



## **ROLE OF COMMUNITY PARTICIPATION IN THE CONTROL OF ENVIRONMENTAL HEALTH HAZARDS IN ENUGU STATE**

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### **Abstract**

*The study explored the role of community participation in the control of environmental health hazards in Enugu State. Two research questions and two null hypotheses guided the study. Descriptive survey research design was employed and the study was carried out in Enugu State, South east geopolitical Zone of Nigeria. The population comprised 1,111 (740 urban and 371 rural) heads of households in Enugu and Agbani Zones of the state. The sample comprised of 111 households from the population selected via simple random sampling technique, making up 10% of the total population. A total of 74 households were sampled from Enugu Zone as urban while 37 were from Agbani Zone as rural. Self-structured questionnaire was employed for the collection of data, which was duly validated and tested for its reliability given at 0.81. Mean and standard deviation were used in answering the research questions while t-test statistic was used to test the null hypothesis at 0.05 level of significance. The findings revealed that community participation in the control of environmental health hazards is at low extent in Enugu State as they only participate in the planning phase ( $x=2.27$ ). Furthermore, effective communication and education, strong local leadership and empowerment, adequate resources as well as institutional support and policies determines the success of community participation in the control of environmental health hazards in Enugu State ( $x=2.61$ ). Indeed, there was no significant difference in the mean responses of urban and rural respondents on extent of community participation in the control of environmental health hazards as well as determining factors to success of community participation in the control of environmental health hazards in Enugu State ( $P>.05$ ). Based on these, the study concluded that community participation in environmental management can increase in Enugu state when government provides regular educational programme, workshops and training sessions to empower community members with the knowledge and skills needed for effective environmental management.*

**Key words:** Environment, Environmental Sanitation, Health, Health Hazard, Sanitation.

### **Introduction**

Environment represents an entity that provides the greatest interaction with all living organisms including human beings. According to Okafor (2021), environment represents the conditions, circumstances and influences under which an organism or system exists. Garg and Garg (2017), opines that earth can probably survive whatever damage the human beings choose to inflict on it, but this condition could result to



drastic change in the conditions of life. However, such changes could lead to the extinction of human specimen while the earth survives with different form of equilibrium. From the foregoing, one can see that the environment is everything that affects an organism during its lifetime. In that regard, all organisms including people affect many components of the environment. This therefore, implies that for man to live a healthy and good life, he must manage the environment to suit him through appropriate sanitation.

Sanitation is recognized as a crucial aspect of life and living which should not be neglected in any community. Ibangu, (2015), defines sanitation as a way of life that is expressed in the clean home, farm, business, neighbourhoods and community. The World Health Organization (WHO, 2012) views it as the provision of services and facilities for the safe disposal of human urine and faeces. From these vintage points, inadequate sanitation could be a major cause of diseases worldwide, but improving sanitation is known to have a significant beneficial impact on health; both in households and across communities.

Inadequate environmental sanitation among households in Enugu State communities could result in the occurrence of diseases that could have been avoided. Environmental sanitation according to WHO (2016) is the control of all those factors in man's physical environment which exercise or may exercise deleterious effects on his physical environment, health and survival. Environmental sanitation could thus be seen as the principle and practice affecting healthy and hygienic conditions in the environment. Thus, it promotes public health welfare, improve quality of life and ensure a sustainable environment through community education (Alabi 2010). The essential components of environmental sanitation includes safe water supply, proper methods of refuse disposal, safe food handling, pest and vector control, sanitary inspection of premises, market and abattoir sanitation, drainage control and hygiene education and promotion. Poor environmental sanitation management around these components may result in the occurrence of diseases, such as diarrhoea, cholera, dysentery and the likes. In addition to the burden posed by these diseases, Nigeria loses about N485 billion annually which is equivalent to 1.3% of gross domestic product (GDP), due to poor sanitation reported by water and sanitation programme of the World Bank (Ibauga, 2015).

Environmental challenges can only be successfully addressed through the collective participation of all concerned individuals and communities. One key factor in achieving successful environmental management is the active involvement of local communities (Reed, Vella, Challies, De Vente, Frewer, Hohenwallner-Riers, Neumann, Oughton, Sidoli del Ceno & Van Delden, 2018). According to Rijal (2023), community participation involves the active involvement of individuals, groups and organizations within a community in the decision-making processes that affect their environment.



This participation can manifest in various forms, including consultations, public hearings, collaborative planning and volunteer efforts. The benefits of community participation in the control of environmental health hazards cannot be overemphasized. At its core, community participation is a powerful vehicle for fostering social inclusion, amplifying voices and driving sustainable change (Lucy, 2021). Community participation transcends the mere involvement of individuals; it is about giving voice to the collective aspirations, concerns and unique perspectives of a community. By actively involving community members in decision-making processes, it empowers them to contribute to the development and implementation of initiatives that directly impact their lives. As coined out from Jami and Walsh (2016), this concept is a catalyst for breaking down barriers that may impede progress.

Effective community participation empowers local residents, encourages environmental stewardship and fosters a sense of ownership and responsibility for the well-being of their surroundings. To further understand the impact of community participation in environmental management, it is essential to explore the key elements of effective community engagement. These include communication, education and awareness, collaborative decision-making as well as capacity building. The inhabitants of Enugu State may not be playing some of these roles expected of them hence this study also burdens the task of determining the roles they play in the control of environmental health hazards in their communities. Jami and Walsh (2016) identify the key roles of community participation in the control of environmental health hazards to include; fostering ownership and responsibility, leveraging local knowledge, enhancing project success, promoting cohesion and social capital and improving compliance with directives such as willingness to pay (WTP).

Community participation in environmental management empowers individuals to become stewards of their local environment. By involving community members in decision-making processes, planning and implementation of environmental initiatives, a sense of ownership is cultivated. This empowerment is a powerful motivator for sustained commitment to conservation efforts. Local communities, intimately connected to their ecosystems, play a crucial role in biodiversity conservation. Community participation ensures that conservation strategies are culturally sensitive, sustainable and adapted to the specific needs of the ecosystem (Bisht, Rana, Yadav & Ahlawat, 2020). Through active involvement, communities contribute to the sustainable management of natural resources. This includes responsible practices related to water use, land management and the extraction of forest products. Community-based natural resource management fosters a balance between human needs and environmental preservation, ensuring the long-term viability of essential resources. Community participation enhances social networks, trust and shared values within a community. Socially cohesive communities are better equipped to address environmental challenges collectively. The relationships forged through participation create a foundation for collaboration, information



sharing and collective decision-making. Community participation promotes environmental justice by ensuring that decision-making processes are inclusive and that the needs of all community members are considered (Black & McBean, 2016). It helps to prevent the disproportionate burden of environmental risks on marginalized groups, foster equity in the distribution of environmental benefits and costs. Engaging communities in environmental management can contribute to local economic development. Sustaining this practice often open avenues for eco-friendly businesses, ecotourism and the development of community-based enterprises. Community-led initiatives, such as afforestation projects and sustainable agriculture even enhance resilience to changing environmental conditions (Tidball, Metcalf, Bain & Elmquist, 2018).

In the context of preventing environmental damage, community participation builds collective awareness of shared responsibility for preserving the environment, thus creating a more environmentally friendly and sustainable way of life. Based on the review and analysis of secondary data, there are several forms of community participation in preventing environmental damage.

- a. Community participation in decision-making related to the environment is a very important form of participation which can provide valuable input and perspectives for the decision-making process (Khadija, Yakubu & Hadiza, Mado, 2018).
- b. Participation in environmental monitoring by helping to identify environmental problems and provide valuable information for decision-making processes. Additionally, community participation in environmental monitoring can help identify previously undetected environmental problems (Yan & Feng, 2020)
- c. Participation in environmental rehabilitation activities such as reforestation, afforestation, and environmental cleaning.
- d. Participation in environmental complaint and supervision by reporting actions that damage the environment and help supervise the implementation of environmental management programmes.

Studies on community participation on environmental sanitation such as that of Putra, Mutiani, Jumriani and Handy (2020) found that through participation the community is capable of sorting and processing waste, and thus changes their disgusting views on waste to commendable ones. In Nigeria, Yusuf, Salimonu and Ojo (2017), and Ezebilo and Animasaun (2014) all found that community willingness to pay (WTP) for sanitation services significantly improved solid waste management in Western Nigeria. Similarly, Rahji and Olorountoba (2019), Adepoju and Salimonu (2010) and Obidi and Adeoti (2015) all observed similar results among Nigerian communities. In these studies, it was demonstrated that community participation in the control of environmental health hazards through WTP can be useful in guiding municipal officials in setting a more appropriate user fees that can finance improvements in community solid waste management. Despite the reported efficacy of WTP in environmental management, it has not been established if the inhabitants of the Communities in Enugu State possess the culture of WTP or not. Nwosu, Orji and



Yuni (2017) points out that one major problem in the cities of Enugu and Nsukka is constant erosion resulting from littering the environment, blockage of the drainage system and dumping of refuse in unauthorized places. Poor management of solid waste has thus cost the towns a lot in terms of infrastructure damage. Newly constructed roads will have their drainage blocked or clogged in no more than six months due to poor solid waste management. Unfortunately, the problem has persisted despite the bye-laws to the extent that the local authorities had to deploy casual workers or employ the services of touts to stop the menace. Consequently, many households usually resort to unhealthy alternative of burning wastes in the neighbourhood (Nwosu, et al;2017). This dispositions of the residents therefore, raises concerns about the extent of community participation and the factors behind the success of community participation in the control of environmental health hazards.

While community participation in environmental management holds immense potential for positive change, various factors can impede its effectiveness. Understanding these challenges is crucial for developing strategies to overcome barriers and ensure the meaningful engagement of communities in environmental initiatives. According to Sattayapanich, Janmaimool and Chontanawat (2022), some key factors that may hinder community participation in environmental management include awareness and education as limited awareness and understanding of environmental issues can impede community, socioeconomic disparities as communities facing economic challenges may prioritize immediate survival over long-term environmental concerns. Furthermore, institutional barriers such as bureaucratic complexities and rigid policies can limit community, limited access to resources, cultural and linguistic barriers. The list also include resistance to change, lack of trust, short-term priorities, insufficient capacity building and external interference as external interests and interventions that do not align with community values and priorities can impede local ownership of environmental management initiatives are also inclusive. When communities feel that their voices are not heard, or decisions are imposed upon them, it can lead to disengagement (Sattayapanich, et al, 2022).

Notwithstanding the various community programme carried out in the communities in Enugu State by the government and other agencies, the citizens have remained poor in environmental sanitation activities. Moreover, it is not even certain that the citizens know their basic education needs in environmental sanitation. It is also not clear if any community education programme targeted at the populace have been contributory in improving the participation of citizens in environmental sanitation activities in their communities hence the study. Putting up with unpleasant situation of environmental sanitation becomes a problem which is the essential part of this study.



### **Statement of the Problem:**

Sustainable environmental management involves effective community planning, implementation and monitoring of environmental policies and practices that will help in maintaining and enhancing the quality of the environment. Communities in Enugu State are expected to be actively involved in environmental sanitation practices in order to minimize the incidence of diseases arising from the physical environment; such as diarrhoea, cholera and dysentery. Some of the dumping sites are cited in places that make residents walk for distances to dispose their wastes; hence some people choose to burn generated wastes around their homes. These activities raise concerns and questions about the extent of community participation in the control of environmental health hazards in the state.

**Purpose of the Study:** The specific purposes of this study include to;

1. Examine the extent of community participation in the control of environmental health hazards in Enugu State.
2. Identify factors affecting the success of community participation in the control of environmental health hazards in Enugu State.

**Research Questions:** The following questions were answered in the course of this study

1. What is the extent of community participation in the control of environmental health hazards in Enugu State?
2. What are the factors affecting the success of community participation in the control of environmental health hazards in Enugu State?

### **Hypotheses**

H01: There is no significant difference in the mean responses of urban and rural communities on the extent of community participation in the control of environmental health hazards in Enugu State

H02: There is no significant difference in the mean responses of urban and rural communities on factors affecting the success of community participation in the control of environmental health hazards in Enugu State

### **Method**

The present study is a descriptive survey design because the researcher sampled the opinions of heads of households on the extent of community participation in the control of environmental health hazards. The population comprises of 1,111 (740 urban and 371 rural) heads of households in Enugu and Agbani Zones of the state and the sample comprised of 111 members from the population selected via simple random sampling technique, making up 10% of the total population. A total 74 households were sampled from Enugu Zone as urban while 37 were from Agbani Zone as rural. Self-structured questionnaire was employed for the collection of data, which was duly validated and tested for its reliability given at 0.81. Mean and



standard deviation were the statistical tools used in answering the research questions while t-test statistics was employed to test the null hypothesis at 0.05 level of significance.

## Results

Research Question One: What is the extent of community participation in the control of environmental health hazards?

**Table 1: Mean and Standard Deviation Showing the Extent of Community Participation in the Control of Environmental Health Hazards**

Items	Indicate the extent to which	Urban (74)			Rural (37)			Overall (111)		
		Mean	SD	Rmk	Mean	SD	Rmk	Mean	SD	Rmk
1	My community actively engages in the planning and implementation of environmental projects.	2.50	0.13	A	2.60	0.91	A	2.55	0.15	A
2	Inhabitants of my community are willing to pay for sanitation services.	2.36	0.25	D	2.55	0.04	A	2.43	0.98	D
3	My community regularly embarks on Afforestation project to control erosion menace in the locality.	2.40	0.23	D	2.60	0.44	D	2.50	0.85	A
4	My community regularly engage themselves on sustainable agriculture.	1.40	0.11	D	2.20	0.35	D	2.04	0.99	D
5	In all the decision making processes regarding environmental sanitation, my community is usually carried along	2.35	0.25	D	2.60	0.35	A	2.51	0.26	A
6	Taking preventive action in the event of uncertainty or potential environmental harm	2.45	0.05	D	2.45	0.14	A	1.75	0.95	D
7	The party responsible for pollution usually bear the costs associated with cleaning up the pollution.	2.35	0.29	D	2.64	0.09	A	2.49	0.14	D
8	Awareness of climate change	2.31	0.18	D	2.38	0.33	D	2.08	0.25	D
9	Promoting climate change adaptation.	2.41	0.33	D	2.16	0.41	D	2.08	0.37	D
<b>Grand Mean</b>		<b>2.37</b>	<b>0.2</b>	<b>D</b>	<b>2.46</b>	<b>0.34</b>	<b>D</b>	<b>2.27</b>	<b>0.18</b>	<b>D</b>

**Key: A-Agree. D-Disagree.**



Data in the table 1 above shows the mean response of the respondents on the extent of community participation in environmental management. From the analysis done, it can be seen that all the items 1, 3 and 5 show agree with their respective mean scores above the criterion-mean score of 2.50. However, items 2, 4, 6, 7, 8 and 9 show disagree. The grand mean of 2.27 signifies disagree. This therefore mean that community participation in the control of environmental health hazards is at low extent in Enugu State as they only participate in the planning.

**H01:** There is no significant difference in the mean responses of urban and rural respondents on the extent of community participation in the control of environmental health hazards in Enugu State

**Table 2: Analysis of Mean (x) scores of urban and rural respondents on extent of community participation in the control of environmental health hazards**

<b>Location</b>	<b>No</b>	<b>Mean (<math>\bar{x}</math>)</b>	<b>S.D</b>	<b>t-cal.val</b>	<b>t-crit.val</b>	<b>Decision</b>
Urban	74	2.46	0.20			
Rural	37	2.37	0.34	9.41	3.32	Reject $H_0$

**Table 1:** Shows that the urban had mean (x) score of 2.46 with S.D of 0.29 while the rural had mean (x) score of 2.37 with S.D of 0.34 respectively. The calculated t value was 9.41 while the t-critical value was 3.32. Therefore, since the calculated t-value is greater than the t-critical value, the  $H_0$  hypothesis stands rejected.

Research Question Two: What are the factors affecting the success of community participation in the control of environmental health hazards?

**Table 3: Mean and Standard Deviation Showing the Factors affecting the Success of Community Participation in the Control of Environmental Health hazards.**

Items	Indicate the factors to success of community participation in the control of environmental health hazards;	Urban (74)			Rural (37)			Overall (111)		
		Mean	SD	Rmk	Mean	SD	Rmk	Mean	SD	Rmk
10	Effective communication and participation awareness education on environmental sanitation.	2.74	0.15	A	2.60	0.61	A	2.55	0.38	A
11	Socio-economic disparities hinder participation in environmental sanitation...	2.40	0.27	D	2.45	0.06	A	2.43	0.16	D
12	Strong local leadership and empowerment.	2.80	0.27	A	2.70	0.43	D	2.75	0.35	A
13	Availability of sanitation resources	2.77	0.14	A	2.60	0.37	D	2.68	0.99	A
14	Cultural and linguistic barriers hinders participation in environmental sanitation activities.	2.39	0.26	D	2.40	0.33	A	2.39	0.26	D
15	Institutional support and policies	2.85	0.15	A	2.65	0.14	A	2.74	0.95	A
16	Short term priorities on the part of sanitation agency hinders participation in environmental sanitation	2.35	0.19	D	2.44	0.09	A	2.39	0.14	D
<b>Grand Mean</b>		<b>2.61</b>	<b>0.20</b>	<b>A</b>	<b>2.59</b>	<b>0.43</b>	<b>A</b>	<b>2.56</b>	<b>0.61</b>	<b>A</b>

Data in the table 3 above shows the mean responses of the respondents on the factors affecting the success of community participation in environmental control of health hazards. From the analysis done, it can be seen that items 10, 12, 13, and 15 show agree with their respective mean scores above the criterion-mean score of 2.50. However, items 11, 14 and 16 show disagree. Based on this, and also in line with the average mean score of 2.56, it can therefore be agreed upon that factors such as effective communication and education, strong local leadership and empowerment, adequate resources as well as institutional support and policies determines the



success of community participation in the control of environmental health hazards in Enugu State.

**H0<sub>2</sub>:** There is no significant difference in the mean responses of urban and rural respondents on factors that affect the success of community participation in the control of environmental health hazards in Enugu State

**Table 4: Analysis of Mean ( $\bar{x}$ ) scores of urban and rural respondents on factors that affect the success of community participation in the control of environmental health hazards**

<b>Location</b>	<b>No</b>	<b>Mean (<math>\bar{x}</math>)</b>	<b>S.D</b>	<b>t-cal. val</b>	<b>t-crit. val</b>	<b>Decision</b>
Urban	74	2.61	0.20			
Rural	37	2.59	0.43	6.31	3.33	Reject H <sub>0</sub>

**Table 4:** Shows that the urban had mean ( $\bar{x}$ ) score of 2.61 with S.D of 0.20 while the rural had mean ( $\bar{x}$ ) score of 2.59 with S.D of 0.43 respectively. The calculated t value was 6.31 while the t-critical value was 3.33. Therefore, since the calculated t-value is greater than the t-critical value, the H<sub>0</sub> hypothesis stands rejected.

### **Discussion of Findings**

The result of the analysis presented in Table 1 indicated that community participation in the control of environmental health hazards is at low extent in Enugu State as majority respondents disagreed on the item statements highlighted. The hypothesis shows that there is no significant difference in the responses of urban and rural respondents on the extent of community participation in the control of environmental health hazards. This findings corroborates with the views of Rahji and Olorountoba (2019), Adepoju and Salimonu (2010) and Obidi and Adeoti (2015) which affirmed that community participation involves the active involvement of individuals, groups and organizations within a community in the decision-making processes that affect their environment. These views are further supported by Salimonu (2010) and Obidi and Adeoti (2015) who ascertained that community willingness to pay (WTP) for sanitation services significantly improved solid waste management in Western Nigeria and added that active involvement of communities in environmental management can have far-reaching effects on society. It not only leads to more sustainable and locally adapted solutions but also fosters a sense of community cohesion and pride. The implication of this is that community participation can be very much effectual in promoting environmental management if combined with effective strategies and patterns.

The result as presented in Table 3 indicated that factors such as effective communication and education, strong local leadership and empowerment, adequate resources as well as institutional support and policies determines the success of



community participation in the control of environmental health hazards in communities. Majority of the respondents agreed that all these factors, if present, can enhance the effectiveness of community participation in environmental management. This finding falls in-line with Sattayapanich, Janmaimool and Chontanawat (2022) who observed that understanding the challenges for community participation in environmental management is crucial for developing strategies to overcome barriers and ensuring meaningful engagement of communities in environmental initiatives.

The result of the hypothesis on table 4, established that there is no significant difference in the mean responses of urban and rural respondents on influence of community participation in the control of environmental health hazards. This finding agrees with Terraube, Fernández-Llamazares and Cabeza (2017) aver that the impact of community participation in environmental management is far-reaching, influencing ecological health, social dynamics and the overall well-being of both the community and the environment. This then leaves us with the ideal that community participation in environmental management is very much effectual for the sustainability of the world that we live in.

**Conclusion:** From the findings made, it can be concluded that community participation in environmental management is low in Enugu State. This condition is attributable to certain barriers, such as ineffective communication and poor local leadership.

**Recommendations:** Based on the conclusion made, the following recommendations were proffered:

1. The Ministry of the environment should provide regular educational programmes, workshops and training sessions for community members in order to facilitate effective environmental management.
2. The local authority should at all times ensure that sufficient financial, human and technical resources are allocated to support community- led environmental initiatives.
3. Government through the Ministry of the environment should foster a culture of diversity and inclusion to enhance creativity and innovation in environmental management initiatives.
4. The town union executives should strengthen collaboration between community groups and governmental or non-governmental institutions to ensure ongoing support for environmental initiatives.



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