An Evaluation of Fisheries Potential of Solar Salt Works Reservoirs in Ungwana Bay, Kenya

P. Mwangudza
University of Eldoret, Kenya and Pwani University, Kenya
petronillamasika@yahoo.com

Artisanal fisheries are important source of livelihood to coastal communities in most developing tropical countries. Catches from near shore fishing grounds have however, been declining. Man-made solar salt works reservoirs in Ungwana Bay north coast Kenya have created alternative fishing grounds for local fishers unable to venture into offshore fishing grounds. This study therefore, evaluated the fisheries potential of the solar salt works reservoirs through regular catch assessment surveys at selected reservoirs located at Gongoni, Kurawa and Marereni landing sites between January 2015 and February 2016. Data on gear types and catches were analyzed to determine seasonal catch composition, production and catch rates. Results showed prawn seines and traps were the dominant fishing gear types used in the reservoir fishery. A total of 4,022.04 kg consisting of 50 finfish and 9 crustacean species was landed. Metapeneaus monoceros was more abundant in Gongoni and Marereni during the dry northeast monsoon (NEM) season while Oreochromis mossambicus was more abundant in Kurawa. The non-metric Multidimensional scaling (nMDS) results showed distinct catch composition across landing sites with gear and season combinations (1-way ANOSIM: R = 0.670; p = 0.010). High species diversity was associated with prawn seines especially in Marereni during the NEM while the lowest diversity was associated with the same gear in Gongoni during SEM. There was significant difference in catch rates (kg/fisher.hr-1) between fishing gears (df = 1; f = 3.267; p=0.003) but not between seasons (df = 1; f = 2.419; p = 0.124). The study revealed fisheries production in the reservoirs is not affected by seasons but by factors such as the location of the reservoirs and gear types. The salt works reservoirs have potential for supporting fishers using low level fishing technology and there is need for longer term studies to generate more information necessary for formulation of guidelines for the sustainable management of the associated fisheries.