

# Transforming Food Waste into Value Added Products: A Circular Economy Analysis of Malaysian Fisheries Sector

**Yudi Fernando**

Faculty of Industrial Management, Universiti Malaysia Pahang, 26300 Malaysia  
Email: [yudi@ump.edu.my](mailto:yudi@ump.edu.my)

**Fasihah Elias**

Faculty of Industrial Management, Universiti Malaysia Pahang, 26300 Malaysia  
[fasihahelias@yahoo.com](mailto:fasihahelias@yahoo.com)

**Muhammad Shabir Shaharudin,**

Faculty of Industrial Management, Universiti Malaysia Pahang, 26300 Malaysia  
Email: [shabir.shaharudin@gmail.com](mailto:shabir.shaharudin@gmail.com)

**Jose Rajan**

Faculty of Industrial Sciences & Technology Universiti Malaysia Pahang, 26300 Malaysia  
Email: [rjose@ump.edu.my](mailto:rjose@ump.edu.my)

## **Abstract:**

Food waste is recognized as a certain issue occurring globally and it is particularly severe in developed countries. This shows that there is still lacking of approaches in managing the food waste especially in fisheries sector. Fisheries based food wastes which are mainly generated during the production process could turned out to be useful according to the Circular Economy (CE) concept. As the CE concept proposed that the resource materials should be in the circularity flow, the disposal of food wastes into the landfill can be reduced and thus provides the positive outcome to the environmental, economic and societal impact. This paper basically tends to investigate the root cause of the food wastes, the effectiveness of the adoption of CE in improving the profit margin and also to provide the best practice of CE adoption. CE is analysed using the VOSviewer software, and then the t-test is performed to compare the profit margin before and after CE implementation. This resulted to the fact that CE implementation can improve the financial performance of a company by turning the fish waste into a value added product, which is fish pellet.

**Keywords :** Circular Economy; Food Waste; Circular Economy Analysis; Value-Added Product; Best Practices

## References

- [1] Baumgarten, S., Kahmann, H., Röske, D., Hickey, A. J., Giovagnoli, S., & Liliana, L. (2016). A new model of Ishikawa diagram for quality assessment. *Related content Recent citations A new model of Ishikawa diagram for quality assessment.* <https://doi.org/10.1088/1757-899X/161/1/012099>
- [2] Botezat, E., Dodescu, A., Văduva, S., & Fotea, S. (2018). An Exploration of Circular Economy Practices and Performance Among Romanian Producers. *Sustainability*, 10(9), 3191. <https://doi.org/10.3390/su10093191>
- [3] De los Rios, I. C., & Charnley, F. J. S. (2017). Skills and capabilities for a sustainable and circular economy: The changing role of design. *Journal of Cleaner Production*, 160, 109–122. <https://doi.org/10.1016/J.JCLEPRO.2016.10.130>
- [4] EMAF. (2015). Towards a Circular Economy: Business Rationale for an Accelerated Transition. Retrieved from <https://www.ellenmacarthurfoundation.org/publications/towards-a-circular-economy-business-rationale-for-an-accelerated-transition>
- [5] EMAF. (2019). Cities and Circular Economy for Food. Retrieved from [https://www.ellenmacarthurfoundation.org/assets/downloads/Cities-and-Circular-Economy-for-Food\\_280119.pdf](https://www.ellenmacarthurfoundation.org/assets/downloads/Cities-and-Circular-Economy-for-Food_280119.pdf)