

# **ECOSYSTEM VALUATION OF THE OTI-ARM OF THE VOLTA BASIN USING CHOICE EXPERIMENTS**

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## **ABSTRACT**

The importance of the crucial ecological functions and socio-economic benefits of the Volta River Basin calls for efforts to ensure its conservation, sustainable management and improvement. This study aimed at assisting policy makers in this direction by providing them with the results of a Choice Experiment valuation using the Oti-arm of the basin.

A random sample of 122 household heads participated in the choice experiment. The responses to the choice tasks were analyzed using the Conditional Logit Models. Various hypotheses were tested and choice-specific parameters derived. Willingness to pay and compensating surplus as well as marginal rates of substitution were estimated. The reported models are robust, having high explanatory power and variables are statistically significant and consistent with theoretical expectations.

The results indicated that majority of the respondents (84.1%) had a positive willingness to pay for an improved ecosystem. All the ecosystem attributes were significant factors in the choice of an alternative management scenario. The impacts of socio-economic characteristics of the respondents on their valuation of ecosystem attributes were significant and conformed to economic theory.

Samples of water drawn from some sections of the Oti River were studied for water quality. The results indicated that except for turbidity, total iron and faecal and total coliforms, all the water quality parameters were within the limits set out by the 2003 Ghana Raw Water Criteria and Guidelines for domestic use.

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