

STRATEGIES FOR ENHANCING ENVIRONMENTAL AWARENESS AMONG FEMALES

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Abstract.

The paper dealt with strategies for enhancing the environmental awareness of females in Anambra State. The main purpose of the study was to determine:

1. To what extent are females in Anambra State aware of their environment
2. What are the environmental education needs of females in Anambra State?

What delivery systems could be employed to extend environmental education to females in Anambra State? The population for the study was made up of females in Anambra State. A sample of one hundred and sixty females were randomly selected. The instrument for data collection was questionnaire. Data collection was carried out by the researcher and a trained research assistant.

Data were analysed using descriptive statistics (frequencies, mean standard deviation) and Chi-square analysis. The major findings include:

1. Females are aware of:
 - (i) 60% of the components of the environment
 - (ii) 54.5% of the causes of environmental degradation.
 - (iii) 40% of consequences of environmental degradation.
2. The environmental awareness of the females in Anambra State is significantly independent of their educational status as well as the family size and the type of house they occupy.
- 3 Nineteen (19) important environmental education concepts needed by females were identified.
4. Nineteen (19) delivery systems through which environmental education can be extended to females were revealed.
Based on the findings, seven (7) recommendations for enhancing the environmental awareness of females were made.

Introduction

Environment in its definition is the surrounding including external conditions influencing growth development of people, animals and plants (Charles-Davis, 1992). It is thus obvious that the environment is a vital factor in the survival of man.

The physical environment is where all the human beings live, and it provides the resources and ecological processes which make all life possible (Tolba 1991). The subject of environmental awareness has become a major concern and challenge globally. This is because all human activities, economic and socio-cultural, take place in the environment. Connect (1990) ranked a clean and beautiful environment first out of the following ten basic human needs; a clean and adequate supply of water, simple clothing, food, health care, communication, simple housing, energy requirement, total education, spiritual and cultural needs. It can be seen that all other basic human needs have direct or indirect bearing to the environment. According to Rodda (1993), the inevitably interrelated, and a healthy environment is essential to the health and well-being of the planet and its inhabitants who depend on it for the air they breathe, and the water they drink and food they eat. Thus, there is a close relationship between man and the environment. Consequently, a healthy and beautiful environment, is not only a luxury but a basic human need both materially and non materially (Connect, 1990). Physical environment influenced both individual and community development. This is because development evolves from people's increasing ability to utilise the environment and its resources, in the production of needed goods and services:

There is need therefore for the efficient management of the environment and its resources for sustainable development and complete protection or "Restoration" of nature. According to Rodda (1993):

if the environment is abused, both health and development suffer. People become ill from environmental diseases and development which depends on the (wise) use of environmental resources fails. Similarly, if nations do not develop, poverty condemns their people to continue/disease, debility and early death, drive them to destroy their environment in their despair to attempt to survive (Rodda 1993: 36).

There is therefore need for effective management of the environment. Women are known to be responsible for improving the lot of their families. (Anyakoha, 1990 and 1993; Clielbowska 1990, Rodda 1993) pointed out that in the developing countries, many women's relationship with the environment is vital to their daily lives, for instance, in their provision of water, fuel, food and other basic needs. These women not only bear the brunt of environmental degradation, but they also play a crucial part in environmental management. Thus enhancing the woman's environmental awareness is particularly important because of the extensive range of women's environmental resources management. They interact extensively with their environment. Based on this interaction, Wahre (1991) referred to them as "the custodians of the micro - environment and the United Nations and UNFPA (1991) also saw them as "environmental managers". Rodda also noted that they are solely responsible for waste management: and situation training, home and family hygiene. In addition to their own direct influence, the women also possess the capacity of influencing others, (husbands, children, house-helpers, who in turn influence the environment. It thus becomes very necessary to ensure that women are conscious of their environment. Women involvement in environmental management is very crucial because they can pass these ideas of environmental management to their children, husbands and house-helpers. Thus it has a multiplier effect on natural resource management in the home. These facts above have a serious implication for home economics education for sustainable development. Therefore the study of strategies for enhancing the environmental awareness of females become very necessary.

The females considered in this study are the home makers, they are married women.

All Nigerians need to be sensitised to the environmental issues and problems by fostering their awareness of these matters. Without public awareness at all levels of the society no strategy for the environment can succeed. fNEST (1991) identified women as the group of people that needed this environmental awareness most because of their crucial link with the environment. Women play an important role in the utilisation and conservation or distraction of the natural resources base. As wives and mothers they play important roles in population resources. Aina and Salau (1992) identified pollution of air, water, land through bush burning, open defecation, improper disposal of human wastes, poor sanitation as how the environment is misused. Moss, Worth and Richard (1964) observed that the general level of health of the community can be raised only when the adults are informed of the implication of the need of environmental awareness for environmental degradation.

Improvement of health condition in any community depends greatly on the state of environment for more important, environment can only be improved and sustained if the environmental managers - women are educated on their environment and their immediate surroundings. In view of the hazards that accompany environmental degradation, children must be constantly restrained and mother must be constantly vigilant about their environment. It is necessary to seek ways of enhancing the environmental awareness of the women and the practices of the women that affect their environment and their environmental education needs.

Purpose of The Study

The study was designed to:

1. Identify the extent females in Anambra State are aware of their environment.
2. Identify the environmental education needs of females in Anambra State.

Research Questions

1. To what extent are females in Anambra State aware of their environment?
2. What are the environmental education needs of the females in Anambra State?
3. What delivery systems could be employed to extend environmental education to the females in Anambra State?

Research Hypotheses

The environmental awareness of females in Anambra State are independent of their;

- (a) Family size
- (b) Educational size
- (c) Types of houses they occupy.

Scope of The Study

This study covers as Onitsha in Anambra State. Onitsha is a densely populated commercial town.

The study focus on the following aspects in measuring environmental awareness:

- (i) Strategies employed by women against environmental hazards in their immediate environment.
- (ii) Level of awareness of women on their immediate environmental management. This will also consider the channel of education used to make women conscious of their environment. These include radio, television, workshops, oral transmission.

This study is limited to environmental education on cleanliness of individual homes and their immediate surroundings and water hygiene.

Population

The population for this study was made up of females in Anambra state. It was assumed that the home - maker is any person who is responsible for the general upkeep and welfare of the home. Such home - makers influence the management of their immediate environment.

Sample Of The Study.

Onitsha Urban was selected. Five major streets were purposively selected from Onitsha North L. G. A. and three from Onitsha South L. G. A. This gave a total of eight streets. Twenty households were randomly selected in each street. From each household, one home - maker was selected giving a total of 160 - home - makers and these constituted the sample of the study.

Instrument For Data Collection

The design of the study was a survey research and the instrument for data collection was the questionnaire. The questionnaire was divided into four parts structured so that the respondents expressed their opinions on a 4 point scale of very important, important, little important and not important with assigned values of 4, 3,2, 1, respectively.

The questionnaire for data collection was administered on hundred and sixty (160) home - makers in the area of the study. The items were verbally explained to the illiterate subjects and their responses were recorded. Out of the total number of questionnaires (160) distributed, one hundred and fifty-five (155) that is 96.9% were returned. The analysed data were based on 155 returned questionnaires. The questionnaire, was subjected to validation by two efficient experts. Based on their comments and recommendations necessary corrections were carried out on the instrument. Some items were modified and additional items were also included.

The reliability of the instrument was established by a test - retest reliability method. This procedure measured the degree of consistency, the instrument was over time. Copies of the questionnaire were administered on twenty (20) home - makers drawn from a street in Onitsha not being used for the study. After three weeks, the questionnaire were re-administered on the same respondents as a retest. Their responses were subjected to reliability analysis using the Pearson Product Moment Correlation Coefficient to determine the reliability coefficient of the instrument. The correlation of the two sets of responses yielded a coefficient of 0.09. This was considered adequate for the instruments.

Data analysis.

The data for this study was analysed using percentages and means to answer the research questions. The hypothesis was tested using the chi-square test of significance.

Findings

The following findings were made:

Table 1

Mean Responses of the Women on the Knowledge of the Components of the Environment

S/N	Components of physical environment	X	R
	The air we breath	1.90	UA
	Water	1.86	UA
	Land and Plants '	2.05	A
	Houses/Compound	2.12	A
	Rushes and open spaces around your houses	2.10	A

X = Mean responses; R = remarks A = Aware; UA = Unaware Table I reveals that the new-line respondents are aware that items number 3, 4, and 5 are components of the environment Each of these obtained mean score, of 2.00. The table also indicates that items 1, 7, 2, have mean scores below 2.00. showing that the respondents were unaware that air and water are also components of their environment. Based on these responses, the women are aware of 60% of the components of the environment.

Table 2.

Mean Responses of the Women on Their Awareness of Causes of Environmental Degradation.

	Causes of Environmental Degradation	X	R
1.	Scattering refuse	2.10	A
2.	Littering cans, papers, packages etc.	2.17	A
3.	Polluting the air are with smoke from bush burning and fuel wood	1.6	UA
4.	Defecating around	1.71	UA
5.	Littering with animal dungs	1.65	UA
6.	Pouring dirty/used water indiscriminately	2.02	A
7.	Too many people living in a house (over crowding)	2.12	A
8.	No refuse depot where people can dispose of their refuse	2.12	A
9.	Refuse depot too far	1.52	AU
10.	ASEPA does not take any interest in keeping the air clean	1.8	AU
11.	Inadequate provision of sanitary facilities such as waste and refuse Disposal material by Government.	2.34	A

Table 2 reveals that six out of eleven causes of environmental degradation obtained mean scores of 2.00 and above. Therefore, the respondents are aware that 6 out of the listed factors are the causes of environmental degradation.

Nevertheless, the respondents are unaware that the remaining 5 items are the causes of environmental degradation, all having the mean scores below 2.00 therefore they are aware of 54.5% of the items relating to the causes of environmental degradation while 45.5% of the items.

Table 3

Mean Responses of Home-Makers of Their Awareness of the Consequences of Unhealthy Environment.

S/N	Items	X	R
1.	Air when polluted causes illness which may result in death.	1.38	UA
2	When drinking water that is dirty and impure it causes diseases	6.60	A
3.	Unkept environment breeds pests and parasites such as mosquitoes, bed-bugs, cockroaches	2.16	A
4.	Ignorance of the need for a clean environment is a major cause of the dirtiness of the area where you reside.	1.89	UA
5.	Bad methods of waste disposal can affect the health of individuals very much.	1.74	UA

Table 3 shows that only items numbers 2 and 3 had mean scores above 2.00 while the other items had mean scores of below 2.00. This show that the home - makers are aware of only 40% of the item relating to consequences of unhealthy environment.

The women were also requested to indicate (free responses) the reasons why it is very important for them to maintain a clean environment.

Clean environment is necessary in order to;

1. Maintain good health
2. Avoid contact of diseases
3. Maintain a pleasant odour
4. Prevent home accident
5. Prevent growing of bushes around the house
6. Be socially acceptable
7. Show examples to children
8. Avoid dangerous animals in the house such as snakes.

Hypothesis

The environmental awareness of home - makers are independent of their: li) family size lii) educational status liii) type of house.

In order to test this hypothesis, chi-square (X^2) test was employed with the aid of computer. Below are the results as computerized.

1 Family Size

Table 4: Cross Tabulation Environmental Aw-areness by Family Size.

Value	Less	Between	Above	Total
	4	5 & 7	8	
No	23	34	5	62
	37.03	53.13	8.27	40.45
Do not know	6	6	1	13
	68.05	46.4	1.81	7.63
Yes	29	44	6	80
	36.11	56.22	6.75	51.90
Column	58	84	12	155
Total	37.2	54.5	7.8	100

Df = 4, $0 = 0.05$; Table $X^2 = 9.488$; Cal $X^2 = 4.851$.

Table 4 indicates that the calculated chi-square value of 4.851 is less tilt the critical chie- square value of 9.488 at 4 degrees of freedom and at 0.05 significant level. Therefore the null

hypothesis relating to family size is accepted at this level of significance. This implies that the environmental awareness of home-makers in Anambra State is significantly independent of their family size as measured by number of people in each household, **ii**

Educational Status Table 5

Table 5: Tabulation of Environmental Awareness by Educational Status.

Value	No formal education	Primary School	Secondary School	Diploma ONCE	HND Degree	Higher or Degree	Total
No	1	6	15	23	12	6	62
	1.4	10.28	23.6	35.8	18.32	9.7	40.5
Don't know	0	2	5	4	2	1	13
	0.0	13.47	39.10	30.5	11.2	4.8	8.2
Yes	1	7	20	28	13	10.0	8.0
	1.0	8.2	23.4	36.1	16.4	14	51.8
Col uni	2	15	39	55	27	17	155
Total	1.3	9.7	25.2	35.5	17.4	11.0	100

Df= 10, p = 0.05, Table $X^2 = 18.307$, Cal $X^2 = 10.93$.

Table 5 reveals that the calculated Chi-square value of 10.934 is less than the critical chi-square value of 18.307 at 10 degrees of freedom and at 0.05 significant level. Therefore, the null hypothesis relating to educational status is accepted. Anambra State is significantly independent of their educational status, **i**.

Type of House Table 6

Cross-Section of Environment Awareness by Type of House.

Value	No Formal Education	Primary school	Secondary schools	Diploma or NCE	HND Degree	Higher or degree	Total
No	1	6	15	23	12	6	62
	1.4	10.28	23.6	35.8	18.32	9.7	40.5
Don't know	0	2	5	4	2	1	13
	0.0	13.47	39.10	30.5	11.2	4.8	8.2
Yes	1	7	20	28	13	10	80
	0.1	8.2	23.4	36.1	16.4	14	15.8
Colum	2	15	39	55	27	17	155
Total	1.3	9.7	25.2	35.5	17.4	11.0	100

Df= 10, p = 0.05, Table $X^2 = 307$ Cal $X^2 = 10.93$.

Table 5 reveals that the calculated Chi-square value of 10.934 is less than the critical chi-square value of 18.307 at 10 degree of freedom and at 0.05 significant level. Therefore, the null hypothesis relating to educational status is accepted. This shows that the environmental awareness of home-makers in Anambra State is significantly independent of their educational status.

I = Important; VI = Very Important; X = mean responses

Table 7 shows the environmental education needs of the home-makers as perceived by the respondents. In order to determine the importance level of the each in environmental education item, the following scale was adopted for decision making:

- Below 2.00 = not important
- 2.00 - 2.49 = important 1.50
- and above = very important.

Table 7 shows that ten out of the nineteen environmental education items were perceived as important by the respondents. The breakdown of the analysis shows that items number 2,6,7,8,9,10,11,12, and 13, with their mean ratings were perceived as very important environmental education needs by the respondents. The table further shows that item number 9 (3.34) was perceived by the respondents as being the most important. This is closely followed by item number 13 (care of baths and toilets) with mean score of 3.33.

Research Question 3

What delivery systems could be employed to extend environmental education to home-makers in Anambra State

Table 8:

Mean Responses of Delivery Systems of environmental education by home - makers in Anambra State?

S/N	Delivery Systems	X	R
1.	TV/Radio	3.45	VI
2.	Visits of health officials	2.80	VI
3.	Magazines and newspapers	2.37	I
4.	Health centres/anti-natal clinics	3.04	VI
5.	Christian literature	2.35	I
6.	Church organisation	2.66	VI
7.	Adult literacy Classes	2.67	VI
8.	Seminar and open talks	2.79	VI
9.	Co-operative societies	2.36	I
10.	Illustrated posters, pamphlets	2.34	I
11.	Village heads meeting	2.51	I
12.	Use of home economics extension workers	2.47	I
13.	Household demonstration magazine	2.33	I
14.	Market place announcement	2.61	VI
15.	Video/film shows	2.19	I
16.	Women’s workshops	2.67	VI
17.	School children	3.00	VI
18.	Women’s meeting/self help group	2.88	VI
19.	Public enlightenment	2.79	VI

I = Important; VI = Very important; R = remarks X = mean response

Table 8 shows the data on the delivery systems that could be employed to extend environmental education to home - makers in Anambra State. The table reveals that eleven (11) out of 19 delivery systems are very important while 8 are perceived as important delivery systems by the respondents. The table also shows that the most important delivery system to enhance environmental awareness of home - makers is TV/Radio with a mean of 3.45. However, this particular delivery system may not be available to most of the home-makers in the rural area because of infrastructure and financial constraints item number 4 is followed by information dissemination through health centres or antenatal clinics. The third most important delivery system for environmental education is

women's meetings or sell groups (2.88). This should be so because women often belong to those groups and any information channelled through the groups will get to many women.

The table also shows that video/film shows more perceived as not being very important. This is closely followed by household demonstration magazines and illustrated posters, pamphlets, with means scores of 2.19 and 2.33, respectively. These findings might be an indication that the respondents are not familiar with their delivery system.

Discussion.

The findings have been organised and discussed in line with the three research questions and one hypothesis.

Research Question 1 deals with the extent the home-makers in Anambra State are aware of their environment. The findings on the awareness of components of the environment as indicated in Table 1 agree with the view of Aina and Salau (1992), cited in the literature reviewed, who posited that women in Nigeria in particular are involved in environmental issues because they unconsciously have close links with the environment. In view of this, NEST (1999) emphasised that the more sound the understanding of the environment is especially among women, the more effective it can be put into practice. This is because of the close relationship between the environment and human activities. Environmental education must be extended to the grassroots especially among women. It should be understood that women are responsible for transmitting knowledge from one generation to another as well as from one family to another. Therefore, there is need to enhance the strategies adopted by women toward environmental improvement. Moreover, *Journal of Home Economics* (1975) has the same regard to women which says that they are home managers, the culture carriers, the social conscience and the custodians of values. Therefore the efforts to make these women have full awareness for their environment is a basic part of the struggle for a better world.

On the issue of awareness of the consequences of environmental degradation, the findings as indicated in Table 3 are confirmed by Salvato (1992), Pojasek (1977) WBDP (1993) and Leitman (1992) pointed out that people die in the developing world from diseases as a result to poor sanitation, contaminated drinking water associated problems of food hygiene. NEST (1991) observed that at the personal and residential levels, home-makers should maintain the quality of the environment. They should see to the basic hygiene of the family and keeping the immediate surroundings clean.

We cannot therefore talk of improving the environment without reference to environmental sanitation and the behavioural patterns of the dwellers. Reichart (1964) affirms that in any community, the improvement of health condition is partly dependent upon environment and usually reflects the interest and efforts of its home-makers. Home makers when enlightened on environmental education will make appropriate use of such education on their personal, family and community living to enhance environmental well-being so that a healthy environment is achieved. The findings from the data analysed in Tables 4 to 6 which indicated that the environmental awareness of home-makers in Anambra State were significantly independent of their educational status as well as their family size and types of house.

In view of the above, research Question II came up with the environmental education needs of home-makers in Anambra State. The findings in respect to this research question revealed nineteen important environmental education concepts needed by the home-makers.

Thus, it becomes necessary to devise a means of extending environmental education to home-makers. The findings of this study in respect to research Question 3 which dealt with the delivery system that could be employed to extend environmental education to home-makers revealed nineteen delivery systems.

Conclusion

From the findings of this study, it was concluded that home-makers in Anambra State are aware of their environment to some extent, as identified in Tables 1 to 3. They are aware of 60% of environment as it relates to the components of the environment, 54.5% relating to the causes of environmental degradation and 40% of the items relating to the consequences of environmental degradation. This indicates that there is still need to provide environmental education for the homemakers to help them combat the misuse of the environment. In view of this 19 important

environmental concepts needed by home-makers were indintified and to enhance their i environmental awareness 19 delivery systems were also found to be necessary in extending these environmental education concepts to home-makers. This is necessary because lack of proper understanding of the environment has adversely affected the environment thus causing environmental mismanagement. Women, because of their link with the environment needed to be given adequate attention and focus so as to make sure they understand the plight of environmental degradation.

Recommendations

The findings of this study are recommended to the Daily Bread Organization (DBO). Daily Bread Organization, whose cardinal objective is to uplift the welfare of the family. It is pertinent to know that a healthy environment is the chief cornerstone to wealth. The Local Government Health Care Delivery Units, the State and Federal Ministries of Health should also make use of the findings of this study, especially during the immunisation programme since immunisation of pregnant women and children revolve around women who are linked with the environment, the health officials in charge of immunisation should be made to know the findings of the study During that period, women should be made to be aware of all the items that make up the environment, the causes and the consequences of environmental degradation to their respective families.

This study is also recommended to the government particularly the local governments to restore the post of sanitary inspectors, who should use and apply the findings of this study effectively. The health and sanitary inspectors should be paid for their weekly inspection visits to various homes. They will use the findings of this study to educate home-makers and thus enhance their environmental awareness. The curriculum planners and Home Economists are also recommended to make use of these findings in ensuring that they include in the educational curriculum, environmental study which will enhance the awareness of government to their clients.

The findings are also recommended to Anambra State Environmental Agencies and all other Environmental Agencies at State and Federal levels on the need for the identification of suitable sites and construction of landfills and educating home-makers on the need to provide-dust-bins in their respective homes and to dispose of them at designated evacuate centres as well making sure that trucks are provided to evacuate these heaps of refuse.

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