AN ASSESSMENT OF PUBLIC ENVIRONMENTAL HEALTH EDUCATION IN BAUCHI METROPOLIS

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ABSTRACT

Environmental and health education was assessed through the administering of questionnaires to respondents in Bauchi metropolis. The data collected was analysed and presented as table, percentage etc. The results of the analyses reveal that the level of environmental awareness in Bauchi metropolis is adequate. Finally, it was recommended that government should pay more attention in educating public through awareness campaigns on important public health matters such as the consequences of lack of environmental sanitation.

Keywords; Environment, Health, Public, Awareness, Consequences

INTRODUCTION

Environmental health is defined as “discipline that focuses on the health interrelationships between people and their environment, promotes human health and wellbeing, and fosters a safe and healthful environment. Environmental health comprises of those elements that are determined by physical, chemical, biological, social and psychological factors of the environment that can potentially affect adversely the health of the present and future generations (Fitzpatrick and koppos 1999).

Health education: can be defined as the principle by which individuals and groups of people learn to behave in a manner conducive to the promotion, maintain-ace, or restoration of health. Areas within this profession encompass environmental health, intellectual health and spiritual health. Health education make people value health, the more they will be willing to make the appropriate allocation of resources to promote and safeguard their own health. (Lucas2003).

Public health is “the science and art of preventing disease; prolonging life and promoting health through the organized effort and informed choice of society, organizations, public and private, communities and individual” (Winslow, 1920). Prevention is better than cure, is one of the prime massages of public health. If differentiates public health from clinical disciplines that are primarily involved with the care of the sick whilst public health emphasizes the avoidance of illness. Prevention here is initially constructed narrowly in term of protective measures like vaccination and improved nutrition that targets only health people with the aim of preventing the onset of diseases (Beaglehole and Binta 1997).

STATEMENT OF PROBLEMS

Due to the increasing ignorance of the importance of keeping the environment healthy ie among the members of communities, various problems tend to arise. These include adverse environmental condition which may lead to out-break of diseases such as water and vector-borne diseases. These result from improper waste management practices from homes and streets. Therefore the study intends to asses and review existing public environmental health education policies with a view to making suggestions on the best ways of addressing the challenges of environmental health education gaps or the strategy of communicating such information to the public.

AIM AND OBJECTIVES

The aim is to Assess Public Environmental Health Education in Bauchi Metropolis while objectives are

* To determine the level of public awareness regarding environmental health education.
* To examine the quality of environmental health.
* To identify possible gaps in awareness education.
* To suggest ways to improving level of awareness.

HEALTH EDUCATION METHOD
Variety of methods, both formal and informal, is used in health education. Some are personal, that is involving of health worker in direct contact with an individual or a group. Others are impersonal, in which the communication does not involve such contact, for example the use of poster, leaflets, and the mass media (news paper, radio, television, internet) each method has its advantage and limitation (Wurbach, 1997).

**HYGIENE EDUCATION**

The promotion of hygiene is another integral component of environmental health activities and is often included as the third part of any water and sanitation program. Its widely recognized that the promotion of hygiene (often described as hard ware) must be included along side the provision clean water and excreta disposal described as hand ware) if one is to achieve an impact in the reduction of water-related disease. To often health/hygiene education is perceived as being essentially a simple mater of telling people what they ought to do to be healthy. Dangerous over simplifications of this sort have gone hand in hand with a tendency for health education to be treated as an “instant expert” subject (Donie et al, 1990) it is not instant expert subject.

Health promotion can be seemed as promoting health peace, housing, education, food. Income sustainability environment, social justice and equity are all necessary for achievement of health. It calls for people to act as advocates, social cultural, environmental, behavioral and biological factors, (Hubley, 1993). Hygiene education is the processes, intellectual, psychological and social dimension relating activities that increase the abilities of people to make informed decisions affecting their personal, family and community well being (Hubley, 1993). Hygiene education can be disseminated in one of two broad ways:

1. **FACE TO FACE CHANNELS**

   These are
   * Person to person contact on an individual basis;
   * Large number of people, such as talk show or focus groups.

   The face to face channels of communication are slower for spreading information and the use of different senders may distort the massage being delivered. However face to face have a number of advantages over the mass media. These advantages include:
   * One can selectively reach specific target groups.
   * The communication can be tailored to fit local needs;
   * Direct Feed Back is possible at the time of massage delivery through two-way dialogue.
   * A greater chance of achieving behavior change is possible through the use of face to face communication (Hubley, 1993).

2. **MASS MEDIA**

   The dissemination of hygiene message through the mass media is a common mechanism used to achieve behavior change in addition change in addition to an information type’s role. One must stress that this role is only as a supportive role to other interventions such as improving the physical and social environment. In the tropics populations are more susceptible generally to mass media intervention due in large part to fact that the message are not as negative as we have received in the west and changes sought are simple (Tones et al, 1990).

**STUDY AREA**

Bauchi state lies between latitudes 9°3’N and 12°3’N of the equator and between longitudes 8°5’E and 11° East of the Greenwich meridian. It is bordered by seven states Kano and Jigawa to the North, Taraba and Plateau to the South, Gombe and Yobe to the East and Kaduna to the West. It occupies a total area of 49, 2490 square kilometers, representing about 5.3% of Nigeria’s landmass.

The state spans two vegetation belts, the Sudan and the Sahel vegetation; rainfall ranges between 600 – 1000 mm per annum in the Sahel and Sudan respectively. Effective raining season starts from mid-May and ends mid October. The dry season starts in October and ends in May. This period is characterized by dryness. There is also a short period of the Harmatan winds or dust between December and March,
rainfall is highest in August. Relative humidity ranges from about 12% in February to about 68% in August.
The state is endowed with large water bodies e.g. River Hadejia – Jamaare, Gongola river e.t.c Dams include Gubi dam, Maladumba etc.

SOURCE OF DATA
The data collected in this research were primary and secondary.

PRIMARY DATA
Questionnaires: This is an instrument which comprises of carefully designed questions for respondents to react to (enukoha et al, 1995); a total of 150 questionnaires were administered for the purpose of this research work.
Oral Interviews:- This is the most ubiquitous method of obtaining information from people (Kerlinger, 1986). Direct interviews yield data through direct verbal interaction between the researcher and the subjects (Ali, 1986). Oral interviews were conducted with health personnel.
Participant observation: this technique obtains data which give direct, as well as more objective information on the variable under study (Nwuna 1992) the area of the study was thoroughly observed and various photographs were taken to justify the observations.

SECONDARY DATA
This is sometimes called second hand information that is obtained from relevant printed materials such as text books, Journals, periodicals among other. Relevant government publications were used where necessary.

METHOD OF DATA COLLECTION
For the purpose of this research, data could be obtained through primary and secondary sources in primary source of data, data is to be collected through reconnaissance survey which involves visit to site, observation of physical characteristics of the study area and administering questionnaire and interviews.
In secondary source, data will be collected from published literature. This includes books, past these, other materials including pictures of the study area.

SAMPLING STRATEGY
The questionnaires will be administered using stratified random sampling. This involves the division of the study area into strata and choosing at random a number of stations.

SAMPLE SIZE
For the purpose of the research various stations have to be identified and selected using the following criteria:
(a) High density
(b) Medium density
(c) Low density Residential area
High Density Residential
i. Dawaki ward
ii. Dan Kade ward
Medium Density Residential  
i. Tambari Housing Estate  
ii. Gida Dubu Housing Estate  
Low density Residential Area  
i. G.R.A

RESULTS AND DISCUSSION

TABLE 1  QUESTIONNAIRE DISTRIBUTION

<table>
<thead>
<tr>
<th>S/N</th>
<th>QUESTIONNAIRE DISTRIBUTION POINTS</th>
<th>NO. ADMINISTERED</th>
<th>NO. RETURNED</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>High Density population Areas</td>
<td>50</td>
<td>47</td>
<td>94%</td>
</tr>
<tr>
<td>2.</td>
<td>Medium Density populations Areas</td>
<td>50</td>
<td>48</td>
<td>96%</td>
</tr>
<tr>
<td>3.</td>
<td>low density population Areas</td>
<td>50</td>
<td>46</td>
<td>92%</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>150</td>
<td>139</td>
<td>93%</td>
</tr>
</tbody>
</table>

Sources; Field survey, 2014

Of the one hundred and fifty Questionnaires issued about ninety three percent were filled and returned.
This shows a positive response from Respondents especially from Tambari and Gida Dubu medium density areas.

TABLE 2  ENVIRONMENTAL AWARENESS

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>FREQUENCY</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very High</td>
<td>61</td>
<td>43.8</td>
</tr>
<tr>
<td>High</td>
<td>41</td>
<td>29.6</td>
</tr>
<tr>
<td>Low</td>
<td>37</td>
<td>26.6</td>
</tr>
<tr>
<td>TOTAL</td>
<td>139</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Sources; Field survey, 2014

Respondents in Table 2 have generally shown to have general Knowledge of their physical environment. Over seventy percent portend to show they understand their environment and how it works at the micro level.

TABLE 3 USE OF WASTE BIN IN HOMES.

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>FREQUENCY</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very High</td>
<td>76</td>
<td>54.7</td>
</tr>
<tr>
<td>High</td>
<td>63</td>
<td>45.3</td>
</tr>
<tr>
<td>Low</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>TOTAL</td>
<td>139</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Sources; field survey, 2014

It is found in Table 3 that respondents low density areas registered companies that have provided waste bins for proper management and evacuation of waste materials while in others households initiates ways for waste management at home pending evacuation to dumping sites.

TABLE 4  TYPE OF EXCRETA DISPOSAL METHOD USED IN HOMES

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>FREQUENCY</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pit Latrine</td>
<td>78</td>
<td>56.1</td>
</tr>
<tr>
<td>Water closet</td>
<td>61</td>
<td>43.9</td>
</tr>
<tr>
<td>TOTAL</td>
<td>139</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Sources; field survey, 2014

Over half of the survey sample uses the “local system” of pit latrines. This can have debilitating effect in the spread of diseases’ if not properly managed. If left open Flies can feast and later spread the contaminants therein as shown in Table 4.

TABLE 5 PARTICIPATION IN ANY ENVIRONMENTAL HEALTH EDUCATION TALK.

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>FREQUENCY</th>
<th>PERCENTAGE</th>
</tr>
</thead>
</table>


Frequent 21 15
Often 46 33.1
sometimes 72 51.9
TOTAL 139 100.0

Sources; field survey, 2014
The above table 5 shows that all of the respondents have had talks about the Environment. Over half of them said it is not regular and often by chance and informal (51.9). But about forty five percent have participated in both formal and informal Environmental Health Education talks.

### TABLE 6 TYPE OF SOLID WASTE AND DOMESTIC WATER SUPPLY

<table>
<thead>
<tr>
<th>SOLID WASTE</th>
<th>PERCENTAGE</th>
<th>WATER</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Papers</td>
<td>23</td>
<td>Tap</td>
<td>33.2</td>
</tr>
<tr>
<td>Food residues</td>
<td>26</td>
<td>Borehole</td>
<td>18.4</td>
</tr>
<tr>
<td>Leaves</td>
<td>3</td>
<td>Well</td>
<td>45.4</td>
</tr>
<tr>
<td>Polythene bags</td>
<td>44</td>
<td>Others</td>
<td>3</td>
</tr>
<tr>
<td>Human and Animal Excreta</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>100</td>
<td></td>
<td>100.0</td>
</tr>
</tbody>
</table>

Sources; field survey, 2014
Table 6, above, shows most of the waste generated are those not bio-degradable and therefore harmful to the environment. This explains the importance of Environmental Health Education as it can affect both the flora and fauna as well as the physical Environment. Well is also the major source of water for the people and if exposed can be contaminated and spread of diseases as thousands of people use it every day for various purposes.

### TABLE 7 AWARENESS ON THE EFFECT OF PERSONAL HYGIENE

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>FREQUENCY</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very High</td>
<td>36</td>
<td>25.9</td>
</tr>
<tr>
<td>High</td>
<td>86</td>
<td>61.9</td>
</tr>
<tr>
<td>Low</td>
<td>17</td>
<td>12.2</td>
</tr>
<tr>
<td>TOTAL</td>
<td>139</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Sources; field survey, 2014
The above table shows that people are quite aware of the effects of both positive and negative actions on their personal hygiene. People tend to know the impact and extent of negligence of good hygiene on their health.

### TABLE 8 AWARENESS ON CONSEQUENCES OF LACK OF ENVIRONMENTAL SANITATION

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>FREQUENCY</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very High</td>
<td>52</td>
<td>37</td>
</tr>
<tr>
<td>High</td>
<td>67</td>
<td>48</td>
</tr>
<tr>
<td>Low</td>
<td>20</td>
<td>15</td>
</tr>
<tr>
<td>TOTAL</td>
<td>139</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Sources; field survey, 2014
Awareness on possible environmental hazards due to neglects is high as most respondent’s response shown on Table 8 show they are aware of the general problems associated with lackadaisical attitudes towards the environment as the table have shown.

### CONCLUSION

The study sets to find out the level of public environmental health education campaign awareness in Bauchi metropolis with specific reference to some wards in the metropolis using stratified sampling method. It was found that

a. The public uses waste bin for disposal domestic waste.
b. Opinions show that the periods of environmental sanitation exercises were low.
c. That participation in environmental health education talk is irregular.
d. Wells were the major source of water used for domestic purposes.
e. Public awareness through talk shows were poor and mostly via radios

RECOMMENDATION
From the result of this research, the following recommendations are deemed to be appropriate:
There should be adequate and regular environmental health education awareness campaign to communities on the effect and consequences of improper personal hygiene by gov’t and private Institution.
Urban and regional planners should ensure proper planning of residential house so as to avoid congestion and over-crowding condition and to ensure better living condition through provision of Infrastructure eg pipe bourne water.
Ministry of Environment and Housing should ensure each and every house should have drainage and waste disposal point(s).
There should be regular house to house inspection by environmental health officers, to ensure the observance of the minimum standard of environmental sanitation.
Government should introduce a sustained program for educating the public through the mass media.

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