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"Solidarity in a competing world — fair use of resources"

The Impacts of Fishery Resource Management Innovation on Nutrition of Households in Plateau State, Nigeria

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Abstract

The issues of nutrition insecurity and deficiencies of micronutrients consumption among households of rural communities in developing countries is widespread and constitute serious public health problems. This study compared the nutrition impact of participants and non-participants of natural resource management innovation of government regulated (RENLAF) and unregulated (URENLAF) fisheries in Plateau State, Nigeria. We examined nutrition security and technical efficiency of captured fisheries in the wake of the need for adoption of sustainable management of natural resource innovation in the country. Daily fishing observations were made during catch assessment survey (CAS) recorded in a logbook and a seven day food consumption recall. Data were also collected through questionnaire from 80 fishers' randomly selected at four lakes sites of URENLAF and 30 other fishers purposively selected from regulated Pandam Lakes. We analysed and compared the nutrition impacts of RENLAF and URENLAF on fishing households as well as estimated their income and efficiency of fishing. The analyses were carried out using descriptive statistics, food consumption recall record and stochastic frontier function model. Driving on data from both RENLAF and URENLAF fishing families, we show that participation in regulated fishing innovation has significantly positive effects: higher efficiency of harvest (12 %), higher prospects of sustainable fishing and more income by N14,200, while, calorie (energy), Iron, Zinc and Vitamin A consumption among households are also higher by at least 13 %. Also, some observable variables relating to socio-economic characteristics such as extension contact ($p < 0.1$), age ($p < 0.05$) and educational status ($p < 0.1$), were positive and significantly affected by technical efficiency. The major constraints to fishing at both fisheries were hippopotamus and high cost of fishing gears. Transformation for higher nutrition impacts and sustainable fishery management will require the involvement of educated fishers, extension education, gear limit, and setting more RENLAF sites from the existing URENLAF sites by redefinition of property rights.

Keywords: Efficiency, fishing, income, micronutrients, Nigeria , nutrition, stochastic

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