

# **AGRICULTURE AND CLIMATE CHANGE IN SUDAN**

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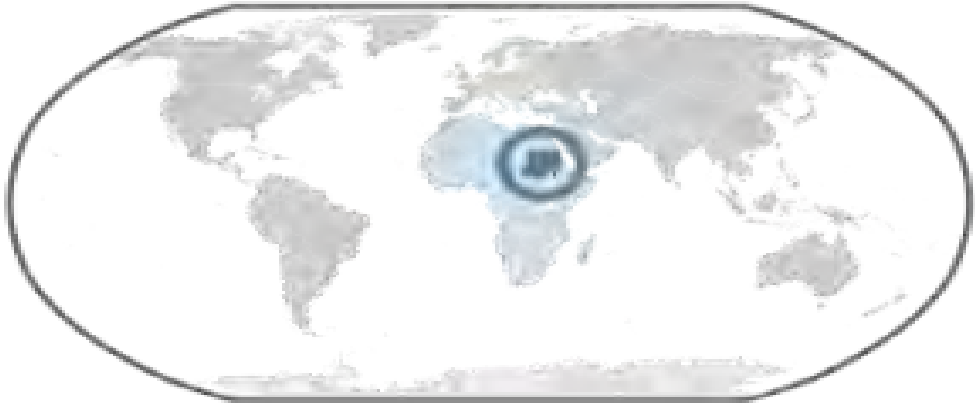
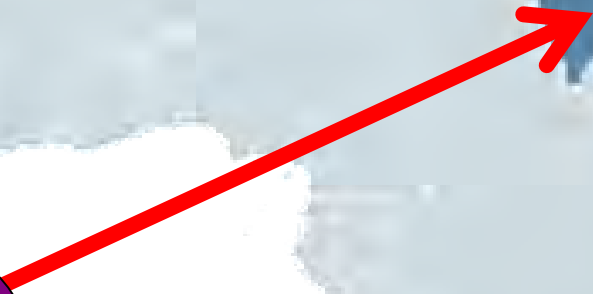




Welcome to  
**SUDAN**  
The Heart Of Africa



**SUDAN**



*Location of Sudan*

# Country Background

- **Location:** Sudan is bordered with seven countries: Ethiopia, Eritrea, Egypt, Libya, Chad, the Central African Republic and South Sudan .
- **Capital:** Khartoum.





**Northern State**



**Northern Kurdofan State**



**Eltaka Mountains  
- Kassala State**



**Corinthia Hotel – Khartoum State**

# Climate

The country is generally divided into **four** ecological zones:

- 1. Hot desert** in the North of Sudan .
- 2. Semi-desert** in the North central Sudan .
- 3. Poor Savannah** in the South central and western Sudan .
- 4. Rich Savannah** in the Southern borders of Sudan .

# Geography

## Nile

Running from South to North is the main geographical feature in the country estimated at 6650kms cover 11 countries.

## Desert

About 30% of Sudan total area is desert.

## Mountains

Jubal Marra in West of Sudan it has fresh spring ,water falls and mountains,



# The Nile River



A major river in Africa. It is generally regarded as the longest river in the world

The Blue and White Nile rivers meet in Khartoum to form the River Nile

# Jabel Marra



Jebel Marra is situated in the west of Sudan its scenery and waterfall and natural flowers and fruit

# Tourism

Sudan is regarded as one of the richest African countries in wildlife, birds and Nile natural scenery which encourages tourism investment.



Port Sudan – Red Sea State

# Dinder National Park



Located south eastern Sudan and one of the largest reserves in Africa with different types of animals

# *Sudan Resources :*

- Animal resources: (sheep – camels – goats – Fish).
- Agriculture: 140 million hectares (only 20% is cultivated).
- Minerals: numerous minerals – including petroleum gold and gas.
- Attractive tourism sites in different part of the country.
- Modern technology in telecommunication.
- Electricity generation with potentiality of sun and wind energy.



**Livestock**









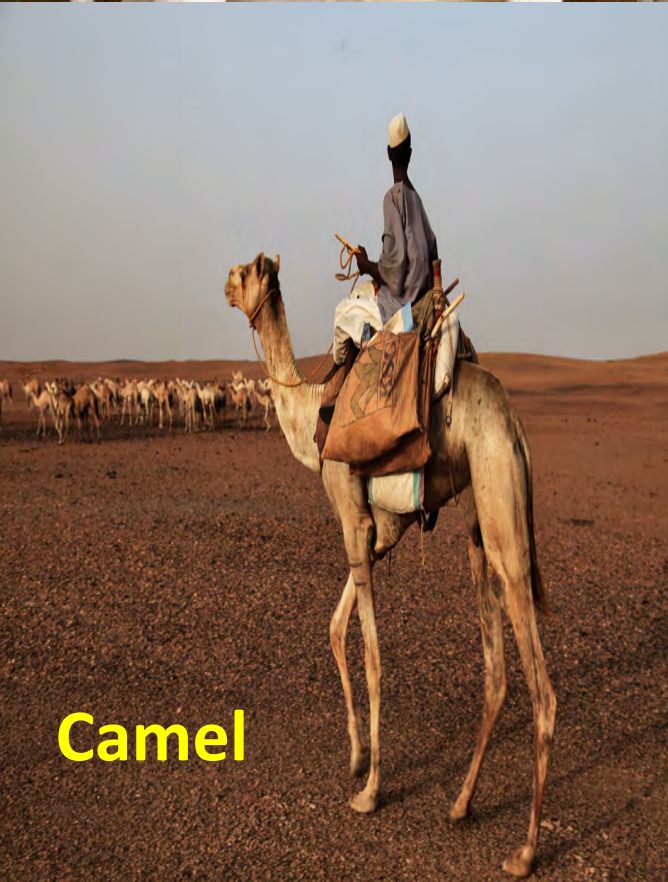
Sheep



Cattle



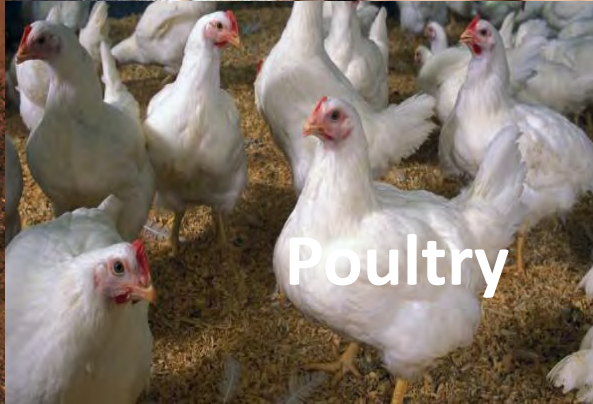
Fish



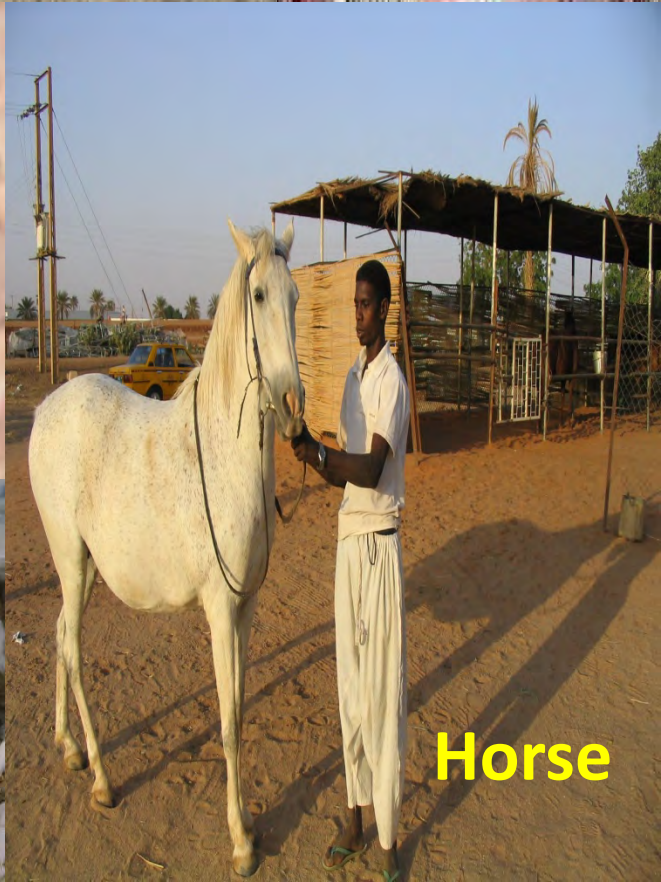
Camel



Goat



Poultry



Horse





**Cotton**



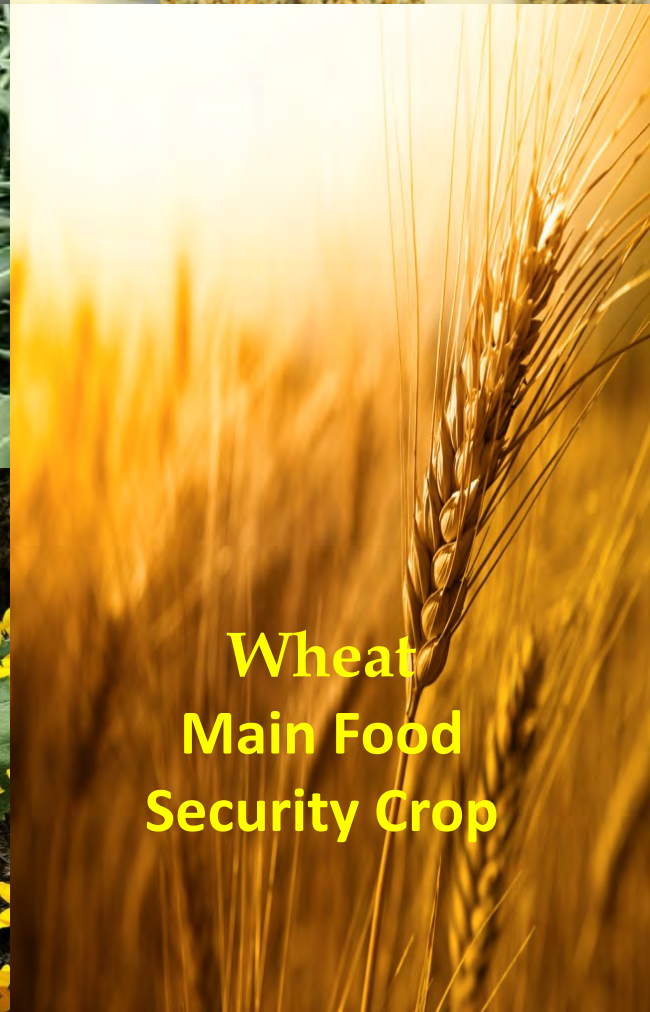
**Sesame**



**sugar cane**



**Millet**



**Wheat**  
**Main Food**  
**Security Crop**



**Sun flower**



**Ground nut**



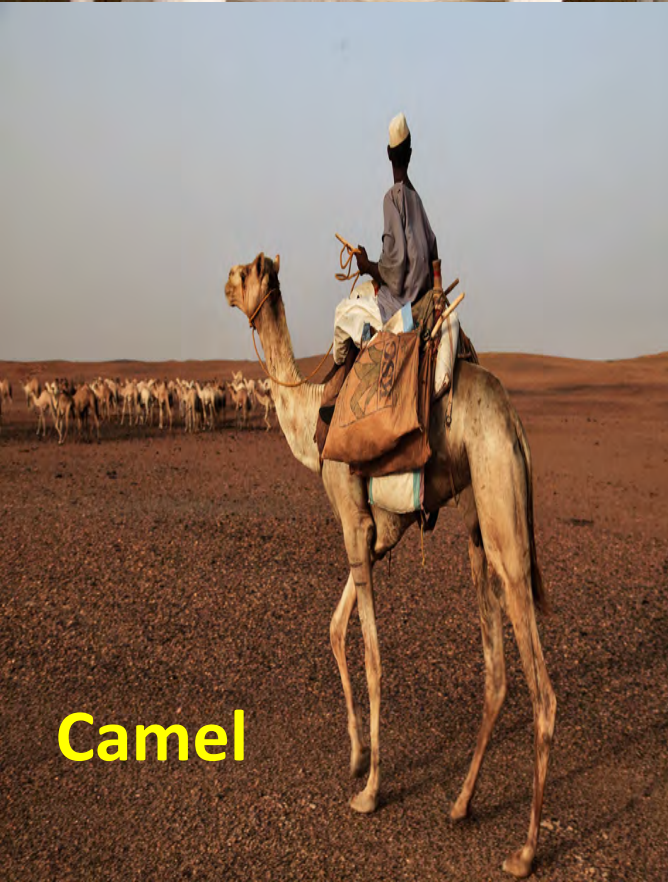
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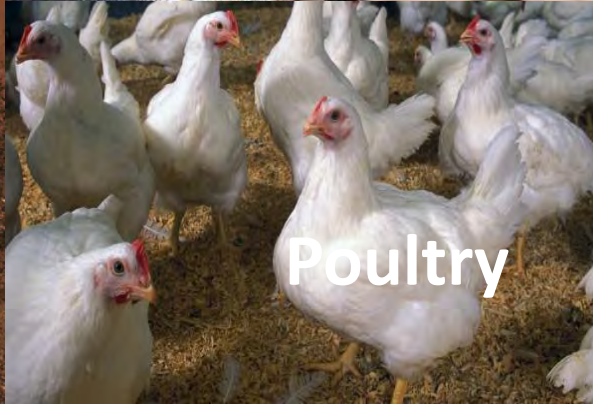
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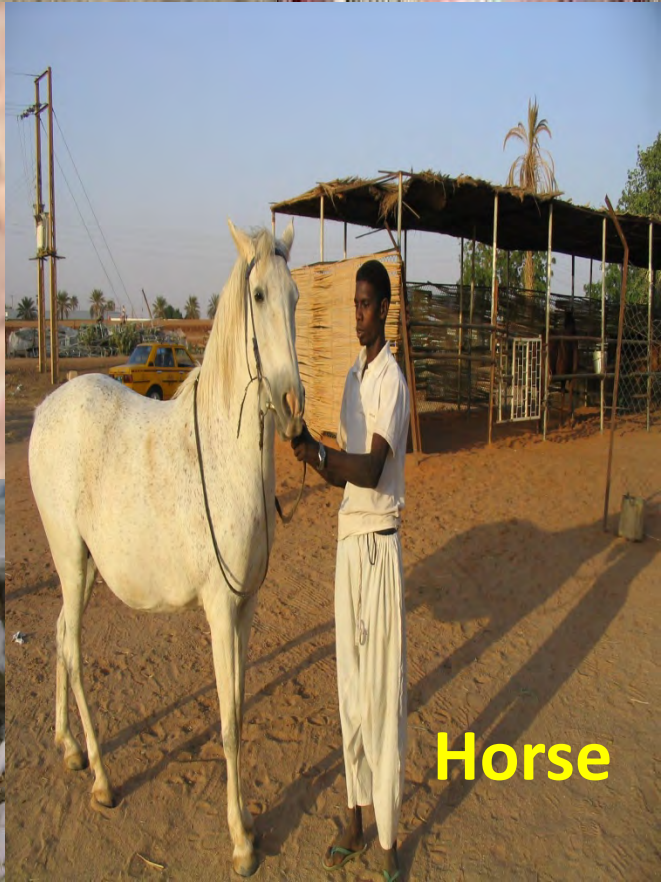
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Poultry



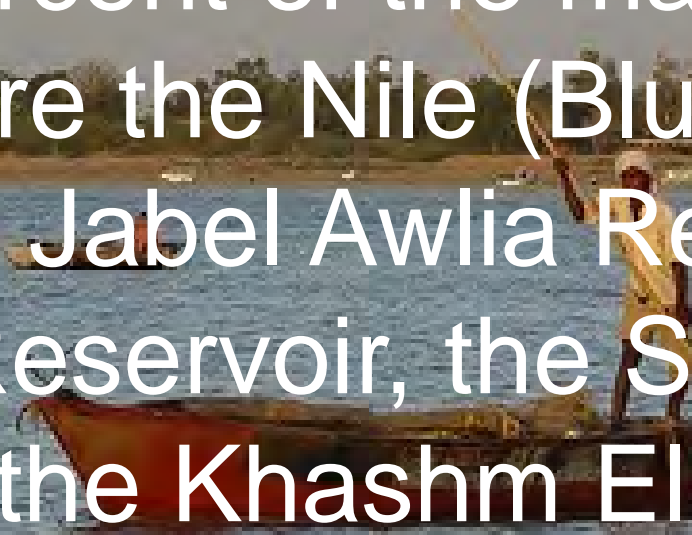
Horse





## ☐ Fisheries:

Over 95 percent of the major fishing locations are the Nile (Blue and White), the Jabel Awlia Reservoir, the Roseires Reservoir, the Sennar Reservoir, the Khashm El Girba Reservoir, Lake Nubia, and the Red Sea.

A person is standing in a small, narrow boat on a body of water. The person is wearing a light-colored shirt and dark pants. The boat is dark-colored. The water is blue and has some ripples. In the background, there is a shoreline with some trees and buildings under a clear sky.







# Importance of Agriculture in Sudan

- **Agriculture** plays an **important** role in **Sudan** economy. It supplies food for the people by increasing food production, employment opportunities in the rural areas and provides the industrial sector with raw materials.
- **Sudan** is considered as one of the three countries in the world that can contribute in international food security.

# Farmers in Nubba Mountain



- **Agriculture** has three major farming sub sectors: The irrigated, the semi mechanized rain-fed and the agro pastoral traditional rain-fed .
- Livestock production that is the largest single sector within traditional rain-fed areas
- Animal resources are estimated at 141 million heads including cattle, sheep, goats and camels. Livestock accounts for 17% of Sudan's GDP and 47% of the agricultural production as the profession and mainstay of more than 15% of the country's population.

# Agricultural Sector

- Mechanized Rain – fed Agriculture:
- Mechanized cropping started in the mid 1940s in small areas in Gadrief area then extend to encompass in five areas ; Gadrief, Ed Damzine, Dali & Mazmoum, Kosti and Dilling.



- Food security in Sudan is mainly determined by rainfall, particularly in rural areas, where 70% of the total population live.
- Changes in temperature and precipitation could cause shifts in the distribution of these ecological zones, in the productive capacity of rain fed agriculture, and hence in the security of the Sudan's food supply.

# Impacts of climate change

- Sudan is impacted by climate change due to the low social and economic development and low adaptive capacity constraints.
- Overexploitation of natural resources – more and more households, communities and government are less able to absorb, recover .
- Important to address impacts of climate change and protect present and future generations in Sudan.

- Sudan's ecological zones indicates that the majority of its land is quite vulnerable to changes in temperature and precipitation.
- Changes in temperature and rainfall patterns also represent a high risk to food security in Sudan's agro-pastoral-based economy.
- Changes in temperature and rainfall are likely to lead to desertification in some regions .



# **Baja grazing land field survey 2015**

- **Clearance and ridging.**
- **Crops failure.**
- **Sand movement and Wind Erosion in North east Sudan Atbara River Locality .**
- **Seasonal Fires in Baja west of Sudan 1072459.7 Hectares.**
- **Gally Erosion Low rain Fall Savannah Ecological Zone.**



**Baja grazing land**

**clearance and ridging**

**Crops failure**

**Source: RPGD, field survey 2015**

# تعرية الرياح وزحف الرمال (الجزء الشمالي الشرقي محلية نهر عطبرة)



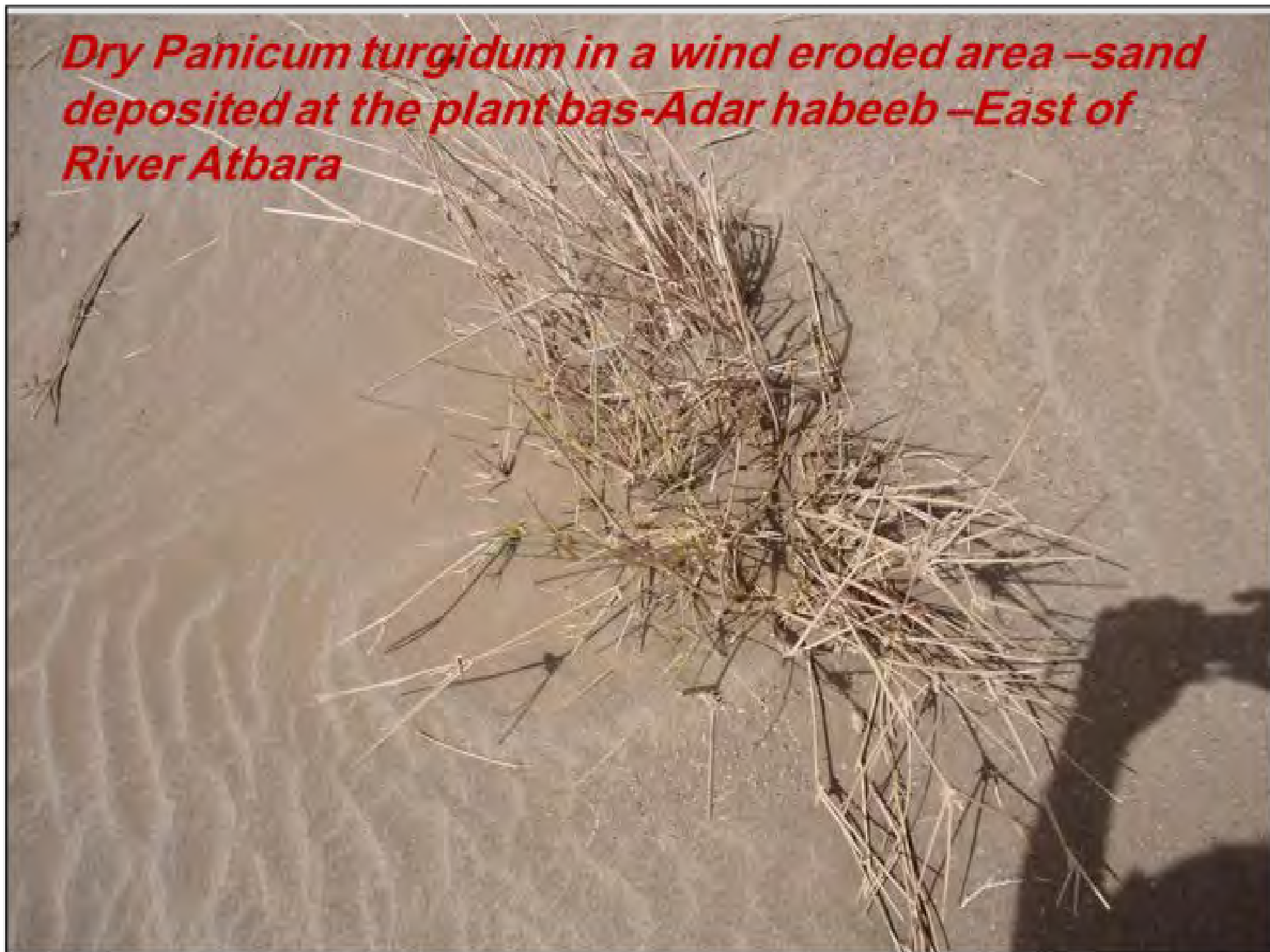
الباجا [1072450.7 هكتار] أو الحرائق الموسمية

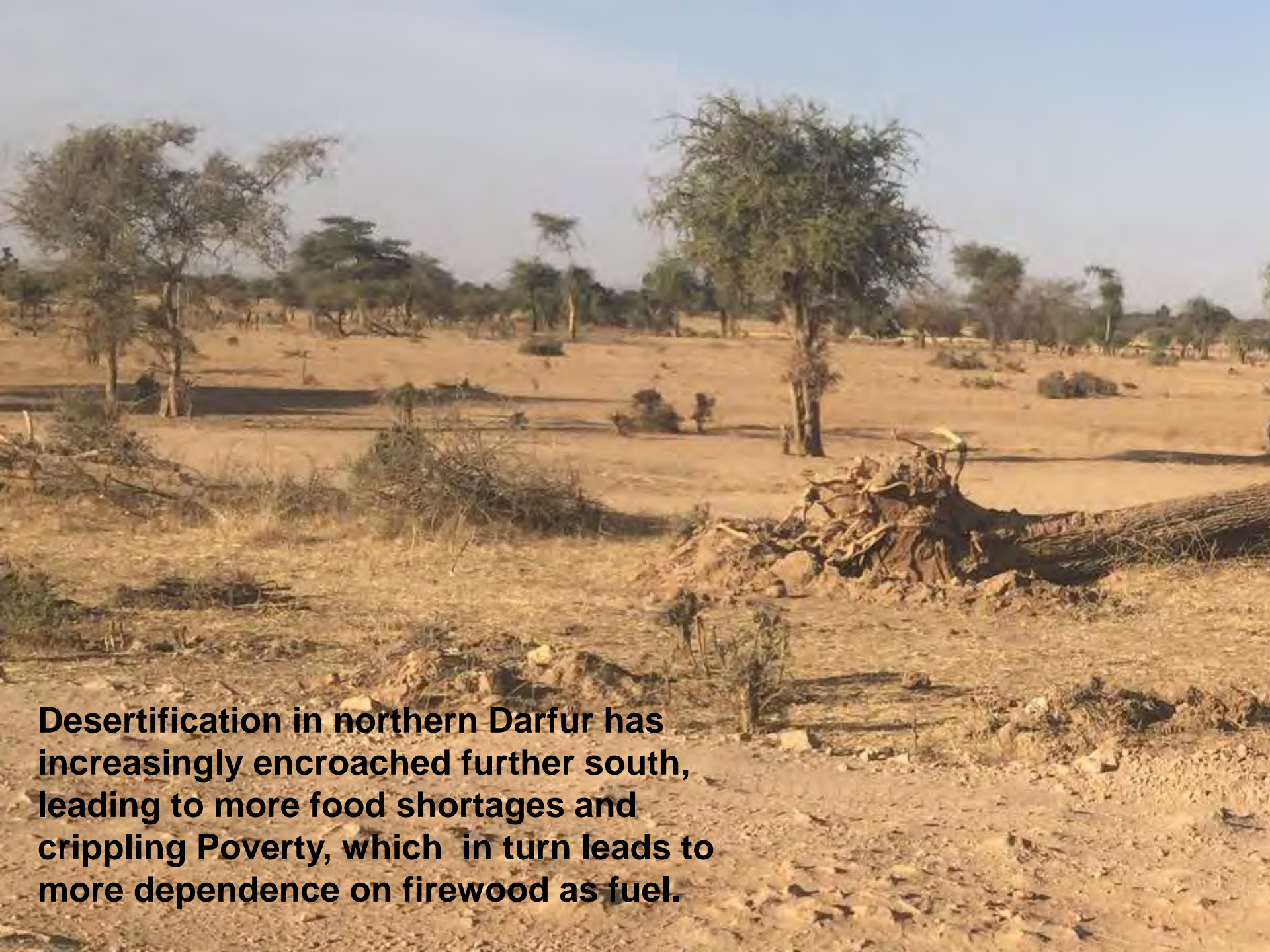




**Gully erosion Low Rain Fall Savannah  
Ecological Zone**

*Dry Panicum turgidum in a wind eroded area –sand deposited at the plant base-Adar habeeb –East of River Atbara*





**Desertification in northern Darfur has increasingly encroached further south, leading to more food shortages and crippling Poverty, which in turn leads to more dependence on firewood as fuel.**

## Summary of Cereals Crops North Darfur State Planted, Harvested Area and Yield compared to percent of Planted to Harvested area

- Table (1) Cereals crops from **1994/1995 to 2003/2004**

- Area (1000) Feddans , Yield KG/Feddans

Years	Planted	Harvested	%H/P	Yield
1994/1995	2482	1870	75.34	104
1995/1996	2084	1063	51.01	15
1996/1997	1787	551	30.83	45
1997/1998	2107	1089	51.68	74
1998/1999	2276	1922	84.45	138
1999/2000	1546	1020	65.98	82
2000/2001	2277	1003	44.05	70
2001/2002	2272	1850	81.43	40
2002/2003	2485	1376	55.37	63
2003/2004	2319	1100	47.43	81



# Adaptation

Adaptation is a key and essential priority for Sudan.

Developed countries should be urged to provide full support and funding before 2020 to update and implement adaptation projects and programs, taking into account immediate and adequate support for the implementation of adaptation action plans through the provision of public grant-based resources.

Review periodically funding needs for adaptation, based on an assessment of adaptation needs and taking into account the needs of vulnerable groups, using methods and methodologies for assessing the adequacy of support to developing countries, in particular Least Developed Countries

- Government with the contribution of the local communities digging big heifers to store drinking water for farmers and their herds in the rainy season to help them to settle in the summer season.
- Awareness between students by growing trees in their schools and communities awareness to grow trees .

- research, development and deployment of technologies to boost GHG-efficiency and reduce the emission intensity of agriculture while improving yields to meet rising food demands.
- Effectively integrating agriculture into adaptation plans will require continued international support, capacity building, improved evidence-based decision making, and partnerships across a variety of related sectors.

