A human-modified ecological hotspot: Jabbul salt lake (Syria)

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Jabbul salt lake (or *sebkha)* is a hydrologically-closed agro-ecosystem in NW Syria, which includes a seasonal lake (28,000 ha), seasonal shorelines and surrounding agricultural villages. This place is rich in agricultural production, indigenous culture and biodiversity. However, over the last decades, many changes have taken place, which threaten the sustainability of both livelihoods and the environment. The objectives of this study were to assess the changes in the environment and the institutional setting, and to design a way : Forward for sustainable management of this valuable agro-ecosystem.

Sebkhat al-Jabbul experienced a lot of changes as a result of human interventions during the ast 50 years. Historical records and maps indicate that *Sebkhat al-Jabbul* was a seasonal salt lake, which was fed mainly by *Al-Oahab* river, and which dried out for 90% during the hot summer season. Until the 1960's, the *sabkha* was surrounded by rainfed agriculture and rangeland. Beside salt extraction, there was no major human interference and the only institutions involved in the area were local village councils. During the 1970's, water extraction of the streams and overpumping from the groundwater around the lake resulted in a decline of the water level in the lake. A major turning point for the eco-system was the extension of the Euphrates irrigation scheme to the north and northeaster parts of the lake during the 1980's and 1990's. It resulted in a population explosion and expansion of intensive high-input irrigated agriculture. The inflow of drainage water from the irrigation schemes caused a more permanent presence of water in the lake, while the building of dykes resulted in several quasi-independent lakes with different salinity content. The new lake conditions attracted an extremely rich birdlife. Among them are the greater flamingo and the global threatened white-headed duck (Serra *et al.,* 2006). On the other hand, growing rural towns, new factories and increased use of agricultural inputs resulted in a fast increase of inflow of polluted sewage water. For many villages around the lake, salt collection was and remains an important source of income, despite the pollution of the salt. Other side effects of this changing situation are the increasing water table, secondary salinisation of some agricultural land, decline of the halophyte vegetation along the shoreline, illegal hunting and unregulated fishing.

The institutional landscape has also changed dramatically over the last 3 decades. The major stakeholders now include 5 Ministries, 12 government institutions, 5 research centers, one NGO, the private sector and farmer organisations. A major challenge is that government agencies have overlapping and unclear mandates related to *Sebkhat al-Jabbul.* This resulted in a lack of common-agreed vision and integrated master plan, in single-disciplinary interventions, lack of coordination, legal vacuum and scattered knowledge of the lake. The key to get out of this impasse is to start-up a multi-stakeholder process (MSP), which provides leadership for envisioning and planning, while accommodating the diverse perceptions and aspirations of all involved, and taking into account the environmental limitations and opportunities of the ecosystem. This MSP approach is expected to lead to conservation of the rich biodiversity, while ensuring local livelihoods and strengthening the local environmental governance institutions.

Reference

Serra G., Murdoch D., Turkelboom F., Travert F., Mujawer Y. and Scott D., 2006. *Sabkhat alJabbul,* a threatened Ramsar wetland, Syria. Sandgrouse, 28(2): 127-141.