

Changing Agricultural Waste to Wealth; A Modern Approach To Enhance Agricultural Productivity in Ailing Economy in Rivers State Capital, Nigeria

Amaechi Louisa Ngozi^{1*}, Edward Judith O².

¹Directorate of General Studies Federal University of Technology Owerri, Nigeria

²Department of Agricultural Technology, School of Science and Technology, Captain Elechi Amadi Polytechnic Rumuola, Port Harcourt

***Corresponding Author:** Amaechi Louisa Ngozi, Directorate of General Studies Federal University of Technology Owerri, Nigeria

ABSTRACT

The study was on Agricultural waste to wealth a modern approach to enhance the agricultural productivity in ailing economy in Port Harcourt local government Area of rivers state. The specific objectives were to analyze and examine how agricultural waste could be converted to wealth in the study area and to determine the availability of waste to wealth as a modern approach in enhancing agricultural productivity. Data for the study were collected from Eight Communities in Port Harcourt Local Government Area of Rivers State. 120 questionnaires were used to collect data from the selected respondents. Primary and secondary data were used for the study. Statistical tools such as frequency distribution tables and percentages were used to achieve the specific objectives. The results of the analysis shows that majority (66.7%) with 80% of the respondent[^] agreed that, the conversion of Agricultural waste increases farmers income. This implies that majority of people are into Agricultural waste to wealth. The result also shows that majority which is (58.3%) of the respondents concurred that waste to wealth enhances Agricultural productivity in this modern Era. Agricultural wastes to wealth helps in the development and growth of Agricultural production and also boost food security in our society.

Keywords: Waste to Wealth, Extension Agents, Challenges and Development

INTRODUCTION

The word waste may have different connotations, since what one considers waste may not be waste for another person. In other words, some wastes are not totally useless. According to Odocha (2012), what are usually considered as waste may no longer hold since such can be recycled to produce another meaningful product.

The position of this study is corroborated by what is obtained in some countries of the world, where waste recycling had become an entrenched part of waste management strategies. In Nigeria for instance, quite often one sees waste scavengers with their hung-over sacks as they ransack waste heaps for all manner of things, ranging from plastics, batteries, old auto parts, other metal junks and the likes, which are ultimately sold to the parent smelting industries that convert them into essential raw materials for fabricating various plastic, metal or other equivalent wares for households and/or industrial applications or uses. Perhaps, it is in

the Agricultural and food industrial sector that is prominently evident, particularly with the advent of the search for alternative or renewable energy sources to take over from the fast depleting finite (fossil fuel) energy sources with the attendant energy crises threatening the inhabitants of the world.

In this modern approach, waste to wealth has become a lucrative business that can enhance the Agricultural productive of the economic growth of a country or city. According to Resource Conservation and recovery Act (RCRA) by HEDM Salah (2016) waste has to be managed properly to preserve the planet for the coming generations, because in adequate management of waste led to contamination of environment. Saving of the environment and human health from the detrimental effects of hazardous and radioactive waste is achieved by the effective improvement of waste to wealth management programs.

Harshwardhan K, Upadhyay K. (2017) said that effective agricultural waste is the material

obtained due to crop production or from plant growth. In the past this biomass and agricultural waste were either burnt or naturally converted into organic fertilizer under favourable condition. But now in these days biomass produced from agricultural waste are used to generate energy because it carries great potential to convert into energy. Since the biomass is available throughout the world in abundant quantity so it is necessary to use alternate energy consumption,

The effective utilization of agricultural waste is a good option to convert these wastes into energy. These efforts have been made and many more are on the way and it requires guidelines concerning the utilization of agricultural biomass for energy purposes and optimal production. Production of energy from biomass can provide farmers with new prospects and possibilities to diversity agricultural activities. Biomass is one of the renewal resources that is found in nature in abundant quantity it may be used as one of the most energy resource[^] and can be converted into more formed resources. According to Robin Murray (2002) Generation of less waste, reuse of consumable, recycling of waste and recovering of valuable resources from waste are considered as good practices. Thus waste management is strongly linked with the idea of sustainable economic development. Meeting the goal of sustainable waste to wealth development is an outstanding challenge in our country or society as a developing nation. According to John Paul Iwuoha (2012) most of the waste collected from households, restaurants, bars and hotel and organic and biodegradable (can decay) such as kitchen and left over food, other forms of organic waste include: yard waste, vegetable market waste, grass, plants and animal waste. Composting is the natural process of converting organic waste into a stable product (compost manure). Waste is everywhere, it only requires a bit of creativity and hard-work to create wealth out of it. In metrological and materials knowledge, animal droppings or waste can be converted to fuel for mechanical usage while recycled into mobile chemicals for another wonderful solution to human problem.

STATEMENT OF THE PROBLEM

The major problem facing most developing nations of the World is to increase agricultural production without degrading the environment. Food is a basic human need and producing

enough to feed the growing population of developing nations is one of the biggest challenges facing a large proportion of nations. Hence, there should be a greater intervention in form of environment friendly science and technology in food production. (United States Department of Agriculture (USDA) "Manure and Nutrient Management by Ashoka (2016) One of such environment friendly intervention is effective management of wastes, particularly as it concerns agricultural and food processing wastes. The quality of the total environment and health status of the inhabitants are related to the quality and quantity of wastes generated into wealth to those areas, as partly defined by the nature of activities carried out by the populace. This environment-health relationship dynamics are particularly evident in most tropical environments where various environmental media are laden with sundry pollutants most of which are often furnished by wastes. In Nigeria for instance, it is not disputable that municipal waste is the most visible and serious environmental problem, given the mountainous heaps of wastes (particularly refuse) that are common sights in greater number of the urban cities, dotting the roads and disfiguring the landscape, with sundry public health implications.

METHODOLOGY

Area of Study

Rivers State

Rivers State, also known simply as Rivers, is one of the 36 states of Nigeria. That has 23 local government Areas. Rivers State is located at the southern part of Nigeria, comprising the Niger River Delta on the gulf of guinea. It is one of the major states that generate heavy revenue from crude oil to the Nigerian's federation revenue account. Port-Harcourt Local Government Area is one of the existing 23 local government council areas in Rivers State with its administrative seat in Port Harcourt and it is heavily populated and generates much waste both from human and oil spills. This local government strives to bring the federal government's focus to all the districts under the city LGA through the state to the people of Port-Harcourt LGA at the local level. Port Harcourt local government area covers an area of 109 km². The local government area is bounded to the north by Obio/Akpor local government area, to the east by Eleme and Okrika local government areas, to the south by Okrika local

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government area, and to the west by Degema local government area. With a population of 538,558 as at the 2006 national population census, Port Harcourt local government area is the largest local government area by population in Rivers State. Wolpe, Howard (1974). Urban politics in Nigeria: a study of Port Harcourt, Berkeley: University of California Press, p. 148. Port Harcourt local government area is included in the Greater Port Harcourt region. It is situated 52 kilometres (32 mi) southeast of Ahoada and about 40 kilometres (25 mi) northwest of Bori. It is bounded to the south by Okrika, to the east by Eleme, to the north by Obio-Akpor and to the west by Degema. It has a total size of 109 square kilometres (42 sq mi). Retrieved 21st July 2015. The position of the city made it to attract both national and international bodies and organization for foreign investment and sea port trade or business.

Population of the Study

The Population of this study were made up of famers, industrial and businessmen in Port Harcourt Local Government in respect to their environment and how they will maintain the waste to wealth in the society.

Sampling Procedure/Sample Size

Port Harcourt Local Government Area is made up of 28 communities and eight (8) communities

were purposively selected based on the presence of individual and industrial that is involve), The sample size consists of (120) respondents that were randomly selected. A proportionate sample of fifteen (15) respondents from each of the selected communities from the eight (8) communities in Port Harcourt Local Government Area will be employed. Selected towns in Port Harcourt L.G.A which include; Diobu, Elekahia, Nkpolu Oroworukwo, Rumuibekue, Ochiri/Rumukalagbo, Rumukalagb or and Ogbunabali. A survey of the sample procedure and sampling size is shown in table 3.1. These areas were selected based on the extent of heavy waste product accumulated or usually found in those communities more than in other areas.

Method of Data Analysis

The data, to be generated were analyzed using frequency table and percentage for the motive of this study.

HATE PRESENTATION

This chapter presents the result of the analysis of the data presented for the study. The results are discussed base on the response given by the 120 respondents that constituted the actual sample and size of the study.

Table3.1. Can waste to wealth enhance agricultural productivity in this modern Era?

Responses	Frequency	Percentage %
Yes	70	58.3
No	50	41.7
Total	120	100

Source: Field survey, 2021.

From the table above, 50 respondent representing 41.7% agreed that waste to wealth cannot enhance agricultural productivity in this

modern era while 70 respondent representing 58.3% were showing yes.

Table3.2. Can the conversion of Agricultural waste increase farmers income?

Option	Frequency	Percentage (%)
Yes	80	66.7
No	40	33.3
Total	120	100

Source: Field Survey, 2021.

From the table above, 120 respondent^, responded positively in the following, 40 respondents with (33.3) shows that majority

with 66.7% of the respondents concur that conversion of agricultural waste can increase farmers income.

Table3.3. Does agricultural waste to wealth improve an ailing economy?

Option	Frequency	Percentage (%)
Yes	85	70.8

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No	35	29.2
Total	120	100

Source: Field Survey, 2021

The result shows that in Port Harcourt Local Government Area 85 respondents representing 70.8% respondents were showing yes that agricultural waste to wealth can improve an ailing economy and 35 respondent representing 29.2% were showing No.

Table3. 4. Why is waste recycling important in your society

items	Frequency	Percentage (%)
To minimize the quantities of waste exposed to our environment will reduce health hazard.	40	33.4
To provide food and income	60	50
For processing purpose	10	8.3
To regenerate useful materials for industries in Port Harcourt L.G.A.	10	8.3
Total	120	100

Source: Field Survey, 2021.

From the table above, it shows that the respondents with 8.3% indicates that to regenerate useful materials for industries in Port Harcourt Local Government Area are minor, 8.3% were showing for the processing purpose are minor. 40 or 33.4 of the percentage agreed that to minimize the quantities of waste exposed to our environment will reduce health hazard while majority of the respondent with 50% falls in waste recycling provide food and income.

Table3.5. Can collection of discarded materials such as husks, poultry droppings etc be converted as useful material?

Responses	Frequency	Percentage %
Yes	95	79.2
No	25	20.8
Total	120	100

Source: Field Survey, 2021

From the table above, 95 respondents representing 79.2% were yes and 25 respondents representing 20.8% fall under No.

Table3.6. Are there be any benefit in recycling waste?

Responses	Frequency	Percentage %
Yes	75	62.5
No	25	20.9
Not at all	20	16.6
Total	120	100

Source: Field survey, 2021.

From the above analysis shows that majority or 62.5 of the respondents agreed that there is benefit in recycling waste while the least is the Not at all respondent with the percentage of 20 or 16.6%.

Table3.7. What level has agricultural waste to wealth brought food insecurity in your household?

Responses	Frequency	Percentage %
Food secured at risk	20	16.6
Food insecurity with hunger	35	29.2
Food insecurity without hunger	50	41.7
Food secured	15	12.5
Total	120	100

Source: Field Survey, 2021

From the above result shows that percentage of 16.6% and 12.5% fall under food secured and food at risk, 35 respondents representing 29.2% shows food insecurity with hunger while 50 respondent representing 41.7% shows that

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agricultural waste brought food insecurity without hunger.

Table3.8. How do you disposed your waste?

Responses	Frequency	Percentage %
By burning	30	25
By discarding	40	33.4
Dumping it in the river	30	25
By dumping at the roadside	20	16.6
Total	120	100

Source: Field Survey, 2021

In disposing of waste, 20 respondents representing 16.6% were dumping at the roadside, 30 respondents representing 25% falls under dumping in the river categories followed

by 30 respondent representing 25% that were discarding their wastes while 40 respondents representing 33.4% of people that burn their waste.

Table3.9. Would you like to engage yourself in waste to wealth business?

Responses	Frequency	Percentage %
Yes	40	33.3
No	80	66.7
Total	120	100

Source: Field Survey, 2021

From the table above, 40 respondent representing 33.3% were yes and respondent representing 66.7 were No. This shows that the

No respondent were more than that of yes respondent.

Table3.10. Have you been trained about waste to wealth utilization?

Responses	Frequency	Percentage %
Yes	45	37.5
No	50	41.7
No Idea	25	20.8
Total	120	100

Source: Field Survey, 2021

From the table above, it shows that 50 respondents representing 41.7% were showing No, they have not been trained in waste to wealth utilization. While 45 respondents with 37.5% were indicating NO, not been trained about waste to wealth utilization and 25 respondents representing 20.8% shows No Idea. It is totally clear that the issue of waste to wealth is relatively new in developing nations when compared to the advanced world.

Therefore, the developing nations need to be educated on such matters in order to improve their economy for better livelihood.

DISCUSSION OF FINDINGS

The research study has provided a number of facts and implications showing how agricultural waste instruments are applied to be wealth.

In Port Harcourt City Local Government Area where this study was carried out, difference exists in the application of waste to wealth. It

was found that if idea of agricultural waste to wealth were adopted at the workplace by management of the organization, there would be high productivity.

The main aim of converting waste is to earn their money that would enable them live comfortable. According to Vroom (2004) people are motivated to reach a goal if they believe in the worth of that goal and also if they can see what they will do to help them achieved. Therefore, waste to wealth can improve people's and nation's economy.

It was also observed that agricultural waste to wealth will be promoted as at when due. This makes the employees to be motivated to put in their best as their need for advancement and development is being taken care by the management.

Animals' droppings, rice chaff can be converted into another form of energy that can be useful to human need.

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Amah (2006) supports this view that the agricultural waste are tend to perform better when they are converted to wealth for welfare and development to being taken care by the organization.

SUMMARY

This research basic idea is to recycle agricultural waste like plastic, paper and poultry, drug and other related waste into useful forms in some homes, offices and for growing of agricultural produce in our society in order to reduce the cost of raw materials.

This research is of very verse application because the sphere of recycling covers virtually all the materials we use in our society today like homes, schools, markets and other things in the processing and storage of food industries. Agricultural waste to wealth helps to reduce environmental health hazard in our society.

Therefore, there is no healthy environment possibility without recycling of waste Engracia Madejon (2002) and there may be more health implications in developing nations without any meaningful management strategies for wealth creation which may lead to more poverty and low development.

CONCLUSION

According to Koyeli Das (2019) Agriculture plays a vital role in our socio-economic condition. Almost half of the world population is engaged in agriculture and allied activities today.

In farm output, agriculture as a sector like forestry and fisheries provides us with the most essential food requirement in our society. As the population is growing in an unprecedented rate, the amount of generation of agricultural waste is also increasing, which posses a significant effect towards the environment.

Improper management of waste leads to environmental and health hazards. Waste management is a growing issue of today's world. The height of the heap of garbage in the dumping ground is increasing day by day but this problem can be solved by us only, only if we can change our mindset regarding to waste. According to our own point of view we concurred with Koyeli Das 2018 that nature is such a system, where every part of its products has a unique role to play. Nothing can be regarded as waste if only we can apply waste to

wealth management in our society and country effectively.

RECOMMENDATIONS

Convert waste to wealth. Most agricultural waste can be sold out for industrial use or other purpose like waste recycling. There are vegetable farmers who will gladly buy your poultry waste so as to use it as manure on their farms. Agricultural waste such as rice bran, corn husk can be used for as feed to poultry birds.

Based on these findings, the following recommendations were made.

- Government should encourage the conversion of waste (agriculture into wealth, as to boost the economic development of the country.
- Government should provide waste recycling facilities for the provision of food security in our society or country.
- Individuals should engage in waste to wealth business in order to reduce the rate of unemployment in the country.
- Government should set up an institution where individual can be trained on waste to wealth management programme. Government can as well build industries and assist individuals in converting waste to wealth in order to improve the wealth of the nation and reduce health hazardness.

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