

Pollutant Tracing in Marine Biota: The Role of Nuclear Technique to Enhance Blue Economy

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Abstract- Blue economy concept is gaining tremendous interest as it confers a balance between marine ecosystem safeguarding and the utilization of ocean resources sustainably. Nevertheless, maintaining the harmony of marine ecosystem protection, and growth and development is not an easy task since most of human activities result in pollution that bring threat to such ecosystem. Aside from minimizing the pollutant, another attempt to protect the environment is investigating the behavior of pollutant in the nature to mitigate the detrimental impact to organism, including human. Different technologies have been developed for such investigation purpose, on of which is nuclear technique harnessing the ability to detect a radiation from natural or synthetic radioactive material. Nuclear technique offers a fast, simple, and real-time method that has been applied in various fields, including environmental research, and reported in numerous reviews. Nevertheless, a comprehensive review in the application of nuclear technology for pollutant behavior study and the correlation to blue economy has not been reported. This review details the latest nuclear method for the investigation of various pollutants. The economic policies involving nuclear technology and the impact on the blue economy are also discussed.

Keywords- nuclear technology; sea pollutant; marine product; blue economy.