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## Inclusive Environmental Impact Assessment of the Aquaculture

[Daisuke Kitazawa](#)

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**Summary:** The environmental impacts of the aquaculture system were inclusively assessed by using the Triple I (III: Inclusive Impact Index), which was developed by IMPACT Committee of the Japan Society of Naval Architects and Ocean Engineers. Triple I is calculated based on ecological footprint, biocapacity, ecological risk, human risk, cost, and benefit, and these values except ecological and human risks were estimated for 2ha of cultivation ponds of the shrimp, *Penaeus japonicus*, which annually produce 20 tones of shrimps. As a result, the change in Triple I due to the shrimp cultivation act was estimated as 159.84 [gha], which means that the shrimp cultivation act actually requires a large ecological footprint within the scope of the present discussion. The ecological footprint was quite larger than the production of biocapacity and the profit of the shrimp cultivation act. The large ecological footprint was attributed to feed production, which requires marine ecosystems sustaining the fish production, and to fuels to catch the fish. As future studies, the accuracy of the estimation of Triple I should be improved by including the effects of the distribution processes, the processing of feed and shrimps, ecological risk, and human risk.

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