Environmental And Socioeconomic Impacts Of Cage Aquaculture At Kpeve Tornu Section Of The Volta Lake

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ABSTRACT

Cage aquaculture involves fish farming in floating cages in an existing water body that permits exchange of water, nutrients and waste materials between the cage and the water environment. While some experts claim that cage aquaculture negatively impacts on water quality, others found no significant impacts of fish farming in floating cages on water environment. While information on cage aquaculture abounds in some countries to enhance the industry, little information exist on the impact of cage aquaculture on the Volta Lake. Adequate data on the financial viability of cage aquaculture in Ghana is limited, and little is also known of the effects of fish farming on the Volta Lake on fishing communities. Information on compliance levels of fish farm owners on aquaculture regulations is also not much known.

The study therefore sought to examine these relevant issues at Kpeve Tomu, a fishing community in Afadjato South District in the Volta Region. Laboratory analysis of physicochemical parameters indicated that there were no significant differences between water quality parameters from four fish farms and two control sites. A cost-benefit analysis on five cages of volume 360 cubic meters each was 1.34 in the first production cycle and a gross margin of 104.41 percent in the second production cycle indicating that cage aquaculture business in Ghana was financially viable. The cage aquaculture business also impacted positively on the livelihoods of the people of Kpeve Tomu in areas of employment, poverty alleviation, trade and

food security. Cage fish farm owners did not comply fully with aquaculture regulations. Aquaculture regulations were effective on fingerlings and aquaculture related chemicals producers, but the regulations on fish farmers needed a review since there were no definitions for intensive and semi-intensive fish farming in the aquaculture regulations of Ghana.

The study recommends that a research be conducted into the impact of stocking density in cage aquaculture environments to prevent deterioration of water quality in the near future. A research into sediment chemistry, zooplankton assemblage, impact of escaped fish on local species, management of hormones by fingerlings producers and the concentration of canola oil were also recommended.

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