

NOTICE OF PUBLICATION



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RESEARCH REPORTS

Sustainable Aquaculture for a Secure Future

Title: Role of life cycle assessment in sustainable aquaculture

Author(s): Ling Cao^{1,2}, James S. Diana¹, and Gregory A. Keoleian^{1,2}

1. School of Natural Resources and Environment, University of Michigan, Ann Arbor, MI, USA

2. Civil and Environmental Engineering, University of Michigan, Ann Arbor, MI, USA

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Abstract: As an alternative food source to wild fisheries, aquaculture shows a great potential to help meet the growing demand for seafood and animal protein. The expansion of aquaculture has been achieved partly by system intensification, which has drawn vast criticisms of aquaculture for its environmental, social and economic sustainability issues. Life cycle assessment (LCA) has become the leading tool for identifying key environmental impacts of seafood production systems. A LCA evaluates the sustainability of diverse aquaculture systems quantitatively from a cradle-to-grave perspective. It provides a scientific basis for analyzing system improvement and the development of certification and eco-labelling criteria. Current efforts focus on integrating local ecological and socio-economic impacts into the LCA framework. A LCA can play an important role in informing decision makers in order to achieve more sustainable seafood production and consumption. This article reviews recent applications of LCA in aquaculture, compares the environmental performance of different aquaculture production systems, explores the potential of including biodiversity issues into LCA analysis and examines the potential of LCA in setting criteria for certification and eco-labelling.

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