

Land resources of south Somalia

Khayraadka dhulka koonfur Soomaaliya

Length of Growing Period for Somalia

The Length of Growing Period (LGP) is a period (in days) when Precipitation (P) exceeds half the potential evapotranspiration (PET) ($P > 0.5PET$). Mean monthly precipitation and potential evapotranspiration data for 49 stations throughout Somalia were derived from the FAO Climatic Database (FAOCLIM, 2001). Data used span the period 1963-1990. The LGP map on page 18 and its legend (Table 1 on page 17) was produced from this data set.

Agro-ecological Zones (AEZ)

AEZ are homogenous land resource mapping units, defined by climate, landform and soils, and/or land cover. The AEZs were defined by the LGP Zones and aggregated soil groups. The AEZ map (page 19) shows 21 zones. For each of the Zones, the physical land suitability for four major Land Use Types is indicated, Rainfed Agriculture (crops), Irrigated Agriculture (crops), Pastoralism (extensive grazing) and Forestry (tree plantation). Four physical suitability classes were distinguished: S1 = highly suitable, S2 = moderately suitable, S3 = marginally suitable, N = not suitable.

Relief types

The relief map on page 20 by SWALIM gives the physical environment along the Juba and Shabelle Rivers. To prepare this map, a hierarchical system of landform classification (geopedologic approach) was selected, with three orders that integrate purely morphological (SOTER approach and geomorphometry) and morphogenetic attributes. The map was prepared at a semi-detailed scale of 1:100,000, and currently constitutes the most recent, detailed and consistent dataset. Three methodologies were integrated to produce the relief map: Digital Terrain Analysis (DTA), Visual Image Interpretation (VImI) and the Field Survey (FS).

Land cover

The land cover map on page 21 is the result of a SWALIM exercise on land cover mapping along the Juba and Shabelle Rivers. Natural vegetation forms the dominant land cover type along the two rivers. Rainfed crop fields form the larger portion of the cultivated area. Irrigated crop fields remain confined to the flood plains and close to the rivers.

Land use systems

The Land Use Systems (LUS) map on page 24 is an integral map of homogeneous areas of human activities (land uses) and land resources base. It was produced by SWALIM using the LADA approach with an objective of guiding regional and national assessment of land degradation. This map was produced using the following data layers: Digital Elevation Model (DEM), Livestock distribution, Livelihood zones, Land cover and Farming systems.

Land degradation

The land degradation map on page 26 was produced by SWALIM using the LADA approach. The objective of the study was to identify potential causes, types, and impacts of land degradation at the national level and to identify local spots for comprehensive assessment. The assessment was stratified according to land use systems units in the country. In addition to the assessment, the study also established good baseline information for future monitoring of land degradation in Somalia. The land degradation types in the river catchment include biological degradation, soil erosion by water and others as seen in the map.

Note: For more detailed analysis and reference list, consult the SWALIM land reports series.

Dhererka muddada Wax-Ku-Baxaan Soomaaliya

Dhererka muddada wax ku baxaan (LGP) waa waqtiga (maalmo) uu qoyaanka jira uu kalabar ka sarreeyo uumibaxa dhici-kara ($P > 0.5PET$). Xogta roobka bileedlaha iyo uumibaxa dhici-kara ee 49 saldhig oo Soomaaliya ku baahsan ayaa laga soo xigtay macluumaadka cimilada FAO (FAOCLIM, 2001) kaydisay. Macluumaadka la isticmaalay waxuu dhexeeyaa taariikhdiisii 1963 ilaa 1990. Khariidadda LGP oo ku taal bogga 18 iyo sheekadeeda ku taal shaxda bogga 17 waxaa laga soosaaray kaydka xogtaan.

Seerayaasha Beero-Deegaameedyada Soomaaliya

Seerayaasha Beero-Deegaameedyada (Agro-Ecological Zones (AEZ)) waa unugyo naqshadeedka (khariidadda) khayraadka dhul isku mid ah, oo lagu qeexay sida ay tahay cimilada, qaab-dhiska dhulka iyo carrada, iyo/ama hu'ga dhulka. AEZ waxaa lagu qeexay seerayaasha LGP iyo kooxo ciideed oo la isukeenay. Khariidadda AEZ (bogga 19) waxay tusinaysaa 21 seere. Seere kasta, waxaa lagu muujiyey ku habboonaanshaha oogada dhulka afar nooc oo isticmaal dhul oo muhiim ah, beerashada dalagyada roobka ku baxa, beerashada dalagyada waraabka ku baxa, daaqsin furan iyo beerista geedaha kaymaha. A dabaqadood oo habboonaanshaha oogada dhulka ayaa la kala soocay: S1 = aad u haboon, S2 = heer dhexe haboon, S3 = yara haboon, N = aan haboonayn.

Noocyada dalcadaha Dhulka

Khariidadda dalcadaha dhulka ee ku taal bogga 20 ee SWALIM samaysay waxay siinayaa oogada deegaanka jiidada wabiyada Juba iyo Shabeelle. Si loo diyaariyo khariidaddaan, waxaa la doortay in la isticmaalo hab ablaablayn kala sarsaraysa oo qaab-dhismaha dhulka ku saabsan, kaasoo leh sifooyin saddex heer ah oo isu keenaya qaab-dhismaha (SOTER approach and geomorphometry) iyo sida qaab-dhismuhu dhulku u samaysmay. Khariidadda waxaa laga diyaariyey waxay ahayd mid faahfaahin dhexe 1:100,000, hadana hadda waa midda ugu wadiga dhaw, faahfaahsan oo xogtuna aysan isbedeleyn. Saddexda hab waa la isu dhafay si loo soosaaro khariidadda nooca dalkacadaha dhulka tusinaysa: Falanqaynta baxaaliga dhulka (Digital Terrain Analysis (DTA)), aragti ku tarjumidda masawirka iyo sahanka degaanka dhulka (VImI) iyo sahanka dhulka (FS).

Hu'ga dhulka

Khariidadda hu'ga dhulka oo ku taal bogga 21 waa natiijada hawlga SWALIM fulisay oo ahayd naqshadaynta Hu'ga dhulka ee jiidada wabiyada Juba iyo Shabeelle. Dhirta dabiiciga ayaa ah waxa ugu badan nooca hu'ga jiidada labada wabi. Beeraha waraabku waxay qayb weyn ka yihiin dhulka la beerto. Beeraha dalagyada waraabku waxay ku kooban yihiin dhulka dhaw wabiyada oo bannanka ciidda biyokeentayda ah leh.

Hababka Isticmaalka Dhulka

Khariidadda hababka isticmaalka dhulka (LUS) oo ku taal bogga 24 waa khariidadda isugeynaysa meelaha isku mid ka ah oo tusinaya hawlaha dadku dhulka u isticmaalo iyo khayraadka dhulka ee asaasiga ah. Waxaa soosaaray SWALIM ayadoo isticmaalaysa nadaamka LADA oo ay ulajeedadiisu tahay in hagdii loo sameeyo qiimaynta xaalufka dhulka heer gobol iyo mid qaran. Khariidadaan waxaa la sameeyey ayadoo la isticmaalayo xog lakabyo ah: Baxaaliga joogga dhulka oo tiroole ah (Digital Elevation Model), khariidadda xoolaha sida ay baahsan yihiin, Seerayaasha xoolaha, khariidadda hu'ga dhulka, khariidadda habka dhul beerashada.

Xaalufka dhulka oo ay Khubaro qiimaysay

Khariidadda Xaalufka dhulka oo ku taal bogga 26 waxaa soosaaray SWALIM oo isticmaaleysa nadaamka LADA. Ulajeedada daraasaddu waxay ahayd in la ogaado sababaha keenikara, noocyada, iyo saamaynta xaalufka dhulka ee heer qaran iyo in la cayimo goobo maxalli ah oo lala beegsado qiimaynta kaamil ah. Qiimaynta waxaa laga dhigay lakabyo si waafaqsan unugyada Hababka Isticmaalka Dhulka ee gudaha dalka.

Qiimaynta ka sokow, daraasaddu waxay samaysay xog-uruurin fiican oo loo isticmaali karo kormeerista xaalufka dhulka Soomaaliya.

Table 1: Extended legend for the LGP map of Somalia

Shaxda 1: War la faahfaahiyey oo ku adan naqshada dhererka waqtiga waxbixitaanka Soomaaliya

LGP Zone Dhererka Waqti WAXBIXITAAN Gaboled	LGP (days) Dhererka Waqti Waxbixitaan (Maalmo)		Description Sharax							
	Total GP Wadar waqti waxbixitaan	Longest GP Waqtiga waxbixitaanka ugu dheer	No. of GP Tirsiga Waqti Wasbixitaan	Gu (April-May) (days) (Abr-Maaj, Maalmo)	Deyr (Oct-Nov) (days) (Okt-Nof, Maalmo)	Annual rainfall Roob Sanadle			Altitude (m)	Climate Cimlo
						mm	variability	Isbedbedel		
1	0	0		0	0	< 100	High	Sare	< 300	desert ama-degan
2	< 30	< 30		< 30	< 30	100-250	High	Sare	< 800	arid Oomane
2a				< 30	< 30	200-250	Medium	hexdhexaad	800-1200	
3				< 30	< 30	< 30	300-500	Low	Hoose	800-2500
4	30-59	30-59	1	30-59		200-350	Medium	Dexdhexaad	< 800	arid & dry semi-arid Oomane & Yara-oomane Qalan
5				1		30-59	200-350	Medium	Dhexdhexaad	
6	60-89	30-59	2	30-59	30-59	350-450	Medium	Dhexdhexaad	500-800	
7		60-89	1	60-89		300-400	Medium	Dhexdhexaad	< 500	
8	90-119	60-89	2	60-89	30-59	450-600	Medium	Dhexdhexaad	< 500	
9			2	30-59	60-89	400-550	Medium	Dhexdhexaad	< 200	
10		90-119	1	90-119	< 30	400-500	Medium	Dhexdhexaad	< 100	
11		90-119	1	total 90-119 days (Gu + Deyr merging)		400-500	Low	Hoose	1200-1800	dry semi-arid Yara-oomane Qalan
12			1 or 2	total 90-119 days (Gu + Deyr with short dry interval)		500-550	Low	Hoose	1200-1800	
13	120-149	60-89	2	60-89	60-89	500-600	Low	Hoose	< 200	moist semi-arid
14		90-119	2	90-119	15-45	500-700	Low	Hoose	< 200	

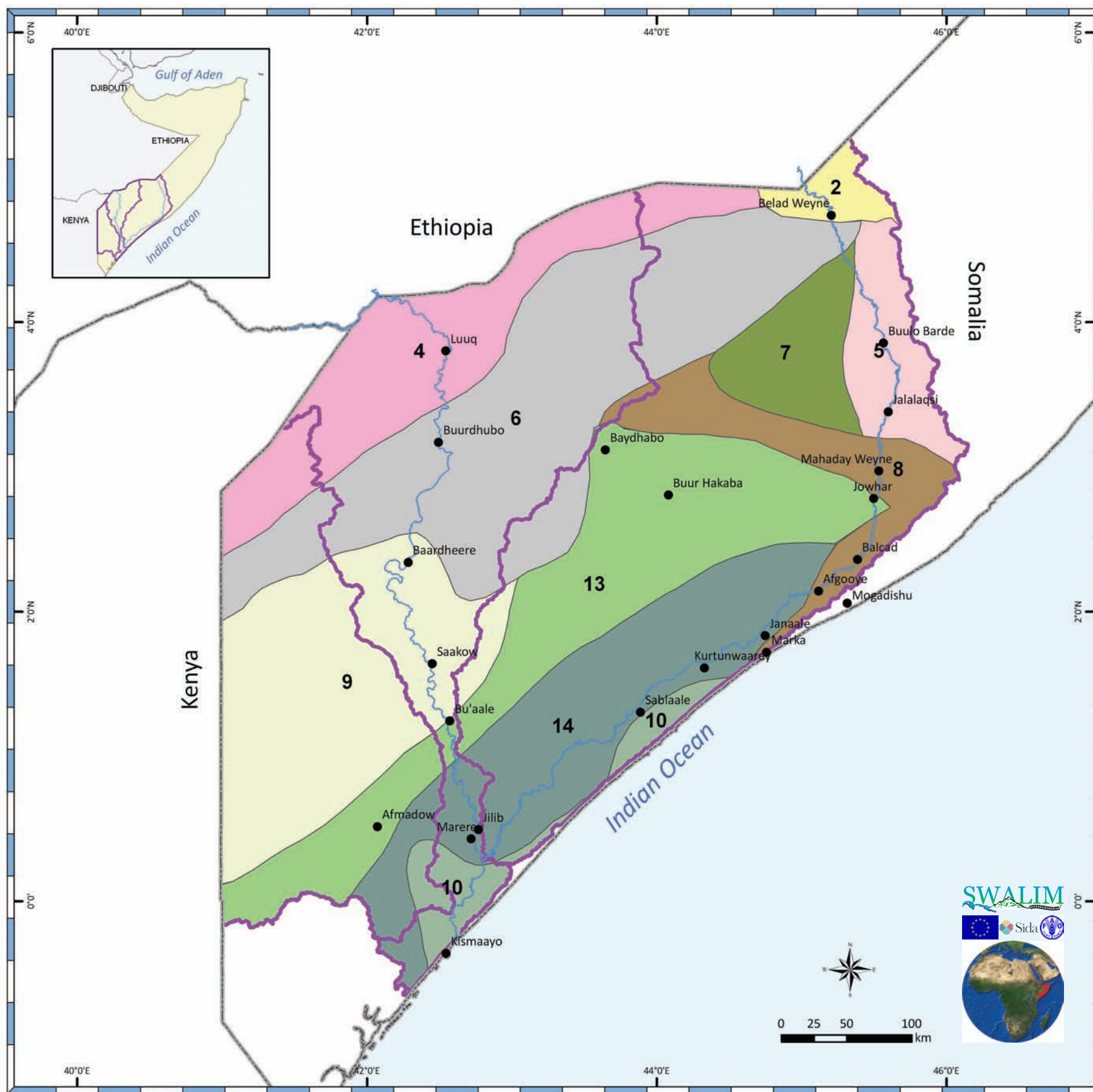
Table 2: Agro-Ecological Zones of the Juba and Shabelle River catchments

Shaxda 2: Qaybaha Beero-Deegaameedyada Soomaaliya

AEZ	LGP (days)		Soils		Land suitability				Climate
	Gu	Deyr	description	classification	R	I	P	F	
					Rainfed Agric	Irrigated Agric	Extensive Grazing	Forestry plantation	
4L	<60	<30	shallow and/or stony	Leptosols, Regosols	N	N	S3/N	S3, N	arid
5C	<30	<60	1 calcareous, loamy 2 sandy	Cambisols Arenosols	S3, N	N	S2	S2, S3	
6G	<60	<60	high gypsum content	Gypsisols	S3	N	S2/3	S2	arid - dry semi-arid
6L	<60	<60	1 shallow 2 stony, calcareous 3 sandy, calcareous	Leptosols Gypsisols, Calcisols Fluvisols	N	N	S3	S3	
6N	<60	<60	1 deep, red, clayey 2 slowly permeable 3 deep and clayey	Nitisols Planosols Vertisols	S3	N	S2	S2	
7G	<90	<30	high in gypsum, often stony	Gypsisols	S3	N	S2/3	S2	
7L	<90	<30	shallow	Leptosols	N	N	S3	S3	
8N	<90	<60	1 shallow, calcareous 2 high salt content 3 deep and clayey	Calcisols Solonetz Vertisols	S3	N	S2	S2	
8S	<90	<60	1 high salt content 2 calcareous, loamy	Solonetz Calcisols	S3	N	S2	S2	
8V	<90	<60	deep and clayey	Vertisols	S2, S3	S2, S3	S2	S2	
9N	<60	<90	1 deep, red, clayey 2 slowly permeable 3 deep and clayey	Nitisols Planosols Vertisols	S2, S3	N	S2	S2, S1	
9S	<60	<90	1 high salt content 2 calcareous, loamy	Solonetz Calcisols	S3	N	S2	S2	
10S	<120	<30	1 high salt content 2 red loams, clays	Solonetz Luvisols	S2, S3	S3	S2	S2	
13N	<90	<90	1 deep, red, clayey 2 slowly permeable 3 deep and clayey	Nitisols Planosols Vertisols	S2, S3	N	S2	S2, S1	moist semi-arid
13S	<90	<90	1. high salt content 2 deep and clayey	Solonetz Vertisols	S3, S2	N	S2	S2, S1	
14G	<120	<45	1 poor drainage 2 high salt content	Gleysols, Stagnosols Solonchaks	S2, S3	S2, S3	S2	S2	
14P	<120	<45	slowly permeable	Planosols	S2	N	S2	S2	
14S	<120	<45	high salt content	Solonetz, Solonchaks	S2, S3	N	S2	S2	
14V	<120	<45	deep and clayey	Vertisols	S2	S2, S3	S2	S1	
D	Dunes		sandy	Arenosols	N	N	S3/N	S3	various
F	Floodplains		periodically flooded	Fluvisols	S3	S2	S2	S2	

LGP = Length of Growing Period (number of days that precipitations exceeds half potential evapotranspiration)
Land Suitability: S1=Highly suitable; S2=Moderately suitable; S3=Marginally suitable; N=Not suitable

Length of growing period Dhererka muddada wax ku baxaan



LGP zone

2	8
4	10
5	13
6	14
7	9

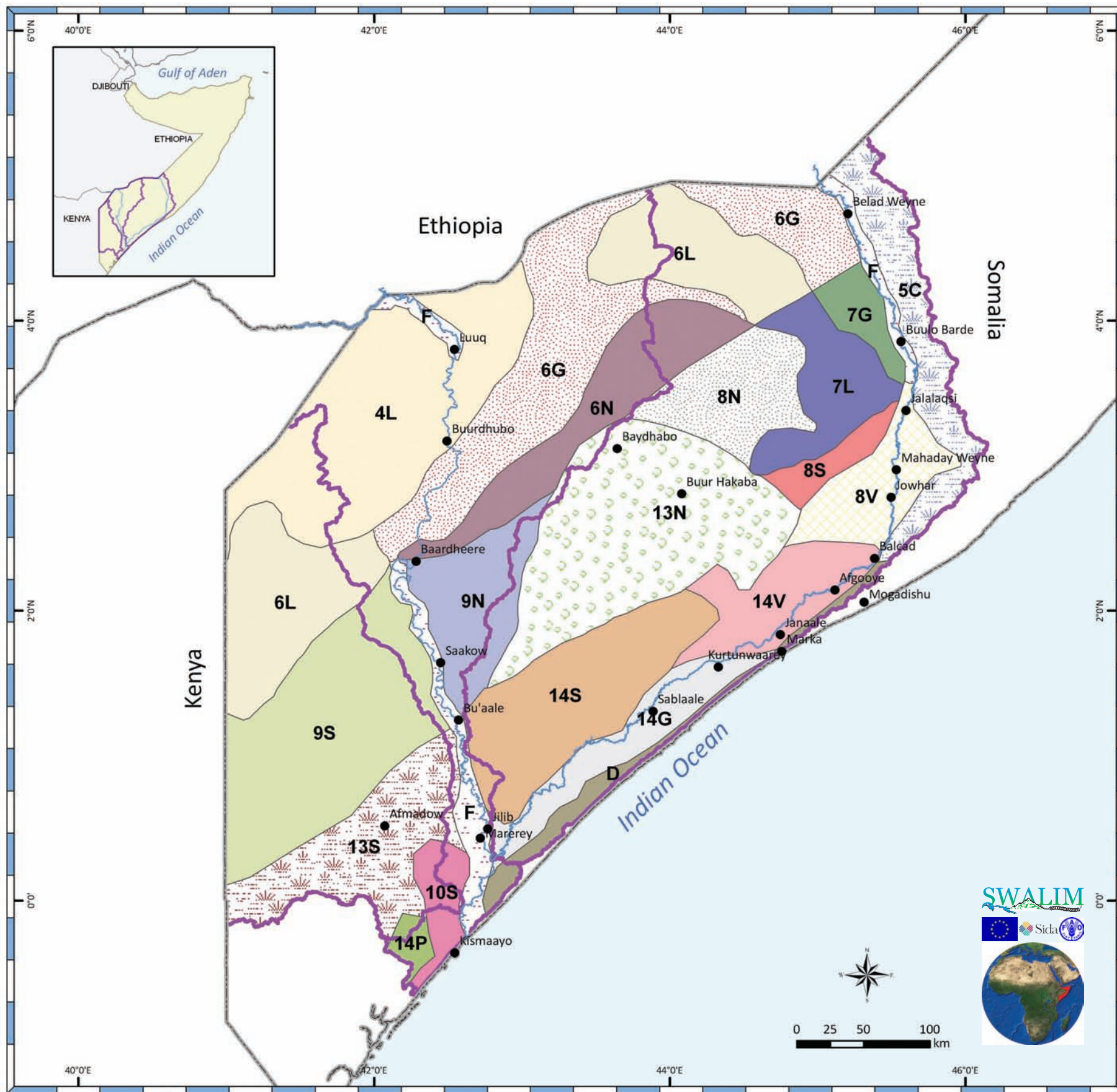
- Major towns
- River
- National boundary
- Catchment boundary

Data source: LGP data from SWALIM; catchment boundaries and drainagenetwork derived by USGS for SWALIM from NASA-SRTM 30m; administrative data from UNDP
 Map Reference: RIVAT-BASIN_SOM_LGP-20091212-A4-400dpi-01
 Produced by: FAO Somalia Water and Land Information Management –SWALIM- project. Contact: enquiries@faoswalim.org
 The boundaries and names on this map do not imply official endorsement or acceptance by the United Nations.

See extended legend on page 17

Agro-ecological zones

Seerayaasha beero-deegaameedyada



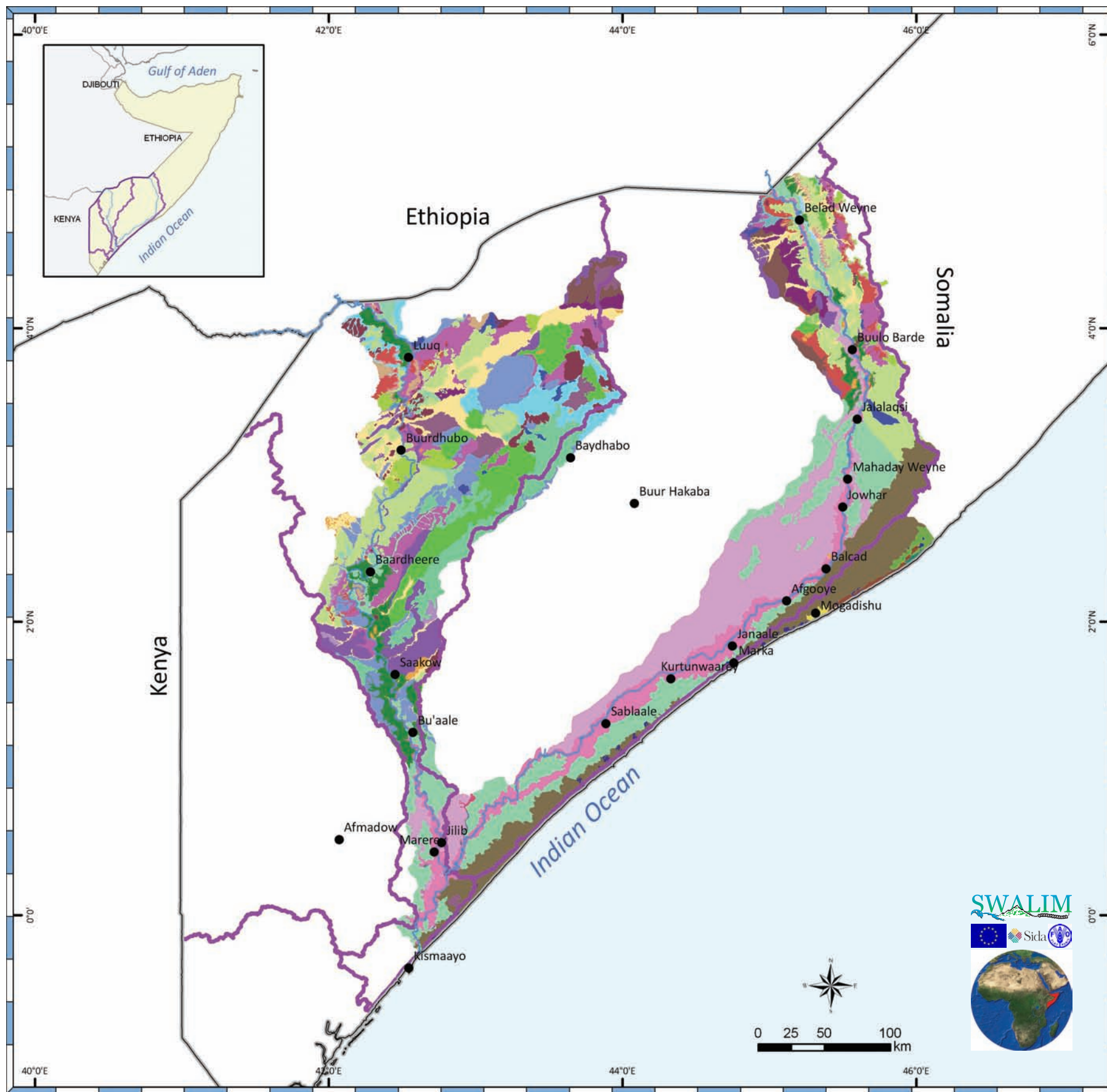
Agro-Ecological zone

4L	8N	13S	<ul style="list-style-type: none"> ● Major towns — River — National boundary — Catchment boundary
5C	8S	14G	
6G	8V	14P	
6L	9N	14S	
6N	9S	14V	
7G	10S	D	
7L	13N	F	

Data source: AEZ data from SWALIM; Catchment boundaries and drainage network derived by USGS for SWALIM from NASA-SRTM 30m; administrative data from UNDP
 Map Reference: RIVAT-BASIN_SOM_AEZ-20091212-A4-400dpi-01
 Produced by: FAO Somalia Water and Land Information Management –SWALIM- project. Contact: enquires@faoswalim.org
 The boundaries and names on this map do not imply official endorsement or acceptance by the United Nations.

See extended legend on page 17

Relief types Noocyada dalcadaha



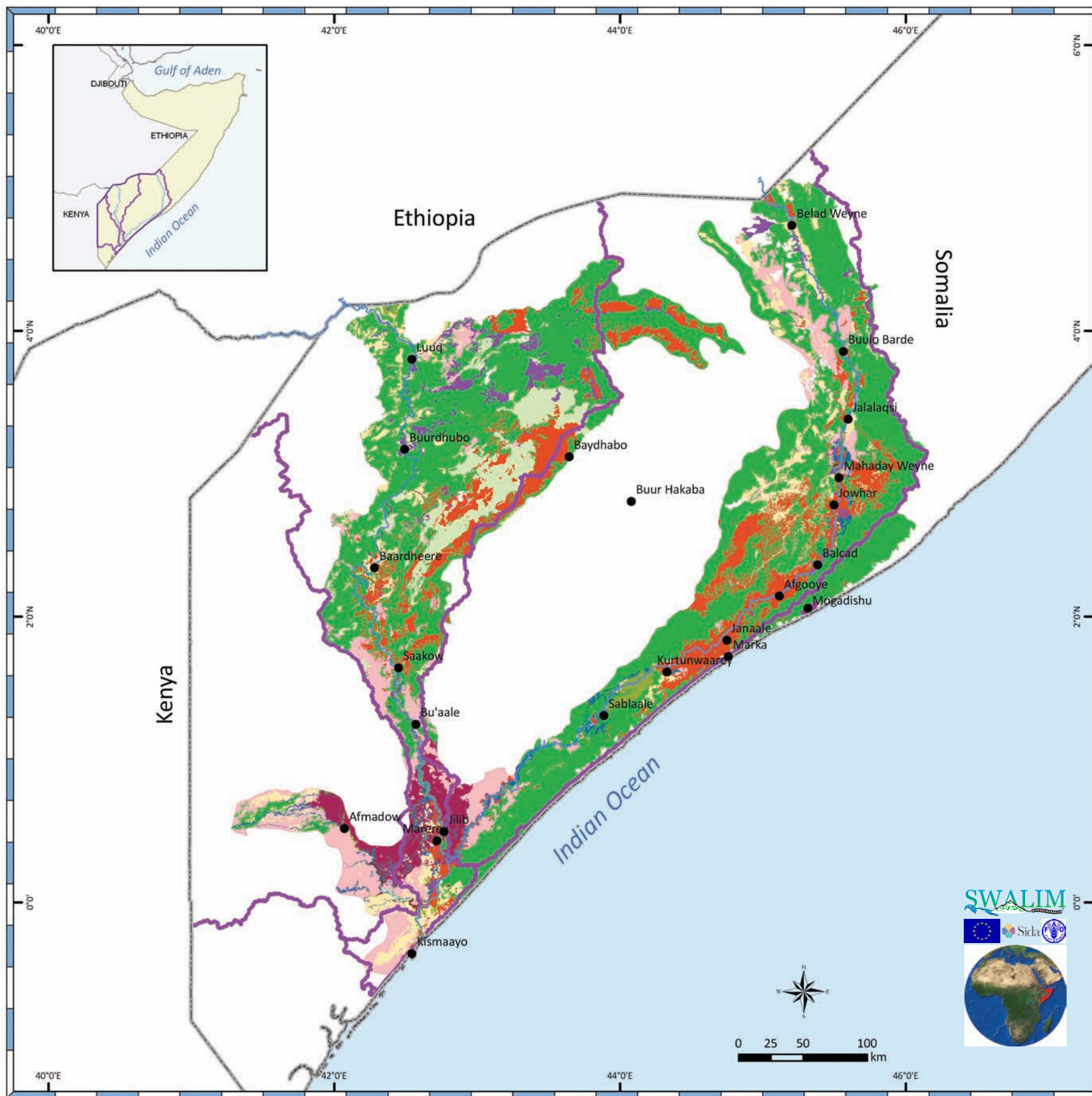
Relief types

- | | | | |
|--------------------------|-----------------------------|----------------------------|----------------------|
| Industrial district | Meandering river plain | Terraced surface | Mesa |
| Coastal plain | Gully/rill erosion surfaces | Upper pediment | Hill |
| Sandy coast | Sheet erosion surface | Lower pediment | Hill complex |
| Foredune | Trace of pale river | Old meandering river plain | Ridge |
| Stabilized dune | Alluvial plain | River incision | Planation surface |
| Mobile dune | Depression | Talus slope | Denudational slope |
| Playa | Pediment | Lake basin | Slope |
| Pan | Dissected pediment | Escarpment | Denudational surface |
| Alluvial fan | Delta | Depression | Plain |
| Anastomizing river plain | River plain | Inselberg | |
| Braided river plain | Flood plain | Cuesta | |

- Major towns
- River
- National boundary
- Catchment boundary

Data source: Relief data from SWALIM; catchment boundaries and drainage network derived by USGS for SWALIM from NASA-SRTM 30m; administrative data from UNDP
 Map Reference: RIVAT-BASIN_SOM_RELIEF-20091211-A4-400dpi-01
 Produced by: FAO Somalia Water and Land Information Management –SWALIM- project. Contact: enquiries@faoswalim.org
 The boundaries and names on this map do not imply official endorsement or acceptance by the United Nations.

Land cover Hu'ga dhulka



Land cover

- | | | |
|------------------------------------------------------------------------------|-------------------------------------------------------------------|--------------------|
| Agriculture | Herbaceous - (grassland) | Major towns |
| Bare areas | Herbaceous on flooded areas (cover > 40% - >4 months) | River |
| Closed shrubs (crown cover > 65%) - (thicket) | Herbaceous on temporarily flooded areas (cover > 40% - <4 months) | National boundary |
| Closed to open trees on temporarily flooded areas (cover > 40% - < 4 months) | Savannah | Catchment boundary |
| Closed trees- (forest) | Urban and associated areas | |
| General open shrubs (crown cover 65-15%) - (shrubland) | Water bodies | |
| General open trees (crown cover 65-15%) - (woodland) | | |

Data source: Land Cover data from SWALIM; catchment boundaries and drainage network derived by USGS for SWALIM from NASA-SRTM 30m; administrative data from UNDP
 Map Reference: RIVAT-BASIN_SOM_Landcover-20091212-A4-400dpi-01
 Produced by: FAO Somalia Water and Land Information Management –SWALIM- project.
 Contact: enquiries@faoswalim.org
 The boundaries and names on this map do not imply official endorsement or acceptance by the United Nations.

Soils of Somalia

Soil data in Somalia are scarce. The only areas surveyed in any detail are parts of the alluvial plains of the Juba and Shabelle Rivers (mostly irrigation feasibility studies) and the western part of Somaliland (SWALIM). Soil survey in Somalia was done basically in the period of 1961 to 1988. There were no national soil surveying and mapping initiatives. The most important reconnaissance soil surveys at regional level were done in the Juba and Shabelle region (FAO Lockwood, 1968; Hunting, 1977), and in Somaliland (Sogreah, 1981). Many more studies, usually covering small areas, are detailed in FAO-SWALIM's Technical Report L- 08.

The only available soil inventory at national level was carried out by the International Soil Reference and Information Centre (ISRIC) in the period of 1987 to 1988, as part of a 1:1 million scale soil map for north-east Africa. The inventory is based on information that existed at that time, particularly the soil map of southern Somalia prepared by Lockwood Survey Ltd (FAO, 1968) and the Geological Map of Ethiopia and Somalia (Merla et al, 1973) as well as on the interpretation of satellite images. The map and associated data was made available in digital format by FAO in 1998 (Land and Water Digital Media Series 2).

For the purpose of land evaluation and the delineation of AEZ, this map has been simplified by SWALIM. The various Soil Groups have been aggregated into seven classes, based on the main (physical) limitations to crop production as experienced in Somalia. The Soil Groups have also been re-classified to conform to the World Reference Base for Soil Resource 2006 (IUSS, 2006). The aggregated Soil Groups are listed in Table 3 and shown on Map on page 23.

Here only the portion falling within the Juba and Shabelle watershed is shown. This area has prominent low-lying alluvial plains, associated with the Juba and Shabelle Rivers. These plains have mainly clayey soils, some of which have poor drainage and/or a high content of salts. Some of the riverine areas are also liable to flooding. The inter-riverine areas have both shallow soils (particularly near the border with Ethiopia) and deep loamy and clayey soils.

Table 3: Aggregated Soil Groups of Somalia

Shaxda 3: Kooxo Ciidaha Soomaaliya oo uruursan

Class	Soil Group (WRB, 2006)	Main limitations for crop production
	Group	
1	Calcisols	low moisture availability
	Gypsisols	
2	Fluvisols	flooding
3	Leptosols	stoniness
	Regosols	limited rooting depth
4	Solonchak	high excess salts
	Solonetz	low nutrient availability poor drainage
5a	Cambisols	poor workability imperfect drainage
5b	Vertisols	moderate excess salts
		low nutrient availability poor workability
5c	Vertisols	poor drainage
	Stagnosols	
	Gleysols	
6	Arenosols	low moisture availability
		low nutrient retention capacity
		wind erosion

Carrada Soomaaliya

Macluumaadka carrada Soomaaliya waa dhif (farkudoon). Meelaha keligood si xeeldheer loo sahmiyey waxay yihiin gosha siman ee webiyada Juba iyo Shabeelle (badanaa daraasado la xiriira suurogalnimada waraabka) iyo qaybta Waqooyi Galbeed ee Soomaaliland (SWALIM). Sahanka carrada guudaha asalkeedaba waxaa la sameeyey mudadii u dhaxaysay 1961 ilaa 1988. Ma jirin curin qarameed oo lagu hirgelinayo sahaminta iyo naqshadaynta carrada. Sahankii guud ee ugu muhiimsanaa carrada heer gobol waxaa laga sameeyey gudaha gobolka Juba iyo Shabeelle (FAO-Lockwood, 1968; Hunting, 1977), iyo gudaha Soomaliland (Sogreah, 1981). Daraasado kale oo badan oo ku saabsan suurgalnimada hirgelinta waraabka ayaa laga sameeyey qaybo kookooban oo dhulka gosha ee dacallada Juba iyo Shabeelle waqtiyadii 1980-aadkii. Dabadeed FAO-SWALIM ayaa sahan carro oo dhamaystiran ka samaaysay dhulka webiyeedka Juba iyo Shabeelle muddadii 2007 waxana ay soo saartay warbixin farsameed oo faahfaahsan (L-08).

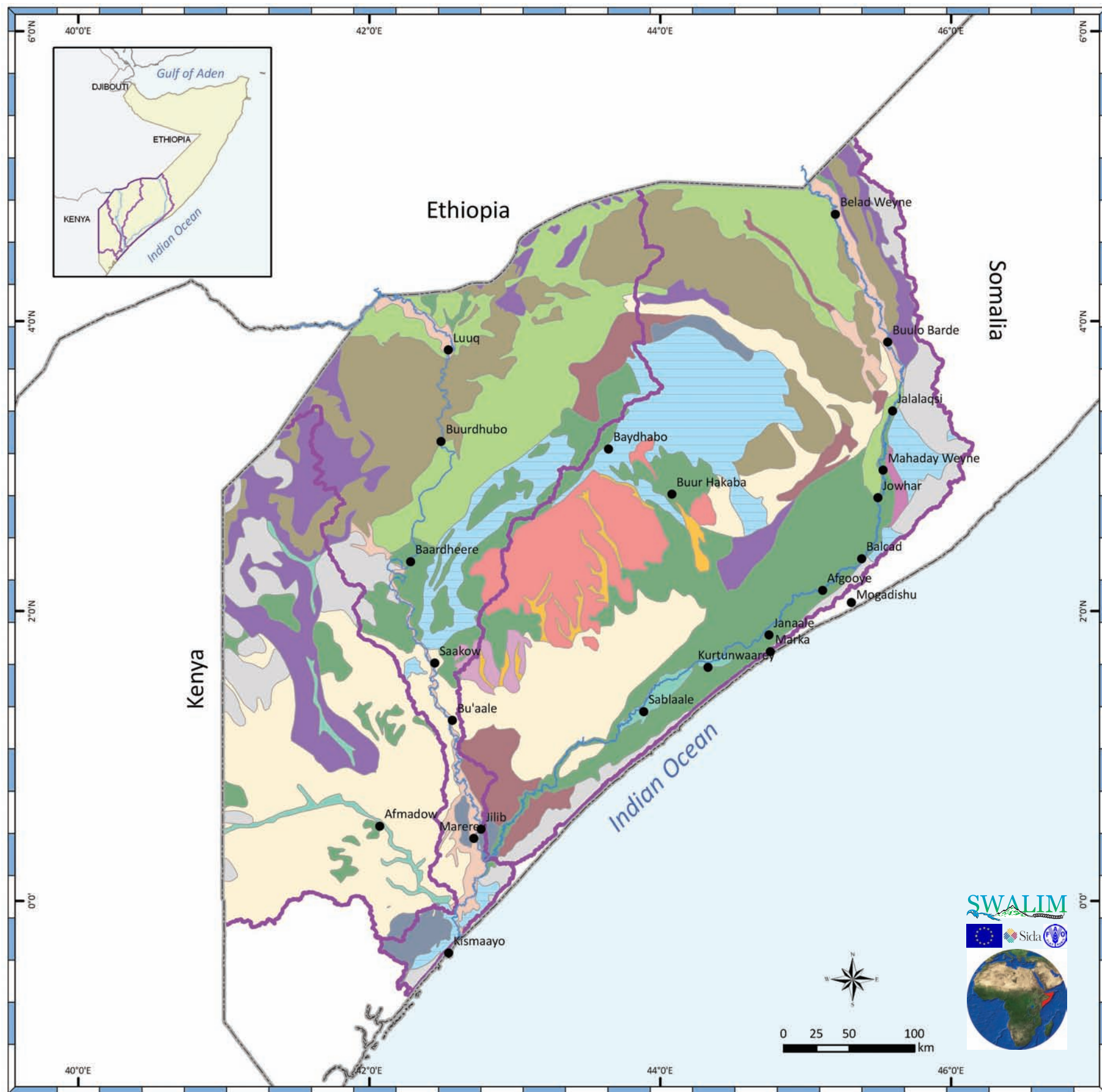
Warbixinta tirakoobka guud ee carrada oo la hayo waxaa sameeyey hayad caalami ah mudadii 1987 ilaa 1988 (International Soil Reference and Information Centre (ISRIC)), ayadoo ka qayb ah naqshadda carrada Waqooyi Bari Afrika oo cabirkeedu yahay 1:1 malyan. Tirokoobkii jirey waqtigaas hore wuxuu si gaar ah ugu salaysnaa nadshadda carrada Koofur Soomaaliya oo ay diyaarisay sharikadda Lockwood Survey Ltd (FAO, 1968) iyo naqshad Jooloojiiga Itoobiya iyo Soomaaliya (Merla et al, 1973) sidoo kale tarjumaado laga sameeyey sawirrada Dayax-gacmeedka. Naqshadda iyo macluumaad la socday waxaa FAO ay ka dhigtay wax lagu helikaro qaab tiro (digital) mudadii 1998 oo jira (Land and Water Digital Media Series 2).

Ayada oo Ulajeedadu tahay qiimaynta dhulka iyo xuduud u samaynta Qaybaha Beero-Degaameedyada (Agro-EcologicalZones (AEZ)), ayaa SWALIM waxay fududaysay naqshaddaan. Kooxaha carrooyinka kala duwan waxaa la isugu ururuuriyey todoba waax (fasal), oo gun-dhigu yahay caqabadaha (dhismaha oogada carrada) muhiimka ah ee waxsoosaarka delegyada sida waayoaragnimada Soomaaliya laga helay. Hadana dib ayaa loo kala shaandheeyey (abla-ableeyey) Kooxaha Carrada si loo waafajiyo Saldhigga Tixraaca Adduunka ee Khayradka Carrada 2006 (World Reference Base for Soil Resource 2006 (IUSS, 2006)). Kooxaha Carrada la isugu ururuuriyey waxay ku taxanyihiin gudaha Shaxda 4 waxaana lagu soo bandhigay naqshadda 23.

Halkaan waxaa lagu muujiyey qaybta dhulka dhaca gudaha biyorogga Juba iyo Shabeelle oo keliya. Nawaaxigaan waxaa si fiican u muuqda bannaanada gosha hoosaysa, oo ku xeeran webiyada Juba iyo Shabeelle. Banaannadaan waxay qaaliban leeyhiin carrooyin dhooboy ah, qaarkoodna ay biyo-socdsiintooda hoose xuntahay misna/ ama cusbada ku jirtaa waa ay badan tahay. Fatahaado ayaa ka dhici kara qaar ka tirsan dhulka webiyad dacalladooda. Dhulka u dhexeeya webiyada waxay labaduba leeyihiin carro qoto-gaaban (gaar ahaan dhanka xiga xadka Itoobiya) iyo carrooyin qoto-dheer oo furfur ama dhoobey ah.

Simplified soil units

Unugyada ciidda oo la sahlay



Soil units

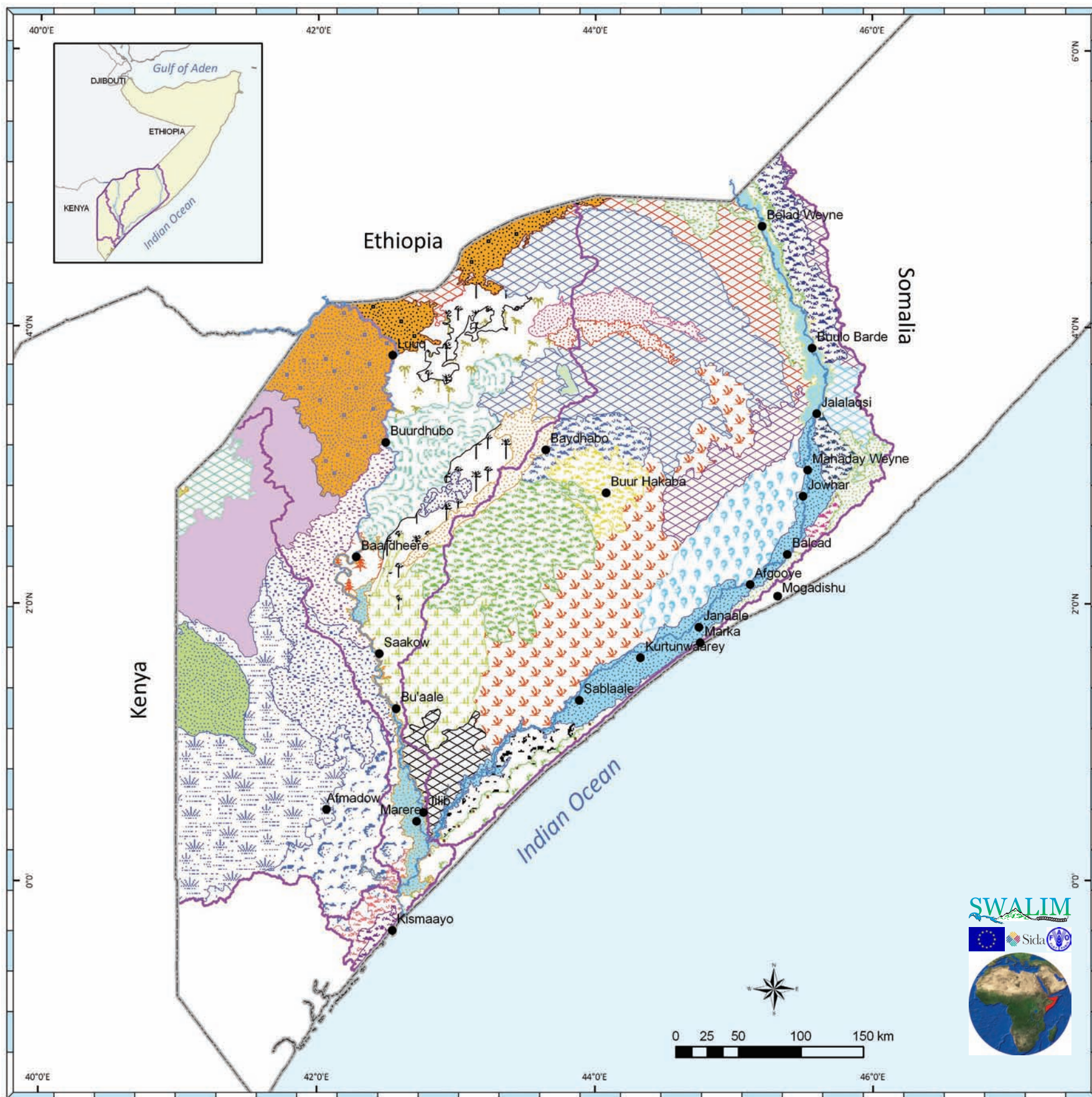
Arenosols	Gypsisols	Solonchaks
Calcisols	Leptosols	Solonetz
Cambisols	Luvisols	Vertisols
Ferralsols	Nitisols	Water bodies
Fluvisols	Phaeozems	
Gleysols	Planosols	

- Major towns
- River
- National boundary
- Cachment boundary

Data source: Soil data from SWALIM; catchment boundaries and drainage network derived by USGS for SWALIM from NASA-SRTM 30m; administrative data from UNDP
 Map Reference: RIVAT-BASIN_SOM_SIMP-SOIL-20091211-A4-400dpi-01
 Produced by: FAO Somalia Water and Land Information Management –SWALIM- project Contact: enquiries@faoswalim.org
 The boundaries and names on this map do not imply official endorsement or acceptance by the United Nations

Land use systems

Hababka isticmaalka dhulka



24

- Major towns
- River
- ▭ National boundary
- ▭ Catchment boundary

Data source: Land Use System data from SWALIM; catchment boundaries and drainage network derived by USGS for SWALIM from NASA-SRTM 30m; administrative data from UNDP
 Map Reference: RIVAT-BASIN_SOM_LUS-20091212-A4-400dpi-01
 Produced by: FAO Somalia Water and Land Information Management –SWALIM- project. Contact: enquiries@faoswalim.org
 The boundaries and names on this map do not imply official endorsement or acceptance by the United Nations.

Land use systems - legend

Hababka isticmaalka dhulka- sheeko


Shrubland/Rainfed Crop Fields

-  Agropastoralism (high density)/wood collection with scatered rainfed fields: sorghum, camels, shoats, cattle
-  Agropastoralism (low density of fields)/ wood collection: sorghum, vegetables, camels, shoats
-  Agropastoralism (low density of fields): sorghum, cowpea, cattle, goats
-  Agropastoralism (low density) with scattered rainfed fields: shoats, camels
-  Agropastoralism (medium density of fields): maize, cowpea, millet, cattle, goats
-  Agropastoralism (medium density of fields): sorghum, cattle, shoats, camels
-  Pastoralism (low density) with scattered rainfed fields in coastal plain/dunes: cowpea, shoats, camels, cattle
-  Pastoralism (medium density)/wood collection with scatered rainfed fields: maize, sesame, shoats, cattle, camels

Woodland/Rainfed Crop Fields

-  Agropastoral (medium density of fields): maize, cowpea, millet, cattle, goats
-  Agropastoralism (high density)/wood collection with scattered rainfed fields: cattle, shoats, camels
-  Agropastoralism (low density of fields): sorghum, shoats, camels, cattle
-  Agropastoralism (medium density of fields): sorghum, cattle, camels, goats
-  Agropastoralism (medium density of fields): sorghum, cowpea, sesame, cattle, shoats
-  Agropastoralism (medium density) with sparse rainfed fields: camels, shoats
-  Agropastoralism (medium density) with sparse rainfed fields: sorghum, shoats, camels
-  Agropastoralism (medium density)/wood collection with scatered rainfed fields: sorghum, camels, goats, cattle
-  Agropastoralism (medium density): maize, sorghum, cattle, shoats
-  Dry season Agropastoralism (low density) with scattered rainfed fields: cattle, shoats



Rainfed Crop Fields

-  Agropastoralism (high density of fields): sorghum, cattle, goats
-  Agropastoralism (medium density of fields) in stabilized sand dune: cowpea, casava, shoats, cattle, camels
-  Agropastoralism (medium density of fields): sorghum, cattle, shoats, camels
-  Agropastoralism (medium density of fields): sorghum, maize, shoats, camels, honey production
-  Agropastoralism (medium density)/gum and resins extraction: camels, shoats, cattle

Shrubland/Crop fields

-  Pastoralism (high density)/sparse flood recession farms: maize, cattle, camels, shoats




Shrubland/Rainfed Crop Fields/Irrigated_fields

-  Agropastoralism (low density) with scatered irrigated/rainfed fields: shoats, camels
-  Agropastoralism (low density)/wood collection with scattered rainfed and irrigated fields: shoats, camels, cattle

Woodland/Irrigated fields

-  Agropastoralism (medium density) with scatered rainfed/irrigated fields: sorghum, vegetables, shoats, camels, cattle

Shrubland

-  Pastoralism (low density): shoats, camels
-  Pastoralism (medium density) with sparse rainfed fields: sorghum, shoats, camels
-  Pastoralism (medium density): camels, cattle, shoats





Woodland/Rainfed Crop Fields/Irrigated_Fields

-  Agropastoralism (high density of fields): sorghum, cattle, goats



Woodland

-  Dry season pastoralism: cattle, shoats
-  Pastoralism (high density)/wood collection with honey production: sorghum, camels, shoats
-  Pastoralism (high density): camels, shoats, cattle
-  Pastoralism (low density): shoats, cattle, camels
-  Pastoralism (medium density)/gum and resins extraction: camels, shoats, cattle
-  Pastoralism (medium density)/wood collection: camels, shoats

Irrigated Fields/Shrublands

-  Agropastoralism/Irrigated Shabelle floodplains: cereals, fruits, vegetables, cattle
-  Irrigated Agropastoral Juba floodplains: cereals, fruits, vegetables, cattle
-  Rainfed/Irrigated Agropastoral: cereals, vegetables, camel, goats
-  Rainfed/Irrigated Agropastoralism: cereals, vegetables, cattle, shoats

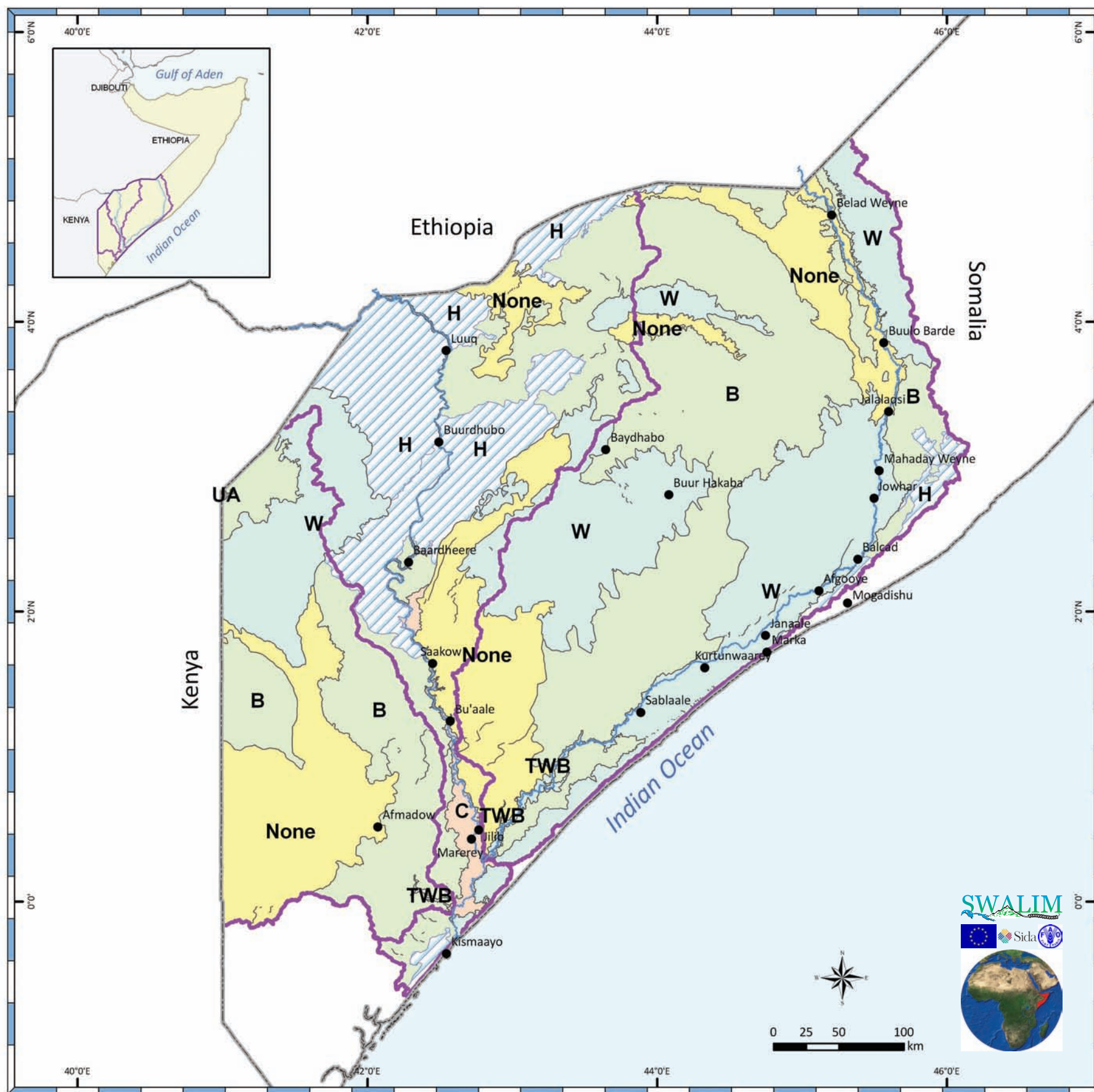
Grassland

-  Pastoralism (high density): camels, shoats, cattle
-  Pastoralism (medium density): cattle, shoats

Sparse Vegetation

-  Pastoralism (medium density)/wood collection in coastal plain/dunes: shoats, camels

Land degradation types Noocyada xaalufka dhulka



Land degradation types

- B - Biological degradation
- C - Chemical soil deterioration
- W - Soil erosion by water
- H - Water degradation
- TWB - Temporal water body
- UA - Urban areas
- None

- Major towns
- River
- National boundary
- Catchment boundary

Data source: Land degradation types data from SWALIM; catchment boundaries and drainage network derived by USGS for SWALIM from NASA-SRTM 30m; administrative data from UNDP

Map Reference: RIVAT-BASIN_SOM_LDT-20091212-A4-400dpi-01

Produced by: FAO Somalia Water and Land Information Management –SWALIM- project Contact: enquiries@faoswalim.org

The boundaries and names on this map do not imply official endorsement or acceptance by the United Nations.