Soil and Water as Critical Factors in the History of the Fertile Crescent

Robert McC. Adams
Smithsonian Institution
Washington, DC

The Fertile Crescent has reference to the great arc of early agricultural life and city development in the Near East, anchored at its two ends by the fertile river valleys of the Nile and the Tigris and Euphrates Rivers. Since it was largely semiarid to arid, a concentration on the deployment of water resources was one of its most pervasive characteristics. Taking this as central, I concentrate here not on the broad intermediate area, but on the great irrigation regimes at the two ends of the crescent.

The Nile is and always was, relatively the more benign, stable, and reliable of these three river systems from the viewpoint of human use. Its position is substantially fixed within a narrow valley bounded by desert scarps. While the Nile’s flow is variable, it falls mostly within moderate limits of variation that only infrequently created serious high- or low-water hardships. Egyptian agriculture, given insignificant rainfall is completely dependent on irrigation. There are suggestions in some early art of a politico-religious character that swamp drainage may have been undertaken as a royal initiative at the very beginning of the Old Kingdom. But as remains the case in later tomb paintings, Egyptian art offers idealized, ideological statements that may not closely reflect reality. Still, it is surely not unlikely that the Nile Valley, at the time of its first extensive cultivation in the fifth millennium BC (cattle may have been herded in the then-wetter Sahara much earlier) was a densely vegetated wilderness.

Irrigation in the Nile Valley followed a comparatively simple basin regime that required large-scale canalization only in a few localities like the Fayyum depression (Butzer, 1976). Simple, hand-operated lifting devices were in widespread use; geared, animal-operated ones followed only much later and more rarely. Given the limited canalization, silt clearance does not seem to have been a substantial part of the agricultural cycle. Soil salinization was similarly limited, since the Nile’s annual flood provided a flushing action, except (as now) in the lower delta fringes along the Mediterranean. While my own knowledge of ancient Egypt is based largely on secondary sources, I have never encountered a reference to any textually expressed concern over salinization and how to deal with it. Not only a water source, the Nile itself was of course the overwhelmingly dominant...