Analytical Hierarchical Process and Cost Benefit Analysis for Evaluation of Alabama Catfish Profitability and Sustainability

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Abstract

Catfish production has experienced a decline in the past two years, and farmers have been blaming international competition, exports, low prices and poor feed conversion ratios as the main causes. We evaluate the usefulness of the Analytic Hierarchy Process (AHP) and the Cost Benefit Analysis (CBA) as instruments for rapid evaluation of farmers, problems, the profitability and sustainability of aquaculture systems in Alabama. In April 2010, tests of the instruments were conducted among five farmers. A survey was then administered to 27 Alabama farmers and specialists involved in large-scale catfish production and marketing. Participants displayed unanimity in their responses. All IRs were less than 0.1. The variables: the, improvement in technology, and the, reduction of disease problems, received the highest ranks. Embedded in the response of technological innovation is the improvement in feed conversion ratio. This criterion received a rank of 75% higher than the second highest ranked criteria, which is, increase harvest frequency. In last place were reduction in selling cost and burglary/theft. Government influence received a low ranking, but research and extension received average scores. The participants did not rate trade highly and only accorded average importance to environmental sustainability. The CBA analysis shows that catfish farming in Alabama on a 60-acre pond is profitable in the long run, given the RRR of 8%. Based on participants, ranking of needs, if a 12% increase in technological change is attained, profitability will increase by 20%. The improvements can be obtained from increasing feed conversion efficiency