CAPACITY4FOOD PROJECT

FIRST TRAINING ON INTEGRATED SOIL FERTILITY MANAGEMENT

UNIVERSITY OF THE GAMBIA
JUNE 3-5, 2014

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THE SIERRA LEONE ENVIRONMENT

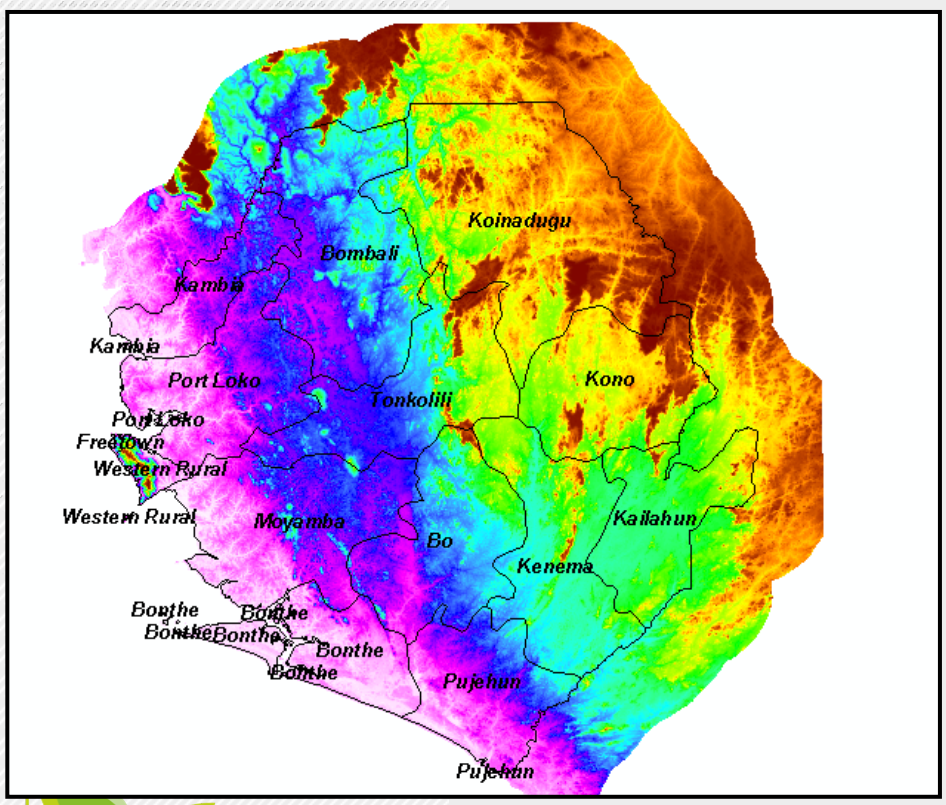
- ❖ Sierra Leone is located on the West Coast of Africa between
- ➢ latitudes 6° 55’ N and 10° 00’ N and
- ➢ longitudes 10° 14’ W and 13° 17’ W.
- ➢ Total area = 72,325 km^2
- ➢ It is bounded in the north and north-east by the Republic of Guinea, on the south-east by Liberia and on the west by the Atlantic Ocean.

An image can go here



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PHYSIOGRAPHY AND RELIEF



1. The Coastal plains (15%)

- consist mostly of estuarine swamps, beach ridges, alluvial plains and coastal terraces.
- altitude = 50m and an average width of 50km

2. The Interior Plains cover (43%)

- topography that is broken by isolated inselbergs.
- altitude 50-200m

3. The Interior Plateaux (20%)

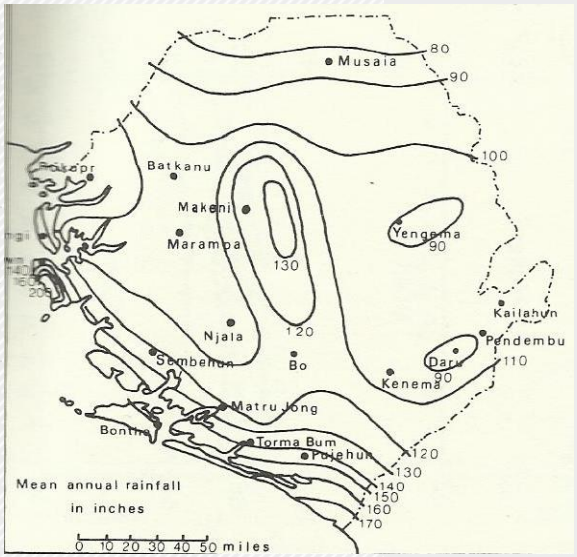
- consists of undulating high relief and rolling plains and hills
- altitude 200m to 700m

4. The Freetown Peninsula Mountains and hills (22%)

- consist of dissected mountainous Peaks with Sugar Loaf and Picket Hills being the highest.

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CLIMATE AND WEATHER



INTERFACE DESIGN

Rainfall

❖ Sierra Leone has a tropical humid climate with two distinct seasons:

➢ the wet season (May-November) and

➢ the dry season (December-April).

❖ The annual rainfall averages about 3000mm ranging from a low of 2,000 in the north and a high of 4000mm in the south.

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TEMPERATURE AND HUMIDITY

❖Temperature

➢Average monthly temperatures from 23^{o}C to 29^{o}C but it can rise to 36^{o}C in the lowland towards the end of the dry season

❖Humidity

➢High humidity all year round although it varies with season.

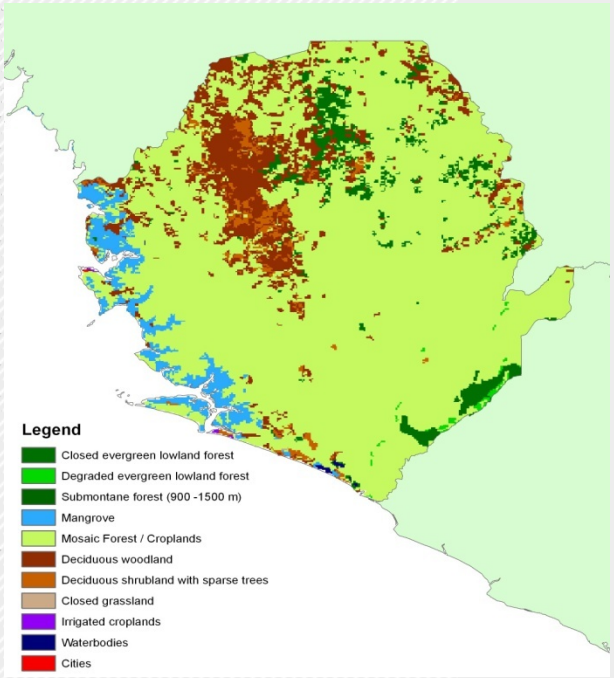
➢**Rainy season**: (95 to 100%) and in the

➢**Dry season:** 50 to 80%.

➢**Dry season hammattan period**: relative humidty may drop down to as low as 20%.

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VEGETATION AND LANDUSE



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- The original vegetation was closed high forest in most of the country and
- deciduous woodland in the extreme north where drier and less humid conditions prevail (UNDP/FAO, 1979a).

- Only about 6% of this forest now remains major vegetation zones: largely forest regrowth small virgin forest, coastal mangroves, and savannah

LAND USE CHANGES

- over-exploitation of natural resources: forests, grasslands, arable soils, leading to environmental problems such as land degradation, deforestation, loss of biological diversity and pollution of water resources
- Agriculture is largely blamed
- Followed by logging and mining

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SOILS OF SIERRA LEONE



Typical Upland Soil



Typical Lowland Soil

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CROPPING SYSTEMS

Agroclimatic Region	Ecology	Major crops	Cropping system and pattern	Constraints
Rainforest	Upland	Rice, cassava, sweet potato Cocoa, Coffee, oil palm, Banana, plantain, citrus	Bush fallow, Rice intercropped with cassava, maize etc; cocoa and coffee intercropped	- Declining fertility - weed infestation - Erosion
	Inland valley swamp	Rice	Annual production of rice	- Swamp development - Water control - Soil deficiencies - Iron toxicity
Transitional Rainforest	Upland	Rice, cassava, sweet potato, groundnut, maize, Banana, plantain, citrus, oil palm, mango	Bush fallow, Rice intercropped with cassava, maize etc,	- Declining fertility - weed infestation - Erosion
	Inland valley swamp	Rice, cassava, groundnut, sweet potato, maize	Sole rice during rainy season and cassava, sweet potato, groundnut and maize during dry season	- Swamp development - Water control - Soil deficiencies - Iron toxicity
	Boliland	Rice, Cassava	Rice planted sole annually	- low soil nutrients - high weed infestation
Savannah Woodland	Upland	Rice, cassava, maize, groundnut, fundi, pepper, okra, sweet potato, cashew, citrus, mango	Bush fallow, Rice intercropped with cassava, maize etc	- Declining fertility - weed infestation - Erosion
	Inland valley swamp	Rice, groundnut, sweet potato,	Sole rice during rainy season and cassava, sweet potato, groundnut and maize during dry season	- Swamp development - Water control - Soil deficiencies - Iron toxicity
	Boliland	Rice	Rice planted sole annually	- low soil nutrients - high weed infestation
Coastal plain	Upland	Rice, cassava, sweet potato maize, groundnut, oil palm	Bush fallow, Rice intercropped with cassava, maize etc	- Declining fertility - weed infestation - Erosion
	Inland valley swamp	Rice, maize, sweet potato,	Sole rice during rainy season and cassava, sweet potato, groundnut and maize during dry season	- Swamp development - Water control - Soil deficiencies - Iron toxicity
	Riverain grassland	Rice	Rice planted sole annually	- High water level
	Mangrove swamps	Rice	Rice planted sole annually	- Salinity - crabs

UPLAND CROPPING



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UPLAND CROPPING SYSYTEM

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Material based mainly in:

Fairhurst, T. (ed.) (2012) Handbook for Integrated Soil Fertility Management. Africa Soil Health Consortium, Nairobi. Accessible from this link

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EDULINK

Thank you!

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WWW.CAPacity4food.EU

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