

Where the Deserts Bloom

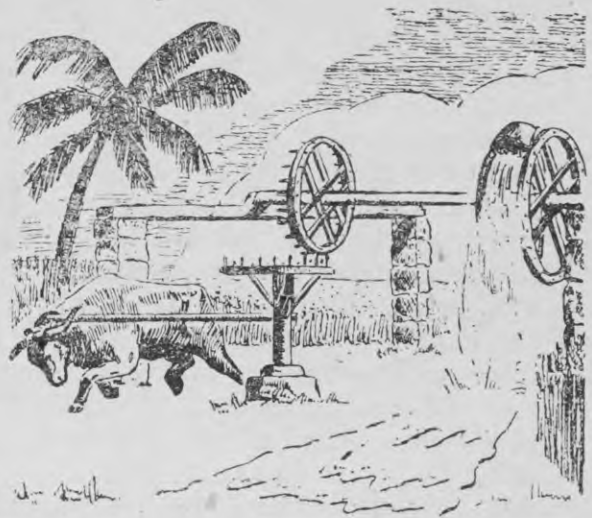
with silt during the succeeding flood and the excavation had to be repeated year after year. Occasionally the canals ran dry in the mid-summer and large areas, which had been sown, irrigated and nurtured for perhaps three months, perished, while the precious water flowed down the Nile to the sea.

It was decided in 1861 to construct barrages across each branch of the Nile at the apex of the Delta, to control the water and heighten the levels at which it flowed so that it could pass into canals taken from upstream of the barrage. Under the direction of French engineers the barrages were built, but the irrigation system got badly out of order, due mainly to the inefficiency of Egyptian administration at the time, and the whole scheme was declared a failure. One of the first problems for the British authorities in Egypt was to repair the barrages and get the water system operating satisfactorily. In 1884, the English engineer, Sir Colin Scott-Moncrieff, took charge, and the French barrage was strengthened and improved. To provide further areas of cultivable land in the provinces of Assiut, Minah, Beni Suef and Fayoum, a dam was built at Assuan on a design similar to the Delta Barrage. The work was completed in 1902.

In a few years the need for an immediate further increase in the volume of water available for summer irrigation became pressing. The dam was raised about twenty-three feet, and the storage capacity of the reservoir increased from 1,000 million tons to 2,400 million tons of water. The scheme was commenced in 1907, and completed in 1912. Subsidiary barrages were also built at Assiut and Esna. The Assiut barrage regulates the irrigation of Middle Egypt and acts both as a reservoir and a distributor, but the one at Esna further up the river is used only during the inundation times and raises the level

of the water just enough to flood the Upper Egypt basins which lie between Esna and Assiut. The 1913 flood was estimated to be the lowest for 150 years, and had it not been for the Assuan dam and the various barrages, Egypt would have been faced with famine and financial disaster.

The Assuan dam is a mile and a quarter long and 130 feet high. It has 180 sluices, arranged at four different levels, which are opened and closed by electricity. At the beginning of July when the Nile begins to rise, all the sluices are opened. In late November when the mud-charged water ceases to run and the water becomes clearer, the sluices are closed in a certain order and the reservoir gradually fills until February. Between April and July the reservoir discharges the water necessary to replenish the lower river to meet the needs of cultivators.



An oxen-driven sakia

There are two main forms of irrigation. In the more ancient system the area to be served is surrounded by embankments and is known as a basin. Water is led into it along a shallow canal during the August flood and is run off again in October, and the area sown with crops. The basins in Egypt vary from 600 acres to 50,000 acres.