

Provisioning of water ecosystem services in Kapingazi catchment, Embu County, Kenya. Can prospects of willingness to pay improve water quality and quantity within the catchment?

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(a) Purpose of study or research hypothesis

Ecosystems provide a wide range of valuable ecosystem services which are the foundation of man's sustainable development such as water provision. However, when humans exploit ecosystems in providing for their own sustenance, they affect ecosystem services intensively, endangering man's survival and development. Kapingazi catchment is home to a range of ecosystem services mainly water provision to downstream users including national hydroelectric power stations that contribute to 52.1% of hydro-electric power of Kenya's electricity which is being threatened by anthropogenic activities. The aim of this research was therefore to assess the willingness to pay in improving water service provision in Kapingazi catchment in Embu County, Kenya.

(b) Key issue(s) or problem(s) addressed

Destruction of the catchment area through agricultural and industrial activities, have negatively impacted Kapingazi River with its water quality and flows fluctuating significantly. These impacts weaken water provision through changing ecosystem structure, therefore there is need to reverse them in Kapingazi catchment. Payment for ecosystem services is one of the approaches which can enhance adoption of sustainable land management practices leading to improved water quality and water quantity in Kapingazi catchment.

(c) Methodology or approach used

The study adopted cross sectional research design. Both primary and secondary data were collected from Kapingazi catchment and was analyzed using descriptive and logistic regression.

(d) Results or conclusions derived from the project

The results show that 67% of the respondents were willing to pay for improved water services in terms of water quality and water quantity within the catchment. The respondents were willing to pay an average of USD 9.10 per annum in addition to the average water connection fee of USD 4.19 per month for improved water services in Kapingazi catchment. Logistic regression analysis revealed that age, education and household size were the factors influencing respondents' willingness to pay (WTP) for improved water service in the study area. Positive WTP for improved water service provision shows the need for improved water service provision in Kapingazi catchment.

(e) Implications of the project relevant to congress themes

The decision makers should create enabling policy for implementation of payment for ecosystem services (PES) programme for improved of water service provision while at the same time secure a healthy ecosystem in Kapingazi catchment.

Keywords : Water, catchment, ecosystem, ecosystem services, Willingness to pay