

Aswan Dam

It was decided to build a new dam when the old or Aswan Low Dam built by the British between 1898 and 1902 almost overflowed in 1946. Located near Aswan, the world famous High Dam was an engineering miracle when it was built in the 1960s. The Dam is 3,830 m in length, 980 m wide at the base, 40 m wide at the crest, and 111 m tall. The reservoir, Lake Nasser, is 500 km long and 35 km wide and, at the time it was built was the largest artificial lake in the world. Today it provides irrigation and electricity for the whole of Egypt and, together.

Due to the absence of appreciable rainfall, Egypt's agriculture depends entirely on irrigation. With irrigation, two crops per year can be produced. The High Dam created a 30% increase in the cultivatable land in Egypt, and raised the water table for the Shara as far away as Algeria. The electricity producing capability of the Dam doubled Egypt's available supply.

Damming the Nile flooded much of lower Nubia and over 60,000 people were displaced. However, it allowed new settlements to be planned on an improved basis. Lake Nasser flooded valuable archaeological sites such as the fort at Buhen. The valuable silt which the Nile deposited ashore in the yearly floods and made the Nile floodplain fertile is now held behind the dam. Silt deposited in the reservoir is lowering the water storage capacity of Lake Nasser. Poor irrigation practices are waterlogging soils and bringing salt to the surface. Mediterranean fishing declined after the dam was finished because nutrients that used to flow down the Nile to the Mediterranean were trapped behind the dam.

There is some erosion of farmland down-river as the river replenishes its sediment load. Erosion of coastline barriers due to lack of new sediments from floods will eventually cause loss of the brackish water lake fishery that is currently the largest source of fish for Egypt, and the subsidence of the Nile Delta will lead to inundation of the northern portion of the delta with seawater, in areas which are now used for rice crops.

The delta itself, no longer renewed by Nile silt, has lost much of its fertility. The red-brick construction industry, which used delta mud, is also severely

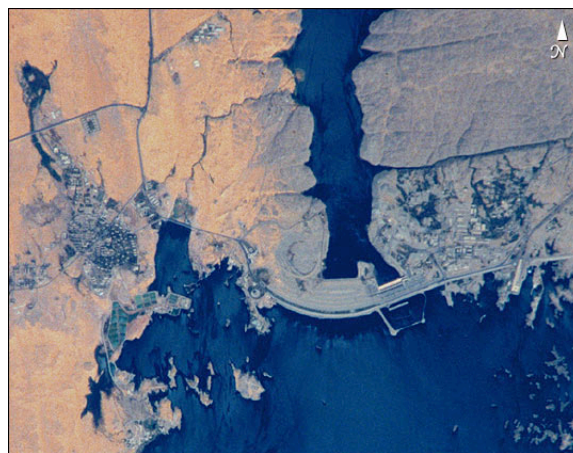
affected. There is significant erosion of coastlines (due to lack of sand, which was once brought by the Nile) all along the eastern Mediterranean.

As salt water stagnates and evaporates it leaves behind salt crystals on the soil, causing salinisation and decreased yield. Furthermore, the standing water is a breeding ground for snails carrying the parasite bilharzia, the second most socioeconomically negative parasite, second only to malaria.

The increased use of artificial fertilizers in farmland below the dam has caused chemical pollution, which the traditional river silt did not. Indifferent irrigation control has also caused some farmland to be damaged by waterlogging and increased salinity, a problem complicated by the reduced flow of the river, which allows salt water to encroach further into the delta.

The Aswan Dam tends to increase the salinity of the Mediterranean Sea, and this affects the Mediterranean's outflow current into the Atlantic Ocean. This current can be traced thousands of kilometers into the Atlantic.

Due to the Aswan Dam inhibiting the natural fluctuations in water height, i.e. floods, the bilharzia disease has flourished causing great expense to the Egyptian economy and people.



Q Identify the benefits of dams.
Q Identify the environmental impacts of dams.