

villages rising above the flood, and islands to which cattle have fled for safety. After the surplus water has run off the ground such crops are sown as can endure winter temperatures and ripen before the drought is excessive. *Crops* Wheat, barley, onions, lentils, and beans, for example, are cultivated; but in order to grow more valuable crops, such as cotton, rice, and sugar, a method of irrigation is necessary, which permits of water being supplied during the spring and summer. Flood irrigation, moreover, has the disadvantage of only rendering land productive during half the year, for during the rest it is either under water or baked by the dry heat; so a system of permanent irrigation is being developed as far as possible.

By means of water-wheels and water-lifts small areas in Egypt have long been irrigated at all seasons, but it is only comparatively lately that the construction of great dams across the Nile has rendered it possible to create long reaches of the river into huge reservoirs of water which can supply irrigation canals all the year round. There are now dams, generally called barrages, across the two mouths of the Nile at the head of the delta, as well as at Assiut and at Assuan. *Barrage (soil)* The last mentioned is about a mile and a quarter long, and raises the water for 200 miles behind it. These barrages look like stone bridges fitted with sluices, or sliding-gates, which are opened in flood-time and closed when the Nile is low, so as to create reservoirs. Though crops can be grown all the year round on land thus irrigated, the soil has to be manured, as the fertilizing silt in the water is deposited in the reservoirs, instead of on the fields, as in flood irrigation.

*Navigation* The Nile is navigable without interruption as far as Assuan, and the first cataract, which occurs here, can be passed at high water. The second, at Wadi Halfa, is passable now at all seasons, but further south four cataracts obstruct navigation. Above Khartum, at the confluence of the Blue and White Niles, an accumulation of water-weeds, known as the 'sudd,' often blocks the channel for many miles, and is only cleared away at great expense. The profuse vegetation and swamps, abounding in hippopotami and crocodiles, in the Sudan present, in fact, a great change in scenery after the bare yellow rocks and general desert conditions of the north, broken only by the irrigated fields and occasional date-palms.

*Railways* Railways are numerous over the delta, and one runs south from Cairo along the river to Assuan, and, after a break between that town and