IMPACTS OF DAMMING ACTIVITY ON THE WATER AND SEDIMENT FLUXES OF THE SEBOU RIVER (MOROCCO).

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ABSTRACT: Annual pre-dam and post-dam data for one of Morocco’s largest rivers, the Sebou, were analysed using there water discharge and suspended sediment loads. Results from these analyses indicated significant reduction of water discharge and sediment fluxes by 70 and 95% respectively. Otherwise, the Sebou reservoirs, suffered from siltation due to the high rate of natural and accelerated erosion. In fact, the trap efficiency calculated for the Sebou dams ranges from 85-99%, and their life-span from 42-910 years. For instance, Al Wahda, the second largest dam of Africa, with a capacity of 3.8 $10^3$ Km$^3$, takes 374 years to be filled with sediments. This huge siltation has a serious environmental and socio-economical impact, since it reduces the reservoirs capacity, and could affect the morphological equilibrium of the coastline. In semiarid region, environmental impacts of dams are particularly emphasised because of the irregular nature of climate and the intensity of erosive forces.

Key words: Sebou river; water discharge; Sediment fluxes; impact of dams; siltation; trap efficiency; life-span; semiarid region.