

The Transboundary Nubian Groundwater basin

The Nubian Sandstone Aquifer System (NSAS) is a transboundary groundwater basin in the North Eastern Sahara of Africa. The international waters of this regional aquifer are non-renewable and shared between Chad, Egypt, Libya and Sudan. The area occupied by the Aquifer System is 2.2 million km² and extends between Latitude 14° and 33° and longitude 19° and 34° to cover 828,000 km² in Egypt, 760,000 km² in Libya, 376,000 km² in Sudan, and 235,000 km² in Northern Chad. The volume in storage represents the largest freshwater mass in the whole world. The increasing demographic growth and the lack of renewable water resources in this arid region have resulted in an increasing attention to the groundwater potential represented by the NSAS.

In light of the above, the Centre for Environment and Development for the Arab Region and Europe (CEDARE) has joined forces with the International Fund for Agriculture Development (IFAD), the Islamic Development Bank (IDB) and the riparian countries for initiating a Regional Programme for the Development of the Nubian Sandstone Aquifer System. This initiative which is the first in the world for the regional management of a shared aquifer, was a phased programme. The first phase aimed at the development of a Regional Utilization Strategy of the NSAS. The second phase aimed at the integration of the socio-economic aspects within the vision for development.

Within the regional programme, which started in 1998, agreements were signed between the four countries for regular monitoring and continuous exchange of information. The capacity of the four countries was empowered for better management of the aquifer. Regional thematic maps, regional mathematical model, and a regional information system were developed. Throughout the regional programme as well, the role of the Joint Authority for the Study and Development of the NSAS was revitalized.

This programme which provides a model for management of transboundary water resources in general and shared aquifers in particular, enables the environment and paves the way for the utilization of the aquifer within principles of rationality and wisdom. CEDARE has recently formulated a proposal for a framework of implementation for the regional utilization strategy.