

In the name of Allah ,
the Gracious , the Merciful

The Republic of Sudan
Ministry of Investment

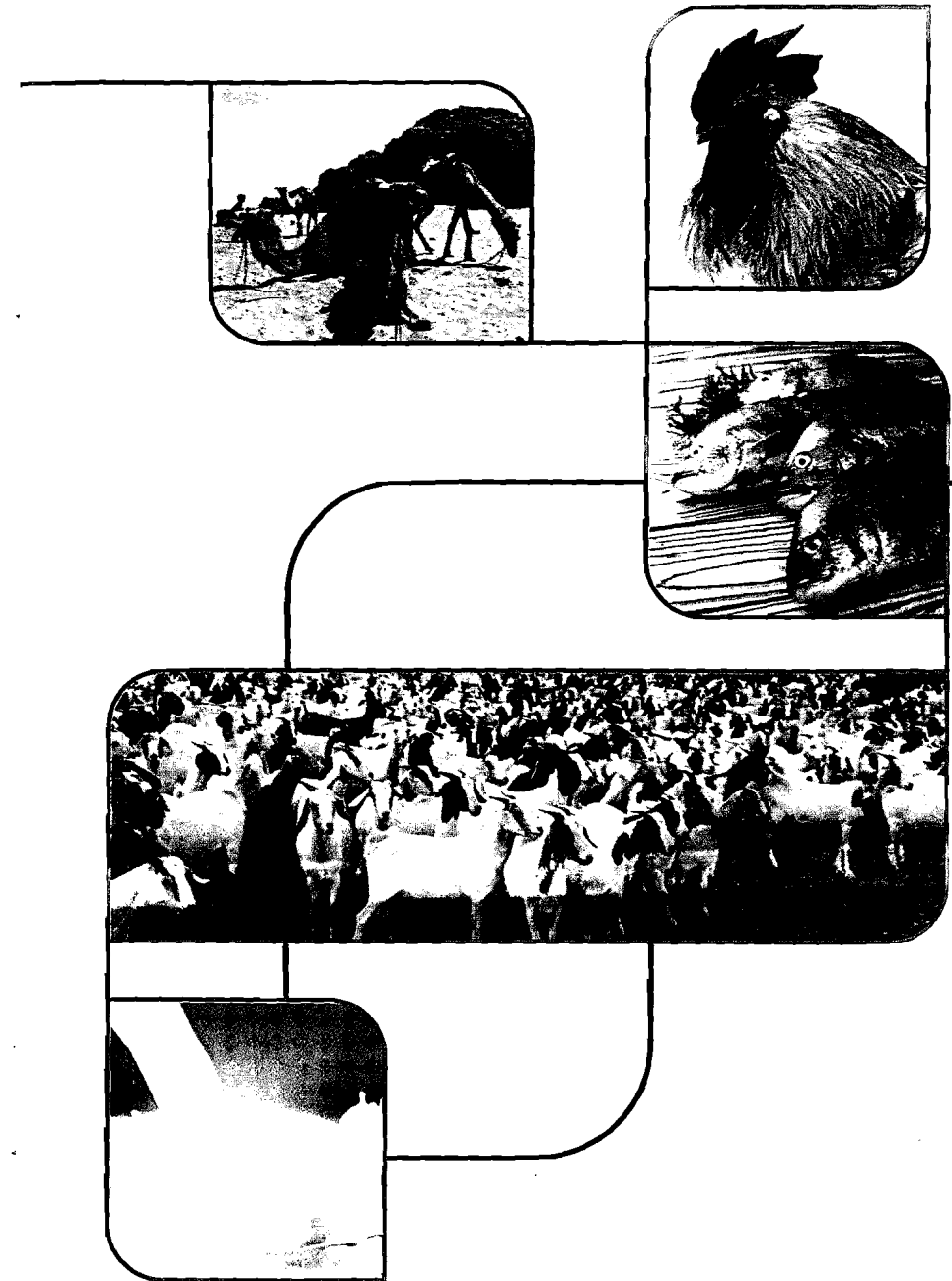
Investment Prospects

in Animal and Fish Resources Sector

January, 2010

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Foreword

Dear Investor,

We present you with this modest endeavor for some of the investment opportunities available in Animal Wealth Sector in the Sudan. It comes as a ripe fruit of coordination and cooperation between the Ministry of Investment and the Ministry of Animal and Fish Resources. We do that in full certainty and conviction about the importance of this vital sector of Sudanese economy which, God willing, will always keep developing and growing.

This unprecedented publication is an attempt by the Animal and Fish Resources Commission, to shift from the traditional trend of offering opportunities to a wider scope and a more superior style. It is also an attempt for promoting and improving means of propagation through utilizing modern technological means in designing and in information technology.

It is God we ask for this to become a beneficial science, a referential and a sound base for achieving more advance, development and real scientific planning according to the Country's investment map.

Awad Al-Karim Balla Al Tayeb,
Under Secretary,
Ministry of Investment.



Dear Investors,

The wide resources base available for investment in Animal Wealth Sector in general, and which is represented in the large numbers of livestock in the Sudan, in addition to the abundant and extensive natural pasture lands, abundant surface water sources, underground water reserves and several lakes and dam reservoirs. The country is also endowed with great wealth resources and a variety of aquatic organisms and wild life animals.

In addition to that, the livestock are free from epidemics and their meat is devoid of any chemical or hormone additives, a characteristic which adds a qualitative advantage to the livestock. It will consequently provide chances for investment in the field of animal production and veterinary services within the framework of a political will that aims at upgrading animal wealth in accordance with the programs of comprehensive agricultural renaissance.

In addition to all that there are the facilities, advantages and guarantees provided by the 2007 Law for Encouraging Investment. It is a law that creates an ideal environment for investment in the various fields of this sector, and encourages investors inside the country and abroad.

This guide is based on actual information and on the production indicators available in the various sectors of production in Animal Wealth, in addition to the sites for projects proposed for investment and which fall within the framework of the policies of the Ministry of Animal and Fish Resources.

Consequently, we seize this opportunity to assert that The Ministry of Animal and Fish Resources will exploit all its scientific and practical experience in collaboration with its sister the Ministry of Investment and all the circles concerned to facilitate the Investor's job.

It is God that we pray for guidance.

Mohammed Abdel Razig Abdel Aziz,
Under Secretary,
Ministry of Animal and Fish Resources

Animal and Fish Wealth.

A Comparative Advantage for Investment in Sudan. How?

Sudan is characterized with a great comparative advantage in the field of Animal and Fish Resources. This is mainly due to the following factors.

1. The presence of large numbers of livestock estimated at 140 million heads in 2008 These are distributed over the various States of the Sudan In addition to that there are appreciable numbers of horses which are concentrated mainly in the Northern States and in Western Sudan.

The following table shows the estimated numbers of Animal Resources (in thousands of heads) for 2007/8:

Year	Goats	Sheep	Cattle	Camels
2007	42938	50650	41138	4238
2008	43104	51067	41426	4406

Source. Ministry of Animal and Fish Resources.

2. Availability of Agricultural land areas necessary for various types of investment.
 - a. Total area of agricultural lands in Sudan 600 million feddans approximately.
 - b. Area of arable lands 200 million feddans approximately.
 - c. Area of exploited agricultural lands 40 million feddans approximately.
 - d. Area of arable lands 248 million feddans approximately.
 - e. Area of unexploited lands 15 million feddans of forests approximately.
 - f. Area of unexploited lands 94 million feddans of natural pasture lands approximately.



3. Availability of water and aquatic resources.
 - a. Surface waters in the form of rivers, lakes and underground waters in addition to the regional waters of the Red Sea, estimated at about 720 square kilometers.
 - b. The Nile Basin and its tributaries represent about 13 million hectares of water (over 100,000 square kilometers).
 - c. Internal pure water resources and reservoirs related to dams in the northern parts of the country (the Nuba and Marawi Reservoirs).
 - d. The presence of marine resources at the strategic site of the Red Sea.
 - e. Over 292 species of finned fishes had been recorded in addition to a number of marine organisms such as (shrimp, Conch Shell, Mother of Pearl Oyster)
 - f. Presence of internal natural fishing sites in the River Nile and reservoirs of dams such as Jebel Awlia, Damazin, Sennar, Khashm Al-Girba, Al-Nuba and the Marawi Dam.
 4. The presence of different climates and natural vegetation.
 5. A network of roads and means of communication.
- There are appreciable qualitative advantages of Sudanese livestock which are represented in the following:
- a. Their being free from epidemic diseases.
 - b. The advantage of good and distinguished taste due to reliance on natural fodder resources in pasturelands, without any chemical or hormone additives to the feeds.
 - c. Their genetic structure and its relation with the resistance to diseases.
6. The presence of distinguished internationally certified technical cadres and experts in the various fields of the Sector.
 7. The availability of veterinary and guidance services in all Sudanese States.
 8. The presence of Research Centers, Universities, Institutes and Specialized Educational Institutions.
 9. The privileges and guarantees of the Investment Law and the distinguished facilities offered to investors in this Sector.

The Percentage Distribution of Animal Wealth in Sudan:

States	Northern (2)	Eastern (3)	Khartoum (1)	Central (4)	Western (5)	Southern (10)
Cattle	1.14	3.64	0.57	27.65	37.38	29.72
Sheep	3.86	6.66	0.85	21.84	41.94	24.95
Goats	5.41	6.92	1.48	20.09	26.20	29.90
Camels	3.43	25.66	0.14	10.26	60.51	-----

Source: Planning Administration, Ministry of Animal and Fish Resources. 2007.

Sudanese Cattle Species

Features and Characteristics of Some Slaughtered Desert Goats

Description	Ashgar	Dubassi	Watish
Weight at slaughter	38.9	39.4	39.5 kg.
Weight after slaughter	19.4	19.1	19.5 kg.
Percentage of	53.8	54.2	54.1
Percentage of meat	57.9	56	55.1
Percentage of bone	22	21.3	19.9
Percentage of fat	11.6	15.7	16.3
Ratio of meat/ bone	2.6	2.6	2.9 kg.

Source: Ministry of Animal and Fish Resources.

The following table shows slaughter and meat production for local consumption in 2007 and 2008:

Year	Cattle		Sheep		Goats		Camels	
	Heads (1000)	Tons (1000)	Heads (1000)	Tons (1000)	Heads (1000)	Tons (1000)	Heads (1000)	Tons (1000)
2007	5949	869	20373	244	17023	136	309	48
2008	6415	937	19577	235	17050	136	356	55

Source: Ministry of Animal and Fish Resources.

The following table shows the export of live animals (in heads) for the period 2004 – 2006:

Year	Sheep	Cattle	Goats	Camels
2004	1,713,562	-----	101,989	602,132
2005	1,271,787	750	109,654	131,156
2006	1,422,109	501	102,378	116,184

Source: Ministry of Animal and Fish Resources and the Annual Report of the Bank of Sudan 2007.

The following table shows the export of slaughtered animals and the actual weights for 2006/2007-. The numbers are calculated on the base of 130 kg. per head of cattle, 15 kg per head of sheep, 10 kg. per head of goats and 160 kg per head of camels.

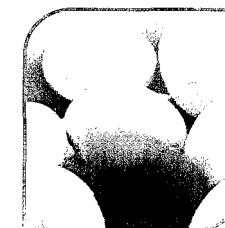
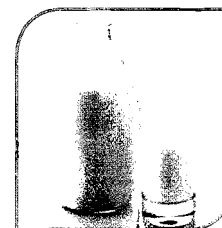
Year	Cattle		Sheep		Goats		Camels	
	Heads	Tons	Heads	Tons	Heads	Tons	Heads	Tons
2006	224,087	2,263.9	---	---	31182	8.4	100	10.2
2007	136,640	2,049.6	---	---	1630	16.3	129	20.6

Source: Ministry of Animal and Fish Resources. 2007.

The following table shows the prices of exports in live animals and meat in US dollars for the years 2006 and 2007:

2006		2007	
1- Live Sheep (heads)	= 74.9	Sheep (meat) in tons	= 3400
2- Camels (heads)	= 194.7	Goats (meat) in tons	= 2500
3- Meat (tons)	= 3.642	Beef (in tons)	= 1750
		Camel meat (in tons)	= 1750

Source ; Ministry of Animal and Fish Resources - 2007.



The following table shows the modern slaughterhouses.

Slaughterhouse	Site	State	Slaughter Capacity in Heads per hour		Storage Capacity	
Al-Kadaro	Khartoum North	Khartoum	200	30	210	70
Ghanawa	Omdurman	Khartoum	150	50	80	-
Port Sudan	Port Sudan	Red Sea	100	25	50	-
Nyala	Nyala	South Darfur	100	20	60	-
Al-Sabaloqa	Omdurman	Khartoum	250	30	50	-
Jimko	Al-Bageir	Gezira	250	20	60	-

Source: Ministry of Animal and Fish Resources – 2007.

The following table shows leather and skin exports for 2007/2008- in thousand US dollars.

Year	Value
2007	2.814
2008	3.209

Source: Annual Report, the Central Bank of Sudan.



Fields of Investment in Animal and Fish Resources Sector, The Most Important Sites Proposed for Projects

Dairy Production Sector

There are large numbers of Sudanese milk cow genealogies which can undergo genetic adaptation in aim of improving milk productivity. These genealogies include Kenana, Butana and other cow genealogies, which contribute with an appreciable amount of milk. This is can also develop qualitatively over the years due to the increase in the flock size and the improvement in animal health and rearing methods.

The large towns represent major markets for consumption of milk and its products especially within the increasing demand for these commodities.

Investment in this industry will depend on the following.

1. The establishment of dairy farms in the vicinity of large towns and populated residential regions.
2. Milk production depends on irrigated fodders t insure the continuity of provision of green fodders.
3. Te availability of the components of feeding concentrates.
4. The presence of a network of built roads.
5. The availability of veterinary services.
6. The efficiency and development of canals.

The Regions Selected for Dairy Farms and Their Products:

The regions lying between the Blue Nile and the White Nile, together with the Northern regions are considered to be suitable for the establishment of milk production projects. These include the towns of Khartoum, Wad Medani, Atbara and Rabak. They are the most suitable sites for the establishment of investment projects in this field. On the other hand, the traditional production regions are considered to be the best for milk products like cheese and butter.

Some Milk Factories in the Sudan:

These include Al-Rawabi, Khartoum and Al-Obeid Milk Company (Kordufan), Barakat (Gezira), Butana (Al-Shaheed), Cabo (Blue Nile for Milk), Belgravia, Babanoosa, Looli, Premier, Best, Kenana for Milk, Al-Ghayth and others.

Poultry Production Sector:

This Sector represents 7.5% of the Animal Wealth contribution. Developmental efforts in this sector had been exerted in providing improved poultry genealogies, the use of balanced feeds, inoculation and treatments in addition to guidance services. Khartoum State is considered to be the major one among the other Sudanese States in investing in poultry production. Over 85% of the poultry production projects in the Sudan are sited near Khartoum town.

Poultry Feed Prices (August, 2008)

Egg- laying (per ton)	1400 SDG
Meat (per ton)	1600 SDG

Source: Ministry of Animal and Fish Resources.

Fish and Aquatic Organisms Sector:

Compared to the amount exploited the size of reserve in respect of fish and other aquatic animals in the Country allows wide investment in this field. Moreover, reproducing fish will allow additional chances for fish production in the Country, and will provide an alternative for meat leading to an increase in meat exports. In addition to the auxiliary projects of boats, nets, canning and other industries, this will allow more chances of employment and will provide experience that enable exportation according to the latest International standards and specifications.

The most significant requisite for investment in the field of fishes are:

1. Abundance of fish reserves.
2. The presence of markets.
3. The availability of Production inputs.
4. The presence of the basic infrastructures especially ice manufacturing.

Fields of Investment in Fish and Aquatic Animals Sector:

1. Investment in Infrastructures:
 - a. The establishment of an ice factory with a large capacity in Port Sudan and in the major consumption towns in addition to storage refrigerators.
 - b. The establishment of Fishing Ports.
 - c. Refrigerated transport through railways.
 - d. A workshop for manufacturing boats and fishing equipment.
 - e. Refrigerated river transport.

2. Fishing investment in the salty waters of the Red Sea:

- a. The production of sea shells and pearls in the Northern regions of the Red Sea in Danganab and Mohammed Goal Bays.
- b. Production of coquina along the Sudanese Coast.
- c. Production of sea cucumber in the northern and middle regions of the Red Sea.
- d. Production of shrimps in the Southern region at Aqiq, Ashad, Daror and Haroash.
- e. Catching finned fishes along the Sudanese Coast.

Leather Production Sector:

Sudanese leathers and skins are characterized by their strength and large area. This had increased their demand in International markets. Leathers production is considered to be a side product of meat in the Sudan.

The following table shows estimations for leather production for the years 2007 and 2008 (in thousand pieces):

Year	Cattle	Sheep	Goats	Total
2007	4320	14624	14255	33199
2008	4591	14746	14469	33806

Source: Ministry of Animal and Fish Resources.

Exports from soft dyed goat and sheep skins and from dry salted cow skins and reptile skins amounted to (7 million pieces /year). That had registered a return that amounted to 2,814 dollars in 2008.

Entering into investment partnerships with Foreign and Local Private Sector for intensified production of meat and skins, and participation in tanning industry will insure the continuity of the Industry at the best International specifications. It will also encourage entering into local leather industries and to pay from their exports – especially with Specialized International Specialized Companies in China, Korea, Turkey, India, Germany, Italy and Holland – to establish industrial cities for leathers and their products.

The above indicators show that this field is open for investment in this sector in all Sudanese towns having a density in animal population.

Wild Life Sector:

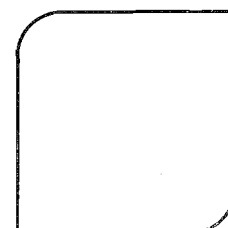
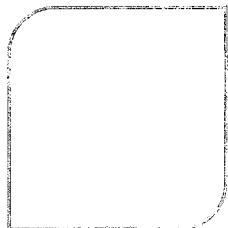
Wild life in the Sudan, which is spread in several regions according to environment which suits the type of animals, consists of a wide variety of animals such as land reptiles, amphibian reptiles and birds of rainy and desert regions (elephants, giraffes, hippopotamus, apes, ostriches, deer, chimpanzee, reptiles, hares, wild cats, hyenas, crocodiles and large numbers of birds, zebras, eagles foxes, etc.) This diversity and variety allows several chances for investment in this sector, especially in the presence of several open or closed reserves (to protect the species threatened by extinction). It is also possible to establish modern reserves and explore several prospects for establishing commercial projects (projects for rearing ostriches, crocodiles, deer or to establish zoological garden, etc.). In addition to that, there is the possibility of establishing hotels and resorts in the land tourist regions.

1. Pastoral Farms:

The most suitable sites for establishing pastoral farms are the regions of Red Sea mountains, Aqiq, Khor Al-Dassas, Mama, Togan, Jebel Al-Hassaniya, Al-Baja, Jebel Al-Dayer, Jebel Abu Sinoon, Al-Arish, Jebel Marra, Garseila, Rihaid Al-Birdi, Abu Matariq, Daleiba, Khor Yabus and Abyei.

2. Wildlife Animal Farms:

The most suitable site for the establishment of deer and ostrich farms are the desert regions of River Nile, Northern and Western Sudan States, while the most suitable sites for establishment of farms for tortoises and birds are Eastern Sudan States. At the same time, it is possible to establish farms for various species of wild life animals.

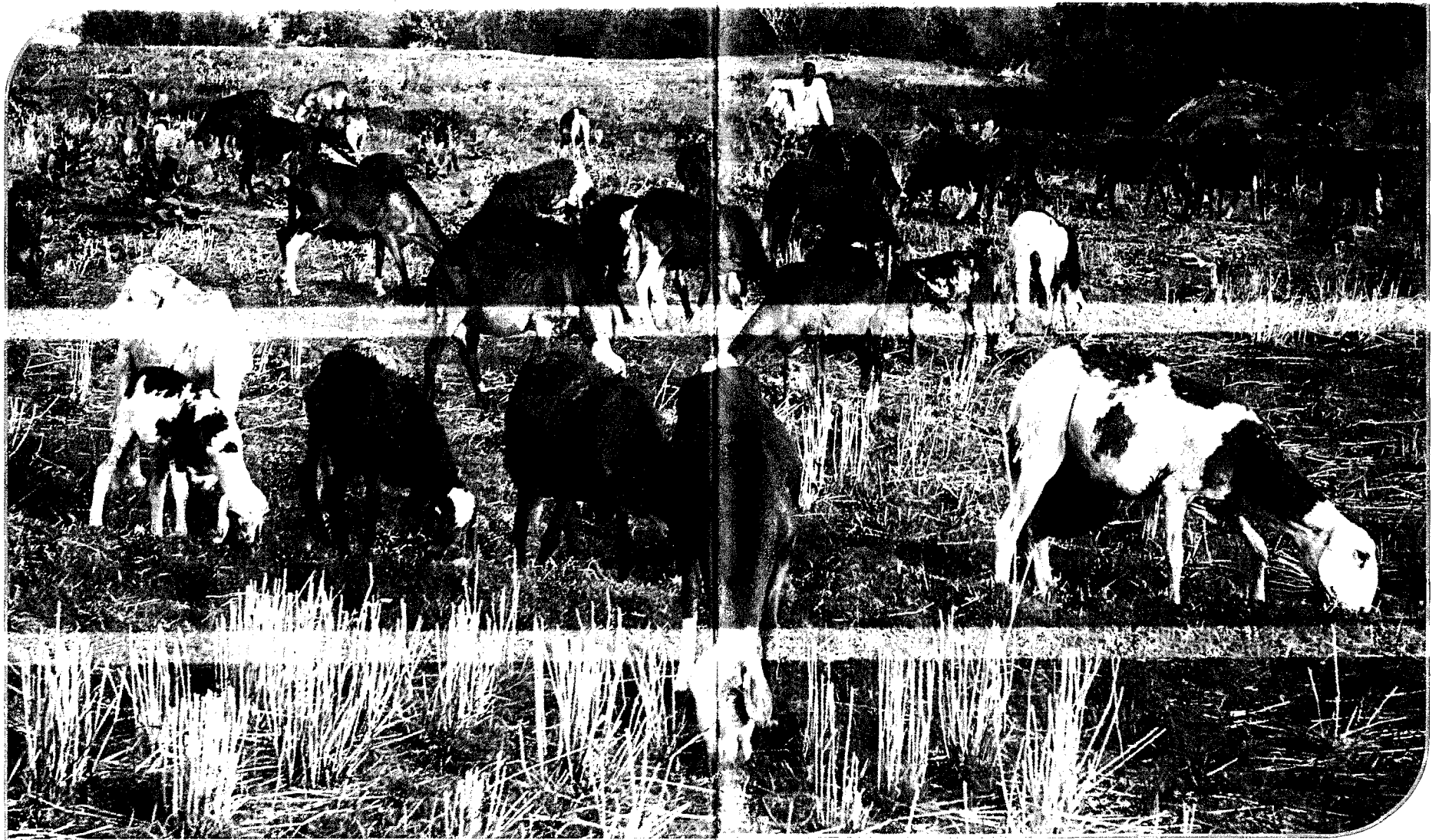


Veterinary Services Sector

Animal health services had scored a bright history in Sudan; These services were known for efficiency all through the past decades. It was for this that Sudan was awarded the International Certificate from the International Office for fighting epidemics (OIE) in May, 2008. That certificate showed that Sudan was free from rinderpest. There are several chances available for investment in this field through encouraging local and foreign Private Sector for entering into partnerships with International Companies specialized in this field. This includes entering into projects for the commercial production of veterinary vaccines, the establishment of mobile veterinary units, providing inoculation services, etc. This will evidently necessitate achievement of the International requirements of the specifications of veterinary laboratories through supporting the Health and Veterinary Services Sector as well as the laboratories and the auxiliary activities.

Fodder Factories Sector

The most suitable sites for the establishment of factories for the production of urea from molasses are the regions where there are sugar factories, like Kenana, Assalaya, Al-Geneid and Sennar. Similarly, the sites most suitable for the establishment of fodder concentrates factories are those near the site of producing the raw materials such as Khartoum, Medani, Kassala and Gedarif. It is also possible to produce green fodders in Darfur, Kordufan, Blue Nile and Northern States.



INDICATORS FOR SOME PROJECTS
IN THE ANIMAL RESOURCES & FISHERIES SECTOR IN SUDAN

No	Proj. Name	Site	Total capital	Contact adress	Contact adress
1	Pastural farm for breeding of mother sheep (100000 Head, starti-ng with 5000 head)	State of north Kurdufan 100000 Feddan	18 Million \$. (Partenership with the private sector)	Ministry of Animal Resources & fisheries (m.A.R.F) Fax: 475996 phone: 465218	Product-ion of 36000 lamb/year.For meat productio-n
2	Cattle meat productio-n (30150/year)	Sugar factories sites (kenana, assalaia, sinnar, elgeneed, halfa, elnilalabiad)	30 Million \$ (Partener-ship with gov./Or priv.Sect-or)	M.A.R.F Fax: 475996 phone: 465218	Utilizat-ion of sugar manufac-turing biproduct-s
3	Cattle fattening (Huod rashid fattening project)	-Gadarif state (Eastern glabat) - 200000 Feddan	4 Million \$ (Parteners-hip with gov./Or priv. Sector)	Ministry of Animal Resources (gadarif state-phone +249441844379 web site: www.gadarifstate.gov.sd	Fatteni-ng of 100000 ox for meat production(local market & export).
4	Modern abbatoir	Kassala state (175 Feddan)	7,8 Million \$	Ministry of economic & finance (Investment dept.) +249411823533	Availability of the infra- structur-es.

5	Maiz & animal feeds production	Gadarif state (east & west glabat areas)	280000 \$ (Feasibility study available)	Ministry of Animal Resources (Gadarif state) phone: +249441844379 web site: www.gadarifstate.gov.sd	Utelizatio-n of maiz productio-n at that areas.
6	Manufactu-ring of red meat	Khart-oum state	1,261 Milli-on \$	Veterinary supplies corporation /sudan / khartoum Fax: +24983476517/ +24983476518	Productio-n of sausages- minced meat-burger- etc. For local markets & for export.
7	Hides & skins industrial complex. (Hides collection unit -modern abbatoir-modern tannary-hides products factory).	Khartoum, elgezira, elobeied, nyala,elf-ashir.	70 Million \$ (Partenership with the gov. & Or the private sector)	Ministry of animal resources & fisheries (m.A.R.F) Fax: 475996 phone: 465218	Export of Hides & its products.
8	Poultry meats & eggs production farm.	Khartoum state	2,300 Million \$	Ministry of agricultu-re & animal resource-s / khartou-m state	Producti-on of : Meats (56,9 tons). Table eggs (15,383,728)/ year.

9	Modern tannary.	Kashm elgirba (2000 square meter)	2millio-n \$	Ministry of economic & finance (Investment dept.) +249411823533	Prod. Capacity: 30000 Cattle hides. 150000 Sheep hides. 6000 Goats hides.
10	Liquid nitrogen producti-on (rehapilitation project).	Khartoum state(hilat kooko)	200000 \$	Ministry of animal resources & fisheries (m.A.R.F) Fax: +475996 phone: +465218	Other units may be established in many states.
11	Other units may be established in many states.	Khartoum state (elsillait area /), gadarif,, elgezeera states.	Not determined yet.	Ministry of animal resources & fisheries (m.A.R.F) Fax: +475996 phone+465218	Availability of water sources *electricity. Near to the main road. (Elsilait).
12	Milk collection units in cities.	Gezeera, sinnar, elobbei-d-nyala elgadarif states.	4millio-n \$(each)	Veterinary supplies corporation/ sudan / khartoum Fax: +24983476517/ +24983476518	Organizin-g & marketin of milk locally.

13	Organizin-g & marketin of milk locally.	Elgadarif state (elrahar-faw area).	2millio-n \$	Ministry of animal resources (gadarif state-phone +249441844379 web site: www.gadarifstate.gov.sd	Availabili-ty of the extencive sereals producti-on projects. Near to the the main roads.
14	Aqua culture (shrimps) 10 Centers/750 feddan/30000 tons-yesr.	Red sea state	20 Million\$	Ministry of animal resources & fisheries (m.A.R.F) Fax +475996/ phone+465218	Project involve production of 63000 tons of feeds.
15	Aqua culture (fish traps) 200 Center/5 feddans	Khartoum state	5 Million \$	Ministry of animal resources & fisheries (m.A.R.F) Fax +475996/ phone+465218	3 Hatcheri-es. Feed factory. Cooling stors.
16	Fih production.	Northern state (merawi dam area)	10 Million \$	Ministry of animal resources & fisheries (m.A.R.F) Fax +475996/ phone+465218	Establish-ment of an artificial lake /production of 25000 tons of fishes/year.

17	Milk products factory	Gezeera/si-nnar & Khartoum states	35 Million \$	Veterinary supplies corporation /sudan/ khartoum Fax: +24983476517/ +24983476518	Production of pasturized, powdered milk, cheese, gheeetc.
18	Veterinary pharmaceutical products factory	Khartoum state (el-gaili)	16 Million \$	Veterinary supplies corporation /sudan / khartoum Fax: +24983476517/ +24983476518	Modern factory achieves (gam) requirements.
19	Fishing boats Factory (fiberglass)	Khartoum state	1,8 Milli-on \$	Veterinary supplies corporation /sudan / khartoum Fax: +24983476517/ +24983476518	To supply the fishing sector with a fast, safe & hygenic boats.
20	Animals feed supplements factory	Khartoum state	1,618 Million \$.	Veterinary supplies corporation /sudan / khartoum Fax: +24983476517/ +24983476518	Possibility of establishment in other states is another option.

The Ministry of Investment, Khartoum, West of the Hilton Hotel.

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