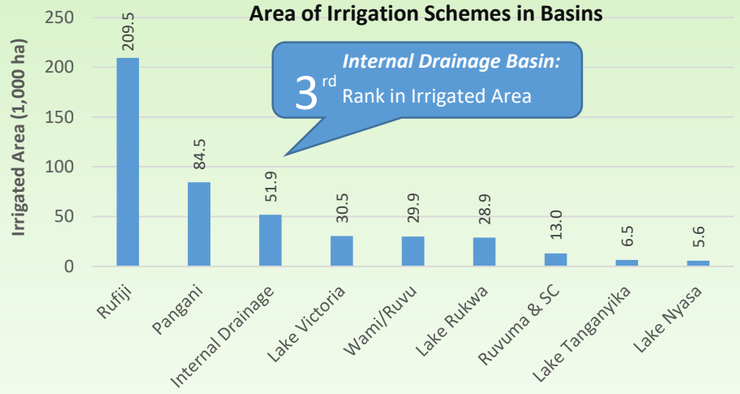
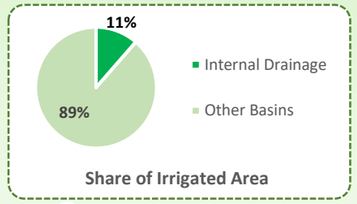
Water Resources Division

Internal Drainage Basin
Water Demands Key Figures

Area of Irrigation Schemes in Basins

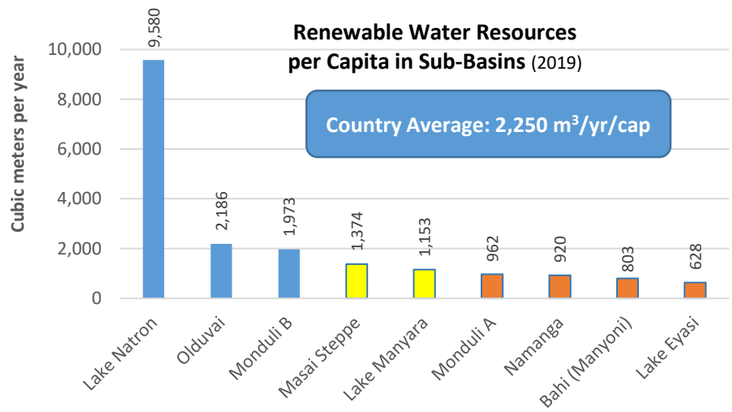


Tanzania,s Total Irrigated Area: 460,300 ha



Renewable Water Resources per Capita in Sub-Basins (2019)

Country Average: 2,250 m³/yr/cap

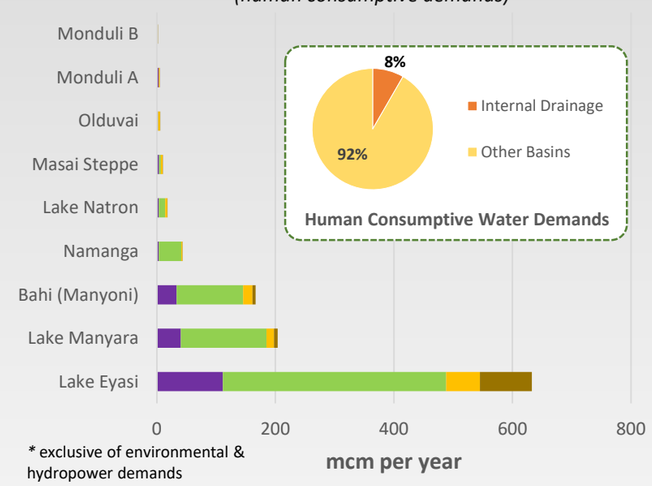


The Falkenmark Water Stress Indicator

Available Renewable Water per Capita (m³/yr)	Indication
< 1700	Water Stress
< 1000	Water Scarcity
< 500	Absolute Water Scarcity

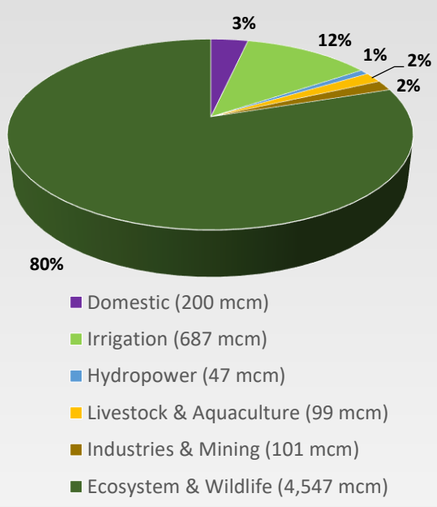
- *17% of people in IDB are experiencing water stress.*
- *80% of people in IDB are confronted with water scarcity.*

Water Demands in Sub-Basins*
(human consumptive demands)



* exclusive of environmental & hydropower demands

Water Demands by Sector (%)
Internal Drainage Basin



Ecosystem is the largest water user in the Internal Drainage Basin. About 65% of the renewable water resources in the basin is required for replenishment of environmental demands, and nearly 16% is currently utilised for domestic, industries, irrigation, and livestock sectors. In the latter portion, Irrigation sector accounts for about 63% of human-consumptive uses, which makes it the second rank in total water demands.

THE UNITED REPUBLIC OF TANZANIA
Ministry of Water
Water Resources Division

Water Resources Fact Sheet
The Internal Drainage Basin

Physiographic Profile

Basin Area (inside Tanzania)	**143,200** km²
No. of Sub-basins	**9**
No. of Major Lakes	**7**
Protected Areas	
No.	**107**
Area	**52,827** Km²
Dominant Soil Texture	**Sandy Loam**
Dominant Productive Formation	**Migmatite/ Granitoide/ Meta-Sediment Complexes**
Mean Vegetation Index	**0.25**
Forest Cover Change (2000-2015)	**-1.52** %/yr
Average Slope	**4.6%**
Altimetry	
Highest	**5,895** m.a.s.l*
Lowest	**573** m.a.s.l
Mean Elevation	**1,312** m.a.s.l

** m.a.s.l: meters above mean sea level*

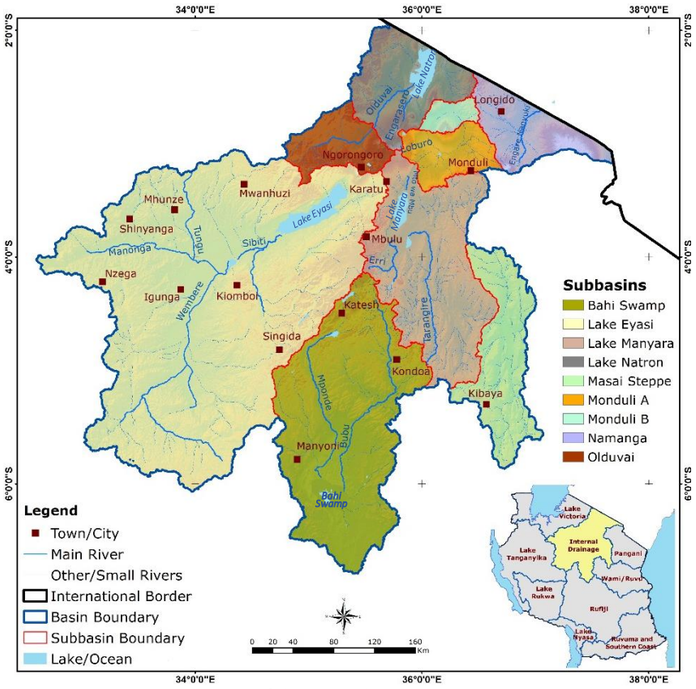
Socio-Economic Profile (2019)

Population	**7.47** million
Population Density	**52** person/km²
Water per Capita	**933** m³/yr

Hydro-Climatic & Water Resources Profile*

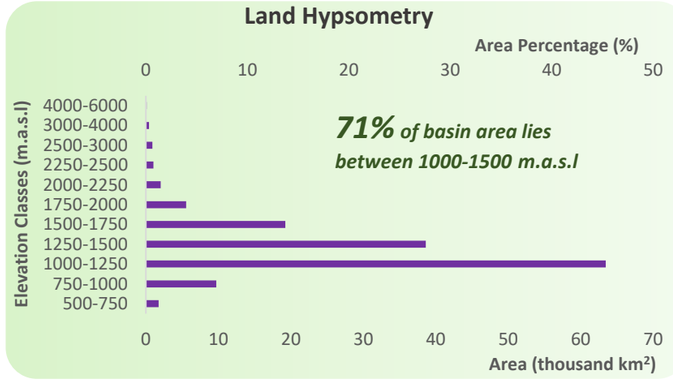
Average Precipitation	**701** mm/yr
Average Temperature	**21.7** °C
Average Evapotranspiration	
Potential	**1,667** mm/yr
Actual	**646** mm/yr
Average Renewable Water Resources	**6,968** mcm/yr
Surface Water	**6,084** mcm/yr
Groundwater	**884** mcm/yr
Water Demands	
Averaged Total	**5,634** mcm/yr
Human Consumptive	**1,087** mcm/yr
Water Resources Vulnerability Index	**16** %

** According to the Internal Drainage Basin IWRMDP, 2015*

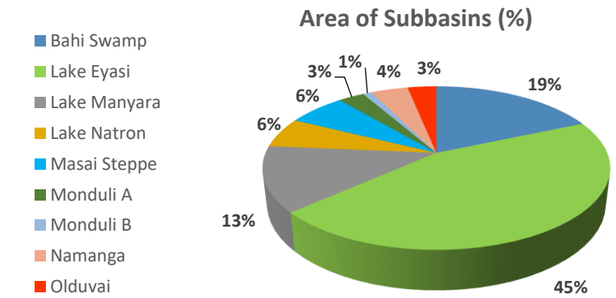


Map of the Internal Drainage Basin

Land Hypsometry



Area of Subbasins (%)

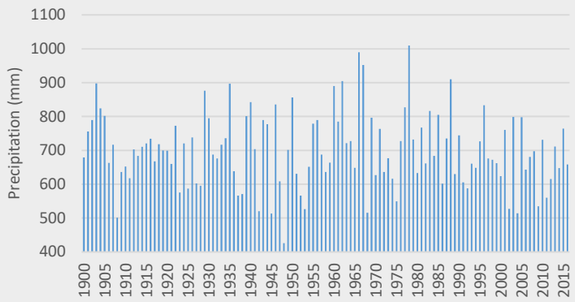


Tanzania mainland is comprised of nine hydrologic basins. The Transboundary Internal Drainage Basin is Tanzania's 2nd Largest basin (considering total area of the basin shared with Kenya); however, regarding part of the basin that is located inside Tanzania, it is the 3rd largest basin that encompasses more than 15% of the area of the country. The basin is stretched from central parts of Tanzania to the north-east, where it crosses borders with Kenya. Waters that run from precipitation, flow into several lakes and swamps scattered in the basin.

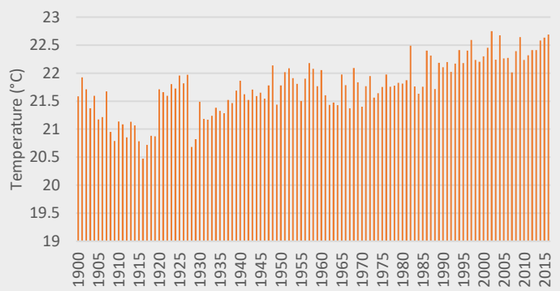
Water Resources Division

Internal Drainage Basin
Water Resources Key Figures

Historic Annual Precipitation (1900-2016)



Historic Average Air Temperature (1900-2016)



Averaged for the Internal Drainage Basin; Source: Climatic Research Unit, University of East Anglia, UK; http://www.cru.uea.ac.uk/data

Long Term Rainfall Variation	
Rainfall Average 1900-1930	**703** mm
Rainfall Average 1985-2016	**680** mm
Difference in Long-term Average	**- 23** mm

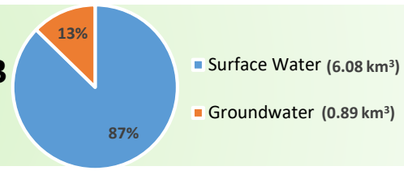
Difference in Rainfall*: - 3.3%

Long Term Temperature Variation	
Temperature Average 1900-1930	**21.30** °C
Temperature Average 1985-2016	**22.32** °C
Difference in Long-term Average	**+ 1.02** °C

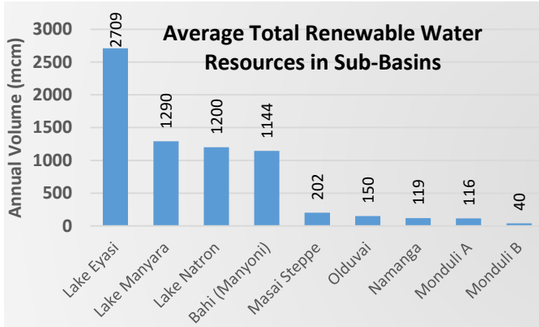
Difference in Temperature*: + 4.8%

** Over 85 Years (30-yr average values, centered on 1915-2000)*

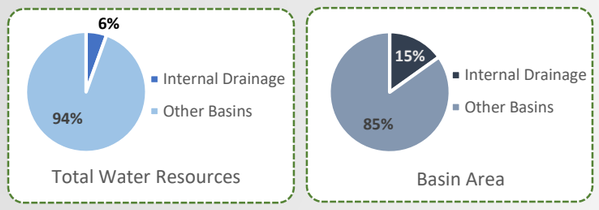
Annual Renewable Water Resources: 6.97 km³
(inside Tanzania borders)



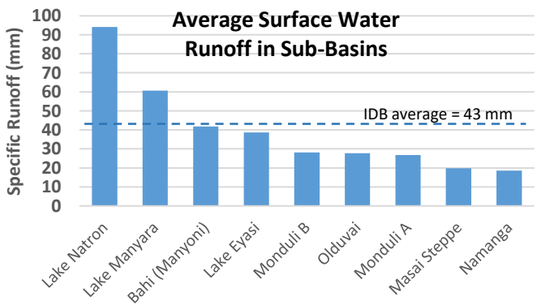
Average Total Renewable Water Resources in Sub-Basins



Share of Internal Drainage Basin in Tanzania's Renewable Water Resources



Average Surface Water Runoff in Sub-Basins



Average Country-wide Specific Runoff: 111 mm

Average Internal Drainage Basin's Specific Runoff: 43 mm

There is a large variation of runoff production within different sub-basins in the Internal Drainage Basin:
- *Lake Natron sub-basin as high as 221% of average*
- *Namanga sub-basin as low as 44% of average*

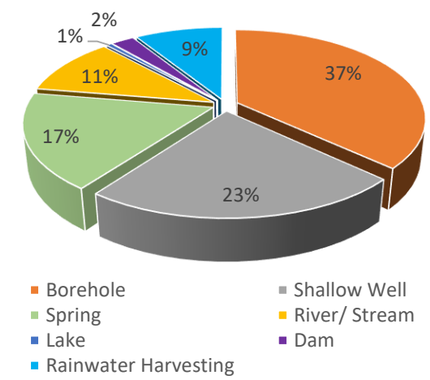
The Internal Drainage Basin receives in average an annual precipitation of 100 km³ out of which as much as ca. 93 km³ returns back to the atmosphere and 6.97 km³ (about 7%) turns into surface and ground water as renewable freshwater resources.

Water Resources Division

Internal Drainage Basin
Water Infrastructure Key Figures

Water Infrastructure Profile	
Water Points	
No. of Water Points	**11,957**
No. of Taps	**16,285**
No. of Monitoring Stations:	
Weather	**5**
Rainfall	**57**
Hydrological	**46**
Hydrogeological	**31**
No. of Dams and Reservoirs	**119**
Reservoirs Capacity	**119.2** mcm
Irrigation Schemes	
No.	**315**
Area	**51,872** ha
Irrigation Efficiency	**30%**
Main Crops (irrigated)	**Maize, Sorghum, Wheat, Beans**

Water Points by Sources of Water

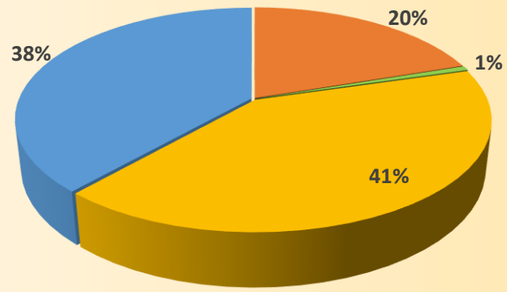


Average Gross Area per Water Point: 12 km²

Functioning Water Taps: 11,820 — 73%

Water Points Supplied by Groundwater and Springs — 77%

Extraction Technologies at Water Points



Water Points that Need Energy for Extraction of Water — 62%

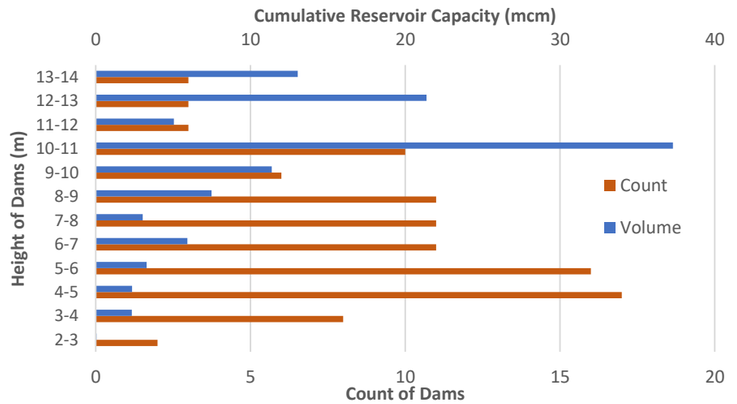
CED Pumps: *Conventional Energy-Driven Pumps (includes Thermal Electricity, Hydroelectricity, Gasoline & Diesel)*

NCD Pumps: *Non-Conventional Energy -Driven Pumps (includes Solar Electricity, Windmill)*

Hand Pumps: *(includes Lever Pumps, Mono Pumps, Rope Pumps, Play Pumps)*

Statistics of Dams in the Basin

There are 119 man-made dams constructed in the Internal Drainage Basin with a total reservoir capacity of about 119.2 mcm.
The largest reservoir belongs to Mwamapuli Dam with a height of 10 m and capacity of 28 mcm on Cheli River, Tabora Region.



Water supply access in Tanzania – mainly in rural areas – is realised through "water points", i.e. usually a public place for people to obtain clean water.
Water from water points is potable water consumed for the people or livestock. Means of access to water at the supply points are usually in form of communal standpipes. However, other shapes of access to water are present such as water kiosks, water tanks, hand pumps, developed or undeveloped springs, and cattle troughs.