

Physical Environment

Somalia (approx 637,657 sq. km) forms the largest part of the Horn of Africa. It extends from approximately 1°40' South of the Equator to 11° 58' North and from 40°59' to 51° 24' East. It is bordered by Djibouti to the North-West, the Gulf of Aden to the North, the Indian Ocean to the East, Kenya to the South and South-West and Ethiopia to the West. It has the longest coastline of all African countries, at nearly 3,300km.

The country can be divided in five distinct physio-geographic zones differentiated by topography (FAO, 2005):

- the northern coastal plains;
- the Golis mountain range and plateaus in the north;
- the central coastal plains, with a wide sand dune system;
- the broad limestone-sandstone plateau covering all of central and southern Somalia;
- the flood plains of the Juba and Shabelle rivers in the south, which provide the highest agricultural potential.

The lithology of Somalia mainly consists of marine sedimentary rocks ranging from Mesozoic to Recent in age. Only two isolated crystalline pre-Cambrian basement outcrops (one in the northern part and one in the southern) occur. The marine sedimentary cover is represented mainly by limestone and marly-limestone of the Karka and Auradu Formations in the north, and of the Mudug Succession in the central and southern parts. Several Quaternary deposits of aeolian, lacustrine, and alluvial origin outcrop along the coast and in the main alluvial valleys. A long coastal dune system runs almost parallel to the Indian Ocean coastline for nearly 1,300 kilometres. Isolated volcanic basaltic rocks, from Late Miocene to Pleistocene in age, are visible along the border with Djibouti, while Proterozoic and late Cambrian basement volcanic and metamorphic terrains outcrop in the north of Somalia in a very complex structural setting, while in the south they are present in a less complex arrangement (Abbate et al., 1994).

Slopes in the entire country are generally very gentle, reflecting the morphology of most of its territory. The northern mountain range registers the steepest slopes, while a more undulated morphology in the Nuugal valley also displays some sharper slopes.

The underwater morphology reflects the geological origin of the seas surrounding the country. On the north side, the coastline on the Gulf of Aden drops off quickly on a very steep slope to its sea bed, some 2,000 m below sea level. On the Indian Ocean side, the continental shelf extends several kilometres into the sea before it slopes gently down to the ocean bed, whose average depth is 4,500 meters below sea level.

The predominant hydrographical features of Somalia are the downstream stretches of the two main permanent rivers of the Horn of Africa, both of which flow from the highlands of Ethiopia towards the Indian Ocean: the Juba, which flows in Somalia for more than 1,000 km out of its 1,800 km of total length, and the Shabelle, which extends for more than 1,200 km from the Somali-Ethiopian border to its confluence with the Juba. Both these rivers, as well other main Somali drainage networks, have their headwaters in the neighbouring countries of Ethiopia and Kenya, and are most affected by the rainfall from these territories. In the Ethiopian highlands, the high

Muuqaalka Dhuleed

Soomaaliya (qiyaas ahaan 637.657 KM2) waxay fadhidaa inta ugu badan baaxada geeska Afrika. Waxaa dhacdaa inta u dhaxeysa xariiqaha 100 40' ee koofurta dhulbaraha iyo 110 58' dhinaca waqooyi iyo 400 59' – 510 24' ee bariga. Waxay xuduud kala leeday dhanka waqooyi galbeed Jabuuti, waqooyi Gacanka cadmeed, dhanka bari Badweyna Hindiya, dhinaca koofurta iyo koofur galbeed waxaa ka xiga Kenya, dhanka galbeedka waxaa ka xiga Itoobiya. Soomaaliya waxay leedahay xeebta ugu dheer Africa, taasoo dhererkeedu yahay 3,300 Km.

Marka laga hadlayo jurmiga Juquraafiyadeed, wadanka waxaa loo qeybin karaa 5 aag oo leh tobografi kala geddisan (FAO 2005)

- Xeebaha banaanka (gubanta) ee gobolada waqooyi
- Silsilada Buuraha Golis iyo oogada waqooyi ,
- Bananka xeebaha bartamaha ee wadata bacaad karoor badan iyo koofurta soomaaliya
- Dhagaxa mamaca-didibka oogada ku fidsan gobolada dhexe iyo koofurta Soomaaliya
- Dhulka dhoobayda wabiyada Juba iyo shabeela ee koofurta, kuwaasoo ey ku badan yihiim dhulka ku haboon wax soo saarka beeraha.

Qaabka dhismaha dhulka soomaaliya waxey ka kooban tahey lakabyo dhagaxyo ah oo isugu jira Mesozoic iyo kuwa casri ahba, laba goobood oo ka mid koofurta iyo waqooyiga ayaa laga helay lakabyada dhagaxyada qadiimiga ah gaar ahaan intii ka horreysay Cambrian

Dabool dhagaxaa sare (Lithology) ee dhulka Soomaaliya wuxuu ka kooban yahay lakabyada dhagax badeedyada ee da'aadoodu u dhaxayso Waqtiga Mesozoic ilaa waqti dhaw. Waxaa jira oo kale labo nooc dhagaxyo gooni gooni u jira oo la yiraahdo (crystalline pre-cambrian basement) lagana kala helo qaybaha waqooyi iyo koofurta dalka. Daboolka ah lakabyada dhagax badeedyada waxay isugu jiraan limestone iyo marly-limestone oo samayskoodu yahay Auradu Formation xagga waqooyiga, iyo is xigta ee Mudugta dhexe iyo qaybaha koofureed. Sidoo kale waxaa kale oo jiidda xeebaha iyo inta badan dooxooyinka webiyada laga helaa dhowr carro degtay waqti hore ee (Quaternary) oo kala ah dabay keentay (aeolian), haro-dhigtay (lacustrine) iyo carro daad keentay ah oo meelo kala duwan laga helo. Jiid dheer ee xeebta badweynta Hindiya waxaa ku teedsan bacaad oo ah qiyaas dhan 1,300 KM. Ologga Xadka Jabuuti waxaa lagu arkaa oo muuqanaya, dhagaxyo fulkaano teelteel ah ama gooni gooni jira kuwaasoo waqtigoodu ka soo bilaabanayo MIOCENE dambe ilaa la soo gaaro PLEISTOCENE, sidoo kale gobolada waqooyi ee Soomaaliya waxaa ku badan dhul leh lakabyo dhagax fulkano iyo metamorphic ah, kuwaasoo taariiqdoodu dib ugu noqoneyso waqtigii Proterozoic iyo Cambrian, waxeyna isu saaran yihiin si habaq ama qasan; dhinaca kunfurta waxay yihiin kuwo aad isgu qasnayn (Abbate et al 1994).

Janjeerada meelaha (foorarka) wadanka oo dhan waa kuwa hooseeya taasoo muujineysa baxaaliga guud (morphologyga) ahaan ee dhulka. Silsilada buuraha ee dhanka waqooyi ayaa ah kuwa leh qadarka janjeerka ugu dheer (foorarka), halka baxaaliga dooxada Nugaal mid gumburo ah oo leh janjeero aad u leexsan.

amount of rainfall – more than 1,000 mm per year – make up most of the discharge of the Juba and Shabelle.

Ephemeral streams, called toga, tug, or wadi (Faillace, 1986), dominate throughout the rest of the country. They are dry for most of the year with moisture only following major rainfalls.

Muuqaalka ka hoosee ee biyaha waxuu muujinayaa muuqaalka joolojiyadeed ee ah in bado ku wareegsanaayeen dalka. Dhinaca waqooyi biyaha gacanka cadan waxey si dag dag ah ugu hoobanayaa gunta biyaha, taasoo bada ka hooseysa qiyaastii 2000 M ka hoos heerka badda. Dhinaca badweynta hindiya jiridda qaaradu waxey dhowr kiiloo mitir hore ugu sii gashaa bada ka hor inta eyna si foorarta u galin gunta hoose ee biyaha taaso celceliska dhumucdeedu tahey 4500 M, oo ka hooseysa heerka bada.

Muuqaalka biya roggaa soomaaliya waxaa astaan u ah biyaha ka soo rogmada labada webi ee joogtada ah ee geeska Afrika, labaduba waxaa ay ka soo bilowdaan buuraleyda Ethiopia waxayna u dhamaadaan badweynta Hindiya: Webiga Juba oo mara in ka badan dhul dhererkiisu yahay 1000 km gudaha Soomaaliya, markii laga reebo dhererkiisa guud ahaaneed oo dhan 1800 km iyo webiga Shabeelana oo maraa dhul dhererkiisu ka badan yahay 1,200km laga bilaabo xadka Ethiopia-Soomaaliya ilaa laga gaaro halka uu uga darsoomo webiga Jubba. Labadan webi iyo togagga kale ee Soomaaliya ku hoora waxaay dhamaantood kasoo rogmadaan madaxa rogga biyahooda ee dalalka deriska Ethiopia iyo Kenya, waxaana Soomaaliya saameyn ku leh roobabka ka da'a wadamada deriska. Buuraleyda sare ee Ethiopia oo heerka da'i taanka roobabkoodu yahay in ka badan 1000 mm sanadkii ayaa biyo ku soo shuba webiyada Jubba iyo Shabeele. Togag xilliyeedyada wadanku waxay biyeysan yihiin marka roobab badan da'aan, inta badan oo sanadka waa engagan yihiin oo qoyaan ma laha.