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**Seedling Demand for Khartoum Province**

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## SEEDLING DEMAND STUDY

### FOR KHARTOUM PROVINCE

#### General

The purpose of this study is to introduce tree planting in agricultural schemes for continuous supply of fuel wood in future to meet the required needs of the whole province. In order to do so, we have to determine the recent areas under cultivation as well as future expansion in agriculture. Again determination of areas under shelterbelts and tree cover is important and by doing so we can easily estimate the areas which are planned to be put under shelterbelts and tree cover.

#### Agriculture in Khartoum Province

The whole area of Khartoum Province is nearly 6,705,952 feddans. From this area only 252609 feddans are under agricultural system for production of vegetables, fodder and fruits. All these activities are concentrated along the Nile and the two Niles. In the recent times due to drough and lack of rains all over the Sudan, most of the people deserted their villages and came to settle in Khartoum region where they can easily get their food. So the need for more food becomes essential and the agricultural areas thus expanded far from the Niles and the irrigation system is changed to make use of artesian water. Also the need for more fuel wood becomes essential, so introduction of tree planting in agricultural areas is important in order to create new sources of fuel wood with little transportation expenses.

#### Tree Planting

From a field survey of the existing farms and other agricultural schemes, I can say that in most farms along the Niles Banks, tree planting is introduced years ago and the species planted is Eucalyptus. In some of them I found that a second crop is harvested and new coppice is now coming up

(Table 4). In areas away from the Niles where irrigation is from artesian wells, few tree planting is done and more concentration should be carried out (Table 3 & 5).

In large schemes (Table 6) very little areas are afforested and most of them should introduce tree planting. The soil in most of these schemes contains high percentage of saline and has to be reduced to maintain good growth of vegetables & fruit trees, by growing fodder and tree planting.

### Irrigation System

In small scale farms along the Niles irrigation is sustained by smaller sizes gasoline pumps 2"-4"-8, and where electricity is available, electrical pumps are introduced. In the past Niles water level was adequate, but in the recent times where drought has become a problem irrigation from the Niles will not keep its regular form. In addition, scarcity of gasoline & electricity is a problem too. Most of the farmers with their limited means, will not be able to have sufficient supply of gasoline and irregular irrigation is the result.

In large scale schemes I noticed that the situation is better and this is mainly because such schemes are holding good financial system besides, well canalization system with permanent basements on the Niles banks (pumps ranging from 12"-36"). (Table 6). So I can say that concentration of tree planting in such schemes should be carried out.

### Nurseries

In Khartoum province there are several nurseries and can be classified as follows:

1. Khartoum forestry nursery inside the Sunt Forest under the supervision of Khartoum Province, established for forestry purposes and for feeding of schools and public. This nursery has been supported by the SREP for

increasing the total production for agroforestry purposes. The capacity of this nursery was 40000 seedling and increased to 300000 seedlings after being supported by the SREP. This season because of lack of rains & drought the percentage rate of seedling sale is very low. The normal price for Eucalyptus is PT 15 and for other species in PT 25.

2. Soba nursery belongs to the Forestry Research Division and the Greenbelt. The purpose of this nursery is feeding of the Green belt with Eucalyptus seedlings for production of fuel wood and building poles. It serves also both educational and research purposes. It is supported the SREP to supply agroforestry projects with the needed seedlings. Its production is 100000 seedlings (before SREP support) and intended to be increased to more than 300000, but unfortunately no progress has been made to follow up the intended target from the side of the research authorities and all efforts made up to now are by the Green belt side. This season, the nursery is opened for seedling sale to farmers nearby in order to get rid of the old stock by reducing the price to PT 10.
3. There are nurseries which belong to the Horticulture Department mainly for production of fruit, ornamental and shade trees. They are situated as follows:
  - a. A large one of an area of 20 feddans at El Mugran.
  - b. A 7 feddans one at Wad Ramli north of Khartoum north
  - c. A 5 feddans one at Shambat. Production of forestry seedlings can be sustained in these nurseries.

This matter may be settled with the authorities of these nurseries.

4. There are also 4 nurseries under the supervision of the agricultural Administration of Khartoum Province for production of ornamental and shade trees for public gardens in the three towns. Sale for public is also assured. Production of forestry seedling in these nurseries is possible.

5. In Seleit, a small nursery is established supported by SREP, for construction of shelterbelts and woodlots in the scheme. The production in this nursery is now 10000 and will be increased to 100000. Ornamental plants are raised for sale to maintain little revenue.
6. There is also another nursery supported by SREP to produce 10000 for construction of shelterbelts and woodlots at the Sudanese Poultry farm along Wad Medni road. Production can be increased to 50000.
7. There are some private nurseries preparing ornamental, fruit, shade and some forestry seedlings. Most of them are small and produce small quantities. But there are 4 of bigger sizes and produce seedlings in large scale on commercial bases. Sale in such nurseries is very high and expensive when compared to State nurseries (Table 6). Their owners have small shops in most of the lodging areas and transport their seedlings to be in reach of public. Production of ornamental seedlings in these nurseries is unlimited and the owners prefer not say anything about it.
8. The Central Forestry Administration with cooperation of the Finsh Aid is planning to build up a big nursery at the Green belt of total production of 3,000,000 seedlings to reestablish the Green belt. This project will be finished during the coming years.
9. Eseilat agricultural company had once a small nursery at the site of the scheme east of Khartoum North but now deserted. This nursery can be re-established to produce forestry seedlings to supply the company itself and other large schemes in the area. At the old nursery site there is an artesian well for irrigation.

### Seedling Demand

From several meetings with the farmer's Union, Province Officials and the authorities of some large schemes, I can

say that they do appreciate introduction of tree planting in their schemes and farms in the form of shelterbelts and windbreaks. They feel the present situation of drought and promised to contribute with the concerned authorities to fullfil this target. I assure them that different types of seedlings will be available in state nurseries with cheap prices (Table 8).

It is clear now that the area under cultivation in Khartoum Province is 252609 feddans and nearly 75887 feddans with shelterbelts or tree cover (Table 1). The area in which we hope to introduce tree planting is 176803 feddans. For such area we need nearly 12,476,210 seedlings to carry out only perimeter planting. In perimeter planting for production of fuelwood, trees are planted 4 meter apart round the farms, and each feddan (70 m x 60 m) needs 65 seedlings + 5 seedlings for beating up, and so the total seedlings for each feddan will be 70 (Table 1). This amount of seedlings will not be available in the recent nurseries, so projection should be made to increase production of seedlings in the present nurseries and to create new nurseries. The total amount of seedlings produced now in these nurseries will not fullfil our target with the present production which will not exceed 7000000.

**Khalafalla Sid Ahmed**

Summary Table (1)

Class	Total area feds.	Area under Periemeter Planting	Area need Periemeter Planting	Estimated Total Seedling Demand	Remarks on Irrigation
Companies and Corporation	125109		125109	8757630	80% from the Nile 15% from artesian wells 5% from Gezira
Cooperative	36326	-	36326	2542820	84% all from the Nile
Medium Scale	3982		3982	278740	64% from the Nile 36% Artesian wells
Small Scale	87273	75887	11386	797045	70% from the Nile 30% Artesian Wells
	252609	75887	176803	12476210	

**Approved Farms (Small Scale) Table (2)**  
**(Introduced Tree Planting)**

Region	Total No. of Farms	Area in Feds.	Irrigation	Remarks
Khartoum North	456	35,196.669	Nile	
Omdurman	197	4,166.758	Nile	
Khartoum	213	4560.9	Nile	
	866	43864.327	-	

**None Approved Farms-Working (Table 3)**  
**(Small Scale)**

Region	Total No. of	Nilotic Farms		Matarat Farms	
		No.	Area Feds.	No.	Area Feds.
Khartoum North	944	569	22548.5	375	5783
Omdurman	843	598	7683	245	3212
Khartoum	414	193	1791.58	221	2391.37
	2201	1360	32023.08	1041	11386.37

**Farms in which Tree Planting Table (4)  
(Introduced )**

Region	No. of Farms	Area in Feds.	Remarks
Khartoum North	569	22548.5	Vegetables, Fruits & Fodder-Eucalyptus
Omdurman	598	7683	" " "
Khartoum	193	1791.58	Vegetables & Fodder Eucalyptus
	1360	32023.08	

**Farms Without Tree Cover Table (5)  
Introduced**

Region	No. of Farms	Area in Feds.	Remarks
Khartoum North	375	5783	Veg. Fruit & Fodder
Omdurman	245	3212	Veg. & Fodder
Khartoum	221	2391	Veg. & Fodder
	1041	11386.37	

Approved Large Schemes (Table 6)

Region	Scheme	Area feds.	Type of Cultivation	Irrigation System	
Khartoum North	Sayeed Comp.	3200	U. const uction	B. N.	
	Maglal Comp.	13000	" "	"	
	El Waha	38000	" "	"	
	Eseilat Comp.	6800	Veg. & Fodder	"	
	Eilofon-Bageir Coop.	4519	V.F.Fr.	"	
	Mayo-Eilofon Coop.	3200	U.C.	"	
	Unity Coop.	2000	U.C.	"	
	Wad El Hado Coop.	2000	U.C.	"	
	Seliet Comp.	27545	An. Prod.	"	
	S. Arab Corp.	4000	Veg.	"	
	H. Koko Coop.	3000	Veg. F.Fr.	"	
	Abu Halima Kadro	1570	" " "	Nile	
	Khogalab Coop.	1520	" " "	"	
	Ei Shaab	1024	" " "	"	
	El Tayeb El Hillo	1000	" " "	"	
	El Sagai	3005	" " "	"	
	Sarourab East Corp.	196	" " "	"	
	Sharwani	500	" " "	"	
	El Zubeir Gamil	482	U. C.	"	
	Wawisi Coop.	710	V.F.Fr.	"	
	El Dom Coop.	580	V.F.Fr.	"	
	Khalil Osman	800	U. C.	"	
	Wad Ramli Coop.	5500	V.F.Fr.	"	
	Dabek-Tikeina Coop.	975	U. C.	"	
	El Marghnia Comp.	600	U. C.	"	
			125726		

Table (6) Contd.

Region	Scheme	Area feds.	Type of Cultivation	Irrigation System
C.F.		125726		
Omdurman	Sarourab West	556	V. & F. Fr.	Nile
	Gumnouaya Coop.	10000	V. & F.	W. Nile
Khartoum	Soba Agri. Sch.	10000	Fodder & V.	Gezira C.
	Awad El Sheikh	500	U. C.	Artesian
	Palstine Scheme	2235	U. C.	Artesian & Gezira C.
	Vit. R. Station	600	Research	B. Nile
	Arab Corp. Poultry	4000	U. C.	Artesian
	Animal Prod. Corp.	7500	U. C.	"
	Emarate & Kh. Comp.	3600	U. C.	"
	El Hag Satti	700	U. C.	"
		165417		

**Working Nurseries in Khartoum  
Province Table (7)**

No.	Nursery	Place	Type of Seedlings	Price	Remarks Total Prod.
1	Shambat	K. North	Fr. Shade & Ornament Ficus	£ 3	H. Ad. 2000
2	W.Ramli	" "	Brazilia Fr. Shade & Ornament Ficus	£ 4 £ 3	" 1000
3	Industrial Area Khartoum	Khartoum	Brazilia Fr.Shade & Ornament Ficus	£ 4 £ 3	K. Province 3000
4	Sudanese S. U.	"	Ornamental & Shade		1000
5	Omdurman Council	Omdurman	Ornamental & Shade Ficus	£ 3	" 4000
6	Forestry	Khartoum Magron	Forest, Ornamental & Shade Eucalyptus Others	PT 15 PT 25	300000
7	Research	Soba	Forests-Eucalyptus	PT 10	Forestry Ad. 300000
8	Shambat	K.North	Fr.ornamental & Shade Brazilia Ficus	£ 6 £ 5	Private
9	Hafiz	Khartoum	Eucalyptus & others Fr.Ornamental & Shade Brazilia Ficus Eucalyptus & others	£ 1 £ 5 £ 4 £ 1	73000

Table (7) Contd.

No.	Nursery	Place	Type of Seedlings	Price	Remarks Total Prod.
10	Zaki	Khartoum Gerief West	Brazilia & Ficus	£ 6	20000
11	Abu Kashwa	Khartoum Extension SF. 1	Eucalyptus & others Brazilia + Ficus	£ 1.5 £ 10	2000
12	Seleit	Khartoum North	Eucalyptus & others Forestry & Ornamental	£ 1.5	10000
13	S. Poultry	Kh. Medani	Forestry & Ornamental	-	1000

**List of Persons and Schemes Authorities  
and Farmer's Union in Contact Table (8)**

No.	Name	Occupation	Place & Address
1	Dr. Yousif Ibrahim Attabani	D. Director General El Waha Scheme	Khartoum T. 79718
2	Ahmed Mohammed El Hassan	G. Manager Eseilat Scheme	Khartoum North
3	Ahmed Mahmoud El Manra	Agri. Manager Eseilat Scheme	"
4	Dafalla Nasir	Chairman, Board of Directors-Gumouya Coop. Scheme	Khartoum T. 72132
5	Dr. Ahmed El Raih	Pro' ction Manager Arab S. Comp. for Fruits & Vegetable	Khartoum North UMDOM
6	Pr. Abdel Rahim Said	G. Manager Said Comp	Khartoum North T. 611760 611685
7	El Sir Madawi	Bageir East and Eilafoun Coop. Scheme	Khartoum North
8	Abdel Rahman H. El Tom	Unity Soba East Coop. Scheme	Khartoum North
9	Hamid El Badwi Hamid	Abu Halima Kadro Coop. Scheme	Khartoum North
10	Abdel Gadir El Sheikh Khogali	Khogalab Coop. Scheme	Khartoum North.
11	El Tayeb Hamid	Sarourab East Coop.	"
12	Mustafa Mahgoub	Wawusi Coop.	"

Table (8) Contd.

No.	Name	Occupation	Place & Address
13	Mustafa El Sidig	Wad Ramli Coop.	Khartoum N.
14	El Musharaf M. Abdel Malik	Dabak and Tikeina Coop.	" "
15	Abdulla El Bushra	Sarourab West Coop.	Omdurman
16	Hassan Yousif	Shigeilab Schemes	Jebel Aweli
17	Sidig Bushara	Um Haraz area	" "
18	Higgazi Osman Higgazi	Tayeba el Hassanab	" "
19	Sid Ahmed Kheiri	Director of Agri. Kh. Province	Khartoum
20	Hassan Rustom	Inspector for Agr. Omdurman Area	Omdurman