



Tropentag, September 17-19, 2014, Prague, Czech Republic

“Bridging the gap between increasing knowledge and decreasing resources”

Land-Use Alternatives of Small-Scale Farmers’ in Northern Bangladesh: Use of PROMOTHEE Analysis

MD. SALAUDDIN PALASH, SIEGFRIED BAUER

Justus-Liebig University Giessen, Inst. of Farm and Agribusiness Management - Project and Regional Planning, Germany

Abstract

This study explores the policy variables that can influence the farmers’ land use decisions. The study represents the northern part of Bangladesh where the land conversion from crop to fish farming highly exists. The study focuses on the small-scale freshwater pond fish farming. A multi-stage sampling procedure was followed to select the study area and the sample. Mymensingh district, with high existence of the land conversion, is considered as the study district. Among twelve sub-districts in Mymensingh district, four sub-districts as Mucktagachha, Trishal, Phulpur, and Bhaluka were selected. A sample size of 115 small farmers was purposively selected in four sub-districts. The farmers face difficulty to make a land use decision because, one alternative can setback other alternatives depends on some criteria, and at the same way other alternatives also can setback each other depends on other criteria. The farmers have to consider these factors while choosing an alternative. Accordingly, making land use decision considering all criteria is a challenge. A PROMETHEE (Preference Ranking Organization Method for Enrichment Evaluations) method was used to get rid of the problem, which revealed the effects of some important variables on farmers’ land use decisions. The fish farming is favorable in the base case; however, it is altered in the scenario analyses. In the scenario of increasing BCR (Benefit-cost Ratio), the small farmers prefer crop farming instead of fish farming. The same result is in the second-scenario analysis (increasing output price growth rate), but the preference index rates are different. The index rate of changing BCR value is higher than the change of output price growth. The study concludes that there is a scope for the policymakers to intervene in the parameters of price growth rate and BCR.

Keywords: Land-use alternative, MCDM, PROMETHEE, small-scale farm