

Environmental Hazards and the Health Status of Women and Children in a Riverine Community in Nigeria: Nikrowa in Edo State +

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ABSTRACT

The paper examines the inter-relationships between the environment and the health status of women and children in Nikrowa. Women interact with the bio-physical and social environments in their different occupational and domestic roles. In Nikrowa they farm, fish, collect water and firewood, engage in food processing and preparation. They also bear many children. The author points out that this hard physical labour results in continuous body aches and pains for women. Among children, environment-related illnesses such as malaria, measles, dysentery and diarrhoea are prevalent. The geographical isolation of the village limits accessibility to modern healthcare facilities and consequently traditional therapies are relied upon for treating these illnesses.

Introduction

The environment consists of three major components – physical, biological and social. The physical environment refers to the non-living part of the environment: the air, soil, water, minerals, climate and all other physical characteristics. All the living things in an area – the plants, animals and micro-organisms constitute the biological environment. The social environment is that part of the environment that is man-made. It comprises all the elements involved in the organisation of the community: culture including beliefs and attitudes, the political, judicial and educational systems. It also includes transportation, communication and social services which influence the quality of life in the community. The social environment also defines statuses and roles of men and women in the community.

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Increasing attention is now being paid to environmental issues in Nigeria since the Brundtland report in 1987. This concern culminated in the National Policy on the Environment which was approved in 1989. However, despite the fact that women comprise about half of the population, the relationship between women and the environment is yet to receive adequate attention. Rural women in particular play critical roles in the interaction between a rapidly growing population, agricultural production and the environment. They play multiple roles as farmers, mothers and household managers. Their activities as farmers and food processors and their responsibility for fuelwood and water collection bring them into close contact with the physical and biological environments. Their roles include child-bearing and rearing, domestic work, and healthcare of family members.

Women face various environmental hazards in the performance of their everyday activities. UNICEF (1990) has recognised two types of environmental emergencies. Firstly there are the 'loud emergencies' which derive from degradation of land, air, water and other resources. They include deforestation, industrial pollution, etc. All these have emerged as major environmental concerns. But just as important are the 'silent emergencies' which derive from the social environment, especially the health situation, in which people live. It is the environment of the malnourished, sick and illiterate mother on whose care her children depend, an environment marked by unsafe drinking water, unsanitary surroundings, the prevalence of deadly or crippling diseases such as diarrhoea, malaria, pneumonia, measles, polio and tetanus.

The 'silent' emergencies usually receive less attention because the relationship between the environment and health is yet to be fully recognised outside health circles. Development policy-makers need to realise the inter-relationships between a healthy environment and solutions to the 'loud' emergencies. For example, a healthy environment is essential for declines in child mortality rates. Studies have shown that sustained declines in birthrates cannot be achieved without sustained declines in child mortality (UNICEF, 1990; Okojie, 1991). This is especially important because rapid population growth is one of the root causes of many environmental degradation problems (UNICEF, 1990).

What is the relationship between the environment and health? In the search for cures to various diseases, it is now recognised that it is not enough to identify the specific agent of the disease, such as a virus or parasite. It is also important to identify the influence of environmental factors on the interaction between man and the specific agent of disease (Lucas & Gilles, 1984). For example, although typhoid fever is directly caused by the typhoid bacillus, outbreaks of typhoid are associated with environmental factors such as water supply, methods of sewage disposal, personal health habits of residents in the community, use of medical services, etc. Thus the control of many diseases is not just merely treating individual affected patients, but involves improvement in environmental variables in a community.

What is the relationship between the environment and the health status of women and children? Women are important in health matters because they are the major harbingers of health in the household. They play very important roles in maintaining family health (World Federation of Public Health Associations, 1986). As caregivers and health-care providers in the home, they are important users of traditional and modern health services. They are the main users of immunisation services for themselves and their children. They play a major role in the prevention and control of illness among family members – preventive treatments, early detection of symptoms, decisions to seek care, treatment of common illnesses and injuries, etc. Their importance in maintaining the health status of household members cannot be overemphasised. Children are vulnerable because of their dependency status and, their health status depends on the socioeconomic environment of their parents.

Data Sources

Data used in this paper was obtained from a study of women and utilisation of health services in Nikrowa in Edo State. The study aimed to identify barriers to utilisation of modern health services by rural women and was conducted between February and April, 1992.

Nikrowa is a riverine village located in Ovia North-East Local Government Area of Edo State. It was initially settled by the Ijaws who are still the predominant ethnic group in the village. Since the location of the logging activities of the African Timber and Plywood (AT & P) Company in the village about four decades ago, people from other ethnic groups have migrated to Nikrowa to work for the AT & P Company. A maternity centre was established in the village in 1986. For more serious illnesses, the villagers have to go to the General Hospital at Iguobazuwa about forty kilometres away or to hospital in Benin City, about eighty kilometres away. The only access road to the village is a thirty-five to forty kilometre untarred road which becomes water-logged and impassable during the rainy season.

The data for the paper was obtained mainly from focus group sessions with Ijaw men and women. There were four sessions, two held with men, and the other two with women. Most of the men in the village have received at least primary education (the primary school in the village was established in 1928); participants in both male groups had some education. Participants in one group were below 40 years while those in the second group were over 50 years. Among the women, the younger women, all of whom were below 35 years had received some education, while the older group of women had received no education (except for one participant).

In addition, individual questionnaires were administered to collect information on working and living conditions in Nikrowa. Thirty-nine questionnaires were successfully administered, 16 to Ijaw men and women, and the remaining 23 to non-Ijaws in Nikrowa.

The health personnel of the local maternity centre were also interviewed to obtain information on utilisation of the centre by residents of the community. A community questionnaire was also administered. General informal interviews were also held with some elders in the village to obtain background information. Findings on the relationship between the environment and health status of women and children in Nikrowa are now presented.

Empirical Findings

The bio-physical environment of Nikrowa

Nikrowa village started as a camp where the Ijaws settled nearly a century ago. It is located along the Ovia river on the periphery of the Okhomu Forest Reserve Area. The reserve has been declared a Wildlife Conservation Area. It is about 50 kilometres to Iguobazuwa, the Local Government Headquarters, and about 35 kilometres of this stretch is untarred and impassable during the rainy season. Nikrowa therefore is virtually cut off during the rains and transport is infrequent and expensive. One minibus operates a twice-daily service to Nikrowa, in the morning and late afternoon.

The main occupations are fishing and farming. However, restrictions have been imposed on agricultural activities by declaring the area a Wildlife Conservation Area with restriction on farming land under the *Toungia* Scheme. Hunting is prohibited and under the scheme villagers have to apply for farming land. The scheme has limited farm sizes and soil fertility by restricting the practice of shifting cultivation which was possible in the past. Land is now over-used and productivity has consequently declined.

Declaration of the forest reserve has also restricted other male economic activities such as canoe-building, paddle-making and timber-felling. Men, however, still engage in these activities to a limited extent and they are also engaged in palm-wine tapping and distillation of 'native gin' which was illegal for a long time. Women are engaged mainly in farming but especially in fishing activities and spend many hours fishing and paddling on the Ovia river. Limited employment opportunities exist at the African Timber and Plywood Company mainly as unskilled workers.

The AT & P Company provides electricity to its staff quarters. The community also has its own generator which supplies electricity between 6pm and 12 midnight. There is no bank, no post-office, and no newspapers come to the village except if residents go to the town for other business and buy copies. There is one primary school which was established in 1928 and a secondary school established in 1980. Truancy and drop-out rates from both schools are very high, partly because of shortage of teachers who do not want to live in such an isolated community.

Occupational activities of women

The main occupations among women in Nikrowa are farming and fishing. Farming activities take place in the reserve forest where the land is strictly controlled. Under the *Toungia* scheme, land space is allotted to farmers in the forest for farming, and the size per person is limited to one acre. Land is usually allocated by February after which farming activities start; the majority of the allottees are men. Because virgin forest is rarely allocated for farming, rearing of the same land is now on a 3-year rotation basis as against 6-7 or even 10 years rotation in the past. Poor harvests are reported by the villagers as a result of over-use of the same land. Degradation of the land in the form of declining soil fertility creates greater stress on women who produce much of the food consumed. Women plant food crops such as cassava, plantain, yam, melon, pepper, etc.

The majority of the women also engage in fishing activities using the paddle-canoe, fishing baskets, nets, and hooks (like the men). Women spend hours on the river fishing, catching shrimps, etc. Often they go fishing with their babies tied on their backs. Other activities which involve interaction with the environment are basket weaving, and distillation of 'native gin' from palm-wine.

In performing these activities, women face various environmental hazards which threaten their health status and that of their children. The small plots of impoverished land on which women must produce the necessary food crops for their large families yield diminishing returns, creating a further burden for them. Since many of them also fish, the combination of these two strenuous activities leads to stress and fatigue. It is not surprising, therefore, that in the focus group sessions, body aches and cramps were reported to be the major ailments among women. The hard physical work leads to exhaustion and aches and pain which are so common in the village that "massaging" is a full-time occupation for some of the village residents.

Water supply and sanitation

Every community needs a safe and adequate supply of water. Concern for lack of an adequate source of water in many communities led to the declaration of the decade 1981-1990 as the International Drinking Water and Sanitation Decade with

the aim of 'water and sanitation for all'. The aim was worldwide improvement in the overall health and quality of life and the reduction of water and dirt-related sources of diseases (Black, 1990). Those with the poorest water supplies and sanitation facilities are rural communities. In 1990, about 31% of world population had no access to adequate water supplies while 43% had no access to appropriate sanitation (Black, 1990). In Nigeria, at the beginning of the international Drinking Water and Sanitation Decade, only 20% of rural dwellers had adequate water supplies while 5% had adequate sanitation facilities (Black, 1990).

Nikrowa is one of the rural communities with inadequate water and sanitation facilities in Nigeria. The main source of water for the Ijaws is surface water – the Ovia river. Such water can easily be polluted by human beings or animals directly when rain water washes faeces and other pollutants from the banks into streams and rivers. The supply of water should be adequate in quantity, safe from chemical and biological hazards and acceptable in taste, colour, etc to the user (Lucas & Gilles, 1984). The villagers, especially the Ijaws, use river water for all domestic purposes – cooking, washing and bathing – and the children bathe in the river. Many of them also drink the water. Most of the participants in the discussion sessions said that there was nothing wrong with drinking the river water. However, the women pointed out that the river is dirty during the rainy season. The water is not boiled before drinking. The children invariably drink the water while bathing in the river, while the men and women drink from it while fishing. Asked whether they boil the water, the women responded that when they are thirsty, they cannot wait to boil the water, and in any case, there is no fire in the canoe to boil any water. Drinking water is also obtained from a local spring which is farther away than the nearby river. It is therefore less physically demanding to fetch water from the river.

With respect to sanitation women and children are responsible for the day-to-day cleaning of the surroundings. However, once a month, communal cleaning of the community is done. There is a dumping ground for refuse. Open refuse dumps provide breeding grounds for rodents and mosquitoes.

Housing facilities

Most of the houses in the village are the traditional raffia pole and mud houses built by riverine groups. Some of them are cement-plastered. The "sitting-room" or living room is the only properly ventilated room in the household. Most of the other rooms have just a small window for ventilation. The pit latrine is the usual type of toilet in Ijaw homes. The 'kitchens' are usually smoke-filled, creating health hazards for the women who cook there daily.

The AT & P Company has built different grades of housing for its staff. The houses for the junior staff are of a low standard however. All the houses are built of plywood and corrugated sheets posing fire hazards. The junior staff have a room and parlour each; the 'kitchen' which is shared among a number of households has a high-rise smoke chimney. Bathrooms and pit toilets are also shared by up to 5-8 units. The middle-level staff have a two-bedroom unit, while the senior staff have four-bedroom units. The staff quarters for the middle and junior staff appear to be unhealthy; they are unkept and have deteriorated over the years. During the rains, the compound is flooded, swampy and virtually impassable. Ventilation in the houses is poor and the rooms are generally overcrowded because of household sizes. The AT & P Company has a borehole in its quarters for its staff, but non-staff are usually not allowed to fetch water.

Demographic Factors and Health Status of Women and Children

Demographic factors exacerbate the negative impacts of the environment on women and children. In Nikrowa, Ijaw women marry very young, from age thirteen to fifteen upwards. Although a primary school has been located in the village since 1928, many of the women above 35 years are illiterate. Many of the younger ones have had some education, but many did not complete even primary school.

Given the early age at marriage and the pronatalist attitudes of the Ijaws, fertility rates are very high. The average number of children as estimated by the resident midwife is 7 - 8 children. Many of the women in the older group had up to 10 children. Some of the residents were reported to have had 15 - 20 children. Men also tend to have several wives; for example among the older men (above 50 years), the minimum number of wives was 'only' three. They expect each wife to have as many children as possible. Among the men below 40 years, one already had three wives, and another one had two wives. In the latter case the senior wife was not allowed to practise family planning until she had had ten children.

Given the average number of wives and number of children per wife, household sizes are consequently very large. Most households are therefore overcrowded, thereby facilitating the spread of communicable diseases such as measles.

• Prevailing illnesses among children

Diarrhoea and measles are very common illnesses among children in the village, but measles is more widespread. Also cases of bronchial pneumonia and chicken-pox, typhoid and meningitis have been treated this year (1992) among children. About 35 cases of diarrhoea were treated at the centre and were rehydrated using the ORT method. One case of typhoid and meningitis, respectively, were fatal.

Illnesses responsible for most cases of child mortality are convulsion, measles, malaria, diarrhoea, and to a lesser extent tetanus. Although no representative household survey was executed in Nikrowa, focus group discussion and information from the purposive individual questionnaires suggest that child mortality rates are high. One of the younger women said that she had given birth to 10 children out of which only three are alive. One of the younger men (below 40 years old) said that his mother had delivered twelve children, but he was the only survivor. Another elder with many wives had 50 children but only about 10 are alive. Among the Ijaw respondents to the individual questionnaires, out of the 12 who had any children, seven had experienced child deaths. Thus both fertility and mortality rates are high among the Ijaws in Nikrowa. Most of these children were delivered at home.

Among the non-Ijaw respondents, nine out of 23 had experienced child deaths. The Urhobos had higher child death rates than the other ethnic groups. While the Urhobos had their children at home, like the Ijaws, most of the children of other ethnic groups were born in a maternity centre or hospital. Most of the children died before the age of two years, many of them as infants. However, the focus group participants said that child mortality rates are less than in the past as they now have access to modern health care facilities in addition to traditional therapies.

• **Health Status of Women in Nikrowa**

The occupational and domestic activities of women keep them at work from dawn to dusk in order to cope with the needs of their large families. Women usually have greater domestic responsibilities than men and they therefore suffer greater fatigue and stress. Women's total work burdens have important implications for their health status for various reasons, including the following (World Federation of Public Health Associations, 1986):

- they affect women's protein and energy requirements
- they restrict their availability for health activities
- along with childbearing, they contribute to women's overall weakness and susceptibility to disease.

Women in Nikrowa as described earlier work long hours performing their occupational and domestic roles. They are engaged in physically and time-demanding activities such as farming, fishing, food processing and storage, food preparation, fetching wood and water, and childcare. They are assisted by their children, especially their daughters. Although men are also engaged in the same occupational activities, women have domestic duties added to theirs: they therefore work longer hours with greater overall use of energy.

Their energies are further sapped by the demands of bearing and rearing children. Women in Nikrowa spend the years between puberty and menopause either pregnant or breastfeeding. As the older women in the focus group session said, they stopped having children at menopause as: "it stopped by itself" many of them said (referring to pregnancy). It is not surprising that many of them have given birth to 10 children or more.

Given the hard physical labour they engage in, it is not surprising that the women said that their major ailments are body aches, cramps (resulting from exposure to the damp atmosphere on the river when fishing) and fevers. The two male groups and the older women also complained that most women go into early menopause in Nikrowa, before the age of forty years. The women associate this with the physical labour and especially cramps suffered by most women.

• Utilisation of Health Facilities

The environment as reflected in the geographical isolation of the community influences women's access to health facilities in various ways. Access is defined as the ability to reach and ability to use modern health facilities. Information from focus group sessions and from informal discussions with the maternity centre staff showed relatively limited utilisation of modern health services, except as a last resort when traditional treatment fails (Okojie, 1992). Except for illnesses which require operations most other illnesses are first treated at home using traditional therapies. When the illness becomes very serious they rush the sick relative to the nearest facility. Sometimes it is too late to save the patient. Discussions with the health workers at the maternity centre confirmed that Ijaw women make limited use of the centre's services compared to non-Ijaw residents; even when they attend antenatal clinic, they usually deliver at home. The focus group discussions revealed that a majority of the Ijaw women prefer to deliver at home as they have confidence in their traditional birth attendants. All the women in the two groups delivered all their children at home, although some of the younger women said that they also attended the antenatal clinic at the centre.

• Environment and the Ability to reach the Health Facilities

Limited utilisation of health facilities is partly due to inability to reach the facility. Of direct relevance to the bio-physical environment are distance and transportation costs. Proximity encourages utilisation. In Nikrowa, the availability of EPI (Expanded Programme of Immunisation) services at the local maternity centre has contributed to the enthusiastic response to the programme. Physical proximity is not a sufficient condition for using health services, however. For example the villagers (Ijaws) see the maternity centre as a first aid centre for most illnesses.

They argue that the centre cannot treat serious illnesses because there is no qualified doctor there. So when illnesses become more serious, except for children's illnesses, they prefer to go to hospitals outside the village. Distance, compounded by the poor access roads and limited transportation becomes a barrier. When desperate, villagers have to hire a vehicle for N300 - N500 which is beyond the means of most of the villagers.

• **Environment and Ability to use Health Facilities**

Women will not be able to use health facilities if the predisposition to use them is absent. In this respect the belief system with respect to health therapies is important. In Nikrowa the Ijaws have great belief in their traditional therapies. Because of their isolation and the fact that the maternity centre was not established until 1986, they have had to rely on their own resources. Members of all four focus groups emphasised that there is no illness that they cannot cure in their villages (apart from tetanus). Their confidence in traditional healers and the already-mentioned problems of transport mean that they will continue to patronise the traditional health system for some time to come.

Summary and Conclusions

This paper has tried to show the interrelations between the environment and the health status of women and children. Rural women in particular interact in many ways with the bio-physical environment in their different occupational and domestic roles. In Nikrowa, they farm and fish, collect water and firewood, engage in food processing and preparation. They are also expected to bear many children. All these lead to a life of continuous toil for the women, from dusk to dawn, which was reflected in the timing of the focus group session. While it was possible to schedule discussion with men during the daytime, the two sessions with women were held after 6pm because women are out farming and fishing all day.

The hard physical labour is reflected in the aches and cramp the women complain of all the time. Among children the usual environment-related illnesses are prevalent, such as measles, malaria fever, dysentery and diarrhoea, etc. Due to their geographical isolation they have developed effective traditional therapies for most illnesses. For most illnesses, they try traditional therapies, and go to the modern health facility only if traditional therapies fail. The women prefer to have their babies at home because they have more confidence in the traditional birth attendants.

In conclusion, one can say that in Nikrowa, the bio-physical environment has a significant influence on women's health status and their health care practices. The environment determines the occupational options open to men and women. Many types of diseases are related to the environment and therefore the solution to the health problems among women and children lies in improving the state of the environment: preventing environmental degradation, whether the bio-physical or social environment. Therefore to reduce the burden of women's work, women should have access to fertilizers to improve soil fertility and agricultural yields. Fuelwood should be made easily available to women. Adequate and safe water supplies should be made available, especially as water is associated with many water-borne diseases. Furthermore access roads to rural areas should be improved to make it easier for women to reach modern healthcare facilities.

Finally, primary health care facilities located in rural areas should be assisted to provide efficient services by providing trained staff and ensuring regular supplies of drugs. Poor services will further reduce the confidence of villagers in modern healthcare programmes.

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