The Status of Disaster Risk Management in Sudan

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Overview of Sudan and its environment

- Sudan area is 1.949 million square kilometers.
- Sudan population is about 32 millions.
- Annual rainfall amount exceeds 800 mm in the South and below 100 mm in the extreme north.
- Three major types of agricultural systems are practiced in Sudan:

  (1) Irrigated agriculture,

  (2) Mechanized rain-fed agriculture, and

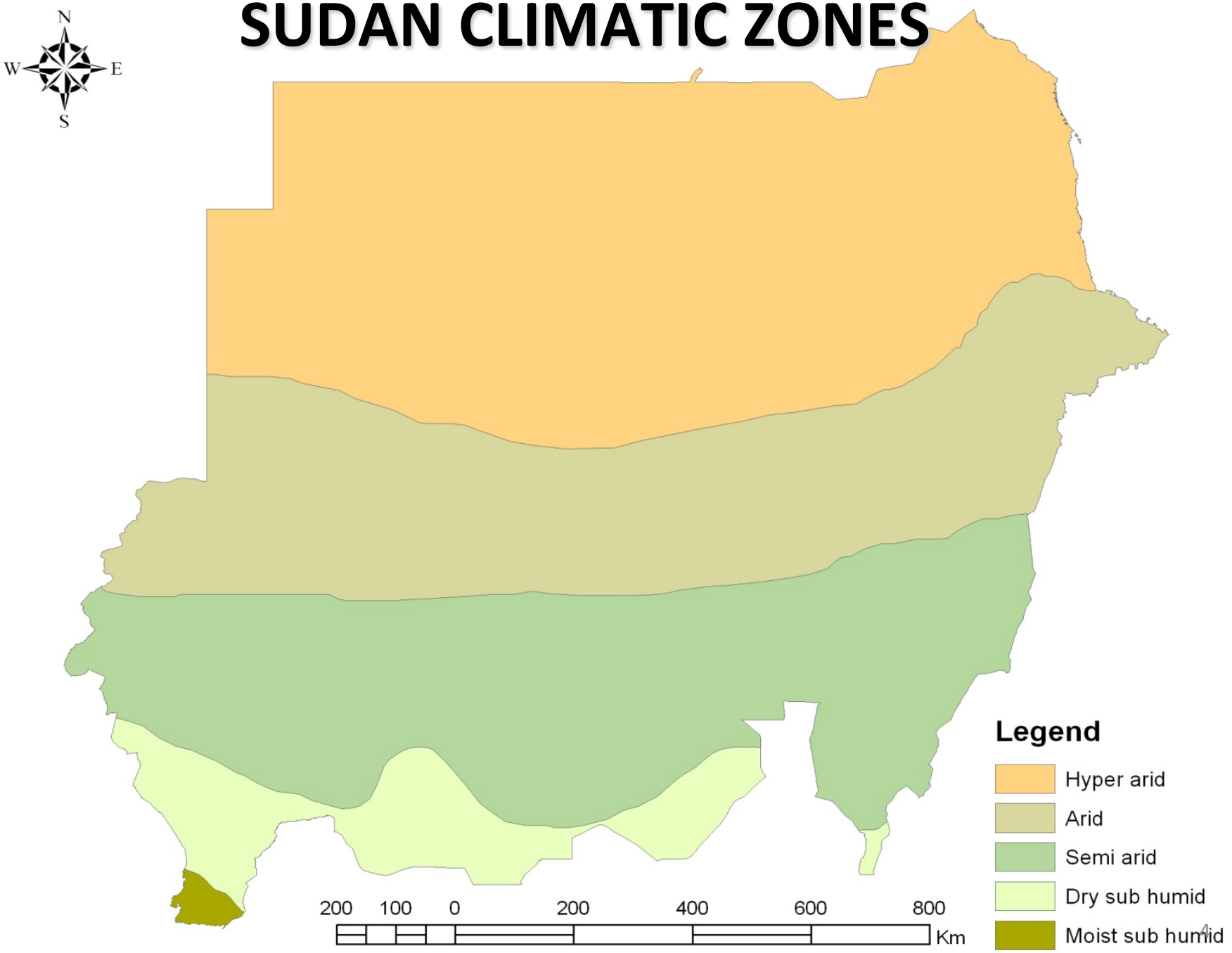
  (3) Traditional rain-fed agriculture.

  (Both 2 & 3 are frequently affected by drought).

  The rain-fed agriculture is the dominant system.
- Sudan has one of the largest livestock population in Africa, including camels, cattle, sheep, and goats, which depends mostly on the natural rangelands.
- The rain-fed agriculture and animal breeding are the dominant systems of food production.

Sudan Location Map

SUDAN CLIMATIC ZONES



Overview of Sudan and its environment

The status of food security in Sudan is highly affected by its environment and the related environmental problems which, in some cases, reach the stage of disaster.

Most of the disasters experienced by the Sudan are of ecological nature such as droughts, floods, desertification, pest and locust attacks,…etc.

Drought is one of the major environmental problems that negatively impact food security.

Over 80% of the 32 million Sudan's population lives in rural areas, depends on agriculture and livestock.

The total area considered as drought prone is about 69,000 sq Km and this area produces 90% of the cultivated food crops and 85% of fire wood.

The major socioeconomic impacts of droughts are:

- **Immigration in search of employment opportunities,**
- **Social disruption as a result of displacement,**
- **Increasing violent-conflicts over the resource base,**
- **Malnutrition and epidemics like malaria, and cholera.**

Drought Impact Situation in Sudan

Year	Drought Coverage	Consequences
1886		
1906	Affecting all Sudan	Severe famine
1913	Localized (part of Sudan)	
1940	Localized (part of Sudan)	
1967	Localized (part of Sudan)	
1973	Localized (part of Sudan)	
1984/85	Localized (part of Sudan)	Severe famine
1989/90	Localized (part of Sudan)	
1997	Localized (part of Sudan)	
2000	Localized (part of Sudan)	
2003	Localized (part of Sudan)	food shortage in some areas
	Localized (part of Sudan)	
	Localized (part of Sudan)	
2008	Localized (part of Sudan)	
2009	Affecting part of South Sudan	Localized famine
2011	Affecting most of South Sudan	food shortage in some areas

Drought impacts

Brief Note on RSSA

- A National Remote Sensing Center was established late 1970's and in 1996 renamed to Remote Sensing Authority (**RSA**).
- RSA is mandated to set space technology policies, conduct, research, studies, and capacity building.
- It involves in programs and activities that include project studies, human capacity development and awareness
- In 2013 RSA was renamed to Remote Sensing and Seismology Authority (**RSSA**) with additional research activities in Seismology as a part of its mandate

Institutional Capacity Building and Services

- **RSA serves and support number of related institutes working in natural resources and environment.**
- **RSA services include: Project Formulation, Image Processing,, GIS Software Handling, Database Management, Mapping and GPS Applications.**
- **RSA involved in the establishment of RS/GIS units within some of the governmental institutes.**
- **RSA provides specifications and technical know – how and supervision in RS and GIS Applications.**
- **RSSA training and education program in RS and GIS (short and long term training) in addition to awareness program that includes numbers of local seminars, workshops, besides the regional and international workshops and conferences.**
- **RSSA Bilateral cooperation at national , regional and international level (to enhance, develop and build capacity)**

UN-SPIDER TAM IN SUDAN 2011

FAO Sudan Land cover Database Project 2011

The Use of Space – Based information for DRM

The National Council for Civil Defence (NCCD) includes institutes that are responsible of risk and disaster management

NCCD component:

Civil Defence Department (CDD), Ministry Of Irrigation and Water Resources (MOIWR), Sudan Metrological Authority (SMA), Humanitarian Aid Commission (HAC), Ministry of Health (MOH), Ministry of Agriculture (MOA), National NGOs, Civil society organizations, and UN Organizations.

- The National Council for Civil Defence (NCCD) is the main decision making body during emergencies.
- NCCD adopts the disaster management policies for the country through Central Operations Chamber (COC) which COC is composed of technical experts from different Ministries.
- **The use of space technology and space-based information in the current system is very limited**, although these technologies should be widely adopted in this field..

Under UNDP National Disaster Risk Management Program in Sudan, NCCD is currently implementing a project in DRM. The project strategy consists of a number of interrelated activities at different levels with the aim of **strengthening overall capacity in the Government and selected states to prepare for future disaster impacts**

The components of the project are :-

- Facilitate the development of a National Disaster Management Plan through comprehensive consultation and awareness-raising of key national stakeholders;
- Prepare a National Disaster Risk Profile with analyses of hazards, exposure and vulnerabilities, and to develop a disaster risk assessment database;
- Strengthen national early warning systems by improving the monitoring infrastructure, analytical capacities of the meteorological and hydrological departments and enhancing warning dissemination capacities of different stakeholders;
- Implement innovative flood and drought risk management approaches at the state and community levels in 3 states;

Conclusion

There is a need to:

- Enforce capacity building concerning the use of space based information in natural resources management , environmental monitoring and in DRR through support of UN- SPIDER and other international agencies.
- Ensure the availability and accessibility of remote sensing data and DEMs that provide rapid methods of mapping and monitoring flood, drought affected areas and predicting possible extensions and impact.
- Enhance and encurage collaboration at national, regional and international levels through joint projects and exchange of experiences