Ecological and socio-economic effects of water hyacinth (*eichhornia crassipes*) on Lake Victoria: a case study of Buvuma District

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Introduction

Lake Victoria was once home to unique and diverse fish fauna that formed a special delicacy to the fishing communities (Graharm, 1984). Until the 1970s the Lake supported a multi-species fishery. However, the introduction of aquatic vegetation presents the largest threat to socio-economic development.

Study objectives

Study (a) assessed the invasion, distribution, and coverage of water hyacinth in Lake Victoria, Buvuma District; (b) determined the effects of water hyacinth on water quality concerning oxygen concentration, nutrients, the abundance of zooplankton, and fish catch composition in Lake Victoria, Buvuma District; (c) identified effects of

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water hyacinth on the fishing communities of Lake Victoria-Buvuma District.

Methodology

The study employed qualitative and quantitative research approaches and the sample size of 346 respondents determined using the Slovene's formula was used. Simple random sampling was used. The purposive method was also used for some categories of respondents such as technical staff and political heads of the District. Interviews were also used not only to answer the research questions under the study but also to acquire ideas of individuals being interviewed to have their feelings about the ecological and socio-economic effects of water hyacinth. 1960.

Key findings

The study findings revealed that the distribution and coverage of the water hyacinth in Buvuma District included stationary/residential 54%, patch mobile 26%, shallow residential 15%, open water 5% that had greatly affected fish productivity; causing a reduction in fish catches 30%, destruction of fishing grounds 20%, loss of breeding grounds 15%, loss of nursery grounds 30% and other effects 5%. The weed also affected the fishing communities through the loss of recreation sites 6.65%, causing diseases 10.69%, threatening food security 10.98%, threatening residential areas in Lubya, Kirongo, Namiti and Kirewe 3.76%, causing a rise in transport costs 35.84%, affecting domestic water quality and quantity 10%, limiting access to baptism and other cultural events

2.02%, causing loss of fishing gears 13.87%, and resulting in a reduction in fish catches 16.19%.

Key recommendations

Finally, the study recommended having sustainable management and control of the weed by the District local government authority, the fishing communities, and other stakeholders through continuous sensitization to have sense of ownership of the Lake and control of the weed for the improvement of the fish catches and the livelihood of the fishing communities.

Key references

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