Expert collaboration is the key to sustainable fish and shellfish farming

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Getting more people to eat seafood because it's a healthier option will need careful planning to ensure that the expansion of the aquaculture sector does not pose a risk to the environment. Business leaders in the sector should not aim only for profits, but rather embrace the principles of the One Health model that sees the health of humans being interwoven with that of animals and the environment. The model brings together experts from various fields to develop sustainable operations that ensure adequate human nutrition, and healthy environments, say Juan Gormaz of the University of Chile in Chile and David Love from Johns Hopkins University in the USA, lead authors of a study in Springer's journal *Current Environmental Health Reports*.

Global aquaculture production continues to increase at a rate of six percent per year. This expansion is important in the light of how many governments, including the US, have issued dietary guidelines that suggest that their citizens eat more seafood in place of some meat and poultry. This was done in reaction to the pandemic rise in non-communicable diseases such as heart disease and diabetes in many high and middle income countries, which are the result of poor lifestyle choices and diets.

The authors believe that the impact of an ever-expanding aquaculture sector can be tempered by following the integrative One Health approach. This focus will connect experts such as researchers, clinical health specialists, policy makers and veterinary scientists, who can together develop methods and policies to ensure sustainable operations

and healthy human lifestyles. The model has its roots in the efforts of veterinary scientists and human health experts to combat infectious diseases that are carried over from animals to humans.

"It is important to address the animal health and environmental impacts of aquaculture as these could potentially stand in the way of a steady supply of seafood products," says Gormaz. The health risks involved in eating contaminated seafood must be identified, communicated and addressed, while alternative production methods must be developed to reduce or eliminate the need for antibiotics, pesticides and other chemicals. Experts should also work together to develop ecologically sustainable, healthy and safe animal feeds that do not contribute to over-fishing, nor compromise human food security for low-resource coastal communities.

"It is insufficient to simply increase seafood production without also taking equity and the protection of the public's health and natural resources into account," believes Love. "To address these issues, we propose applying and expanding the One Health approach, which is an existing model for promoting synergy among the disciplines of human, animal and environmental health sciences. By examining the interactions between aquaculture, fisheries, human diet and health, and ecological health, priorities can be set to enhance human nutrition and the ecological sustainability of aquaculture."

More information: Gormaz, J.G. et al. (2014). Public Health Perspectives on Aquaculture. *Current Environmental Health Reports*. DOI: 10.1007/s40572-014-0018-8

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