



Fig 1: The River Nile

In the hieroglyphics of ancient Egyptian, the Nile is simply the 'great river'. For centuries it has provided Egypt with water for drinking and irrigation and is regarded as one of the great rivers of the world. It has a catchment area of 3,254,555 square kilometres, draining one tenth of Africa. The Nile measures around 6,800 km from its source to its mouth in the Mediterranean Sea.

The main source of the Nile is sometimes considered to be Lake Victoria, but the lake has feeder rivers of considerable size including the Kagera River.

The three main tributaries, the White Nile, the Blue Nile and the Atbara, provide water for the Nile, with each tributary having a different regime. The White Nile has a constant flow of water throughout the year, and the Blue Nile, originating in the Ethiopian Highlands, is far more seasonal, with the highest discharge being during the rainy season in Ethiopia (June-September). It is the waters from the Blue Nile which mainly account for the seasonal flooding of the Nile.

However, the Nile also has several large dams which regulate the flow of water downstream from them e.g. the Aswan Dam in southern Egypt.

As with any drainage basin, the area of the Nile drainage basin is not determined by political boundaries. The Nile runs through and draws its water from 10 countries in Africa. Both Sudan and Egypt are arid desert areas and the Nile is their principal water supply.



Fig 3: A clear contrast between the desert and the irrigated farmland either side of the River Nile

The majority of the Egyptian population and 8 out of the 10 largest Egyptian cities are located along the Nile valley, to the north of Aswan. International agreements limit Egypt's share to 55 milliard cubic meters per year. Currently the Nile meets 90% of Egypt's water needs, but with a growing population, increasing urbanisation and an expansion in agriculture, the country will face a future water crisis.

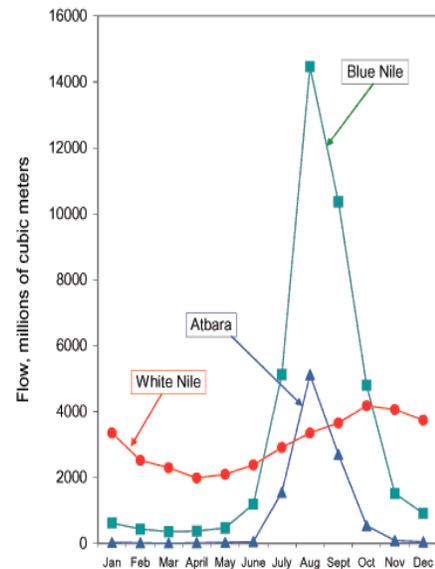


Fig 2: Annual flow in the main Nile tributaries
Source: Dr Tanya Furman

Tasks

- 1) Explain what the 'regime of a river' means.
- 2) Sketch a map of the River Nile with its main tributaries.
- 3) Using the information above, annotate the map with the key characteristics of the Nile. You could use the internet to add additional facts about the Nile, e.g. the major dams, the largest centres of population, etc. You should include the political boundaries of the 10 countries through which the Nile flows.
- 4) Using figure 2, describe the difference in the regimes of the three main tributaries.
- 5) Explain why you think the White and the Blue Nile have different regimes.
- 6) Suggest issues which may be present when a river flows through more than one country.
- 7) How do the issues you have identified in task 4 become more acute because of Egypt's human and physical geographical characteristics? *

* This is intended as a research question, or one which can be answered after studying other resources about Egypt, e.g.

<http://www1.american.edu/ted/ice/nile-2020.htm>.

Further information

The website <http://eol.jsc.nasa.gov/EarthObservatory/GreatBendinNileByDayNight.htm> demonstrates the contrast between the dark green vegetation and the browns of the Egyptian desert north of Luxor in Egypt. When you roll the mouse over the image, the lights of settlements clearly outline the Nile Valley by night in a similar way to the vegetation by day.

www.isgi.cnr.it/stat/pubblicazioni/sustainable/133.pdf provides some useful background reading material.

Images

Map (Fig 1): © 2010 Bobarino, Eric Gaba, Cryonic07.
<http://commons.wikimedia.org/wiki/File:Nile-en.svg>

Hydrograph (Fig 2) by Dr Tanya Furman, Penn State University.
<https://courseware.e-education.psu.edu/courses/earth105new/content/lesson04/11.html>

Satellite image (Fig 3): © 2002 Spot Image.
http://commons.wikimedia.org/wiki/File:Nile_SPOT_1173.jpg