Status, Needs and Priorities for Sustainable Soil Management in Somalia

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About SWALIM

- Funded by European Union, UNICEF and other
- Serves water and land information of Somali administrations, L&INGOS, UN Organization, academic institutions and others.
- Products include more than 50 water and land technical reports, information management tools (SWIMS, CDI, FRRMIS, IIMS, SDDR), online data services (Geo-Network, AGRIS), Resource Centres and Ministry Data Centres,
- SWALIM works closely with Somali ministries and institutions to build their information management capacity. 6 functional data centres run by Somali staff trained by SWALIM.

Geographic Location

- Lies between 1°40’ South of the Equator to 11° 58’° North and from 40°59’ to 51° 24’ East.
- Bordered by Ethiopia to the west, Djibouti to the northwest, the Gulf of Aden to the north, Indian Ocean to the east, and Kenya to the southwest.
- Covers a total area of 637,657 sq. km.
- Estimated population 10,085,638 (UNDP, 2005)

Geomorphology

The Golis Mountain range

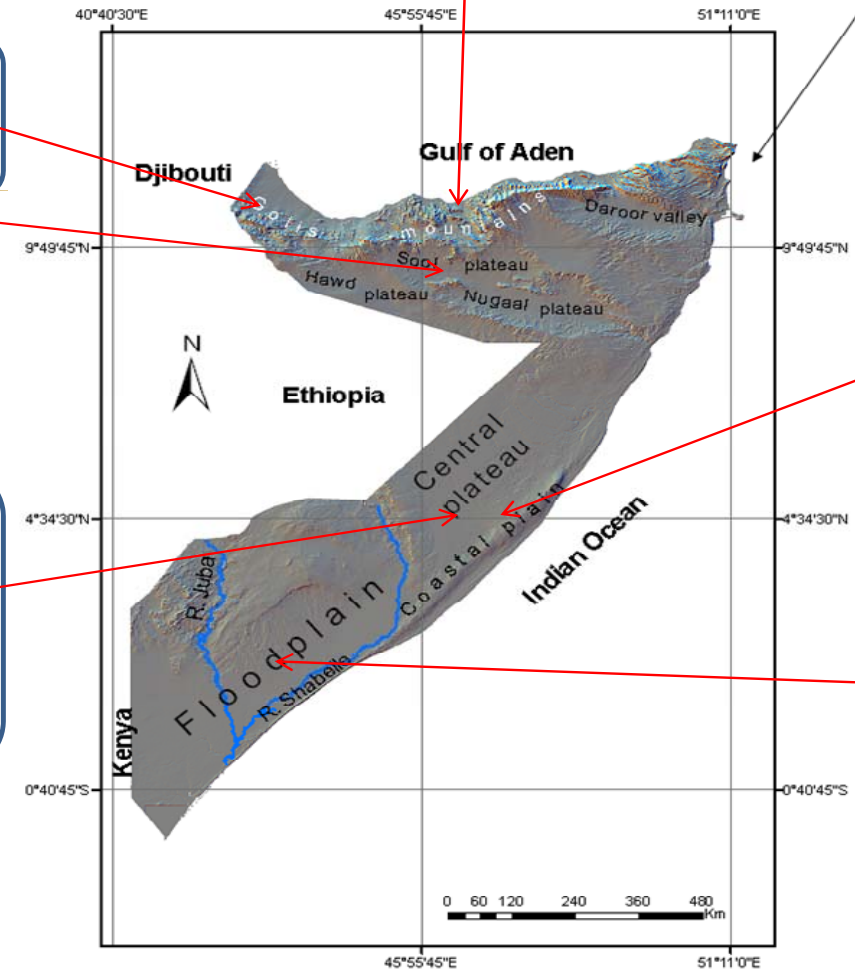
the northern coastal plains;

plateaus in the north;

the central coastal plains, with a wide sand dune system;

broad limestone-sandstone plateau covering all of central and southern Somalia;

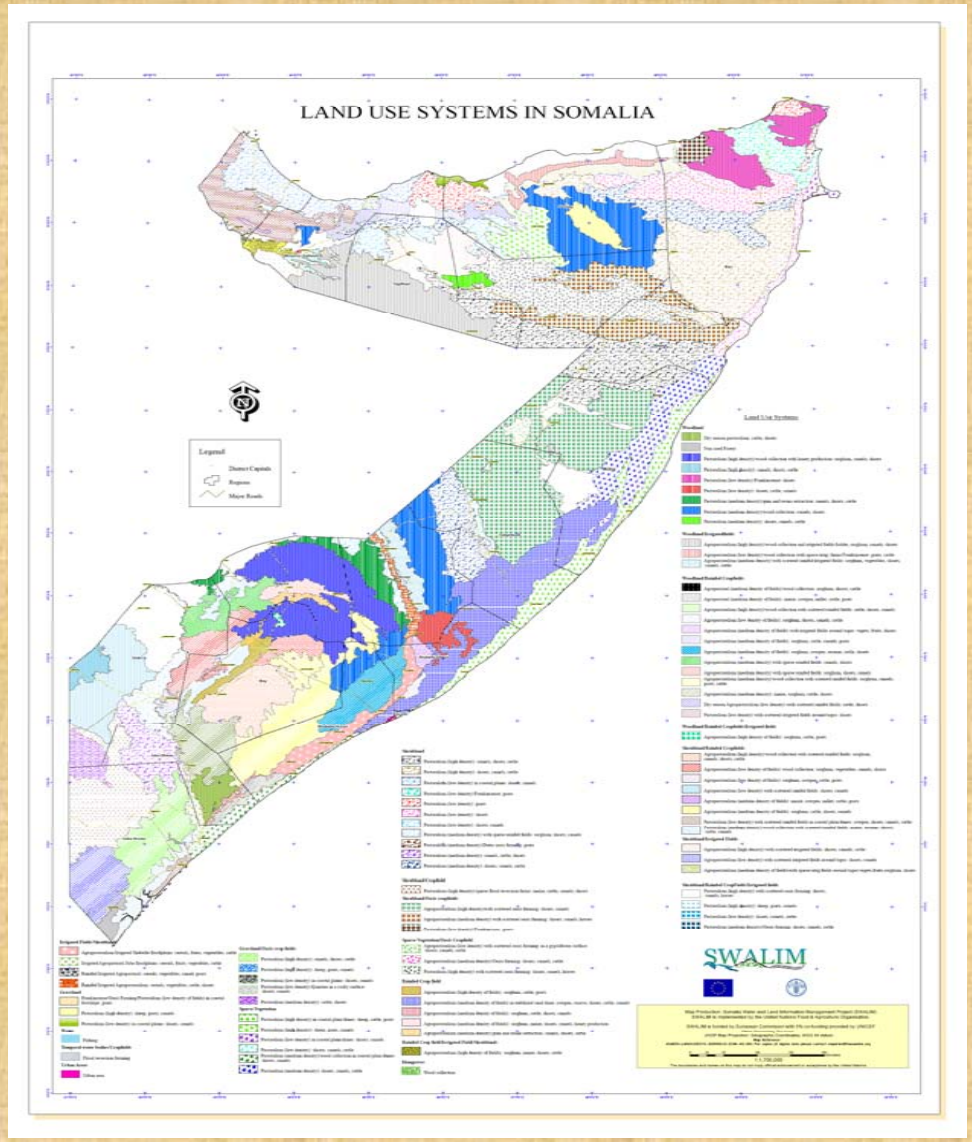
the flood plains of the Juba and Shabelle rivers.



Land use

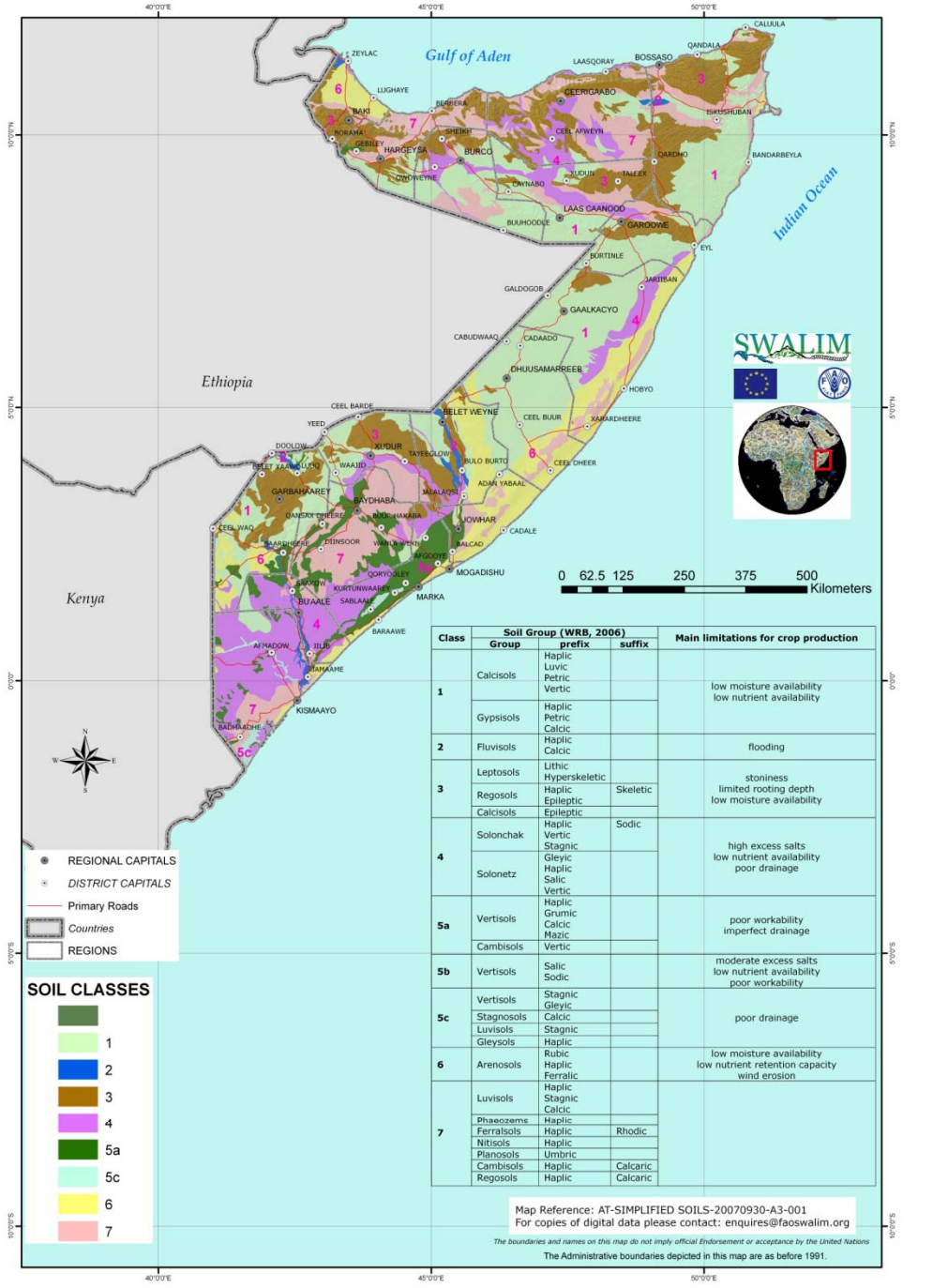
Major Land use types

1. ***Pastoralism:*** is the major type of land use in Somalia.
2. ***Rain fed agriculture:*** Inter-iverine and northwest areas
3. ***Irrigated agriculture:*** flood plains along river Jubba and Shabelle, northern regions using seasonal streams and springs having available water for irrigated fruits and vegetables.



Major Soil Types

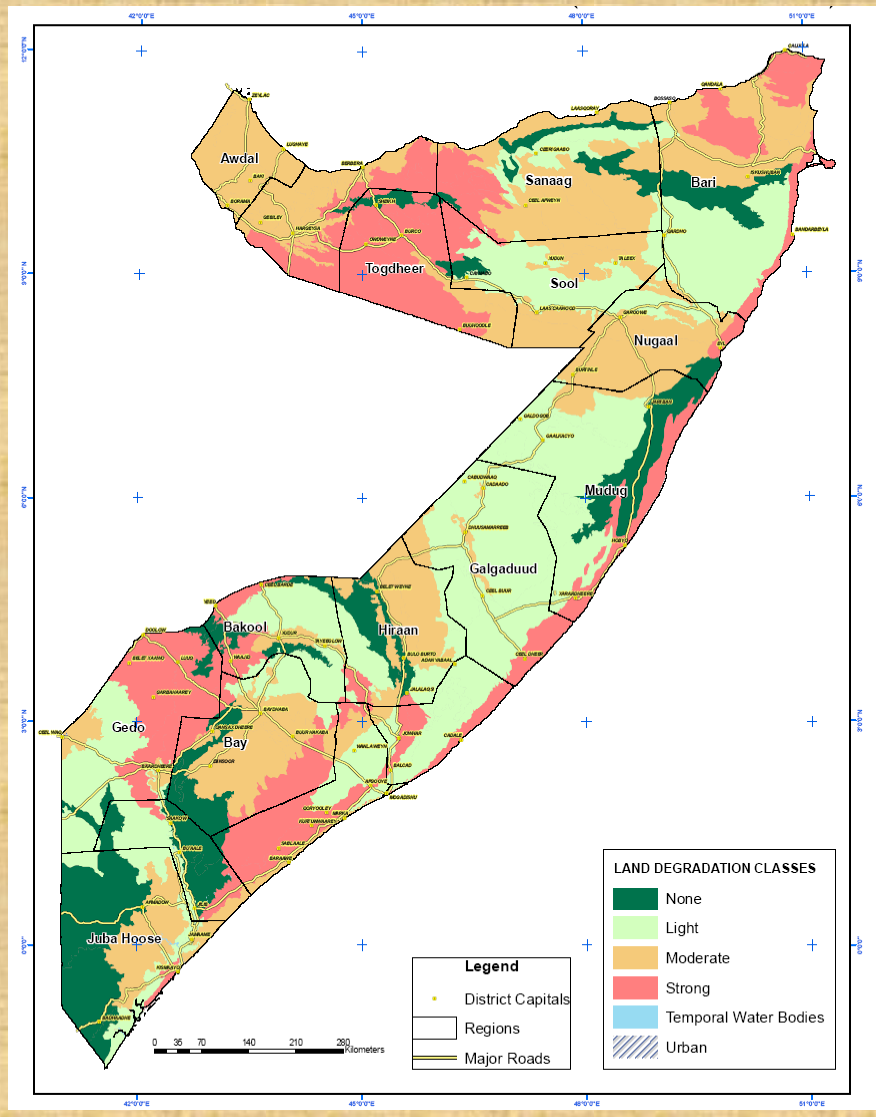
- **Northern part of Somalia:** shallow sandy and/or stony soils and some deeper calcareous soils.
- **The central part of the country:** sandy soils along the coast and moderately deep loamy soils with a high content of calcium carbonate and/or gypsum further inland.
- **Southern Somalia are low-lying alluvial plains (Juba and Shabelle rivers):** Clayey soils with poor drainage and/or high content of salts. Some riverine areas are also liable to flooding.
- **Southern parts- inter-riverine areas:** shallow soils and deep loamy and clayey soils.



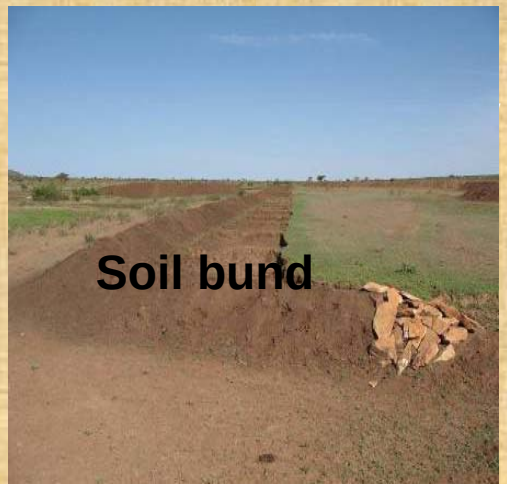
Class	Soil Group (WRB, 2006) Group	prefix	suffix	Main limitations for crop production
1	Calcisols	Haplic Luvic Petric Vertic		low moisture availability low nutrient availability
	Gypsisols	Haplic Petric Calcic		
2	Fluvisols	Haplic Calcic		flooding
3	Leptosols	Lithic Hyperskeletic		stoniness limited rooting depth low moisture availability
	Regosols	Haplic Epileptic	Skeletic	
	Calcisols	Epileptic		
4	Solonchak	Haplic Vertic Stagnic	Sodic	high excess salts low nutrient availability poor drainage
	Solonetz	Gleyic Haplic Salic Vertic		
5a	Vertisols	Haplic Grumic Calcic Mazic		poor workability imperfect drainage
	Cambisols	Vertic		
5b	Vertisols	Salic Sodic		moderate excess salts low nutrient availability poor workability
5c	Vertisols	Stagnic Gleyic		poor drainage
	Stagnosols	Calcic		
	Luvisols	Stagnic		
	Gleysols	Haplic		
6	Arenosols	Rubic Haplic Ferralic		low moisture availability low nutrient retention capacity wind erosion
7	Luvisols	Haplic Stagnic Calcic		
	Phaeozems	Haplic		
	Ferralsols	Haplic	Rhodic	
	Nitisols	Haplic		
	Planosols	Umbric		
	Cambisols	Haplic	Calcaric	
	Regosols	Haplic	Calcaric	

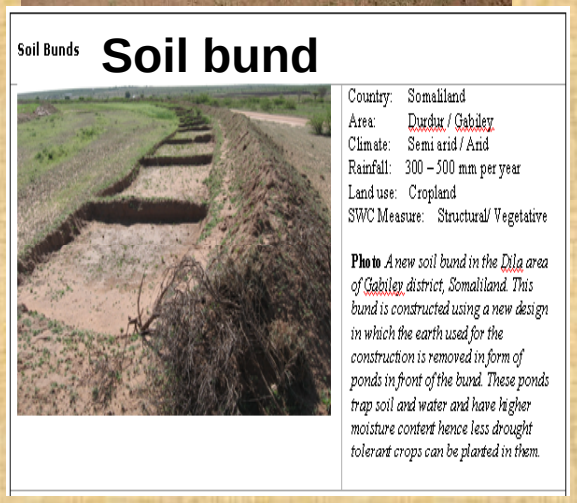
Land Degradation

- **Status of Land degradation of Somalia**
  - Moderate to strong with increasing trend
- **The main degradation types :**
  - Loss of vegetation cover and topsoil
  - Gully erosion, and loss of soil nutrient in agriculture productive areas.
- **Main causes of these degradation:**
  - Aridity, over-grazing, tree cutting for charcoal production and construction materials.
  - Increase in settlements and water points, continuous mono-cropping, lack of nutrient management.
  - Increase of enclosures, and encroachment of crop cultivation into marginal rangelands.



Responses to land degradation





Needs and Priorities of Sustainable Soil / Land Management

- Land resources inventories including soils are limited only to some parts of agricultural potential areas. These surveys were conducted in different times. Therefore, there is need to conduct soil survey and mapping of soil resources throughout the country.

- Strengthening the capacity of national institutions (institutional, technical, financial) to monitor and report on the status of the Somali soil resources.

- Increase adoption of sustainable land management practices and technologies including integrated approach of soil health management, extension services, etc.

- Establishment of an agricultural / soil research institution that should be given priority as it ahs been absent for long period of civil strife.

- Continuous assessment, mapping and monitoring of land degradation (land degradation monitoring system).

Institutional Setup for Soil / Land Management in Somalia

- **Federal Government of Somalia (FGS)**
  - Ministry of National Resources / Department of Agriculture
- **Somaliland Administration**
  - Ministry of A griculture
  - Ministry of Environment and Rural Development
- **Puntland Administration:**
  - Ministry of Agriculture and Irrigation
  - Ministry of Environment
- **Academic institutions**
  - Faculties of Agriculture and Environment in the three regions (Somaliland, Puntland and Federal state)
- **FAO under SWALIM project conducted soil related trainings in Somalia and provided mobile soil testing kits as follows:**
  - Soil survey for line ministries staff held in Somaliland
  - Soil Fertility and Testing for line ministries staff from Somaliland and Puntland as well as university lecturers in Somaliland.
  - SWALIM provided 3 Soil Testing Mobile Kits to the Ministry of Agriculture & Irrigation and Ministry of Agriculture from Puntland and Somaliland administrations respectively
- **Weak Institutions**

Conclusion

- 30 % of Somalia's land is degraded. It is important to introduce appropriate sustainable soil / land management practices in response to ongoing degradation.
- There is soil fertility decline in most of potential agricultural areas. An integrated approach of soil health management should be introduced in Somalia. This will help in restoring status of soil fertility.
- Limited soil resources inventory, soil survey and mapping could be conducted through out Somalia.


Thank you for Listening