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Edited by:
A. A. Adeniji, E. A. Olatunji and E. S. Gana

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Constraints to utilization of waste management strategies by urban poultry farmers in Port Harcourt City, Rivers State

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Abstract

The study ascertained the constraints to the utilization of waste management strategies by urban poultry farmers in Port Harcourt City, Rivers State. Data obtained from 160 urban poultry farmers were analyzed using descriptive statistics such as frequencies, percentages, means and ranks. Results revealed that the most utilized waste management strategies by the respondents were: use of waste for animal feeding, garbage disposal of waste and fermentation of waste. Findings also revealed that lack of technical know-how, lack of incentives to improve on the utilization of waste management strategies and population pressure in Port Harcourt City which hinders availability of land for waste management were the most severe constraints to the utilization of waste management strategies by the poultry farmers.

Introduction

Waste management involves the human control, collection, treatment, transport, processing, recycling, disposal, and monitoring of waste materials (Marcus, 2010). It is generally undertaken to reduce the adverse effects of waste on health, aesthetics and the environment; as well as to recover resources from waste. Waste management can involve solid, liquid, gaseous or radioactive substances with different methods and fields of expertise for each of the methods. Eleeh (2004) noted that almost all forms of man's activities bring some forms of waste which are characterized mainly by its population the more concentrated the population, the greater the problem becomes. Port Harcourt City, with its dense population and high level of industrialization, is particularly prone to face serious problems of indiscriminately disposal of industrial waste (Shubda, 1994). The industrial establishments in Port Harcourt City generate wastes which can be classified as infectious and non-infectious wastes (Patil and Shekdar, 2001). The infectious waste generated daily in Port Harcourt City results in major environmental problems such as pollution of air, soil and water resources in the City. These resources are very important to the urban poultry farmers who depend on them for their farming activities. Although these urban poultry farmers utilize several waste management strategies, according to Marcus (2010), certain factors hinder their utilization of these strategies. This study is therefore aimed at ascertaining these constraints. Specifically, the waste management strategies utilized by urban farmers in Port Harcourt City, Rivers State were ascertained and the constraints to utilization of these strategies were identified.

Methodology

The study was conducted in Port Harcourt City Local Government Area, Rivers State. Port Harcourt City lies in latitude 447 ° 2 " and longitude 659 ° 55 "; occupies a total land area of 1, 077 km^2 ; and has estimated population of 538, 558 (National Population Commission, NPC, 2006). A two-stage sampling procedure was employed for this study. The first stage involved the purposive selection of four major urban farming areas in Port Harcourt city, Rivers State. The areas were Abuloma, Amadi-ama, Ogbunabali and Borikiri. The second stage involved the simple random selection of forty (40) urban poultry farmers from each of the four major urban farming areas. Thus, resulting in total sample size of 160.

Results and Discussion

Waste management strategies utilized by urban poultry farmers: Table 1 shows the waste management strategies utilized by urban poultry farmers in Port Harcourt City, Rivers State. The most utilized waste management strategies by the respondents were: use of waste for animal feeding (= 1.44), garbage disposal of waste (= 1.28), fermentation of waste (= 1.24) and composting of waste (= 1.19). This may be attributed to the fact that the use of waste for animal feeding is cost efficient as it is a form of reuse of animal residues as waste (Environmental Protection Agency, EPA, 1996). Garbage disposal of waste eliminates food waste at the site where it is generated. This method saves labour and reduces hazards associated with waste. On the other hand, source reduction and reuse of waste (= 0.53), shredding of waste (= 0.43) and pulperization of waste (= 0.14) were the least utilized waste management strategies by the respondents. Pulperization of waste is a highly advanced waste management strategy that is not common in developing countries like Nigeria, and the respondents face lots of technical challenges in using this strategy (Osuocha, 2001).

Constraints to utilization of waste management strategies by urban poultry farmers: Table 2 shows the constraints to the utilization of waste management strategies by the poultry farmers. The most severe constraints to the utilization of waste management strategies faced by the respondents were: lack of technical know-how (= 1.29), lack of incentives to improve on the utilization of waste management (= 1.24), population pressure which hinders availability of land for waste management (= 1.23) and lack of skilled labour to carry out waste management operations (= 1.20). The findings corroborate Eleeh

(2004) who reported that the major constraints to the utilization of waste management strategies in Rivers State are lack of appropriate incentives and lack of technical know-how. On the other hand, the least severe constraints faced by the respondents were: tradition/culture which does not support the utilization of waste management strategies (= 0.43), unfavourable government policies on waste management (= 1.00) and rapid industrialization (= 1.01).

Conclusion

Use of waste for animal feeding, garbage disposal and fermentation of waste were ascertained as the most utilized waste management strategies by urban poultry farmers in Port Harcourt City, Rivers State; while lack of technical know-how, lack of incentives to improve on the utilization of waste management strategies and population pressure which hinders availability of land for waste management were the most severe constraints to the respondents' utilization of waste management strategies in the study area.

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Table 1: Waste management strategies utilized by urban poultry farmers in Port Harcourt City, Rivers State

Waste management strategies	Mean	Rank*
1. Incineration	0.89	6
2. Composting	1.19	4
3. Landfilling	0.94	5
4. Shredding	0.43	12
5. Resource recovery	0.55	9
6. Animal feeding	1.44	1
7. Fermentation	1.24	3
8. Recycling	0.80	7
9. Gleaning and food recovery	0.54	10
10. Source reduction and reuse	0.53	11
11. Garbage disposal	1.28	2
12. Land application	0.70	8
13. Pulperization	0.14	13

•= Rank 1 is the most utilized strategy while rank 13 is the least utilized strategy

Table 2: Constraints to the utilization of waste management strategies by urban poultry farmers in Port Harcourt City, Rivers State

Constraints	Mean	Rank*
1. Lack of technical know-how	1.29	1
2. Cost of waste management operations	1.15	5
3. Lack of adequate land for utilization of waste management strategies	1.08	6.5
4. Lack of incentives to improve the utilization of waste management	1.24	2
5. Inadequate facilities	1.06	8
6. Unfavourable government policies on waste management	1.00	10
7. Lack of skilled labour to carry out waste management operations	1.20	4
8. Rapid industrialization	1.01	9
9. Population pressure which hinders availability of land for waste management	1.23	3
10. High cost of modern waste management strategies	1.08	6.5
11. Tradition/culture of the respondents	0.43	11

•= Rank 1 is considered most severe constraint while rank 11 is considered the least severe constraint