

report

by Kiprop Kiprop

Submission date: 06-Aug-2021 12:11PM (UTC-0400)

Submission ID: 1628471620

File name: IMTA.docx (15.6K)

Word count: 506

Character count: 2676

Integrated Multi-Trophic Aquaculture System

Institution

Student name

Professor

Date

The Integrated Multi-Trophic Aquaculture System entails a practice in which cultured organisms from various nutritional levels utilize one or more organisms (Hua et al., 2019). They involve same or different trophic levels in two or more species, in the aquatic habitat. This idea has been adopted in recent years in aquaculture, and land-based culture.

In a research done in Cebu, Philippines, it is evident that more than 60% of Asian population rely on fish and other aquatic food as animal protein. With the increasing population, sustainable production of fishery is a challenge (Lomboy et al., 2019). IMTA uses water breeds which are both environmentally friendly and commercially viable. The researchers examined two organisms of marine; a donkey's ear and mixed seaweeds. The Donkey's ear abalone were put in trays and placed under- sea level in about two meters. The sea weed was placed about two meters from the Abalone station, where body wastes would easily go to seaweed. After few months, the results were that the Abalone increased immensely in size, and the survival rate was high.

IMTA, being a combination of fish, seaweed, shell fish and abalones, can be an increased income generating to farmers (Knowler et al., 2020). This in return will lead to increased sustainability in marine culture. For instance, in Sungo Bay, Seaweed aquaculture is an income generating activity to the local people, and also improves the environment. Farmers are able to grow 1,500 tonnes of seaweed, and in return, it gets rid 40 tonnes of nitrogen, 5 tonnes of phosphorus and 500 tonnes of carbon. This justifies the fact that IMTA boosts the environment sustainability. Besides, another example concerns small cages that contain Japanese sea bass, and Pacific oysters in lantern nets. When combined, the faeces of fish provide 30% of nutrients that are required by oysters. Abalone and sea cucumbers are being grown in lantern nets, and this will increase the income of farmers.

It is highly likely that aquaculture will be able to produce high yields in future. No other sector in food production ¹ has grown faster over the past decades (Edwards et al., 2019).

References

- Edwards, P., Zhang, W., Belton, B., & Little, D. C. (2019). Misunderstandings, myths and mantras in aquaculture: its contribution to world food supplies has been systematically over reported. *Marine Policy*, 106, 103547.
- Hua, K., Cobcroft, J. M., Cole, A., Condon, K., Jerry, D. R., Mangott, A., ... & Strugnell, J. M. (2019). The future of aquatic protein: implications for protein sources in aquaculture diets. *One Earth*, 1(3), 316-329.
- Knowler, D., Chopin, T., Martínez-Espiñeira, R., Neori, A., Nobre, A., Noce, A., & Reid, G. (2020). The economics of Integrated Multi-Trophic Aquaculture: where are we now and where do we need to go?. *Reviews in Aquaculture*, 12(3), 1579-1594.
- Lomboy, C. G., Belinario, F., Pomeroy, R., Pedrajas, J., Tirona, R. S., Box, S., ... & Balbido-Ramirez, K. (2019). Building household economic resilience to secure a future for near shore fishers in the Philippines. *Marine Policy*, 99, 334-342.

report

ORIGINALITY REPORT

3%

SIMILARITY INDEX

0%

INTERNET SOURCES

0%

PUBLICATIONS

3%

STUDENT PAPERS

PRIMARY SOURCES

1

Submitted to University of Southampton

Student Paper

3%

Exclude quotes Off

Exclude bibliography On

Exclude matches Off