

WAJER

ISSN 1119-4650

WEST AFRICA JOURNAL OF EDUCATIONAL RESEARCH

2000

VOLUME 3

NUMBER 1

APRIL 2000 EDITION



INSTITUTE OF EDUCATION, UNIVERSITY OF CALABAR



ENVIRONMENT AND HEALTH: THE SOCIO-CULTURAL DIMENSION

EMMANUEL E. IKPEME & M. E. INYANG-ABIA
INSTITUTE OF EDUCATION
UNIVERSITY OF CALABAR
CALABAR, NIGERIA.

ABSTRACT

That humans cannot exist without an environment makes it imperative for us to be cautious in way(s) we interact with environment. There is no doubt that an individual's health, to a large extent, is dependent on both the quantity and quality of the environmental resources. This point further underscores the need for individuals to be careful on how they handle the environment (in terms of the various activities the individuals engaged in). Consequently, this paper highlights the various socio-cultural activities that impact on human health and further proffer practical steps that could be successfully adopted in order to maintain good environment and, by extension, good health.

INTRODUCTION

There is no gainsaying the fact that human health is intricately tied to the environment (i.e., natural and man-made). In fact, the quality of human life is, to a great extent, determined by the quality (i.e., the resources) of the environment. The quality of land, water and the air, etc, available in the environment for human use has both direct and indirect influence on health.

Although the natural environment labours various disease-causing pathogens that affect human health, human direct activities (e.g., the exploitation of the resources of the environment for human survival and advancement) have not only contributed significantly to other agents (not necessarily pathogens) but has also compounded human health status.

Essentially, the environment on which human depend has been so polluted and degraded that it becomes obvious that new strategies must not only be adopted, but urgently be put in place if the supportive role of environment is still to be maintained. This is so because the development of a nation is, to a great extent,

dependent on the quality of life (health) of the people populating that geographical expression.

Indeed, development implies manpower. And when the manpower is physically, emotionally, socially and psychologically afflicted, then the nation's development is bound to suffer - even when such a nation is materially (natural resources) blessed. Indeed, human activities (including those of self-enhancement) have been identified as major contributors to the threatened environment, and by extension affect health. Therefore, this paper tries not only to identify some of those direct activities which are socio-cultural in origin that have adverse impact on the environment and human health, directly or indirectly, but also on the developmental efforts and associated strategies. This paper adopts a qualitative appreciation of the effects of socio-cultural activities on environment and consequently on human health. It is instructive to also emphasize that environmental problems and their effects are interactive and integrated, so also are their solutions.

The Socio-Cultural Activities

One of the most effective ways of making people to change their way of life, apart from constructive persuasion, is by providing a suitable replacement or alternative (especially those relating to livelihood). It is therefore understandable when people find it difficult to either accept new ways of doing things or change their previously held ways of doing things to new ones. This is so because the individual, apart from being socialized over the years into, has also been made to internalize, all the cultural values, norms, customs, etc, of his environment. It is therefore difficult for such an individual to give up such enduring values. Therefore the individual for example, will not appreciate the need to stop burning the bush - a veritable socio-cultural activity which is the only known way of getting meat supply or replenishing the depleted farmland with nutrients. But scientifically, bush burning, apart from polluting the air, also depletes the environment of its wildlife.

Although the socio-cultural activities addressed in this paper may not be entirely new to many readers their adverse effects on the environment and on human health may not have been so appreciated. Hence, this paper discusses selected socio-cultural activities under the known constituents of the environment: Land, Sea and Air, and

their collective effects on health. Table 1 shows specific examples of occurrence of environmental problems associated with socio-cultural practices and their effect on health and welfare of the people.

Land

Land is one of the major resources of the environment. Its contribution to human survival on earth cannot be over-emphasized. In deed, its life-supporting role is immense. Essentially, humans depend on land for the cultivation of food crops. And without food crops, humans will be starved to death. Unfortunately, the ability of land to produce, according to Anande-Kur (1992), is finite. This obvious limitation of the land worsens when land is not properly managed.

The first of the identified socio-cultural activities under land is the various Traditional-farming methods used by the rural people. Although the essence of the various methods is to cultivate the land, these various methods (indeed socio-cultural) have degraded the land and by implication the environment. Writing in the same vein Anande-Kur (1992), said that many soils cultivated by shifting cultivators and subsistence farmers in rural communities in Nigeria are subjected to fertility depletion through decline in soil organic matter, reduction in nutrient resources by crop removal,

TABLE 1
Selected socio-culturally induced environmental hazards and their damaging effects.

Place, Date, Source	Nature and Description	Estimated Damage
1 Coastal settlements 1990 (May to June). <i>Source:</i> Osifo-Whiskey et. al., (1990).	Flood in coastal cities and other settlements in Nigeria arising from global warming and melting of polar glaciers as a consequence of excess burning and green house effect.	<ul style="list-style-type: none"> • Over N100 billion worth of property destroyed. • Thousands of people died. • N1.35 billion needed to save Bar Beach.
2 Rivers State 1989 Sept. <i>Source:</i> NEST (1992).	Oil spillage hits Obio Akpor and Bonny local government areas caused by poor oil handling and pipe leakage.	<ul style="list-style-type: none"> • Aquatic animals and crops worth N5 million destroyed. • All sources of fresh • Water-born diseases result.
3 Delta State 1998. <i>Source:</i> Ipinmisho and Febabor (1990).	Thousands of tonnes of toxic waste dumped in Koko by an Italian firm. Nigerian students abroad stimulated urgent investigation by the Nigerian press which publicized the true situation.	<ul style="list-style-type: none"> • High level of radiation feared. • Fear of genetic mutation. • International dispute. • Probably facilitated the death of the landlord, Mr. Sunday Nana and others not identified.
4 Kano 1988. <i>Source:</i> Osifo-Whiskey et. al. (1990).	Collapse of Bagauda Dam consequent upon various causes including unprecedented rainfall and unsustainable and environmental practices.	<ul style="list-style-type: none"> • 146 deaths reported • 1800 houses destroyed. • 200,000 people displaced. • 7000 farmland damaged. • Over N20 million relief materials required.
5 Nigeria: Oil Towns 1986. <i>Source:</i> Osifo-whiskey et. al., (1990) and NEST (1991)	Continuous gas flaring in the Nigerian Flow stations.	<ul style="list-style-type: none"> • 16.8 billion M³ (75%) of natural gas flared. • 2,700 tonnes of particulate matter generated; also • 160 tonnes of oxides of sulphur. • 5,400 tonnes of carbon monoxide. • 27,000 tonnes of Oxides of Oxygen.
6 Ibadan: 1978 and 1980. <i>Source:</i> Osifo-Whiskey Op. Cit.	Ogunpa flood disaster arising from blocking of natural water channels by construction and dumping of refuse.	<ul style="list-style-type: none"> • 330 deaths altogether. • 302 million worth of property destroyed. • 50,00 people rendered homeless • Millions of naria spent for resettlement and aids.

Table 1 continued

7	Nigeria: 1992. <i>Source:</i> NEST (1991)	Continued deforestation arising from fuelwood, unsustainable agricultural practices, and development projects among other environmentally unsustainable practices.	<ul style="list-style-type: none"> • 23,000 hectares of gazetted forest loss each year for the past 30 years. • 22,301 hectares loss in Bauchi. • 14,650 hectares loss in Delta and Edo States. • 7,420 hectares loss in Kaduna. • 19,260 hectares loss in Kano, etc. • Over 90% of Nigeria forest has been cut down.
8	Idumota, Lagos. <i>Source:</i> Osifo-Whiskey et.al. (1990)	Human waste dump in the lagoon, from the million of the inhabitants of Lagos.	<ul style="list-style-type: none"> • billions of tones of human waste blocks free flow of water. • Excess eutrophication or algae boom. • De-oxygenated marine life. • Spread of malaria owing to excess mosquito breeding • Spread of water hyacinth.
9	Nigeria: <i>Source:</i> Aina & Salau (1992).	Solid waste generated in Nigeria at the rate of 20kg per capital per annum.	<ul style="list-style-type: none"> • 2.53 million tonnes of solid waste generated in 15 Nigeria cities in 1982. • Average of 168.4 thousand tonnes of solid waste per Nigeria city in 1982. • 3.21 million tonnes from 15 cities generated in 190 averaging 213.72 thousand tonnes per Nigerian city. • 4.25 million tonnes from 15 cities expected by year 2000 averaging 283.04 thousand city. • Millions of naira to be expended for waste clearing and cleaning. • Millions of Nigerians affected healthwise.

leaching and acidification. He went further to say that many rural communities live on the extensive acid sands of Southern Nigeria where yields of cassava, maize, rice, and yam have continued to decline, thereby creating food insecurity. The apparent implication of the above socio-cultural activity is that the health of the people may likely be affected: less food intake from less food supply due to reduction in available croplands.

The next socio-cultural activity to be addressed is overgrazing. Overgrazing which is one of the major causes of devegetation is due to excessive use of the topmost part of soil resulting in serious depletion of food crops on such affected lands. Overgrazing is usually due to the activities of the cattle rearers. This socio-cultural activity, according to Anande-Kur (1992) is most apparent in Southern Kaduna State, Kachia to

Kafanchan, Jos Plateau highland, Mambilla Plateau, northern Niger State and northern Oyo State. Essentially, overgrazing results in the depletion of vegetation leading to depletion of soil nutrients of such soils. Indeed, no food crops can be produced on such soils and the consequence may be food scarcity or famine. All these have serious implications on the health status of the people.

The land can also be degraded by bush burning - a socio-cultural activity of the people of Nigeria. So also can land be degraded by fuelwood collection activity. Both socio-cultural activities result in devegetation.

The overall effects of devegetation on the lifestyle of the rural dwellers are numerous - wildlife in these areas which used to serve as a major source of protein needs, have disappeared. So also is the disappearance of herbaceous species that used to serve medicinal purposes - thus rural health care is greatly threatened by this disappearance. In addition is the disappearance of some edible herbs species. Indeed, there is growing evidence that rural communities situated in devegetated areas are showing signs of poor health and malnutrition (Anande-Kur, 1992)

The various *excavating* activities across the country must also be addressed. This socio-cultural activity leaves, in their wake, such environmental problems like landslides, erosion and flooding. Apart from constituting serious threat to human settlements, landslides, erosion and flooding result in the reduction of available farmland meant for cultivation thus resulting in scarcity of food, famine and under-nutrition.

In addition, flooding results in filthy environment: breeding place for mosquitoes and other agents of

infectious diseases. With regard to erosion, focus of this paper is on sheet erosion, also called soil wash. It occurs as a result of socio-cultural activities that were previously highlighted (farming activities, bush burning, overgrazing, fuelwood, etc). Although, it occurs in varying degrees throughout Nigeria, it is most severe in Southern Kaduna State around Sabongida, northern Cross River State, Mambilla Plateau, around Kontagora in Niger State (Anande-Kur, 1992). Sheet erosion results in the washing away of the top soil leaving behind the red lateritic subsoil which can hardly support grass vegetation that is shallow-rooted. The effect of sheet erosion is the silting of rivers, streams, dams, lakes and other types of free water bodies thus resulting in reduced fish catch or no catch at all, reduction in vegetative cover as streams dry up. It is apparent from the proceeding that the rural water supply of the affected communities is in serious danger. We should not lose sight of the health implication of the above mentioned conditions of the environment to the rural people

Sea

Sea is another important environmental resource that has both direct and indirect effect on the health status of the people. Apart from being a natural source of water supply for domestic and industrial uses, it also supplies the people's protein needs - through various aquatic lives - fishes, crabs, crayfish, lobsters, etc.

However, the various socio-cultural activities of the coastal dwellers such as the *dumping of refuse* into rivers, seas, etc., the *use of dangerous chemicals* in catching fish, *defecation* into the rivers and seas

not only pollute them but also lead to the destruction of aquatic lives.

Furthermore, such polluted rivers and seas act as veritable reservoirs of agents of infectious diseases - the water-borne diseases like cholera, typhoid, dysentery and other gastrointestinal complications. In point of fact, the coastal dwellers not only depend on the streams, rivers and seas for their daily drinking water supply but also for their protein needs. Thus, when this environmental resource is polluted, the apparent manifestation is on the health of the people. A reduced intake of proteinous substance (e.g., fish) due to polluted rivers, seas, etc results in diminished body resistance to invading pathogens. Again, an intake of poisonous fish(es) as a result of dangerous chemicals in river or sea results in gastrointestinal and other organic complications. An intake of polluted water as drinking water (or for domestic use), from polluted streams, rivers, etc also results in various infectious diseases. However, all of these have serious implication on the health status of the people and consequently on the manpower development, which indeed determines any developmental efforts of the people.

Air

The atmosphere is made up of gases. It is an important aspect of the environment. Its contribution to man's survival and wellbeing cannot be over-emphasized. It is from the atmosphere that an individual gets his oxygen supply through the respiratory mechanism. A mechanism that is so vital for all of life processes. Unfortunately, *bush burning* - a veritable socio-cultural activity of the rural people has, in no small measure, contributed to atmospheric air

pollution. Specifically, the smoke from such fires increases the amount of carbon dioxide in the air. Since carbon dioxide has the capacity to trap heat, it results in an increased average temperature and regional climatic changes. The consequences of global warming are severe. First, the water in seas will expand increasing the risk for floods in low-lying areas. Secondly, the redistribution of temperature conditions results in droughts becoming even more frequent in areas living within narrow survival margins.

Furthermore, the contribution of smoke and heat into the atmosphere from bush burning also worsens the Ozone depletion situation. Ozone layer is vital to life because it keeps damaging ultraviolet light from reaching the surface of the earth. Therefore when the layer is depleted through our socio-cultural activity, man is exposed to damaging ultraviolet rays which affect not only man, but also animals and plants. In human, the health consequences range from sunburn, cataract, aging of the skin, suppressed immune system, skin cancer to numerous infectious diseases including measles, chickenpox, herpes, tuberculosis and leprosy.

The *ultra-violet rays* not only affects the ability of plants to capture light energy in the process of photosynthesis but also the nutrient content and the reduction in plant growth. The implication of this to man's survival is obvious. Again, we should also not lose sight of the indiscriminate *dumping of refuse* (a socio-cultural activity) in the urban and rural centers. The burning of such refuse heaps contributes significantly to air pollution. The smoke, heat and odours emanating from such dumps have serious health implications. Apart

from the sites constituting breeding places for various agents of infectious diseases, the polluted air causes cancer and other nasal and respiratory complications.

A combination of these socio-cultural activities conspire to produce disastrous effect as illustrated on Table 1. The need for urgent attention cannot therefore be overstressed.

Strategies for Combating the Problems

It should be borne in mind that it is very difficult for people to change easily their ways of doing things - especially with those relating to their livelihood and wellbeing. Be that as it may, efforts must be made to reach out to the people by making them to understand the health implications of unguarded exploitation of the environmental resources (though for survival and self-enhancement) through the various socio-cultural activities. In the same vein, the people should be made to understand the relationship that exists between environment, health and development. For according to Inevbore (1990):

... development is a multi-dimensional concept that encompasses not only economic and social aspects of national activity but also ... the use of natural resources and the management of the environment (p. 54).

Unfortunately, some socio-cultural activities seem to suggest that environmental resources could be exploited without restraint and wastes could be discharged freely into air and water, which nobody owned. Of course this is contrary to the new concept of environmental management. Writing under this new concept, El-Hinnani and Hasmi (1982) maintain that although the natural resources of

the environment have the capacity for regeneration the process is rather slow and complicated:

If some natural resources are overexploited, the stock will fall rapidly leading ultimately to the complete destruction of those resources. Again, the air and water have limited assimilative and carrying capacities and that pollution control measures must be instituted to safeguard the environment and the quality of life.

With the above in mind, this paper recommends the following strategies:

A. *Environmental Education.*

Since the paper is considering activities that are socio-cultural in nature, it is the contention of the writer that the most effective means to address the problems should be through a well-panned environmental education programme. The objectives of such a programme as enunciated by Johnson (1982), with some modifications should be geared towards:

i. *Awareness.* To sensitize the people, especially in the rural communities, towards the appreciation of the precarious nature of the environment and of those activities (for whatever reason) that endanger the environment and consequently their health.

ii *Knowledge.* According to Johnson (1982), this aspect of the environmental education should help individuals and social groups acquire basic understanding of the total environment, its associated problems and humanity's critically responsible presence and role in it.

iii *Attitude.* Indeed, when knowledge of the environment is acquired, it could help in the internalization or acquisition of positive social values, "strong feelings of

concern for the environment and the motivation for actively participating in its protection and improvement" (Johnson, 1982).

iv **Skills.** For individuals, especially in the rural areas, to change their old ways of doing things may call for the acquisition of new skills that will help them to adequately cater for themselves (e.g., application of modern ways of cultivation).

v **Participation.** This aspect should be concerned with the development in the people of a sense of responsibility and urgency regarding environmental preservation and protection.

The paper calls for a practical environmental education approach whereby various environmental organizations or institutions embark on enlightenment campaigns taken to specific areas of concern. Although the Federal Ministry of the Environment and the Non-governmental organizations (NGOs) such as Nigerian Conservation Foundation (NCF), Nigerian Environmental Study/Action Team (NEST) and Nigerian Environmental Society (NES) are working in this direction, new approaches such as the radical environmental education curriculum at all levels, increased local participation through neighbourhood clubs and formation of local government environmental committees should be adopted. The approach should be well-planned and coordinated with twin elements of aggressiveness and persistence.

B *Alternative Means of Sustenance.*

There is no way an individual who has been used to a particular way of catering for himself can be asked to stop using that approach when a suitable alternative is not made available (in spite of the negative impact of the previous approach).

Until a suitable alternative in terms of cost and time is made available, very little can be achieved through public enlightenment campaigns.

Idachaba (1989), writing on the need for suitable alternatives to rural people's socio-cultural activities, maintains that:

To believe year after year and regime after regime that farmers and rural people who set forest fires and burn bush do not know what they are doing and that they are irrational and stupid demonstrates the limited understanding of policy-makers of why farmers and rural people do what they (p. 9).

Indeed, the farmers and rural people not only know that forest fires and bush burning clear way dead vegetation, encourage new grass growth for cattle grazing and drive away wildlife for hunting but also know that forest fires and bush burning reduce the amount of plant residue on farmland.

According to Idachaba (1989), one way out of forest fires and bush burning is the availability of cheap labour, adequate credit facilities and the availability of labour substituting farm machinery and equipment to the local environment for bush clearing and land development. To these, one may add that relevant knowledge is *sine qua non*. In other words as long as the constraints exist the farmers and the rural people will continue to engage in the unsound environmental practices. Indeed, all the other socio-cultural activities of the rural people can only give way to sound environmental practices if, and only if, suitable alternatives or replacements are made available in the presence of relevant knowledge, skills and ecofriendly values.

C. Compliance Monitoring and enforcement.

Agreed that the Federal Ministry of Environment has a compliance monitoring unit to ensure that the various environmental regulations are observed, the operation of the unit is limited to ensuring compliance by various industries in urban centres. Whereas such compliance monitoring activities are not extended to the rural communities. Considering the fact that most of the urban foodstuffs are produced in the rural communities, such monitoring becomes imperative, not only for the safety of foodstuffs, but also for the health of the rural people. If by their unsound environmental practices, they should become ill, this condition could result in a reduced amount of food supply available to the urban dwellers. The attendant health problems of scarcity of food are famine, malnutrition, starvation and in extreme cases death.

Therefore, whenever any environmental policy is put in place, it should not only be limited to urban centres, but also to the rural communities as the illustration shows. For effectiveness, it might be necessary for the compliance monitoring unit to work hand in hand with the various village heads, community leaders, leaders of social groups in the villages or communities and the local government environment committees. However, it should be noted that compliance and enforcement can only become meaningful and effective when there are suitable alternatives or replacements available to the people.

CONCLUSION

Indeed, concerted efforts must be made to preserve and protect the Nigerian environment. Humans depend on the environment for continuous survival and wellbeing. The envisaged efforts should be a collective one and not

selective: This is so because an environmental problem suffered by a given community may have a spill-over health effect on another community.

The discussion on the identified socio-cultural activities of our people shows that they have made negative impact on the environment and its resources. The question is: For how long can this trend continue? An obvious solution to the various problems will depend on how suitable an alternative is found to the various socio-cultural activities necessary for sustenance. When effective substitutes are found then the complementary roles of education, compliance and endorsement may then become effective.

In conclusion, it must be re-emphasized that the health status of a people and its level of development are directly tied to the quality of the total environment of that people. Therefore, we in Nigeria must collectively ensure that the time has come for us to take environmental issues seriously, particularly as they affect the rural communities.

REFERENCES

- Aina E.O.A & Salau, A.T (Eds.).
The challenge of sustainable development in Nigeria. Ibadan: NEST.
- Anande-Kur S. (1992), Land deradation and rural community life in Nigeria. In E.O.A Aina and N. O. Adedipe (Eds.), *Environmental consciousness for Nigerian national development* (77-83), Abuja, FEPA Monograph 3.
- El-Hinnani, L. & Hasmi M. UI-H (1982), Global environmental issues. *UNEP natural resources and environmental series 7*. Dublin: Tycooly International Publication Ltd.

- Idachaba, F.S. (1989). The implications of forest fires and bush burning for Nigerian food production strategies. A lecture delivered on *Forest fires and bush burning* at the World Environmental Day. FEPA Special Publication (2.)
- Imevbore, A.M.A.O (1990). Environmentally sound management of natural resources in Nigeria. In O.S. Adegoke (Ed.). *The environment and sustainable development in Nigeria* (3-62). Abuja: FEPA.
- Ipinmisho, T. & Febabor, T. (1990) what killed Nana ? *Daily Times*. March 9, Front Page.
- Johnson, V.O.I (1982). Notes on environmental education. In M. Achia (Ed.). *Environmental education in the African school curriculum*. (24-37), Ibadan: University of Ibadan ACO Series on Curriculum Development (2).
- Nigerian Environmental Study/Action Team (NEST) (1991). *Nigeria's threatened environment: A national profile*. Ibadan: NEST.
- Osifo-Whiskey, O., Mohammed, Y., Maggi, A, Ette, M., Agbo, N., Mab, J & Anidu, F (1990). Finding the mean. *Newswatch: Nigeria's weekly Newsmagazine*, June 11:16-22.