



Tropentag, October 7-9, 2008, Hohenheim

“Competition for Resources in a Changing World:
New Drive for Rural Development”

Northern Delta Lakes, Egypt: Constraints and Challenges

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Abstract

Egypt drives its fish yield from three main fishery resources; marine (Red and Mediterranean seas), inland (Delta and coastal lakes and River Nile with its tributaries) and aquaculture. These fisheries are one of our chief sources of wealth, if we give them due care, we can increase our national income and solve many of our problems. The lakes' fisheries play an important role in Egyptian economy, where they provide about 39 % of harvested fish in Egypt (1980–2006). The Egyptian Mediterranean coast exhibits six lakes or lagoons which are situated along the Nile delta coast (Northern delta lakes: Manzala, Borollus, Edku and Mariut) and to the east of the Suez Canal (Port-Fouad and Bardawil). All of them, with the exception of Lake Mariut, are directly connected to the sea. The northern Delta lakes are the most productive Egyptian lakes, where more than 75 % of Egyptian lakes fish production was harvested from them. The current status of northern Delta lakes' fisheries were evaluated and an assessment of the different fishing gears operated inside them was done. Fishery statistics of the different fishing gears over the last 20 years (1987–2006) were collected and analyzed. The biomass – based model of Schaefer was applied to the catch per unit of fishing effort (CPUE) indices. The maximum sustainable yield (MSY) and the relevant level of fishing effort (fMSY) for the northern Delta lakes were estimated. Also, $2/3$ fMSY, as a target reference point was calculated. All challenges facing the sustainable development of these lakes were identified and some of practical solutions were advised.

Keywords: Biomass-based models, Egypt, reference points