Environmental Pollution And Health Challenges Of The Ogoni People, Rivers State, Nigeria.

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Abstract: The study investigated the possible linkages between pollutions caused by petroleum exploration and the health challenges among the people of Ogoni in Rivers State. The specific objectives were to determine the rural awareness of the people to the consequences of the pollution of their land; and to find the linkages between the health challenges in the communities and the polluted environment. Employing the survey design method, 12 oil bearing communities were purposively selected across the four Local Government Areas that constitute Ogoniland. 400 questionnaires were distributed as the means of data collection, of which 385 were retrieved. The analyses of the questionnaires were through simple descriptive statistics methods such as frequency counts, percentages and mean scores. The result revealed that the people of Ogoni are fully aware of the consequences of pollution to their health. Also the result revealed that the short term effects of pollution are now in manifestation among the people (like chest pain, coughing fatigue, anxiety etc.); and some are now suffering from the long term exposures to the polluted environment with depression, skin cancer, brain damage, etc already visible among the people.

Keywords: consequences, health challenges, pollution, rural awareness.

1. Introduction

Pollution is one of the biggest threats to global health. Environmental pollution is capable of destroying the soil, contaminate the air and water. According to the World Health Organisation (WHO), 8.9 million persons die every year from diseases caused by pollution and 8.4 million (94%) of the people in this category are from poor countries of the world [22]. Research carried out by several authors revealed that the environment has been massively polluted by petroleum exploitation especially in the Niger Delta region of Nigeria [1], [2], [5], [6], [10], [11], [12], [17], [18] and several premature death are attributed to the different forms of pollution [23].When people continuously exposed to a polluted environment (that results from petroleum exploitation), it may affect their nervous system, blood and kidneys; and in most cases may lead to coma and death. Some researchers have reported that the pathological and psychological effects in the health of the local communities are still minimally known [16]. Pollution has also resulted in financial cost on the health sector running into millions of dollars. For example, it is reported that the annual cost of diseases in children that are caused by environmental pollution is estimated to be 76.6 billion US dollars [13]. Pollution in Nigeria is an everyday occurrence and it is very visible in the air we breathe and this awareness is well known to the world. In Nigeria, the word pollution is common with people of Ogoni. Most recently, there environment is polluted with black sooth (a product of illegal petroleum refining). The Ogoni people have witnessed series of crises and violence that resulted in massive protest and agitations for their rights at different fronts; due to the petroleum exploitation on their land. In August 2011, the United Nations Environment Programme (UNEP) published an 'Environmental Assessment of Ogoniland' (popularly referred to as UNEP Report) – a study of oil pollution in Ogoniland in Rivers State, a region of the Niger Delta [15]. Unfortunately, after such reports and recommendations by UNEP, Ogoniland has remained polluted with people still living there and going about their normal businesses. Consequently, there had been illnesses and deaths in the Ogoni communities on a daily basis. The people have assumed that their views and feelings about their environment have not been put into consideration [4] leading to the overlook of traditional beliefs and practices [3]; and several years of oil exploitation has also resulted in an impoverished region. In many places, people believe that whatever the government is saying is the "real truth"; the media and legal institutions are their facilitators in selling this "so called truth" about an economic interest to everybody. But when this same matter is disseminated publicly, the analysis of skilled nongovernmental observers or the local inhabitants can provide a crucial perspective and useful reality check on powerful economic interest and government. Just like community dwellers will react in different ways when their land is being polluted, they also would have diverse perceptions about the remediation of their environment [14]. Some believe that the state and the operating oil companies are aware of the devastation but refused to initiate proper and comprehensive environmental remediation and health programs in the area [9]. Many scholars often perceived petroleum resources as a curse because of its numerous short comings [7], [8], [19]. It will not be wrong to assert that the Ogoni people having lived in a polluted environment (since 1957 when exploration begun) for over half a century [21], it is probable that such environment may be responsible for the several diseases and deaths found among them. It is on this basis that this research was carried out to proffer best solutions to support the already existing ideas by identifying the challenges that could be encountered in a populated environment of the Ogoniland and the links between pollution and the human health; and best possible locally suggested solutions.

2. Objective of the Study

The aim of this study was to determine the nexus between pollution and health challenges of the people living in the communities in Ogoniland. Thus, the specific objectives of this study are to:

i. Determine the rural awareness of the health consequences of living in a polluted environment;
ii. Find out whether there is any connection between health challenges in the communities and the polluted environment.

3. Methodology

The Ogoni people has a projected population of 1,302,455 (comprising 298,986; 358,413; 460,766 and 184,290 for Eleme, Gokana, Khana and Tai LGAs respectively) as at 2016 [8]. The sample size for the respondents was determined from the projected population through the use of the TARO YAMANE sample size determination formula using an annual growth rate of 3.2% [8]. TARO YAMANE sample size determination formula [7], [8]:

$$n = \frac{N}{1+N(e)^2}$$

Where:
n= sample size
N= population size
e= error terms (5%)

Hence, N=Total no. of population in Eleme, Gokana, Khana and Tai.

N= 298,986+358,413+460,766+184,290
=1,302,455

Substituting into the equation, we have:

$$n = \frac{1,302,455}{1+1,302,455(0.05)^2} = 400 \text{ Approximately}$$

Thereafter 12 communities were selected purposively across the four Local Government Areas (LGAs) of Ogoniland based on oil producing or impacted sites to determine the sample as shown on Table 1. The respondents for the study comprise of adult citizens who are 18 years and above in any occupation, that were resident within the Ogoni oil-bearing communities. Data collection was through structured questionnaires and field observations. The questionnaires were apportioned equally to each the selected communities, since the communities were fairly same from the field survey. On the whole, 400 questionnaires distributed, but only 385 were retrieved representing 96% of the respondents. For the analysis of the questionnaires, we adopted simple descriptive statistical methods such as frequency counts, percentages and means scores.

Table 1: *Data distribution*

LGAs	Selected Communities	No. of Questionnaires allocated
ELEME	Ogale	25
	Akpajo	25
	Alode	25
	Onne	25
GOKANA	Bodo	25
	Mogho	25
	B. Dere	25
	K. Dere	25
TAI	Kpite	25
	Nonwa-Tai	25
	Korokoro	25
	Koroma	25
KHANA	Kpean	25
	Gure	25
	Baen	25
	Kwara	25

Source: *Field work (2018).*

4. Result and Discussion

Rural Awareness to Pollution

The respondents gave their responses on their awareness to the consequences of pollution to their health as shown on Table 2 below.

Table 2: *Responses to the consequences of living in a polluted environment*

Questions		frequency	%
1(a) Do you see your environment as being polluted?			
YES		385	100
NO		0	0
1(b) **If YES, what are the perceive sources of these pollution?**			
(i)	illegal bunkering (Kpofire)		
(ii)	oil spillages	100	25.97
		285	74.02
2(a). **Are there health challenges in the communities that are connected to the pollution of the land?**			
YES		285	74.02
NO		100	25.97
2(b) Through which medium are these health challenges emanating from?			
(i)	Air (Breathing)		
(ii)	Land (Food produce)	70	18.18
(iii)	Water (streams, rivers)	45	18.18
		70	11.68

Source: *Field work (2018).*

The people of Ogoni clearly see their communities as being polluted as all the respondents (100%) confirmed it. The respondents (25.97%) believes that the pollution of their land is due to illegal bunkering (popularly called kpofire) that is currently on-going in the communities, while the others (74.02%) believes that the entire environment is polluted from previous exploration of petroleum resources by Shell Petroleum Development Company (SPDC) as shown on Table 2. Some of the respondents (74%) believes that the illness connected to their polluted environment, while the others (25.97%) disagrees; rather ascribed the illness in the communities to poverty and poor income that makes it impossible for them to afford medical bills. The respondents believe that the sources of their health challenges were through the air (18.18%), land (18.18%) and water (11.68%). The people are already experiencing the short effects of living in polluted environment which validates the fact that the illnesses in the communities emanates from pollution and the people of Ogoni are fully aware of the consequences of a polluted environment on their health. This assertion is validated by previous researchers [7], [18].

Pollution and Human health

The respondents were further asked to identify whether any of the listed short term or long term illness were common in the communities as shown on Table 3.

Table 3: *Multiple responses of respondents on the nexus between pollution and human health*

Questions		frequency	%
Short term effects			
(i)	Memory loss	380	98.7
(ii)	Dizziness & irritability	362	94.0
(iii)	Headache	385	100
(iv)	Nausea and vomiting	15	39.2
(v)	Chest pain	385	100
(vi)	Coughing and lung problems	385	100
(vii)	Fatigue	385	100
(viii)	skin rashes, injuries and blisters	211	54.8
(ix)	eye sore	385	100
(x)	confusion	18	4.67
(xi)	anxiety	385	100
Long term effect			
(i)	Depression	211	54.8
(ii)	Skin cancer	10	2.59
(iii)	Lung cancer	5	1.29
(iv)	Leukemia	4	1.03
(v)	liver cancer and Hepatitis and B/C infestions	15	3.86
(vi)	Brain damage	380	98.7

Source: *Field work (2018).*

The result revealed that the effect of pollution are already visible in the oil bearing communities in Ogoni as they are already experiencing memory loss (98.70%); dizziness and irritability ((94%); headache (100%); nausea and vomiting (39.2%); chest pain (100%); coughing and lung problems (100%); fatigue (100%); skin rashes, injuries and blisters (54.8%); eye sore (100%); confusion (4.67%) and Anxiety (100%) as shown on Table 3. Also, on the long term effects on the consequences of pollution on human health, the data revealed that some of the respondents attest that themselves (or other members of their family or clan) had suffered from depression (54.8%); skin cancer (2.59%); lung cancer (1.29%); leukemia (1.03%); and liver cancer and hepatitis BC infectious (3.86%); brain damage (98.7) as shown 3. The experiences of the people as revealed on Table 3 shows that the environment we live in, could enhance a healthy living [20] or cause fatality of an entire race. The people of Ogoni were excited (or even celebrated) when oil (petroleum resources) was discovered on their land many years ago (precisely in 1958); they felt that their environment will be transformed into a living heaven (as they were promised) like other countries of the world were such worthwhile resources are found. Unfortunately, it was a misfortune, as they ended up losing their fresh water, fertile lands and safety to the exploitation of oil on their land by SPDC [7]. While in this turmoil, assurances came again after UNEP report on Ogoniland in 2006; as the Federal Government and SPDC once again gave promises to the Ogoni people of immediate remediation of their lands, massive employment of the suffering youths and numerous assurances of a better life [8]. These failed promises and unrealistic hope of the people has lead to be anxious, as the field result revealed that all the respondents (100%) are suffering from anxiety, with at the long, has lead to the depression of the Ogoni people as shown on Table 3

5. Conclusion and Recommendation

A person is describe as healthy when he is in a state of complete physical, mental and social well being; and not for the mere absence of diseases or infirmity [24]. The story of the Ogoni people is the reverse of the assertion. The Ogoni people have suffered from the severe consequences of petroleum exploitation which has also affected their health adversely. Illnesses that are linked to the polluted environment are already common among the people with many deaths in recent times. The mental health of Ogoni people are under threat if nothing is done about this pollution as our results shows some level of confusion and brain damage which is an indication of psychiatric problems in the future. The remediation of the land should be the top most priority as the entire environment may now be inhabitable for humans.

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AUTHOR 1: PROFILE

Dr. David, Lekpa Kingdom, is a lecturer in the Department of Anatomy, Faculty of Basic Medical Sciences, University of Port Harcourt. Born in 1981, he is a native of Nyogor Lueku community in Khana Local Government Area, Rivers State. He has B.Sc (Hon) UNIPORT, M.Sc (ABSU), Ph.D (UNIPORT), in Anatomy and Post Graduate Diploma in Petroleum Geoscience (Uptonville Oil And Gas Institution). He has several professional certificates in Safety, Health and Leadership. He did his Post-Doctoral Fellowship in Martin Laboratory, Department of Physiology, Pharmacology and Neuroscience, The City College of New York, University of New York, United States of America 2017-2018, where his research focus was on neural repair and spinal cord injury. He is a hard working young man that is determine to be very successful in life. His research interest is in Neuroscience and Radiologic Anatomy. He has travelled extensively within and outside Africa to acquire more knowledge and insight in his profession. He has presented papers in international conferences in South Africa, France, United States of America etc. He has published several articles in journals, newspapers and magazines. He has also written several motivational and professional books. He is an international motivational speaker, T.V analyst on youth affairs. He is a member of International Society of Neurochemistry, Society for Neuroscience, Neuroscience Society of Nigeria and Anatomical Society of Nigeria. He is married to Courage and blessed with two children, Shirley and Suanubari.

Dr. Tombari Bodo obtained the Bachelor of Science (B.Sc) in Geology, Postgraduate Diploma (PDGEM) and Master of Science (MSc) in Geography and Environmental Management (with specialisation in Regional

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