

ABSTRACT

Ecotourism, one of the world's biggest revenue generating industries world over, utilizes natural water resources as recreational destinations in most economies around the world. However, developing nations, including Kenya, lag behind on the industry development because of limited scientific evaluations. The study was conducted in Asat, Ogal, Usoma and Lwang'ni beaches in Victoria, Kenya, the main objective being to demonstrate challenges and opportunities of recreational ecotourism in fresh water Lake Victoria shore areas of Kisumu county. The study integrated diverse themes through the objectives: to document the physical and aesthetic status of recreational features within environments of L. Victoria; to assess water quality indicators of recreational ecotourism at the beach areas; and to determine the influence of risk perceptions on participation in water-based recreation activities. Applying case study and mixed design approach, observation data were treated with content analysis and presented by descriptions. A 12 - month water samples were collected and analyzed for physical and bio-chemical recreational quality. The resultant values were treated to significance test (t-test) for spatio-temporal variations. Survey data attributes for risk factors were treated for significance using Kruskal-Wallis validity test. Results of physical status revealed that 85.1% of the study sites constituted drylands, but with little facilitative amenities for recreation. Circumstances of recreationally unfriendly environments observed to be characterized by decayed organic matter, silt & sediment deposits at 43.38%; spread of algae at 23.75%; oil films and foams at 8.10%; and occupancy by heaps of solid wastes at 0.85%. Results of confirmatory water quality tests suggested that Temperature, pH, DO, *E. Coli* and BOD occurred within recommended recreational detection limits, but turbidity, TSS, TN and TP occurred at unfavorably high levels by 29.28%, 19.48%, 4.17%, and 3.16% respectively. Statistically significant differences were confirmed to exist for mean values of all parameters during wet and dry months except for pH. Mean values of current research were compared with those of 2015/16 correspondingly. Results indicate increased trends in Turbidity, TSS, BOD, TN and *E. Coli* at 4.72%, 5.36%, 3.93%, 6.04% and 8.51% respectively. In all possible water-based recreational activities participation levels were observed for swimming, fishing, boating and sunbathing at a mean low of 5.9% - a close reflection of survey responses obtained for participation levels at 9.48%, and perception of popularity at 11.8% for similar activities. Across all study sites, there was a statistically significant effect of perceived risk factors on participation in recreation activities. This study recommends enhancement of sanitary and aesthetically conducive waterfront environments, control of pollution sources and mitigation of impacts, and initiation and implementation of sensitization and branding programmes for potential recreationists.