



# River Basins of Afghanistan

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**Ketabton.com**

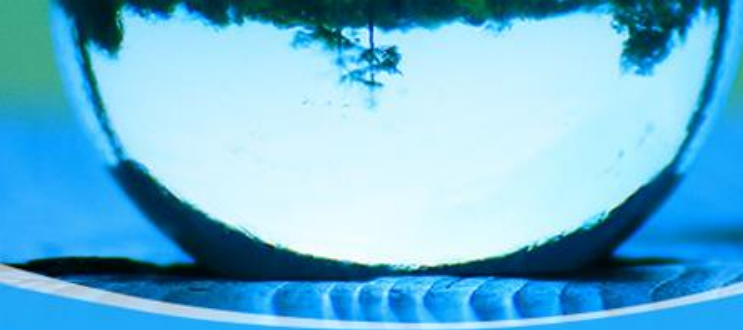
# River Basins

- A river basin is an area of land drained by a river and its tributaries.



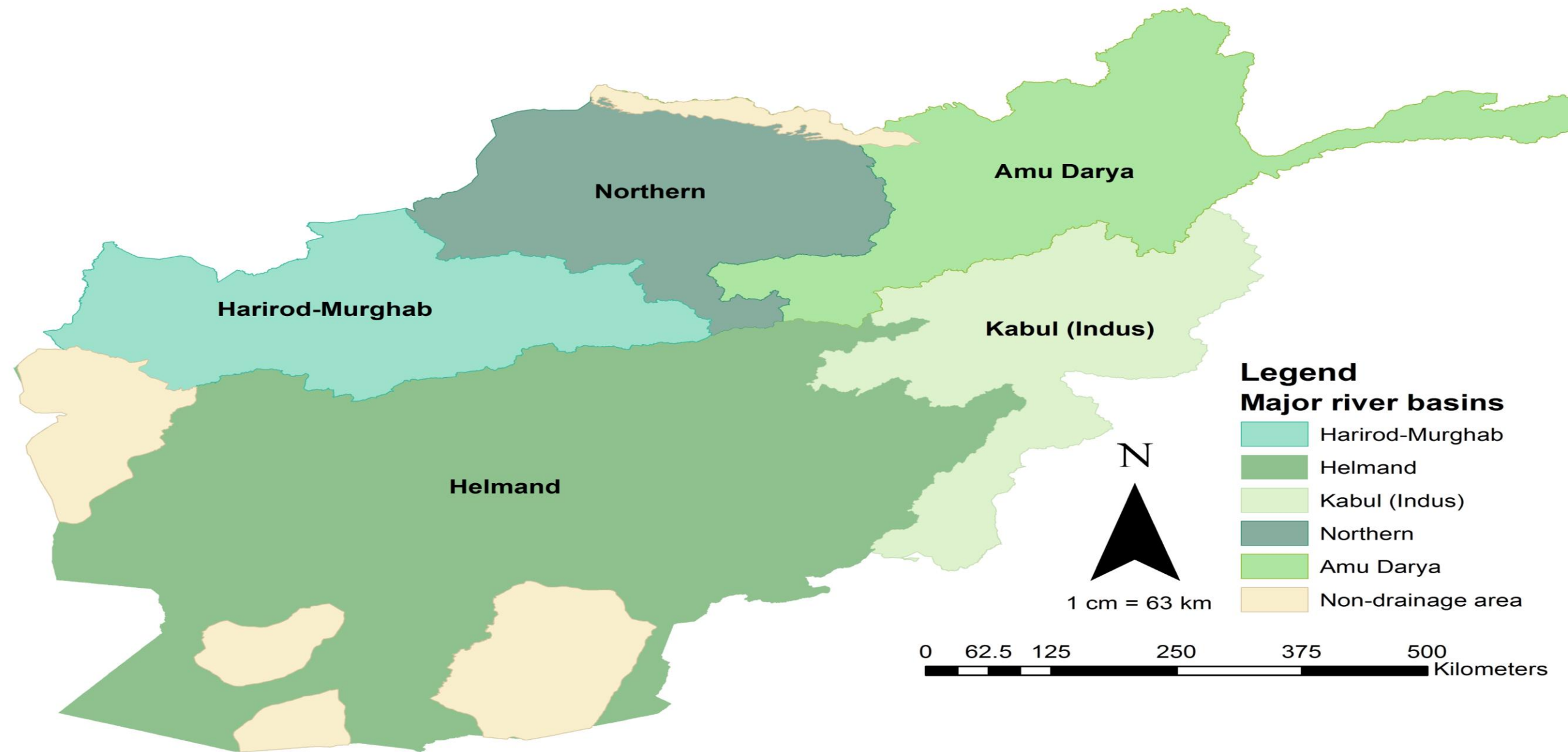
River basins have typical features, these include:

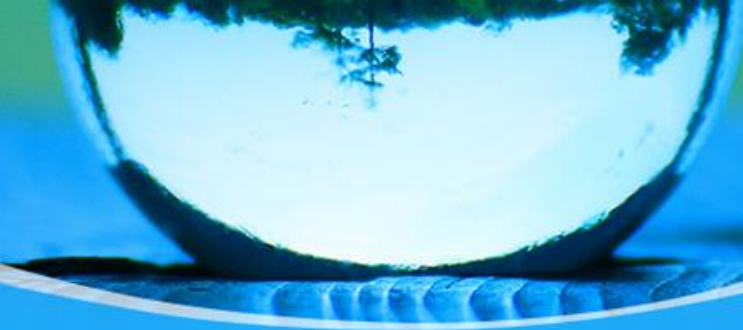
- Tributary – a smaller river or stream flowing into a larger river.
- A Watershed – an area of highland surrounding the river basin.
- Mouth – Where a river meets a lake, the sea or an ocean.
- Source – the start of a river.



There are five rivers basins defined  
in Afghanistan (Map ).

- i. The Amu Darya river basin
- ii. The Northern river basin
- iii. The Harirod-Murghab river basin
- iv. The Hilmand river basin
- v. The Kabul (Indus) river basin





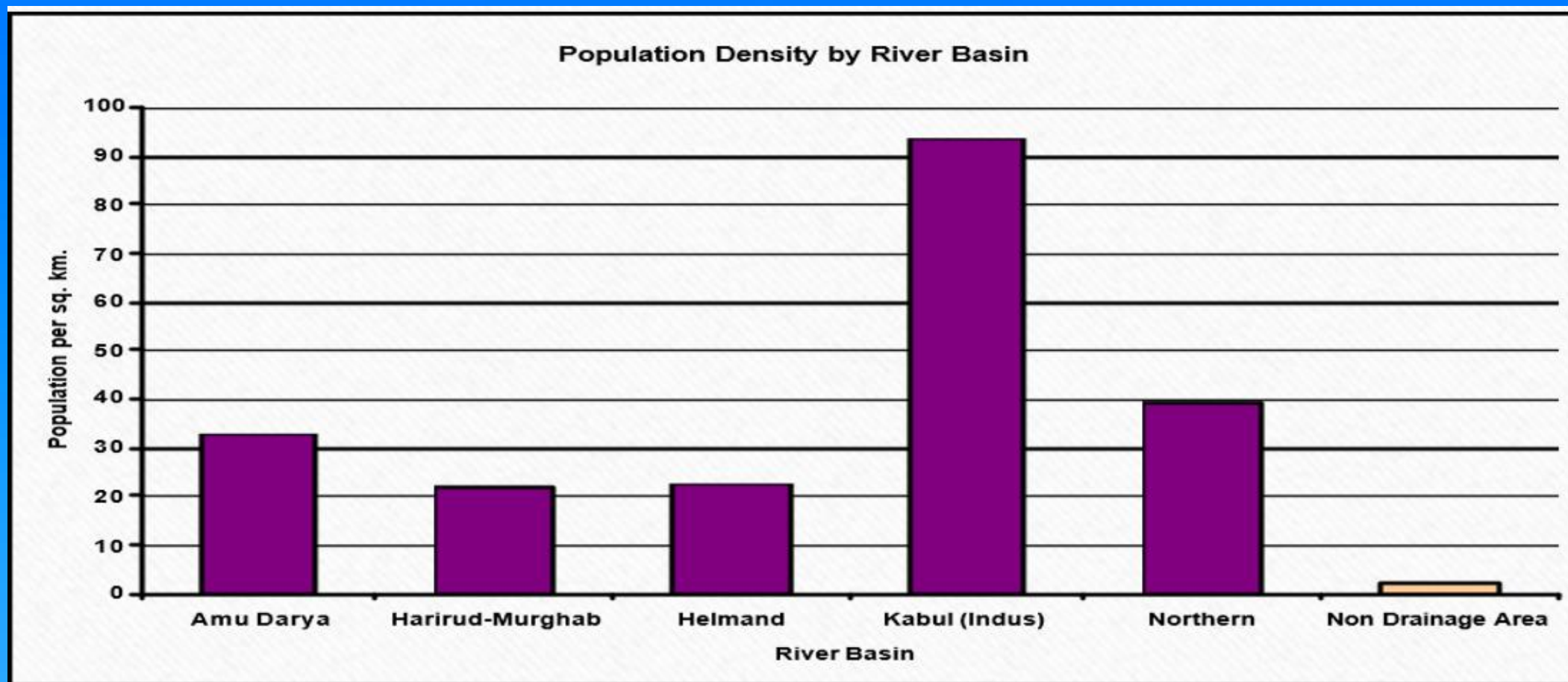
## Kabul (Indus) river basin

- Kabul River basin worn **77000 km<sup>2</sup>** Area.
- Kabul River sources 100 km far from Kabul city from Paghman Mountains (Awoni ghakhi)
- The **Major tributaries of** the Kabul River are the (Logar, Panjishir, Kunar, Alingar, Bara and Swat rivers)

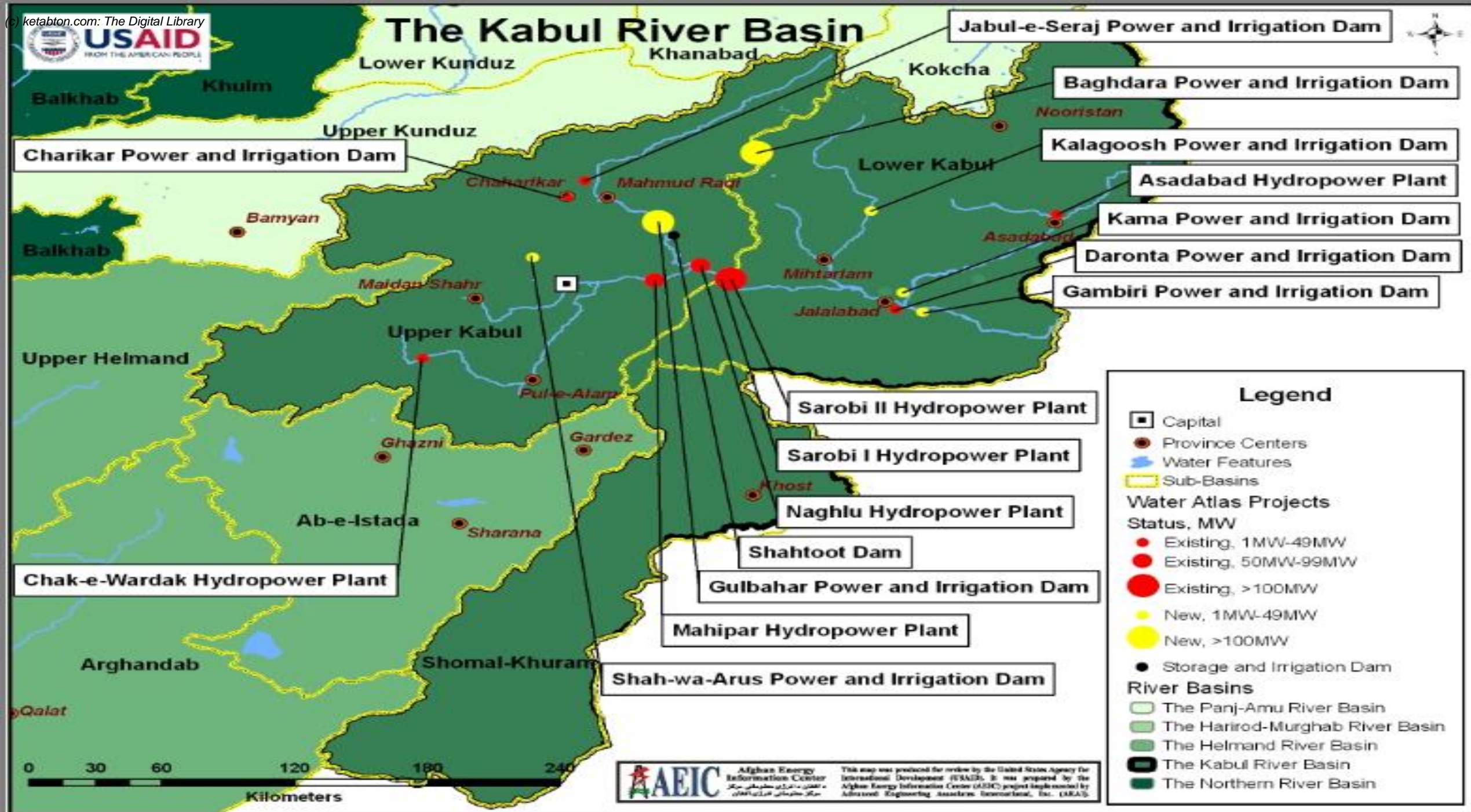


# GRAPHS

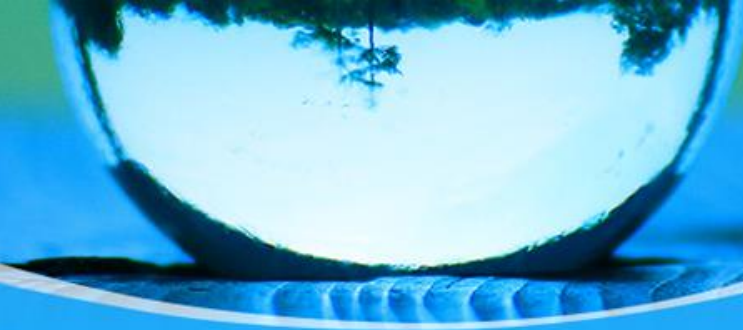
Graph 1 the largest settled population density is found in the Kabul river basin, (about 40% of all population) with 93 inhabitants/sq.km. The national average is 32 inhabitants/sq. km (nomadic population not included).



# The Kabul River Basin





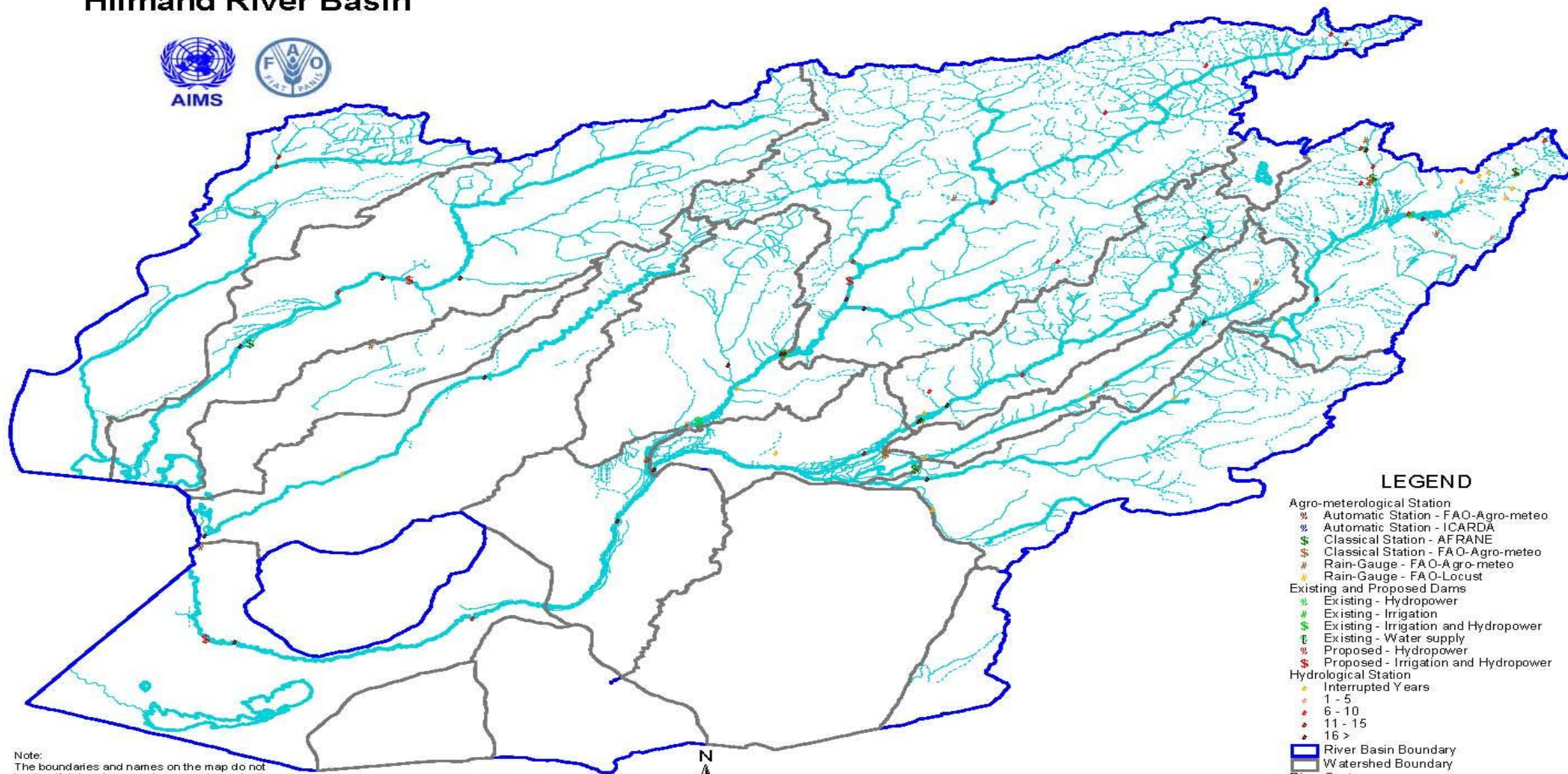


# Hilmand river basin

- The Hilmand basin is the largest in Afghanistan, covering almost half (43 percent) of the national territory.
- Helmand river basin has 1400 km Length. And cover 262000 Sq.km Area.
- Helmand River also sources from Paghman Mountains.
- After 1150 km going Cross the Afghanistan border and enter to Iran.
- The major tributaries of the H R B are the (Adraskan, Arghistan, Frah rod, Arghandab, MusaKala, Ghazni, and Tarank)



# Hilmand River Basin



Note:  
The boundaries and names on the map do not  
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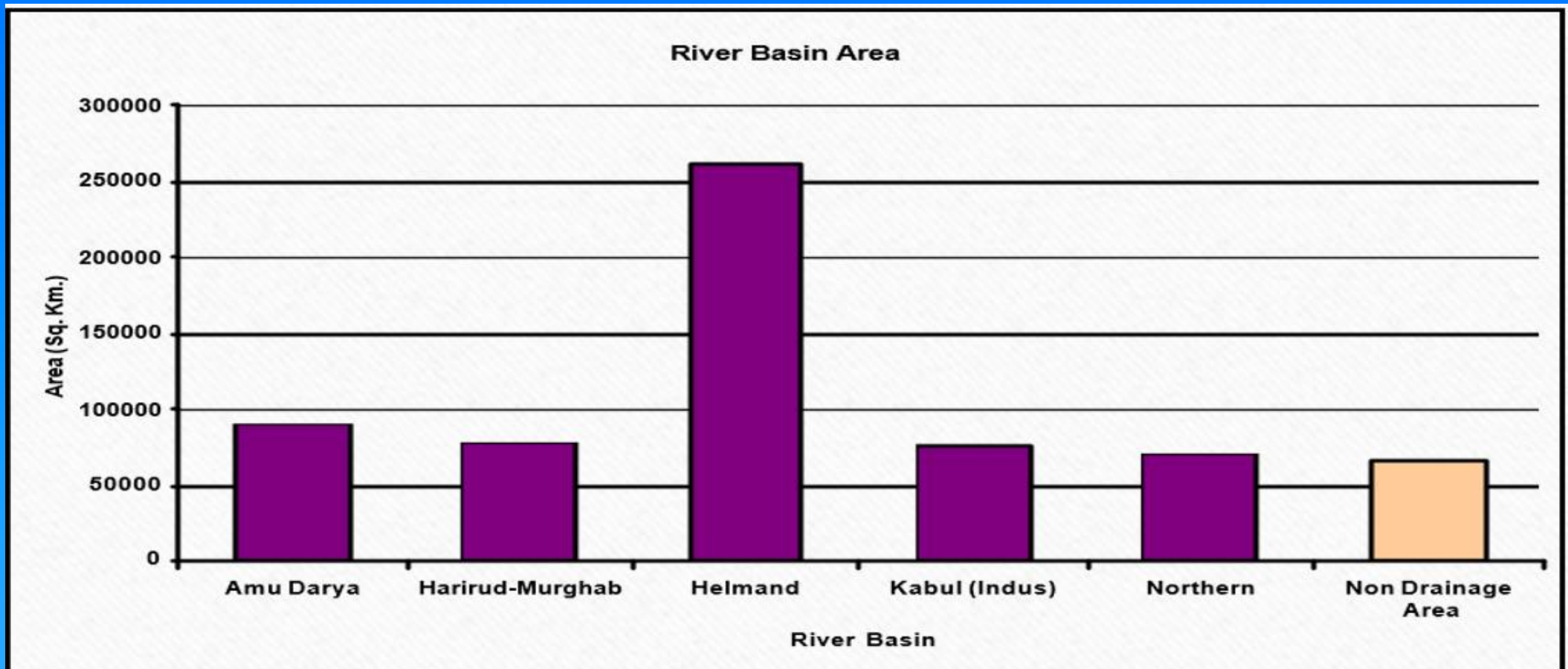
100 0 100 200 Kilometers

## LEGEND

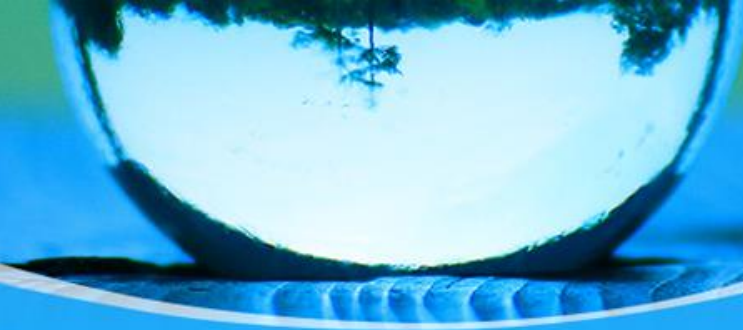
- Agro-meteorological Station
  - % Automatic Station - FAO-Agro-meteo
  - % Automatic Station - ICARDA
  - \$ Classical Station - AFRANE
  - \$ Classical Station - FAO-Agro-meteo
  - # Rain-Gauge - FAO-Agro-meteo
  - # Rain-Gauge - FAO-Locust
- Existing and Proposed Dams
  - % Existing - Hydropower
  - # Existing - Irrigation
  - \$ Existing - Irrigation and Hydropower
  - % Existing - Water supply
  - % Proposed - Hydropower
  - \$ Proposed - Irrigation and Hydropower
- Hydrological Station
  - % Interrupted Years
  - % 1 - 5
  - % 6 - 10
  - % 11 - 15
  - % 16 >
- River Basin Boundary
- Watershed Boundary
- River System
  - River
  - Stream
  - Intermittent drainage

# GRAPHS

Graph 2 show that the largest number of settlements are located in the Helmand river basin..







# Amu Darya basin:

- The Amu Darya basin has its **headwater** in the High Pamir Mountains of Afghanistan and Tajikistan.
  - The Amu Darya basin has total **227800 km<sup>2</sup>** Area. However 39% or (91000K<sup>2</sup>) of in Afghanistan.
- It has **2540** km length that **1200km** of this border between Afghanistan and Tajikistan, Uzbekistan, Turkmenistan.
- The **major tributaries** of the Amu River are the(Rustaq, khanAbad, kokcha, kondozi)in AFG.
  - Also this basin has ability about **900 km** for shipping.
- **Therefore**, the basin has great hydropower potential that is largely **unused**.



# Amu Darya River Basin



## LEGEND

- Agro-meteorological Station
  - Automatic Station - FAO-Agro-meteor
  - Automatic Station - ICARDA
  - Classical Station - AFRANE
  - Classical Station - FAO-Agro-meteor
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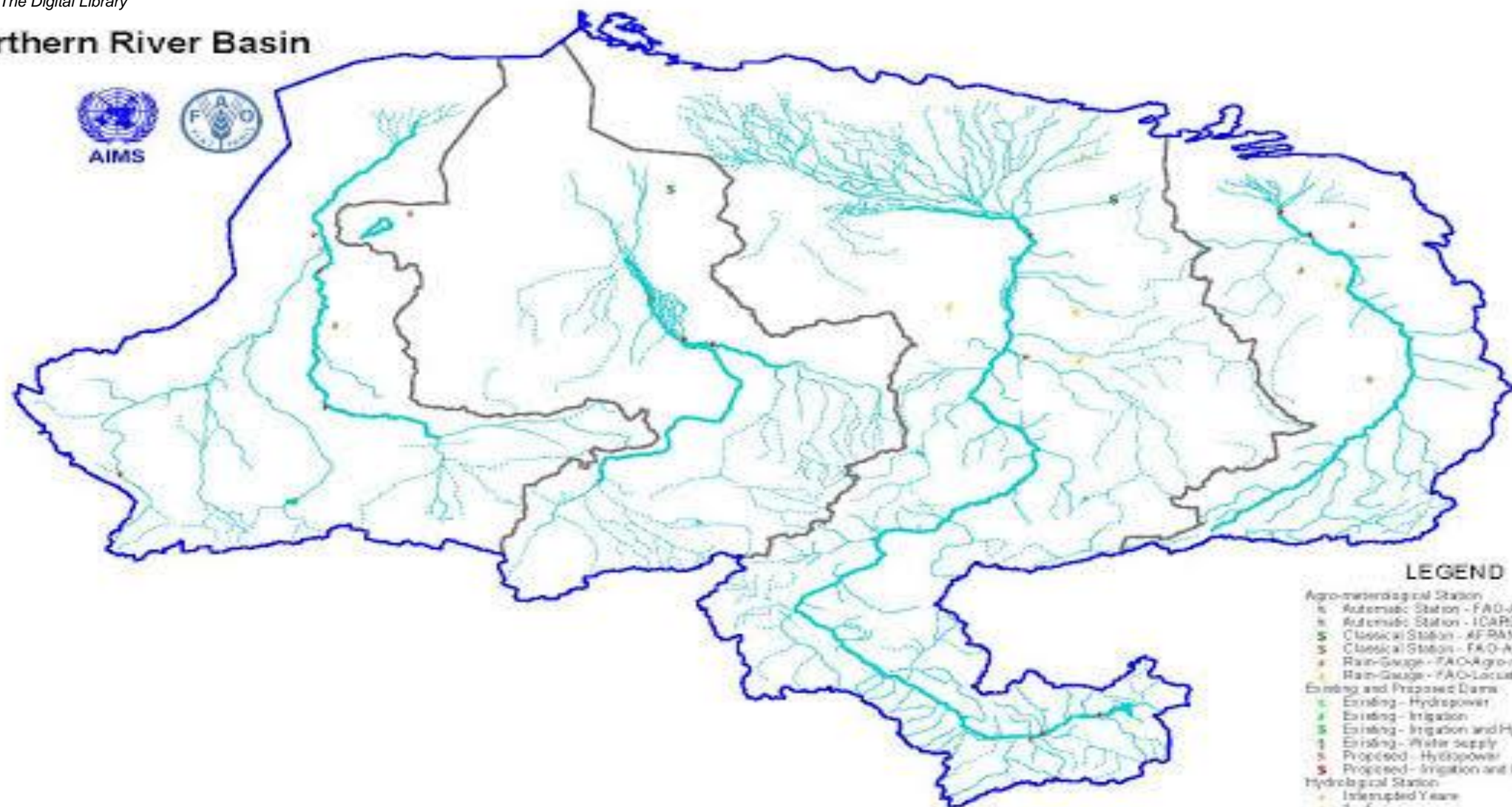
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## Northern river basin

- The northern basin has the smallest annual flow contribution in Afghanistan
- The Northern river basin has total **71000 km<sup>2</sup>** Area.
- The major tributaries are the
- (Shirin Tagab, Sari Pul, Balkhab and khulam Rivers)
- This rivers **dry up** in irrigation canals or desert sands long before reaching the Afghan border and the Amu Darya River.

# Northern River Basin



## LEGEND

- Agro-meteorological Station
  - A Automatic Station - FAO-Agro-metes
  - B Automatic Station - ICARDA
  - C Classical Station - AFRANE
  - D Classical Station - FAO-Agro-metes
  - E Rain-Gauge - FAO-Agro-metes
  - F Rain-Gauge - FAO-Local
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  - N Interrupted Years
  - O 1 - 5
  - P 6 - 10
  - Q 11 - 15
  - R 16 +
- River Basin Boundary (blue line)
- Watershed Boundary (brown line)
- River System (blue line)
- River (blue line)
- Stream (blue line)
- Intermittent drainage (dashed blue line)

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100 0 100 200 Kilometers

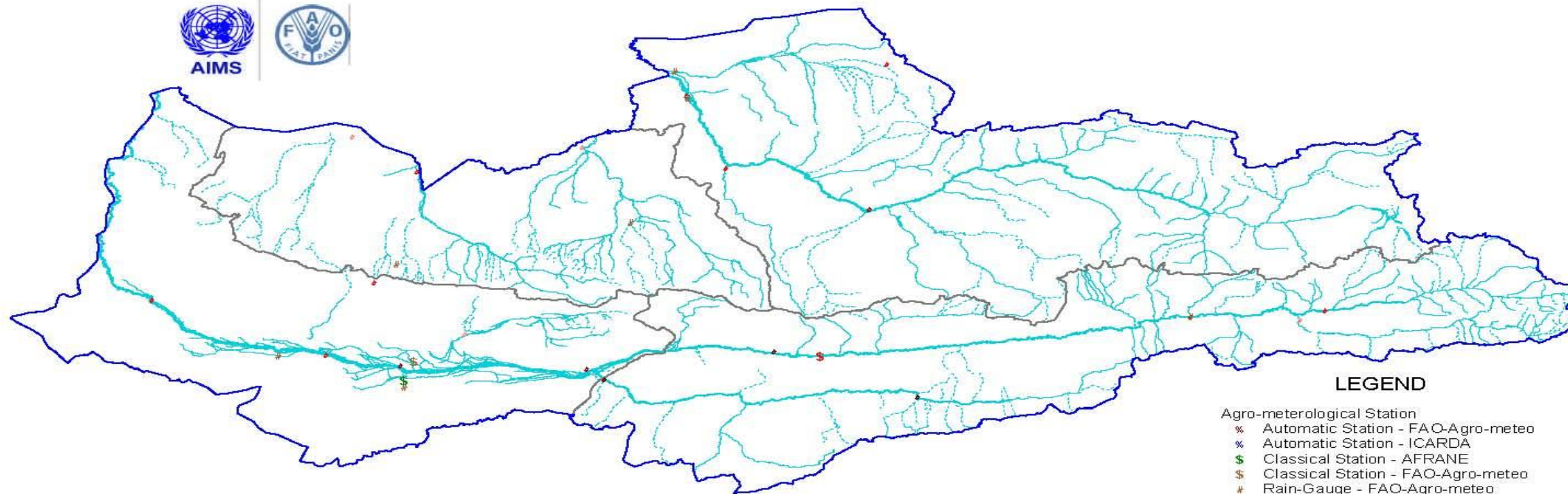




## **Harirod-Murghab river basin**

- This basin make from Morghab and Koshakrod rivers.
- And has about 80000 Sq.km Area.
- The start from BaBa Mountains, and Flow 650 km in Afghanistan, and make 100 km border between Afghanistan and Iran.
- And dry of Tajan desert sand in Turkmenistan.

# Bala Murghab River Basin

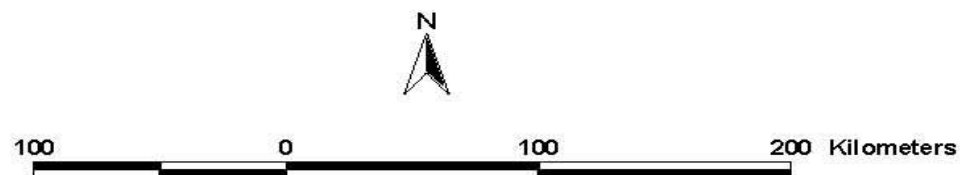


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## In Hence:

- in collection water in Afghanistan almost Estimate (55% to 24% Milliard meter. Cube)
- In this situation 28% of Afghanistan water use at Economic activity (Like power and irrigation and other needs)
- And 72% of this water without any used and Cross the border.



# *The End*





**Thank you**  
for your Attention



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For assignment of hydrology



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