



Aquaculture for food security and business opportunities

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Abstract:

COVID19 has infected over 36 million people and caused death of more than one million worldwide as of October 7, 2020. More importantly, it has left millions of people without job. As a result, it is likely that hunger will hit billions of people. COVID19 has already added over 130 million to the previously estimated 821 million in 2017 (FAO, 2020). About 150 million under-5 kids are already stunted on this planet. COVID19 has been a new challenge. It is pushing hard further, but no one knows how far it may go. Due to cancellation of all the international flights and closure of country borders, economy of all the countries has been severely affected. However, COVID19 has taught an expensive lesson i.e. we have to produce food by ourselves or nearby our place to be self-dependent. Food insecurity is critical for those cities or countries which were dependent on importing food from outside. They are suffering critically. Especially for seafood, many countries were dependent on import. Seafood has been the highest trading food product, mainly occurring from developing countries to developed countries. About 38% seafood produced is traded across the countries. It is almost doubling every decade. Over 156 million mt Seafood is consumed each year as compared to 134 million mt of chicken and 73 million mt of beef. Scope of seafood and the demand is skyrocketing globally. Overall 45% of the total seafood consumed is live, fresh or chilled which are highly perishable in nature. To some extent, farming of fish or seafood is relatively more resilient as fish can survive longer without food and majority fish are still produced from green water pond systems utilizing natural food in many countries. Seafood is the best medicine against malnutrition which can be easily produced using small spaces and little inputs in combination with other food items such as vegetables, rice and others. Seafood is becoming popular day by day. A number of models have been developed and used to produce them such as ponds, cages and tanks using simple backyard methods to highly intensive systems. About 90% production comes from a wide range of species are grown in Asian countries; namely; carps, catfishes, tilapia, snakehead, milk fish, sea bass, groupers, shrimps, prawn, crabs, oysters, mussels, cockles, and seaweeds. Some of the technologies have developed through research and commercialization is occurring on a mass scale. According to FAO, aquaculture industry is valued at about US\$150 billion and trading value is a lot higher along the value chain. Among the countries, China



earns over US\$20 billion. Norway earns about US\$10 billion annually by exporting salmon followed by India, Thailand and Vietnam which earn about US\$5 billion each. There are several success stories in this sector e.g. production of over 400 tons of Pangasius per ha in 6 months in Vietnam which earns about 2 billion USD from pangasius export.

Biography:

Dr. Ram C. Bhujel has completed his MSc and PhD in Aquaculture from AIT and has post-doc work experience with the University of Stirling, Scotland UK and Montpellier University III, France. He is the founding Director of Aqua-Centre and Research Associate Professor at the Department of Food, Agriculture and Bioresources (FAB) within the School of Environment, Resources and Development (SERD) at AIT. He has over 20 years of experience with AIT being heavily involved in post-graduate teaching, training, research and projects.

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