwezi	448.00			448.00
Labour for fencing, land prep., planting and weeding		1610.00**	240.00	1850.00
Materials and supplies (inputs and fencing material)		1059.00		1059.00
Hire of care taker at Kibwezi			135.00	135.00
Hire of enumerators in all sites		600.00	300.00	900.00
Construction of care taker's house at Kibwezi			645.00	645.00
Sub-totals	448.00	3,269.00	1,320.00	
Grant total				5,037.00

**The amendment here is to include US\$ 600 cost of ploughing and harrowing erroneously left out by us in our cost proposal for establishment of nurseries.