

**Strategic Plan for the Development of the
Agricultural Sector in the IRC Program
Areas**

Red Sea State

The Consultants' Report

July, 2004

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Strategic Plan for the Development of the Agricultural Sector in the IRC Program Areas – Red Sea State.

Preface :

IRC has been providing humanitarian assistance in Sudan since the early 1980's in the area of health, potable water supply and sanitation services, and with emphasis on Sudanese IDPs from 1989 onwards. The current IRC program areas include* : Khartoum Stae, Kassala State, Upper Nile State (Malakal area), Nuba Mts (Lagawa District), Bahr El Ghazal State (Wau, Aweil, Raga Areas), Red Sea State, and North Darfur State. For a comprehensive treatment of the need of the target communities in the different program areas, IRC is intending to get involved in the agricultural sector, by adopting a strategic plan for each program area, to guide the future developments in areas of food security, and improvements of livelihoods, and in relation to the other programs components. For this purpose, IRC has engaged two consultants* to prepare the envisaged strategic plans with the following seen as essential considerations :-

- To cover in content all forms of production coming under the agricultural domain: crop farming, livestock raising, poultry farming, fisheries, range and forestry.
- Promotion of the roles of the above sectors in the achievement of food security.

* : Prof. Mohamed Osman El Sammani, Socio-economist.

: Dr. Abdel Latif Egami, Agriculturist.

- Focussing in targeting, on the impoverished groups and the vulnerable elements of IDPs and women.
- Integration of the components of the agriculture strategy, with the other programs developed under the IRC mandate, to achieve holistic tackling of communities needs.
- Effective involvement of foreseen actors of beneficiaries, local authorities and organizations.
- To progress from phases of relief and trial, into developmental programming.

The specific strategic plans components cover :-

- Interventions design.
- Implementation modalities.
- Interventions costing.
- Follow-up work.

The methods applied for data generation covered : review of the available literature on the subject matter of the assignment and field visits to IRC Program areas, starting with Red Sea State and Wau area.

I. RED SEA STATE :

1.1. Physical Set-up and Resources :

The Red Sea State is located between Latitudes 22° - 17°N., and Longitudes 38° 50' - 23°E., and of a total area of 212,410 Sq.Km. Of its distinctive features is its location on the Red Sea coast, making its eastern border, and extending N-S for 740Km. Topographically, it is characterized by 4 major features, the coastal plain, the Red Sea Hills (5000 – 7000 ft. above sea level), the Western Slopes and Delta Tokar.

The climate is predominantly desert and semi-desert of rainfall of (25-¹²⁰~~400~~mm) from N. to S.; with about 90% of the area of the state receiving less than 100mm of rainfall annually. Despite the meagerness of rainfall, rains occur at fixed seasons in most locations; in summer (July-October) in winter (November-February) and in spring (April-July), with a concentration of surface water flows in Wadi beds, which exist in all parts of the State. Monthly temperatures vary from 22-44°C., and the relative humidity from 52-71%.

The water resources are made of direct annual rainfall, and Wadis and Khors flows, estimated at 5 milliards M³, and of ground water basins, making about 650 milliards M³ of water. The greater part of the State depends for its water supply on hand-dug wells, with depths of 40-60ft.

For illustrations of the above physical features, see Figs.(1 & 2).

1.2. Population :

The Red Sea State has a population of 684,172 persons according to 1993 Census. A recent extrapolation of the same figure by Oxfam Survey,(*) gave an estimate of the current population at 700,000 to 800,000 persons,; with around 60% living in urban areas, mainly Port Sudan town (second biggest town in the country around 300,000 inhabitants) plus the main administrative centres, like Sinkat, Tokar, Swakin, Durdciß, etc.. Based on the 1993 Census figures, the State population by mode of living was given as :-

* Ministry of Health, Red Sea State, in collaboration with Oxfam, Evaluation of the Nutrition and Food Security Situation in Rural Areas of the Red Sea State, December, 2003, January 2004.

FIG.1 RED SEA STATE : TOPOGRAPHIC FEATURES AND RAINFALL ISOHYTES

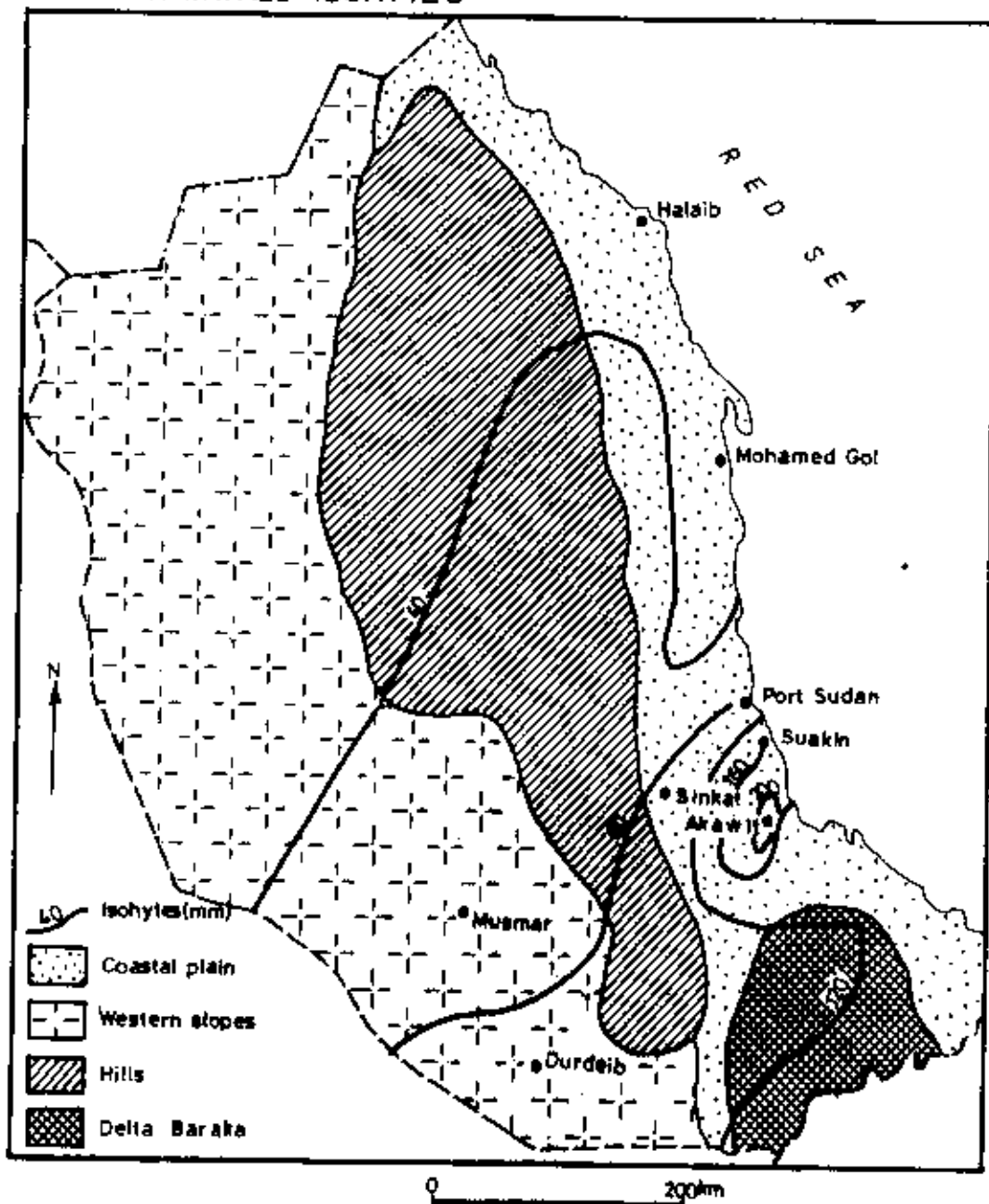
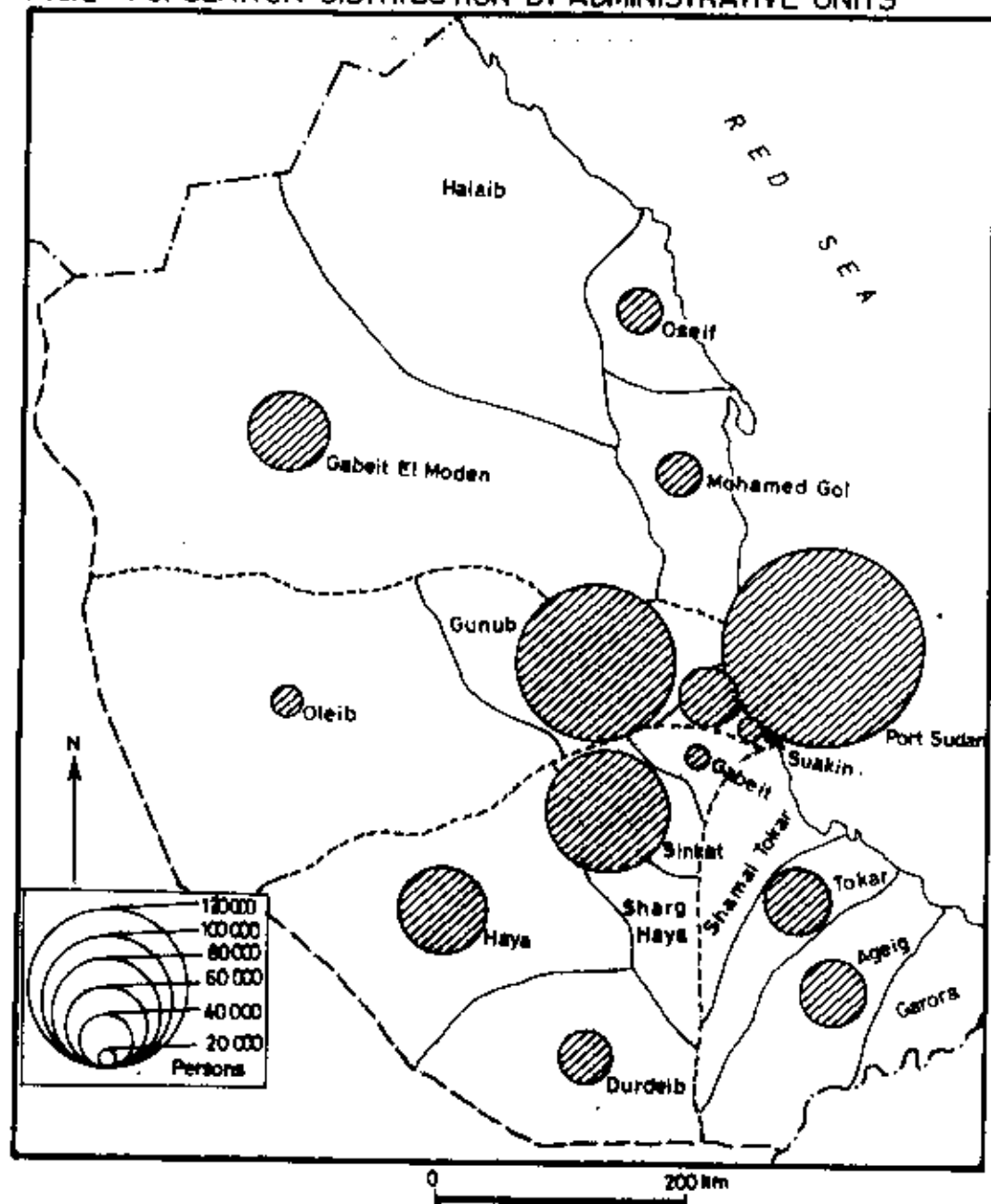


FIG.2 POPULATION DISTRIBUTION BY ADMINISTRATIVE UNITS



Urban	38%
Rural nomadic	51%
Rural sedentary	11%

Table (1) and Fig. (3) gives a detailed picture of the population distribution (1998) of the 4 administrative units (Locality Councils) making the state (Haliab, Rural Port Sudan, Sinkat and Tokar), and their comprising local government units.

Table (1): Population Distribution by Locality Council

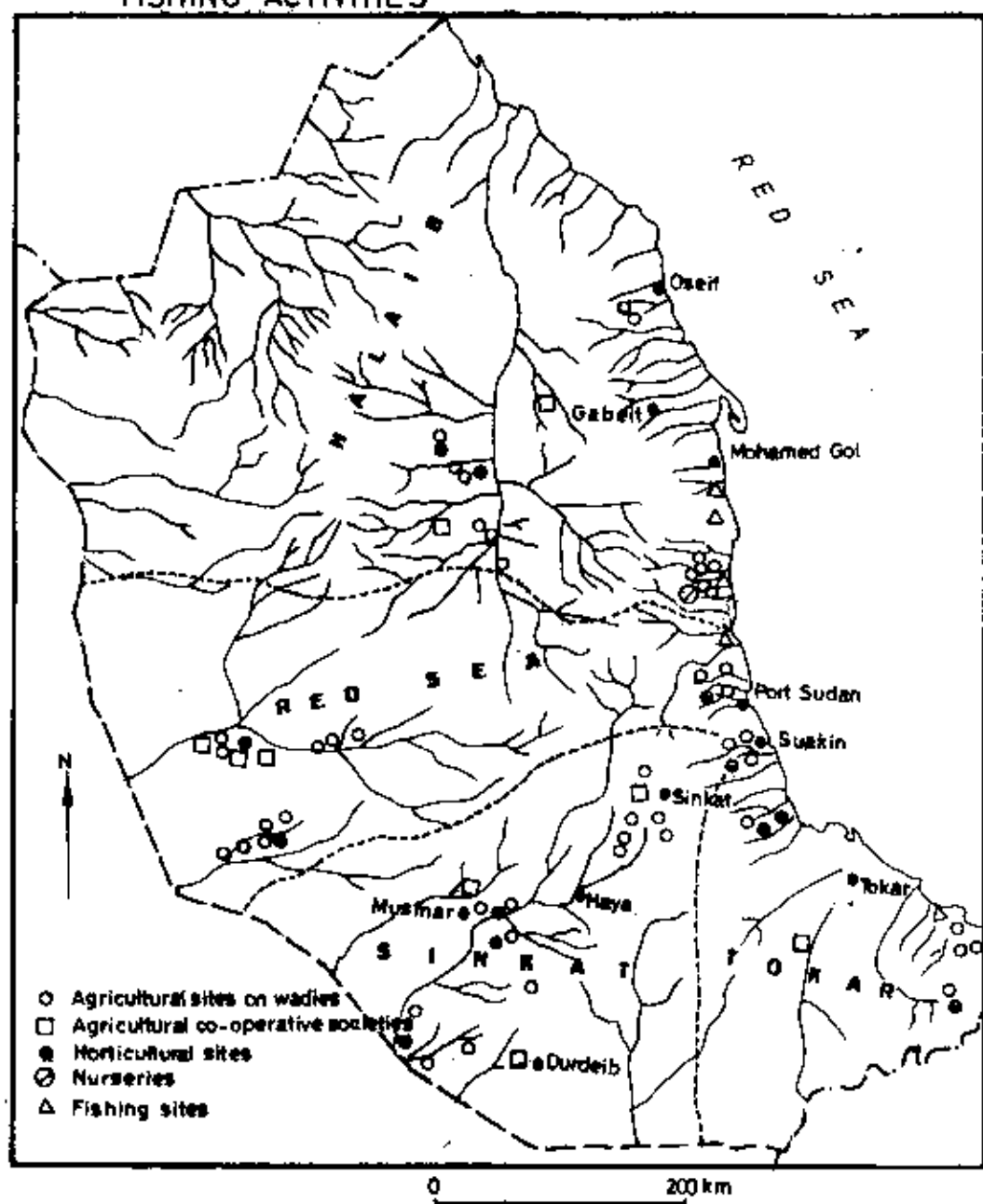
1.	<u>Haliab :</u>	Persons	
	Haliab / Oseif	31,221	
	Mohamed Gol/Gabeit El Ma'adin	<u>30,977</u>	62,198
2..	<u>Rural Port Sudan :</u>		
	Gunib / Oleib	23,825	
	Suakin	<u>20,840</u>	44,665
3.	<u>Sinkat :</u>		
	Sinkat	41,184	
	Gabeit	12,318	
	Haya	65,257	
	Tahaymam/Durdeib	<u>40,263</u>	159,022
4.	<u>Tokar :</u>		
	Tokar	<u>48,156</u>	<u>48,156</u>
	TOTAL.....		314,041

=====

(Not including disputed areas of Haliab, Gerora, Ageig).

Source: States Support Fund, Red Sea State Encyclopedia, 2000, pp.4-5.

FIG.3 DRAINAGE SYSTEM, AGRICULTURAL SITES AND FISHING ACTIVITIES



The rural population is mainly composed of the Beja ethnic groups of which 5 tribal lines can be distinguished, Bisharin, Itman, Amrar, Hedendowa and Beni Amer; added to these Rashaida and Fellata elements.

The average household size for the State is in the order of 5 persons, with variations between the urban and rural areas, and is of less size than the national average of 6 persons, which could be attributed to a number of factors, such as : impoverished economies, low level of nutrition, prevalence of diseases, and the poor health services infrastructure.

1.3. Economic Activities :

The livelihoods pursued by a population are generally influenced by the condition of the resource base, and for being generally poor in the Red Sea area, the majority of the population, 66% is practicing pastoralism; and the rest 34% seasonal agriculture on Wadis plus some forms of marginal activities; mainly sales of charcoal and wage labour employment. The recent survey conducted by Oxfam, referred to previously, (pp. 16, 22, 27 & 33) attempted categorizing Table (2) the forms of livelihoods for the 4 areas, in the following activities and movements ;-

Table (2): Form of Employment by Locality Council.

Area	Form of Employment	% of surveyed sample
1) Haliab :	Labour	56
	Charcoal making	34
	Pastoralsim	18
	Fishing	11
	Civil servant	9
	Trade	5
	Agriculture	3
2) Rural Port Sudan:	Charcoal making	34
	Labour	27
	Pastoralism	24
	Agriculture	10
	Civil servant	4
	Other	1
	Trade	0.5
3) Sinkat	Charcoal making	40
	Labour	26
	Civil servant	15
	Agriculture	11
	Pastoralism	7
	Other	3
4):Tokar	Charcoal making	30
	Labour	30
	Agriculture	15
	Pastoralism	11
	Civil servant	7
	Fishing	5
	Trade	1

The above categories, reflected against the three traditional productive forms of livelihood known for the area, in order of pastoralism, agriculture and fishing, reveal the emergence of new

activities, namely labour and charcoal making, as leading in the local economies and the incomes of the population. This points to important findings that needs to be given consideration in the strategy formulation :-

- Complementarity between the three referred to indigenous activities (pastoralism, agriculture and fishing) and the recently evolved ones, especially charcoal making.
- The depletion of resources, as a result of the recurrent drought has strengthened the trend of dependence of households in the 4 areas on similar activities; changing the role of once coping mechanisms into established economic activities.

2. The Resource Base :

2.1. Grazing and Animal Resources :

By long tradition and strong preference, the Beja are pastoralists. Ecologically, the Beja tribal country all belongs to semi-desert. Hence most of the area is a water limited marginal habitat, and as such, has one over-riding characteristic, the unpredictability of the amount and location of its rainfall, and consequently of the water grazing and browse upon which rural livestock largely depend. Grass cover and cultivation is thus restricted in extent - and the area commonly suffers local and sometimes prolonged shortage of availability of pasture, particularly in the north of the state, where precipitation is lowest and dry season grazing is particularly at a premium” *

• Oxfam, Integrated Livestock Surveys of Red Sea Province, Sudan, January, 1990, pp. iii.

The importance of livestock rearing in this zone stems from the role animals play as the main providers of food, money and social status in the community. They are also best adapted to exploit the region's meager resources, for cattle cannot survive the arid conditions of the Red Sea Hills, and are limited to the richer irrigation areas of the Gash and Tokar deltas, where the vegetation cover is much better. Goats on the other hand thrive on the limited vegetation in the area, and are the most producers of milk and butter, the two main items on which together with dura (sorghum) make up the population diet. Most of the Beja households keep up to 10 goats, and one camel, cow and donkey per two or three households.

Pastoralism is practised as a transhumance activity, with households operating from fixed settlements along Wadi courses. Range lands are communally owned by the tribal groupings, each having rights over a specific locality, comprising a Wadi system and the dug wells for supplying water. Family members, usually men, move with their livestock away from the permanent settlements to grazing temporary and later come back. Grazing within the Wadi environs by outsiders is permitted at certain times of the year, however such affiliated groups are not given rights to dig wells in the Wadi area. The Beja also recognize the importance of the tree cover to the overall hydrological balance of the area: dead wood collection is allowed, but the cutting of standing trees is prohibited. Access to communal grazing land is thus strictly regulated by the tribal group, and maintained individually by the family members comprising the group.

The number of livestock in the State is shown by the following figures :-

Type	Heads
Cattle	106,630
Sheep	591,288
Goats	522,498
Camels	202,106

Source: 2003 Annual Report. Animal Resources Administration.

The constraints facing livestock raising in the State may be summarized in :-

i) Overgrazing and erosion : it will be seen that all the country is covered by a scattered permanent population of near sedentary animals. The result is wide spread over-grazing and erosion. Overgrazing and erosion lead to worsening conditions of aridity, and the resultant poorer grazing, means the animals overgraze more and more.

ii) Shortage of grazing and water : Given that rainfall will always be limited, grazing and water are and will continue to be the major factors limiting livestock production in the area.

iii) Losses of animals : Occur every year, with less rainfall than normal. The losses are due to death from starvation, coupled with exhaustion from long marches between grass and water. Usually the deaths are confined to the very old and very young; and all other animals are more affected than camels.

iv) Availability of supplementary feeds and fodders: These are often in short supply and are expensive, especially during the dry

season and more extended periods of drought, and in the cases of pregnant/milking stock and baggage animals. Besides, the prices of feeds and fodder are also most serious constraints upon urban livestock production, especially in the case of the feeding lots of Port Sudan.

v) Prevalence of animal diseases in certain localities : for existing veterinary services as well equipped as they might be, suffer chronic under-funding, restricting their operation to towns particularly Port Sudan.

vi) Less pervasive and more localized constraints : including predation and limited access to markets in the north-west, competition for resources between stock owners and other groups around the irrigated schemes, lack of reliable and accessible information, inadequate developmental approaches to livestock production, and lack of government resources.

2.2. Crop Farming :

The two maps presented previously, on the physical features of the State, point clearly to a poor agricultural resource base, judged on the amounts of rainfall that are annually received (40 to 200mm), the type of the hilly topography and shallow soils which are predominating and the meager water resources to be developed for supporting crop farming; added to these the pastoral and conservative nature of the population. As a result of these negative factors, the practiced agricultural activities are generally of subsistence types, being limited to the dispersed areas in the many Wadis transcending the state, and the Delta Tokar; making an estimated total potential area of 750,000 feddan, roughly divided between the two.

2.2.1. Wadi Agriculture :

On a look at Fig.(2), Wadi agriculture is more spread, as a major feature of the State, as human habitation concentrates on the Wadis, where the Beja communities combine livestock raising, with limited cereal farming (dura, and millet) on the flood lands and the deltas of Wadis; using indigenous soil conservation techniques; and depending for their drinking water supply on traditionally dug wells.

Rough estimates of the potential cultivable land in Wadis is in the order of (338,325 feddan), of which the portion cultivated is in the order of (112,080 feddan), 33% of the estimated potential. The household farm size is in the order of 4.6 feddan, however actually less, as a result of the variation in the amount of rain fall and the availability of flood water from one year to the other.

Table (3): Potential Cultivable and Actual Cultivated Areas (feddan) and Number of Farmers in Red Sea Wadis, by Locality Council.

Local Council	Potential Cultivable Area		Area Exploited		Farmers	
	Total Area	% of Local Council Area	Total Area	% of Local Council Potential	Number	% of Total State Farmers
Halaib	79,200	23.4	20,400	18.0	4,810	20.0
Rural Port Sudann	75,755	22.4	31,300	28.0	7,450	31.0
Sinkat	105,700	31.2	34,280	31.0	7,835	32.0
Tokar	77,650	23.0	26,100	23.0	4,075	17.0
Total	338,325	100.0	112,080	100.0	24,170	100.0

Source: National States Fund, EDS, Red Sea State Encyclopedia, 2000. p.40.

Thus, the distribution of the population, on Wadi courses is not only influenced by the access to grazing and the presence of wells for providing domestic water supply, but also by the availability of agricultural land. Silty and clay loams found in the lower reaches of Wadis make the preferred lands for crop farming for their high water retention and easily workable characters.

Land flooding depends on the success of the two seasons of rains the winter period from October to February, and the summer period from July to October. The winter rains are vital for the establishment of the crops, while the summer rains for the maintenance of their growth; especially that the Beja plant a long maturing variety of sorghum, which normally needs 4 months to give a crop.

Generally Wadi crop farming is a very precarious activity for it depends on the level of flooding, which is variant from one year to the other. While the occurrence of winter and summer rains is of high frequency, the amounts falling are characteristically variant and patchy, especially in the northern and eastern parts, where some areas may go for years without rain. It is difficult to assess the impact of such enormous variations in rainfall on farming, but it can generally be stated that out of every five years there are on average only two years of successful cultivation, yielding a harvest.

2.2.2.. Delta Tokar :

The Delta area is estimated at 400,000 feddan, and the potentially cultivable land in the order of 250,000 feddan. Khor Baraka usually floods in the months July to September; at an average annual discharge of 500 million M³; reaching one milliard M³ in some years. The area irrigated by the Khor flushes is variant from one year to the other; reaching 215,000 feddan in 1961, while dropping down to

2,600 feddan in 1955. The variation in the level of flooding reflects on the cultivated areas, which are in the order of 40,000 feddan at an annual average of 20,000 feddan. The main crops grown are cotton, sorghum and millet. Generally agriculture in Tokar Delta suffers from :-

- Soil degradation, which leads to the blockage of the drainage lines, and the reduction of the flooded areas.
- Colonization of Meskit (*Prosopis chluensis*) of a large part of the agricultural land in the Delta, turning it into charcoal and fuel wood production area.
- The predominance of a backward attitude of traditional livestock production, which counters efforts towards progressive change, and the development of a market economy
- Weakness of the agricultural infrastructure (irrigation system, crop composition, technologies in use, finance and marketing, roads, communication, etc..)
- Lack of security in the late decade, due to national waring, resulting in population out-migration from the Delta land, and settlement in other areas, including the fringes of Port Sudan town..

2.2.3. Horticultural Production :

Production of fruits and vegetables is practiced in dispersed locations in the State; including some Wadis e specially Arbaat and Baraka, and much conditioned by the availability of irrigation water and good soils. The amounts produced are small, and consumed by Port Sudan town, with the additional amounts needed imported from Kassala State.

Table (4) : State Production of Fruits and Vegetables, 1998.

a. Fruits :

Type	Area in Feddans	No. of trees	Production Tree / Kg,	Total Production Tons
Dates	16	2600	80	208
Citrus	20	1400	250	350

b. Vegetables :

Type	Means of Irrigation	Area in Feddan	Production:: Feddan/Ton	Total Production Tons
Tomato	Water Harvesting + Wells (*)	2350	4	9400
Bamia	" " " "	430	0.8	344
Water melon	" " " "	400	2.6	1040
Cucumber	" " " "	200	2.5	500
Onion	Wells	30	3.5	105

(*) Using Lister pumps, 6-10 H.P.; total number of pumps 150.

Source : States Support Fund, EDS, Red Sea State Encyclopedia, 2000, p.45.

A more comprehensive picture of the agricultural activities in the state is furnished by the following tables (5 and 6) , which are a general assessment point to the very low agricultural potential of the state.

Table (5) :

Agricultural Schemes : Location, Area (Feddan) and Type of Production

Name of Scheme	Location	Area (Feddan)		Type of Production	Ownership		
		Total	Developed		Gov.	Co.	Co-op.
Delta Tokar	Tokar	406,000	22,269	Cotton, Dura, Dukhan, Vegetables		/	/
Forestry Belt	Tokar	8,000	2,220	Vegetables			/
Dolab Yai Society	Dolab Yai	--	60	Vegetables			/
Army Farm	Dolab Yai	--	10	Vegetables	/		
Army Barraks	Sinkat	--	50	Vegetables		/	
Durdeib Society	Durdeib	--	10	Vegetables, Fodder			/
Talgareib Society	Talgareib	--	10	Vegetables		/	
Harbours Farm	Gardens-Port Sudan	50	10	Dairy	/		
Horticultural Dept. Farm	Gardens-Port Sudan	4	4	Vegetables	/		
Private Schemes	Gardens-Port Sudan	--	300	Vegetables			/
Saloom Schemes	Saloom	--	600	Vegetables, Fodder			/
Arbaat Agricultural	Arbaat	60,000	5,000	Vegetables, Fodder, Poultry			/
Arbaat Water Source	Arbaat	--	160	Vegetables, Fodder, Poultry			/
Homoshari Area	Tomalla	--	6,000	Poultry, Vegetables			/
Tomalla Khaliwa	Tomalla	--	100	Vegetables, Poultry			/
Total : 15		474,054	34,803		3	3	9

**Table (6) Agricultural Services (Governmental) Schemes, Area (Feddan)
and Type of Production**

Name of Scheme	Location	Area (Feddan) Total Developed	Type of Production
Horticulture Dept. Farm	Saloom	-- 15	Date palm
Forestry Dept, Nursery	Saloom	-- 10	Seed Lings
Sinkat Nursery	Sinkat	-- 4	Date palm
Old Horticulture Dept., Nursery	Arkaweit	-- 15	Vegetables
New Horticulture Dept. Nursery	Arkaweit	-- 30	Fruits, Vegetables
Town Nursery	Port Sudan	-- 4	Beautification plants.
Forestry Nursery	Tokar	-- 20	Forestry seedlings.
Total	7	98	

Note : To above figure in the two tables (5 & 6) is to be added Wadis subsistence farming schemes (Fig.3), of a total land potential of 400,000 feddan, of which 112,000 are being developed under durra, millet, subsidiary vegetables and some poultry production.

Source : National States Funds, EDS, Red Sea State Encyclopedia, 2000, pp.46-47

2.4. Forestry Production :

The area of natural forests in the State is not known; and out of the total State area of 212,800 Sq.Km. there is only one reserved forest of 5499.27 acres. As it appears forestry protection efforts are negligible in a State which requires more efforts in this regard, for the high vulnerability of its vegetation cover, being located in the semi-desert belt, added to that its inclusion to plant community sites of high ecological value, e.g. Arkawit (Sinkat Locality Council) and Jebel Ilba (Disputed part of Haliab Locality Council)

The most important forestry production in the State is fuel wood and charcoal. Annual State production (2000) is 146,886 M³, and 2,046,878 sacks of the two respectively, making part of the energy consumption needs of the population, with the balance met by importation from other areas, or through the use of non-biomass energy sources.

It is clear from the previous discussions on economic activities, that charcoal making emerges as the leading, or the second rural occupation in the 4 locality councils. Its growth in importance is the result of a number of factors including :-

- i. Its better prospects as an income generating activity, compared to crop farming and livestock raising, which yield limited returns and are open to annual risks;
- ii. the vast growth of Meskit (*Prosopis chluensis*), and its invasion to large areas, in Delta Tokar and the many Wadis; and which provides extensive forestry resources for fuel wood production; and

- iii. the growing demand for fuel wood in the State and its ready market, especially of charcoal, within the State and nearby Gulf Countries.

Table (7) Fuel Supply Situation by Locality Council

Locality council	Supply Situation		
	Satisfied from local production	With surplus exported to :	Importing from :
Haliab	/	No surplus exported	
Port Sudan	X	✓	-Other parts of State.. - Gedaref State - Kassala State
Sinkat	/	Port Sudan	
Tokar	/	- Port Sudan - Gulf States	

Source: National States Fund, EDS, Red Sea State Encyclopedia,2000. pp.64-65.

2.5. Fisheries :

Fisheries present a rich resource potential, 740 Km of Red Sea coast, which is barely utilized. Part of its under-utilization relates to the poor fish consumption by the local population being limited to a few dispersed communities, and Port Sudan town; and to its restricted marketing to Khartoum and Saudi Arabia.

The information provided by the Fisheries Administration, Port Sudan indicated that :-

- Fishing is practiced all along the Red Sea coast, with the coastalline divided into three fishing zones, a northern one, (Haliab Locality Council) up to Oseif, with 14 fishing sites, a

central one,(Rural Port Sudan – Suakin) with numerous sites, and a southern one (Suakin up to Ageig) of 10-12 sites.

- The most productive fishing grounds lie to the north, Arkayai, Mohamed Gol, Dongonab, Oseif; while Suakin, for its closeness to Port Sudan, and its possession of a harbour site, is the most active in terms of business, for about 20% of the annual catches are handled there before being carried to Port Sudan.
- The months January to May present the active fishing season, September and October as the slack period. Fishing is carried out from boats, mostly privately owned, or organized under “Sharg Company – owned by the state”; with each boat manned by 5 to 6 fishermen, and stuffed with ice boxes. Some of the merchants involved in the fish trade in Port Sudan provide finances to the boat owners, to monopolize the marketing.
- Other than the local fishing activity, the Fisheries Administration supervises the movement of the Egyptian ships into the Red Sea waters, which usually takes place from October to May; against payment of fishing fees, which generate for the State an annual revenue of Ls.350 million.
- Fisheries, as an important economic activity in the State has received development support programs from FAO – ODA 1978, and continued by ODA in 1988, with projects implemented at Mohamed Gol and Suakin. The activities involved included: increasing catches through organization and training of fishermen, building of boats and equipping them with motor engines, provision of other fishing gear, developing of storage and chilling facilities at Suakin and

Port Sudan, and improvement of marketing communication – Mohamed Gol and Suakin to Port Sudan. As the Fisheries Administration has been involved in all of these developments, it has the essential experience of designing and implementing projects with IRC of improving food security among the fishing communities in the Red Sea, as shall be specified under the recommended strategy.

2.6. The Current Food Security Situation :

The Red Sea State rural economy, being founded on the 4 main agrarian activities: animal husbandry, crop farming, forestry production and fishing, augmented by wage employment, is of a very fragile nature, with features of :

- Poor or underdeveloped resource base ; .
- high scattering of population in rural areas, with concentration in a major urban centre; and presence of a large displaced population;
- prevalence of an impoverished form of pastoralism combined with subsistence farming; and,
- pursuit of marginal income generating activities from forestry production, fishing and casual jobs.

These inadequacies have impacted negatively on the food security situation as may be gauged on cereal (durra, millet and wheat) production and consumption, Tables (8) and (9)

Table (8) Annual Per-capita Cereals Consumption in Red Sea State according to Household Income in Urban and Rural Areas

Income (000) S.D.	50<	50-30	30-20	20-10	10>
Cereals (Kg./year)					
Urban Areas					
Sorghum	5.060	7.012	12.429	29.632	98.289
Millet	0.172	0.393	0.284	0.0	1.888
Wheat	101.603	105.084	109.294	87.175	36.582
Rice	10.459	10.607	15.548	11.730	7.429
Maize	0.287	-	-	-	-
Total	117.581	123.096	137.556	127.537	144.188
Rural Areas					
Sorghum	95.160	102.429	108.136	96.981	81.001
Millet	0.0	0.0	0.0	5.473	6.243
Wheat	55.960	53.428	48.365	40.993	17.677
Rice	12.480	12.188	16.073	9.990	4.183
Maize	-	-	-	-	-
Total	163,600	168.045	172.574	153.437	109.104

SOURCE :

Table (9): Situation of Cereal Production and Consumption 1997/98.

Cereal	Size Consuming Population	State Production Sacks %	Total Consumption (Sacks)	Surplus + Deficit - Sacks %	Source of Augmenting Deficit.
Dura	607,323	30,000 3	756,840	-726840 97	Gedaref state..
Millet	171,060	18,000 17	102,636	-84636 83	-
Wheat	79,610	-	636,880	-636880 100	New Halfa Scheme. Imports..

Source: National States Fund, EDS, Red Sea State, Encyclopedia, 2000.

The recent Oxfam report (December 2003-January 2004), Evaluation of the Nutrition and Food Security Situation in Rural

Areas of Red Sea State – Sudan, has revealed the situation of food insecurity in what follows :-

Recurrent years of insufficient rainfall in the whole state, as well as episodes of war in Tokar Locality since 1997, have resulted in chronic and acute food insecurity, and increased use of coping mechanisms by the population, which was in the past relying mainly on pastoralists and agro-pastoralist activities. Concerning malnutrition rates and global food security situation, these led to a range of responses in 2003, mainly being (pp4):

- Free Food Distribution (FFD) in the 4 localities; World Food Programme (WFP) has been providing the majority of food distributed by the Sudanese Red Crescent (SRC) in Sinkat and Halaeib Localities, and by Oxfam (GB) in Tokar and rural Port Sudan localities. Port Sudan town did not receive any food distribution, the targeted population being mainly the drought affected ones.
- Supplementary Food Programme (SFP) implemented by Oxfam (GB) in close collaboration with the Ministry of Health (MOH). 34 centres (18 in Tokar Locality, 9 in Rural Port Sudan, 7 in Port Sudan shanty areas) were set up to distribute supplementary food ration to moderately malnourished children and women.
- 2 Therapeutic Feeding Centres (TFC) targeting severely malnourished children in Port Sudan town implemented by Action Contre la Faune (ACF) in close collaboration with the Ministry of Health and linked with the SFP.

Longer-term development programmes are also on going supported by Oxfam (GB) in Rural Port Sudan and Tokar Localities and by ACCORD in Halaeib Localities". p.4.

The shortage in locally produced food has been accompanied by many change in the food sources and consumption habits; and in the economic activities pursued for income generation. Among these are : (from results of the same survey, p.40).

- Reduction in the number of meals per day, by about up to 27% of Households in the 4 localities, which is to be taken as a coping mechanism in response to food shortage.
- Reduced use of milk by 30 to 60% of households in the 4 Localities, which points to a drastic change in food composition; as livestock products traditionally presented major food items, being diminished by scarcity of pastures.
- More shift to "Asida" (tough porridge prepared from sorghum) and eaten with Waika sauce (prepared from Okra, onions, oil, salt) , and use of new food items, like lentils.
- With the older sources of food, livestock raising and agriculture 20-25% ; a significant shift to purchase from the local market, and dependence on humanitarian assistance plus kinship support.
- Change of urban group reliance of the past, on same food source of pastoral and/or agro-pastoral communities, to access to food from local markets and to income generating opportunities.
- Seasonality of income generating activities, with the biggest par of the population engaged in charcoal burning as the main activity, besides labour employment, leaving pastoralism and agriculture behind.

As could be concluded from the above discussion, that the Red Sea State, in both its rural and urban areas, suffers a chronic food shortage which is not of new occurrence, as episodes of repeated

famines and mal-nutrition have continued to be part of the history of the state, for its internal production is short of meeting its population food requirements. The 1984 drought and in absence of relief food at its start was a good demonstration of the severity of food insecurity in the state, judged on the high death toll which resulted from the lack of food. Addressing the problem of food shortage entails the adoption of two strategies :-

a) As recommended by "Oxfam, in Evaluation of the Nutrition and Food Security Situation ... p.42 – the part on recommendations, short term interventions :

- Implementation of Supplementary Feeding programmes in the 4 localities.
- Set up Therapeutic Feeding Units to address severe acute malnutrition in the 4 localities
- Address the general current food insecurity through the implementation of food aid programmes, through general and targeted Free Food Distribution and Food for Work.

b) Implementation of development programs aiming at addressing the food security in rural areas through ensuring diverse sustainable coping mechanisms in case of repeated droughts; which entails among others :

- Continuation of the situation – monitoring system.
- Supporting water harvesting systems adapted to specific locations.
- Activities should be adapted according to livelihood zones :
i.e. restocking in pastoral zones, production of fodder in agro-pastoral zones, supporting fishing activities on the coastal side.

- Animal health programs in all zones, in particular a contingency livestock veterinary program in case of rains

Field coverage within the context of the study clearly points to a significant role of IRC in the implementation of the second set (b) of the strategies, as shall be discussed in the next part of the report.

3.. Recommended Agriculture-Food Security Strategy:

3.1. Two Basic Considerations Underlying the Strategy Formulation :

IRC in its effort to adopt and implement the agriculture-food security strategy in its different target areas, needs to accord importance to the following considerations :-

i) Coin the strategies to come within the IRC approach of integration of food security, with the other human and social developmental components (health, water supply, education, human rights, etc..) plus the other supporting parameters; and by applying social action approaches of Community Development.

ii) That each strategy would be addressing the special conditions of the target area in question, hence the one recommended for the Red Sea State shall differ from that for Wau area, for the intrinsic situations governing each ; with the conclusion to be drawn, that all assumed strategies will, to a large degree, agree in approaches of implementation, while differ in the interventions substance.

3.2. Red Sea Strategy Framework :

This is well spelt out in the following elements, which could be clearly adopted as defining the parameters on which the strategy would be built :-

i) A lingering dependency on food distribution (with WFP as the source) by targeting drought affected, and environmentally/war induced populations, to compensate for the food deficit, that could not be met from local production.

ii) Maximization of local agricultural production, from the available resource base of agro-pastoralism in Wadi agriculture, and small animal husbandry.

iii) Development of fisheries, as a readily tapable resource, for increasing food production, and improving the incomes.

iv) Support to small scale enterprises, especially the ones proven to having a good market in the area.

Implementation of the different components of the strategy, would require the realization of certain guiding principles, among which :-

i) Working with partners (NGOs, Government Units), known to have developed excellence in certain fields.

ii) Application of multi-intervention targeting, with same population to be reached by an array of IRC interventions, in project life-time.,

iii) Giving special consideration to vulnerable groups of women, IDPs and children.

3.2.1. Agro-Pastoralism: Crop-farming, Animal Husbandry

This presents a leading component in the targeted Agriculture-Food Security Strategy. The agreement concluded between IRC and the State Ministry of Agriculture, Animal Resources and Irrigation on 13th. June 2004, outlines the features of this component in what follows :-

Objectives :

To provide immediate relief and improve food security for approximately 5000 persons in Rural Red Sea State, by increasing their capacity to diversify production and raise productivity through agricultural inputs, support to maximize use of local resources by capacity building of community structures.

Areas of Intervention :

i) Rural Port Sudan :

- Extend on veterinary services (credit for revolving funds).
- Provide male billy goats to improve indigenous goat breeds.
- Support horticultural activities through provision of irrigation units, preferably wind-mills and solar units.
- Develop water supply artisan wells, for drinking and agricultural purposes.

ii) Suakin :

- Establish poultry farming, through provision of improved chickens.
- Expand feed production, through assisting nomadic communities in improving natural range by seed broadcasting, and in producing green fodder.

- Provide veterinary services (drugs, training and vet extension).

iii) Sinkat Locality :

- Promotion of poultry farming (improved chickens)
- Increasing production of animal fodder, through improvement of natural range.
- Support to veterinary services (drugs, vet. training and extension).
- Capacity building and training at leadership and grassroots level.

Roles and Responsibilities :

i) IRC will undertake :

- Funding of agricultural inputs and water harvesting improvements.
- Support training in capacity building for CBOs.
- Support training for agricultural extension, food processing and paravets.
- Provide inputs for income generating opportunities (e.g. goats and improved breeds of chickens. '
- Establishment of Village Development Committees(VDCs).
- Organize and train Economic Development Committees (EDCs).

ii) Ministry of Agriculture will undertake :-

- Provision of technical staff to assist in training and capacity building.

- Provision of machinery (loaders, tractor ploughing, etc...) on rental basis.
- Availing of improved seeds, billy goats and veterinary drugs on subsidized costs.

iii) Community Will :

- Select and identify beneficiaries.
- Contribute to cost sharing, in cash or in kind.
- Establish in coordination with IRC, monitoring and evaluation system.
- Report and feed back from IRC on issues related to the food Security program.

iv) General :

- Implementation of the above interventions shall be complementary to the work of the Ministry of Agriculture.
- A quarterly monitoring system shall be implemented jointly by the Ministry of Agriculture and state-holders.
- IRC shall follow MOA policies, protocols and strategies.
- This program has been developed according to an agreed strategy of implementation between IRC and MOA.

3.2.2. Fisheries Development :

The discussions conducted by the consultant in the meetings held with the staff of the Fisheries Administration yielded the following project outline, which needs to be pursued further by the IRC office at Port Sudan, and worked out into an implementable agreement, on similar grounds of the one reached above with the

Ministry of Agriculture. The main points of agreement reached with the Fisheries Administration cover :-

- Conducting a brief review of the current situation of the fisheries activities in the Red Sea State.
- Assessment of the fishing co-operatives performance, with the possibilities of activating the potential ones.
- Conducting a survey in the following 5 areas, for the formation and supporting of fishermen groups : Kalanaief, Torateit, Hoshiri, Ambokeit and Tobcin.
- Organization of the above program areas, will include, strengthening the Swakin-Port Sudan link, training of the fishermen, handling of the catches and marketing of the produce.

3.2.3. Capacities of Implementation :

Implementing the Agricultural-Food Security Strategy is seen as the work of many partners, led by the IRC as the initiator and resource mobilizer. The foreseen partners are embraced by the following list, with their credibilities given in Appendix (2) :

- i) IRC
- ii) Ministry of Agriculture, Animal Resources and Irrigation.
- iii) Oxfam (GB)
- iv) Sudan Red Crescent Society.
- v) ACCORD
- vi) Port Sudan Association for Small Enterprises Development.

Oxfam (GB) :

IRC could draw from Oxfam experience, for its long involvement in the Red Sea State in implementation of Food

Distribution , Supplementary Feeding, Community Development, agricultural development, education and small scale enterprises programs, in Tokar Locality, Rural Port Sudan, and the poor quarters of Port Sudan town.

Sudan Red Crescent Society :

SRC has developed excellence in the implementation of water supply programs, starting with its partnership with NRC (Norwegian Red Cross) in Sinkat, Haya and Durdeib. In 2002/004 working season, it executed the maintenance of 47 water sources, 7 Hafirs, 15 hand-pumps and 15 hand-dug wells. It is supported in its activities by Norwegian Red Cross, German Red Cross and Danish Red Cross. It works closely with the State Water Corporation, and possesses the following equipment and facilities : Compressor machine, hand-pump spare parts, good logistic capacity, and communication facilities. IRC has already started co-operating with SRC in the implementation of its targeted water programs.

ACCORD ;

Ventured many areas of improvements, including animal production in Halaib Localiy, by introduction of male billy goats (Saaneen) and improvement of veterinary services by organization and training of para-vets. The two experiments gave some results, which may be assessed to enlighten same proposed activities in the IRC joint program with the Ministry of Agriculture.

Port Sudan Association for Small Enterprises.

The Association had its start under ACCORD, as a micro-credit activity, which developed into an organization of the above name,

under Port Sudan Locality Council, with the main activity of financing and training of artisans. The number of beneficiaries who received loans in 2003 has reached 3588 and 1969 males and females respectively.

References :

Harrison, M.N., *Report on a Grazing Survey of the Sudan, with Recommendations for Development and Improvement*, 1955.

Ministry of Health, Red Sea State, in collaboration with OXFAM, *Evaluation of the Nutrition and Food Security Situation in Rural Areas of the Red Sea State, Sudan, December 2003-January 2004*.

National State Fund, EDS, *Red Sea State Encyclopedia*, 2000.

Oxfam, *Integrated Livestock Surveys of Red Sea Province, Sudan*, Environmental Research Group, Oxford Limited, January, 1990.

Appendix (1) : Persons met and Organizations Visited

IRC – Khartoum :

1. Nadia Ali El Tom,
Deputy Country Director.
2. Mr. Pierre Bry,,
Country Director.
3. Taha Sid Ahmed,
Regional Co-ordinator.

IRC - Port Sudan :

4. Mohamed Tom.
Field Manager.
5. Mohamed Onour Musa,
Agriculturist.
6. Amna Osman
Development Officer.

Government Institutions, Port Sudan :

7. Syd/Mohamed Ahmed Dabloub,
Director, Natural Resources, Ministry of Agriculture.
8. Dr. Hassan Mohamed El Hadi,
Administration for Animal Resources, Ministry of Agriculture.
9. Abdallah Hamid,
Director, Fisheries Resources, Ministry of Agriculture.

10. Hassan Mohamed Ali,
Fisheries Resources.
11. Mariam Ali Onour,
ABS (Agricultural Bank of Sudan).
12. Mohamed Sharif,
Investment Administration and Information Centre, Ministry of
Finance.
13. Dr. Mohamed Abdo Rabo,
Director, Administration for Health Centres, Ministry of
Health.
14. Musa Mohamed Tahir,
Director, Adult Education, Ministry of Education.
15. Fatch El Rahman Mohamed Ahmed,
Director, Water and Sanitation Project and State Water
Projects,
Red Sea State Water Corporation.

ARS (Area Development Scheme) – Sinkat :

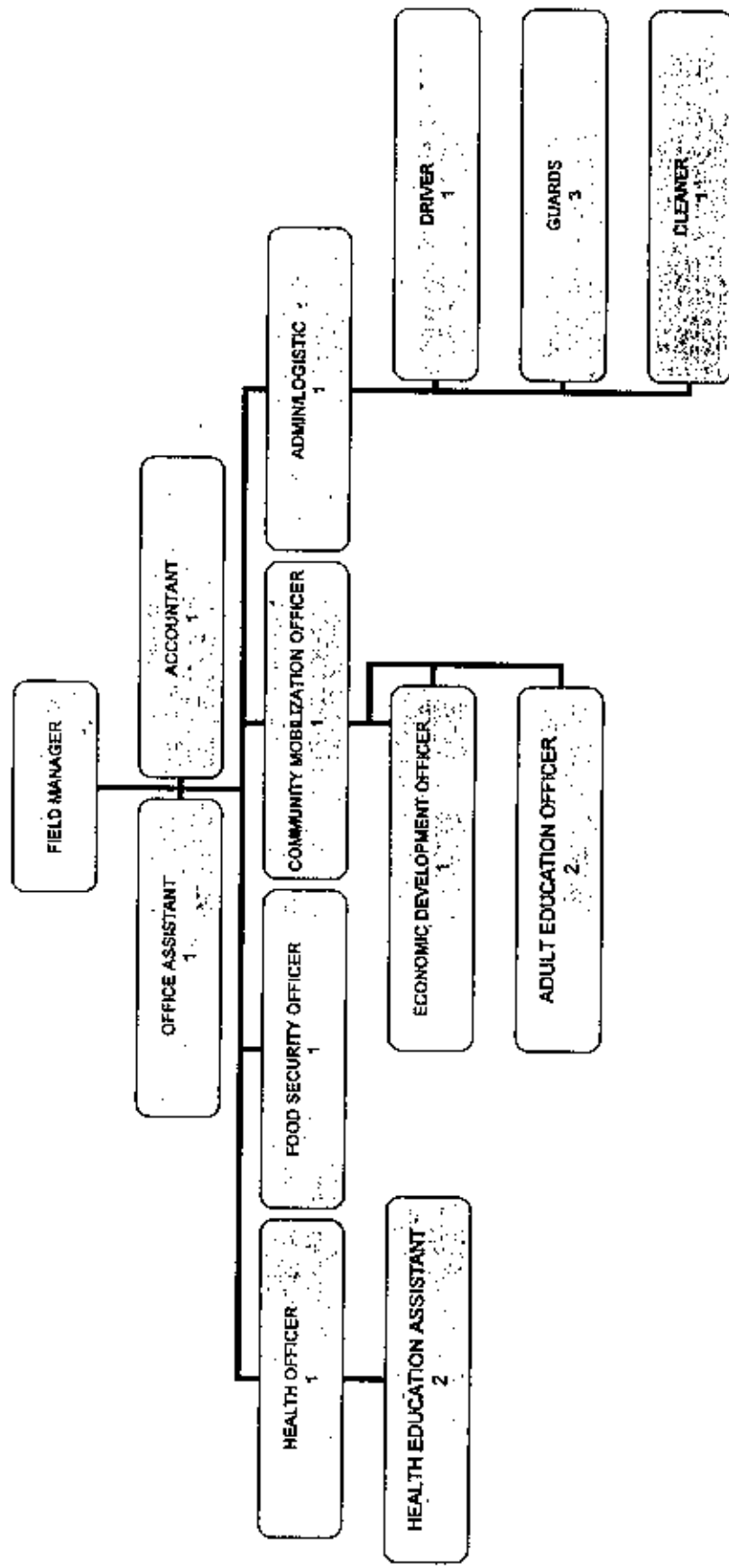
16. Salih Orabi,
Project Co-ordinator.
17. Karar Mohamed Tahir,
Agriculturist.
18. Malka Isa,
Women Development Worker.
19. Tag El Sir Hashim,
Administrator.
20. Muna Abdel Azim,
Community Organization Worker.

NGOs visited :

21. ACCORD (Halaib – Safaya),
Water supply, community development, adult education.

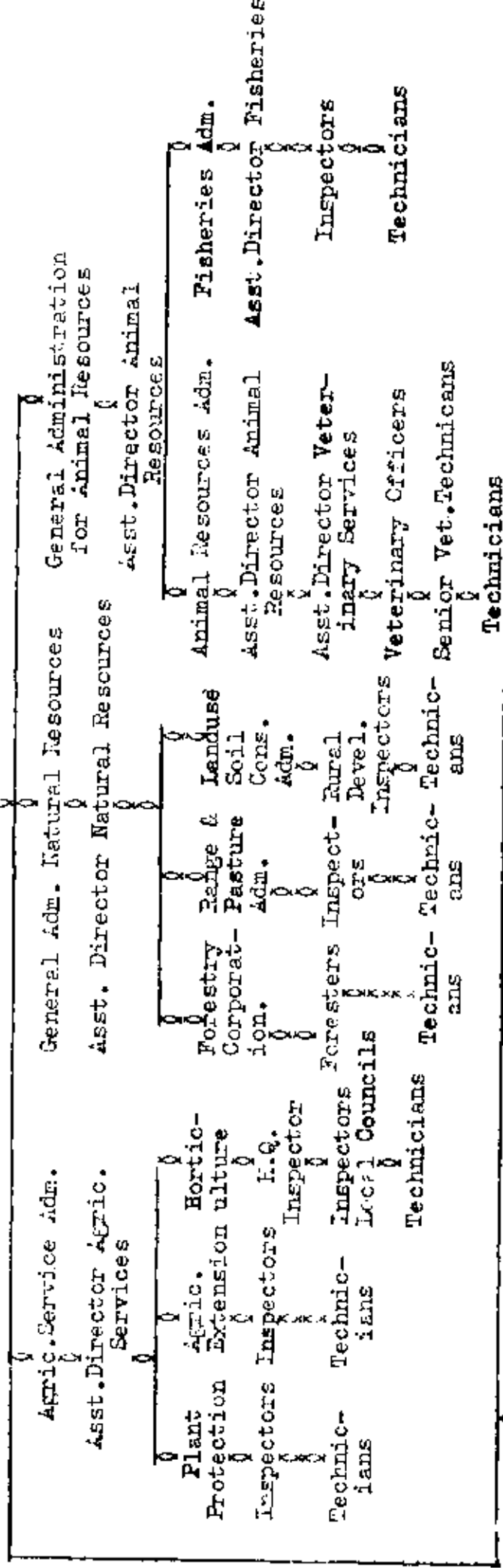
22. ACCORD (Port Sudan),
Micro-finance support to small scale enterprises
23. Ockendon International (Port Sudan),
Skill training, water sanitation, health awareness (HIV).
24. SOS (Arba'at),
Agriculture, food processing, restocking.
25. OXFAM (Tokar -- Rural Port Sudan),
Water supply, community development, agriculture,
restocking,etc.
26. Red Crescent (Halaib, Sinkat, Port Sudan),
Water supply, agriculture, community development, women
Development.
27. Action Faim
Nutrition, health education.

Appendix (2) : IRC Port Sudan Office Organ Gram



Minister of Agriculture
Director Ministers Office

Director General, Ministry of
Agriculture



4/Director Manpower	4/Director Administration	4/Director Finance
Total Manpower by Sector (Technical Workers)		
1. Headquarters 27.	2. Finance 15.	3. Animal Resources 51.
6. Soil Conservation 33.	7. Range and Pasture 24.	8. Agriculture Extension 10.
(Total 251)		
5. Fisheries 30.	4. Horticulture 61.	5. Fisheries 30.