Evaluating the Relationship Between Solid-Food Waste, Environment and Economic Security among Malnutrition in Nigeria

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Abstract

Solid-food waste generation is estimated at 126.2 million tonnes and 239.8 million tonnes of carbon-dioxide equal by 2020 ending. This huge solid -waste costs Nigeria $750 billion annually while millions of Nigerians are hungry and poor. Nigeria also ranks very-low in nutrition with the highest number of malnourished children under 5 years in sub-Saharan-Africa. 37 %-of-Nigeria-children are stunted, 18 %-wasting and 20 % underweight - these stunning figures rank Nigeria as the second highest globally. While developed countries have been able to manage waste properly for increased environment-and-economic-security, this is farfetched in Nigeria. Since solid-food waste can cause health, environment and socioeconomic problems, there is need to investigate the relationship between solid-food waste, environment and economic security. The main objective of this study therefore was to evaluate the relationship between solid-food-waste, environment and economic security among malnutrition in Nigeria.

Data on waste-management-practices were obtained through structured-questionnaires randomly administered on 210 households in Nigeria. Experts'-workshops-and-interviews were organised for key-officials within relevant-industries to elicit technical-and-economic information. The relationship between: waste, environment and economic security in Nigeria was examined for years 1981-to-2017. While waste-management-practices were evaluated using descriptive-and-inferential-statistics, Autoregressive-distributive-lag-(ARDL) was used to determine the relationship between solid-food-waste, environment and economic security. Pollution/Health-risks (69.1 %), limited-resources/funding (44.8 %), lack-of-technical-skill (23.8 %) and inadequate-management-skill (18.1 %) are some identified challenges. 94.3 % and 96.2 % supported polluters'-pay-principe and dissemination of public-information on food-packaging as-well-as waste-reduction-reuse-recycling as part of waste-management practices respectively. 97.1 % of annually-generated-waste are solid-waste, which confirms the Waste-Habit-of-Nigerians as 57 %-organic/food-waste, 27 %-plastics, 5 %-glass, 5 %-metal and 4 %-others. 126.2 million tonnes food-waste equaling 239.8 million tonnes of carbon-dioxide and $750 billion is generated yearly in Nigeria. 95 % are willing-to-pay for waste-management. Hypothesis-test yields a significant result at p-value<0.05 which shows that waste-management-challenges has effect on health issues/pollution in Nigeria. ARDL-model F-statistics of 30.7805 confirms the long-term-relationship between measured variables related to solid-food-waste generation, environment and economic security. ARDL-model also confirms the inverted-correlation between economic-growth and

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environmental-degradation of Environmental-Kuznet-Curve's hypothesis. At 0.0048 p-value, the estimates enjoy the support of statistical-significance at-5 %.

Undertaking established waste-management significantly limits the impacts on health-environment-socioeconomic-wellbeing. The research shows that improved-funding and dissemination of public-information on food-packaging, as-well-as waste-reduction-reuse-recycling enhance social-acceptability of waste-management-practices. This research also shows that solid-food-waste has significant impact on environment-and-economic-security.