

# **Sustainable Biodegradable Packaging Material: A Solution for Decreasing Available Capacity of Landfills in the Philippines**

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## **Abstract**

Plastic packaging material plays a vital role in people's daily lives, and it is a fact that most of which are petroleum-based like the one being used in the Philippines. This type of plastic is very strong, less brittle, but non-biodegradable that would take hundreds of years before it decays, which in turn decreases the available capacity of sanitary landfills. If this scenario continued, many of the sanitary landfills in the Philippines will be forced to close as what the others have already been into. Due to this concern, this research would introduce the use of a sustainable biodegradable packaging material which can be a substitute to the petroleum-based plastics. This research will identify various alternatives and choose among these alternatives through the application of multi-criteria decision making with consideration of valuable criteria in selecting a packaging material. The chosen alternative will then be subjected for demand and supply analysis to check the readiness of the Philippines for the use of the chosen sustainable biodegradable packaging material, and check its eventual impact to the capacity of sanitary landfills.

## **Keywords**

Multi-criteria Decision Making, Sustainable Biodegradable Packaging Material, Plastic Alternative, Sanitary Landfill, Supply and Demand Analysis

## **Biography**

**Juan Miguel N. Dinglasan** is an Instructor at Technological Institute of the Philippines – Quezon City where he also took his bachelor's degree. He is currently pursuing his master's degree in Industrial Engineering and Management at Polytechnic University of the Philippines – Manila. He has taught courses in Methods Engineering, Operations Research, Industrial Materials and Processes, and Technopreneurship among others.