

# **State, Industries and Regulation in Nigeria: Ife Iron and Steel Company and Environmental Pollution**

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## **Abstract**

Discourse on environmental pollution in Nigeria has often revolved around the environmental impacts of the operations of multinational oil companies in Nigeria's Niger Delta. However, experience has shown that other regions of the country also contend with pollution problems. Informed by this position, this study examines environmental pollution associated with the activities of Ife Iron and Steel Nigeria Limited, which is located in Osun State. The study makes use of empirical data that comprises of unstructured in-depth interviews, observation, and an interview conducted by a media house (Channels Television Station, Lagos). The data was analysed using the thematic approach. Results from fieldwork revealed that pollution from operations of Ife Iron and Steel Company are sources of concern to communities in the vicinity of its location. It is reported that soot and other particles emitting from the company's operations are harmful to the health of the residents and undermine their sources of livelihood. Informed by its findings, this paper argues that without effective enforcement of environmental regulations in Nigeria, people's health and livelihood will continue to be adversely affected by the negativities arising from industrial operations.

## **Keywords**

Environment, Air Pollution, Regulations, Iron and Steel Industries, Ile-Ife, Nigeria

## **Introduction**

Experts have identified environmental pollution as one of the challenges confronting humanity in contemporary time. Environmental pollution in all its dimensions has resulted in severe destruction of the earth with devastating

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one. Poor air quality, which is consequent on the emission of poisonous gases from industries, vehicles, and other associated sources, is a major public health concern for the country and the citizenry. The World Health Organization (WHO) in its Urban Ambient Air Pollution Report listed four Nigerian cities: Aba, Onitsha, Kaduna, and Umuahia among the top twenty (20) most polluted cities with the worst air quality in the world (WHO, 2016). As an indication of how bad the crisis of pollution is in Nigerian cities, Onitsha in Southeastern Nigeria is adjudged the most air polluted city in the world, among 3,000 cities surveyed (WHO, 2016).

Rather than being a crisis peculiar to Africa, Ladan (2015) notes that outdoor air pollution has become a major environmental and health risk in most countries across the world. The disturbing WHO report on outdoor air quality indicated that the ever-busy cities in Nigeria (in particular those in the Southeastern region of the country) have been reported to have pollution levels close to 600 micrograms per cubic meter particulate matter (PM 10). This is equivalent to about thirty (30) times above the World Health Organization's (WHO) approval level. This situation indicates a disaster which is receiving little or no official attention as it relates to coordinated response on mitigation and management. Although the crisis of environmental pollution facing Nigeria is enormous, it needs to be reiterated that the crisis is not as a result of lack of appropriate guidelines, enabling laws, institutions and agencies on environmental regulation. On the contrary, the situation in Nigeria is largely about the observance of laws, regulations and guidelines in breach as against compliance. To this end, the failure of enforcement has contributed greatly to the crisis of environmental pollution in Nigeria.

While environmental pollution has often been attributed to major industries in Southeast and Niger Delta regions of Nigeria, the Southwest has had its own share of the pollution crisis. It is also important to note that pollution of the environment is not the exclusive preserve of big industries as the Nigerian experience shows. To this end, this study examines environmental pollution (air pollution) associated with the production and related activities of Ife Iron and Steel Nigeria Limited, (IISNL) Osun State, Nigeria. The study examines the adverse effects of IISNL activities on the environment, health, and livelihood of residents in communities that are in close proximity to the plant location. It highlights the failure of the Nigerian state and its relevant institutions to regulate the activities of IISNL and other manufacturing companies of its ilk. The study advocates diligent enforcement of guidelines, laws, rules and regulations guiding the operations of industries especially as it relates to minimizing adverse effects of industrial operations on the environment.

## Literature Review

There exists a raging debate in the literature about the relationship between development and environment. The discourse mainly relates to what constitutes the negative impacts of industrialisation, industrial growth and economic development on environment. The other flip of the coin relates to the argument that consideration for environment has the tendency to slow down the pace of development. While the debate is steep in history, it continues to manifest in contemporary time. Using the case of post-apartheid South Africa, Cock (2007: 43) notes that, government representatives have often articulated the position that environmental consideration impedes development. In specific terms, it is averred that environmental issues and considerations constrain job creation. Informed by the debate that surrounds the development-environment discourse, Cock (2007) argues that the different models of development, especially in emerging economies like that of South Africa, need to be grounded in the context of the current environmental crisis facing the global community. Using the Steel Valley struggle of the Vaal Triangle in South Africa as a point of reference, Cock (2007: 37) posits that the current environmental crisis involves increasing pollution and excessive resource utilisation by the global capitalist elite on the one hand, and the extreme negative impacts of this on the health, wellbeing and livelihood of the global subaltern on the other hand.

A number of factors combine in a complex manner to impact on the quality of the natural environment. General factors such as land degradation, pollution of water bodies through effluent and industrial discharge, pollution of air through particulate emission to the atmosphere, noise pollution, overpopulation among others often combine to reduce the quality of the natural environment (Iyalomhe, et al., 2017). Unlike rural communities, urban centres are often the most polluted and this is the trend across both developed and developing countries (Gana and Toba, 2015). Urban centres usually suffer three forms of pollution: water, air and noise (Gana and Toba, 2015). While there are numerous other human activities that cause these forms of pollution, industrialisation and industrial activities loom large as the major sources of pollution in urban centres across the developed and developing world (Tiwari, Bajpai and Dewangan, 2016; Akporido, Agbaire, and Ipeaiyeda, 2014; Akporido, 2013; Akporido and Asagba, 2013; Al-Amin, 2013; Dheebea and Sampathkumar, 2012; Hoodaji, Yahmourespour and Amini, 2010; Bryan and Langston, 1992).

For instance, Rathzel, Cock and Uzzell (2018: 505-506) quoting Nixon (2013) show that many South Africans are exposed to 'the slow violence' of toxic pollution in a process which is damaging, insidious, and largely invisible. The slow violence is largely induced by the negative impacts of major industries on the environment with its implications on the poor. Not only has

industrial development come to be recognised as having serious negative implications on the environment, but it also represents one of the pathways for accelerating wealth disparity and ecological injustice. This is evident in the ways industrial growth creates wealth for capitalist elites while it generates environmental hazards that adversely impact the health, wellbeing and livelihood of poor households. Specifically, as it relates to Nigeria, Yakubu (2018) puts the population exposed to air pollution at PM<sub>2.5</sub> levels, and exceeding WHO guidelines, at 94%. This number is above the 72% average for Sub-Saharan Africa. In particular, Yakubu (2018) reiterates the position that the poor are further disproportionately affected.

There are numerous places around the world where the activities of steel companies have resulted in environmental degradation with severe consequences on the health and livelihoods of people living in close proximity to such plants. For instance, Cock (2007) documents the struggle of the Steel Valley community (Gauteng, South Africa) in their face-off with steel giant, Mittal. There has been general environmental pollution caused by decades of steel production in general. This has led to the contamination of water table and in specific terms impacted on the health, wellbeing and livelihoods of the people in the area. Dheeba and Sampathkumar (2012) also studied the challenges of heavy metal contamination of surface soil in Tamil Nadu, India and highlight the negative implications on human health and livelihood. Bryan and Langston (1992) also examined the availability of biodiversity arising from the accumulation of heavy metal in sediments along estuaries in the United Kingdom. With special reference to Nigeria, Akporido, Agbaire and Ipeaiyede (2014) and Al-Amin (2013) investigated the incidence of environmental pollution arising from the operational activities of iron and steel industries. Findings from these studies establish the negative implications of steel industries' operational activities on the environment within the vicinity of their locations and far afield.

In the discussion of environmental pollution in Nigeria, the case of the Niger Delta which is the nation's oil bearing region often occupies the position of importance. This is a consequence of the negative impacts of the oil industry that the region plays host to (Akporido, 2013; Akporido and Asagba, 2013; Uyigue and Agho 2007; Osuji and Adesiyani, 2005; Otokunefor and Obiukwu, 2005). In its landmark report on Ogoniland, the United Nations Environmental Programme (UNEP) notes that through field observations and scientific investigation, it found that oil contamination in Ogoni land was widespread and severely impacting many components of the environment (UNEP, 2011). Arising therefrom, UNEP notes that Ogoni people live with pollution attendant on the activities of the oil industry every day (UNEP, 2011). The negative impacts of the oil industry on environmental, human health and livelihood that UNEP highlighted in its report on Ogoni land are replete across communities in the oil bearing Niger Delta region (Efe, 2012).

While the case of environmental pollution in the Niger Delta constitutes grave national concern, other parts of Nigeria continue to suffer from effects of environmental abuse with little or no attention. This is particularly the case in large cities with heavy concentration of industries such as Lagos, Onitsha, Aba, Ota among others (Nwachukwu and Ugwuanyi, 2010: 218; Olowoporoku, Longhurst and Barnes, 2012). In a study on urban water pollution by heavy metals in Onitsha city, Ezeabasili, Anike and Okoro (2015: 325) note that effluent discharge from industries, sewage, industrial and house waste, electronic conductors and semi-conductors among others have polluted the environment and adversely affect human health as occasioned by the increase in cardiogenic, cardiovascular and other serious ailments. Of serious concern in cities with large concentration of industries is the issue of atmospheric pollution, its corollary reduction in the quality of atmospheric air and the dire implications on plants, animals and human health and livelihood (Ladan, 2013; Olowoporoku et al., 2012; UNEP, 2011; Nwachukwu and Ugwuanyi, 2010). Olowoporoku et al. (2012: 482) also report that there is growing evidence about the causal relationship between air pollution and mortality, hospital admissions for respiratory or cardiovascular disease and other associated increased risks of myocardial infraction in Lagos.

### ***Environmental Pollution and Mitigation Mechanisms in Nigeria***

As a nation, Nigeria has had its fair share of natural and human-induced disasters and has paid heavily in terms of economic losses and human lives. Indeed, the frequent occurrence of disasters in Nigeria poses significant challenges to state authorities and community efforts especially as it relates to conflicts that are induced by changing weather patterns and associated natural disasters (farmers/herders conflicts). Natural disasters that are more prevalent in Nigeria include but are not limited to droughts and desertification in the Sahel parts of the country, flooding (across all the geographical parts of the country), fire, oil spill mostly in the Niger Delta, pipeline explosion (resulting from pipeline failure, sabotage and vandalism), road accident, and epidemic (cholera and meningitis) among others. Flooding is a major natural disaster that Nigeria has had to contend with and its occurrence and severity of impact are becoming a source of serious concerns. While the 1983 flood disasters in Western Nigeria (Omiyale Odo Ogunpa) linger in human memory (Oladipo, 1993), the flood incident of 2012 was reckoned to be the worst in more than 40 years. The 2012 flood was nation-wide in scope as it affected 32 states of the federation with 24 severely hit. The 2012 incident affected more than 7.7 million Nigerians; rendered more than 2 million people internally displaced; injured over 5,000' and, destroyed more than 5,900 houses. Its impact in economic cost runs into billions of dollars (Nkwunonwo, Malcolm and Brian, 2015; NEMA, 2013).

Conscious efforts at environmental management and disaster response became a serious concern for the Nigerian state when the Federal Environmental Protection Agency was established in 1988. The establishment of the national response agency on environmental matters was informed by the discovery of an Italian Ship dumping toxic waste at Koko community in Nigeria's Niger Delta in May of 1988. The establishment of FEPA was followed that same year by the publication of the 'National Guidelines and Standards for Environmental Pollution'. The document was to be Nigeria's policy response to environmental issues and pollution while FEPA was to be the institutional/administrative instrument for the implementation of the guidelines as it relates to the protection of the Nigerian environment. The creation of the Federal Ministry of Environment in 1999 elevated Nigeria's policy response on the environment and pollution control with the ministry serving as the policy, institutional, and administrative coordinating platform (Ado, Tukur, Ladan, Gumel, Muhammad, Habibu and Koki, 2015: 160).

Sequel to the establishment of a separate Ministry of Environment in September 1999, the National Environmental Policy of 1989 was revised that same year. The core objective of the revised policy on the environment was to secure for all Nigerians quality environment, adequate for their health and well-being and the conservation and use of the environment and natural resources for the benefits of generations of Nigerians (FGN, 2012: 91). In addition to the revised national environmental policy, there has also been the initiation of a number of policies and action plans specifically directed at addressing specific environmental challenges that are considered to be of critical concern. These include but are not limited to the National Policy on Drought and Desertification; Drought Preparedness; National Policy on Erosion, Flood Control and Coastal Zone Management; National Policy Guidelines on Solid Waste Management, Market and Abattoir Sanitation; Excreta and Sewage Management; Sanitary Inspection Premises and Pest and Vector Control among others. There is also the National Oil Spill Detection and Regulation Agency, NOSREA that has the mandate of detection and management of oil spill as it relates to the Nigerian oil industry.

On institutional arrangement, the Federal Ministry of Environment has become the coordinating platform for institutions and agencies dealing with environmental matters inclusive of control, response and management. Specialized institutions created include National Oil Spill Detection and Response Agency, (NOSDRA); National Environmental Standards and Regulations Enforcement Agency, (NESREA) which serves as a replacement for FEPA; Forestry Research Institute of Nigeria, (FRIN); and, the National Park Service. On the legal framework, there are a number of frameworks that have been incorporated into Nigeria's legal architecture on specific environmental issues. Of note are the Environmental Impact Assessment Act, 2004; Harmful Waste Act, 2004; National Environmental Protection (Effluent Limitations) Regulation of 1991; National Environmental (Ozone Layer

Protection) Regulations, 2009; National Environmental (Noise Standards and Control) Regulations, 2009 among others (FGN, 2012: 91-94).

While it might be difficult to state in categorical terms the extent of the negativities of environmental pollution on the environment, livelihood and health of Nigerians given the challenge of data accuracy in Nigeria, the impact is however staggering. Commenting on the impacts of pollution on Nigerians, Yakubu (2018) and Larson and Otsuka (2016) quoting the World Bank in its data contained in the little Green Book 2015 estimate that 94 percent of Nigeria's population is exposed to pollution levels (measured in  $PM_{2.5}$ ) that exceed World Health Organization guidelines. Although recent details of the number of deaths related to ambient (indoor and outdoor) air pollution in Nigeria are not readily available, the Federal Ministry of Environment had indicated that 120 million of the country's 170 million people, mostly women and children who are involved in household cooking, were at risk (Ogundele and Oke, 2016). This underscores the challenge of environmental pollution in Nigeria.

The Federal Government of Nigeria is giving attention to the issue of environmental protection, disaster risk reduction, mitigation, response and management. This, it has done through the formulation of requisite national policies and action plans on institutional platforms and legal frameworks that are meant to concretize and give bite to the policies on the environment. However, it is important to note that without the requisite political will to implement actions by the political executives, the national policies, institutional arrangement and legal frameworks will become inconsequential. And this has been the pathetic reality as it relates to effecting actions on environmental matters (natural or human induced) in Nigeria. The legal frameworks that are put in place to protect the environment from the deleterious impacts of industrial activities (effluent pollutions, gas flaring and emissions from industries) have been observed more in breach. National policies and action plans have not been applied due to lack of political will on the part of the political executives. In the same wise, administrative maladies, corruption and nepotism have constrained the ability, capability and capacity of regulatory institutions/agencies in the discharge of their duties.

All of these have rendered ineffective the legal frameworks put in place to protect, promote and advance the cause of environmental protection, disaster risk reduction and mitigation, as well as disaster response and management in Nigeria. The excuse given by authorities responsible for the environment as highlighted in the television interview that was reported in this paper as it relates to the charges of air pollution by the Ife Iron and Steel Industry is not an exception. Indeed, as it relates to enforcing standard environmental rules and regulations guiding the operations of industries, authorities both at the national and sub-national levels in Nigeria have been engaging in gross dereliction of duty and responsibility to the Nigerian people on the protection of the

environment from industrial pollution. The same lack of concern manifests in the area of disaster prevention, risk reduction and management. The devastation wrought by seasonal flooding along the banks of Rivers Niger and Benue and across many other parts of Nigeria and the failure to mobilize robust efforts at mitigation, risk reduction and disaster response are pointers to the gross neglect of environmental matters by the Nigerian state.

## **Methodology**

### ***Description of the Study Area***

Fashina Village is located along Ile-Ife/Ibadan Federal Trunk A road between the campuses of the Obafemi Awolowo University (OAU) and the Oduduwa University Ile-Ife, Osun State, South West Nigeria. Fashina is a satellite village of Ile-Ife, an ancient Yoruba town. Ile-Ife is about 218 kilometres northeast of Lagos. The estimated population for the four Local Government Areas (Ife Central, Ife East, Ife North and Ife South) that constitute Ifeland stood at 886,000 as at 2016 (NPC, 2016). The ancient city sits on an area covering about 1,791 km<sup>2</sup>. The maximum temperature of Ile-Ife ranges from 4<sup>0</sup> C and 16<sup>0</sup> C depending on the time of the year. Ile-Ife is located between latitudes 7°28'N and 7°45'N and longitudes 4°30'E and 4°34'E. Mostly low-income earners who engage in farming, trading and other commercial activities inhabit Fashina village. The village is about 470m in length starting east from IISNL location and ending west of Coker village and north of Ogunwusi community.



**Plate 1:** Fashina, Coker, Ogunwusi Satellite  
**Map:** Source Google Map

IFE SHOWING LOCAL GOVERNMENTS AND TOWNS

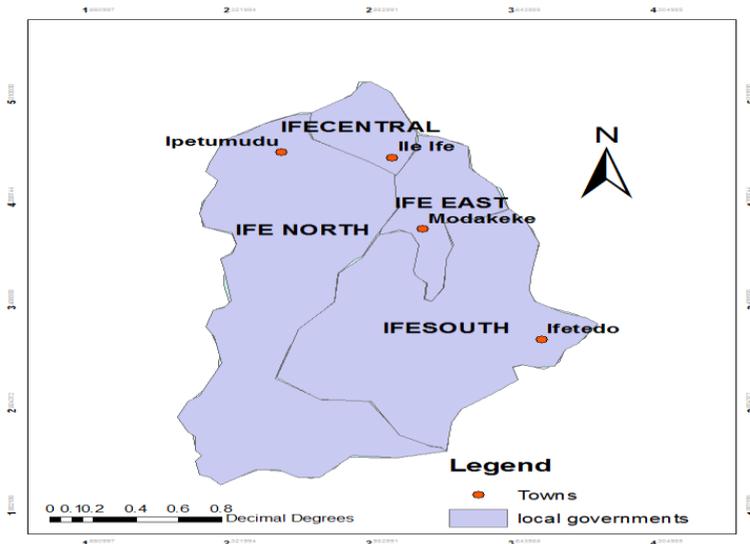


Figure 1: Location of Ile-Ife in Osun State, Nigeria: Osun State Ministry of Urban Development

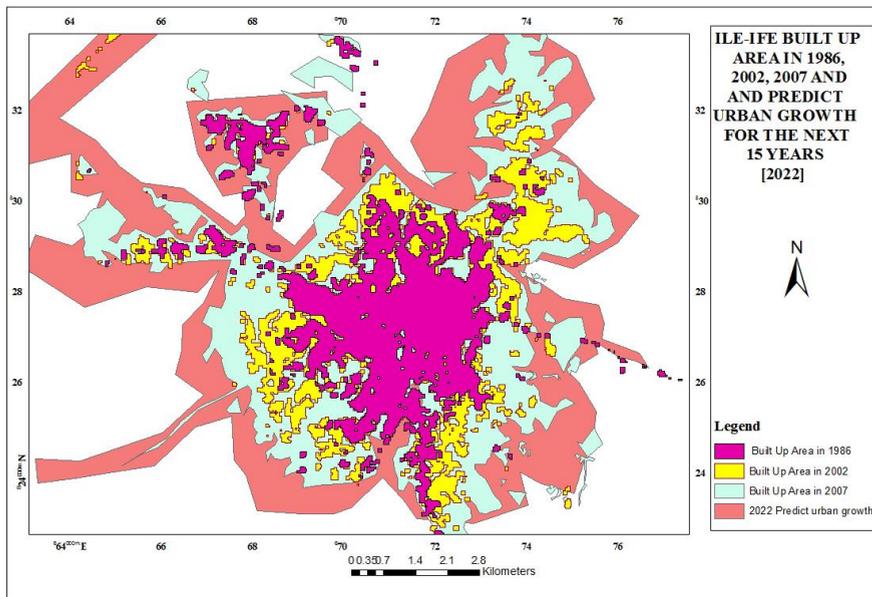


Figure 2: The built-up area of Ile-Ife and projected urban growth by 2022: Osun State Ministry of Urban Development

### ***Study Justification***

The interest to conduct this study was informed by a media report that highlighted the environmental impact associated with the operation of Ife Iron and Steel Nigeria Limited and its implications for health, wellbeing and livelihood of people that live in communities that are in close proximity to the company. The media report aired by Channels Television, one of Nigeria's independent broadcasting stations, aroused interest on the need to conduct a study on the implications of the location of the industry as presented by the resident within the vicinity of the industry. This is seen as necessary given that extant studies on environmental impacts of industries have focused largely on the oil industry while few studies that focus on manufacturing industry give little attention to medium entities like IISNL. The need to understand how efficient state institutions have been in the performance of their responsibility on environmental oversight and governance especially for small and medium scale industrial entities is also of concern. More importantly, the researchers intend to probe how managers of industrial entities like IISNL have been able to circumvent laid down rules, guidelines and procedures governing their operational activities through their relationship with environmental regulation agencies especially in the context of the politics of environmental governance.

### ***Method of Data Collection and Analysis***

The study used empirical data that comprises in-depth interviews with the residents of Fashina, Coker, Ogunwusi I and II communities. Media interviews conducted with the Management of Ife Iron and Steel Company and the Osun State Ministry of Environment officials by Channels Television were also used. The study also adopted the ethnography approach to understanding the position of people in the communities to the emission and the approaches they have adopted to express their concerns to the management of the company and the government ministry, department and agency charged with the functions of environmental impacts management of such manufacturing entities like the Ife Iron and Steel Company Nigeria Limited. The data for the study was collected using unstructured interview guide and observations checklist. Interviews were specifically conducted to seek explanation on general topics on environmental pollution that the researchers' identified while interacting with members of the communities. The study involved interviews with 12 senior citizens in the communities (which included key traditional rulers and Community Development Association (CDA) leaders, and seven (7) women. The respondents were purposively selected on the basis of their knowledge of the emission challenges being experienced by the communities. To balance the opinion on both sides, interview sessions were also conducted with the Human Resource and External Affairs Director of the company. The observation approach was used to check some responses from the respondents about the study under review. Data was analysed using thematic analysis approach.

## Results and Discussion

### *IISNL Operations, Air Pollution and Implications on People's Health and Socio-Economic Wellbeing*

The long-standing peaceful relationship between Ife Iron and Steel Company and its host communities in and around Fashina, Coker, Ogunwusi I and II in Osun State was threatened by complaints about air pollution by the factory that is situated along Ife-Ibadan road, Ile-Ife, Osun State, South-Western, Nigeria. The factory, a privately-owned recycling centre fabricates iron rods from scrap metal. The communities that are in close proximity to the factory expressed serious reservations and concerns about the health implications of the emission coming out of the company's machinery. The residents claimed that the emission contained waste particles (soot) from the company's production activities which were harmful to the environment and the health of people in the communities under study. The residents in their reactions to the activities of the factory aired the communities' grievance. One of such narratives, as given by a resident, suggested that the emission has serious health implications and impacts on their socio-economic wellbeing. Expressing the health and economic impacts of the polluted air from the company, a respondent noted that;

one cannot conveniently situate the amount of damage we experience and are still experiencing in the hands of this factory. Do you want me to tell you that I suffer just one ailment and that is cataract and it is the consequence of the foul air emitted at the factory? I have had to go to the clinic 4 times in the last couple of weeks and I know how much of my hard-earned money I have had to cough out on this...do I need to tell you that we cannot even try to buy white clothing materials here,... Our children are often sick here... You cannot keep domestic animals here ...there are a lot of such impacts that you have to contend living in this environment. (Respondent 12, Female, resident, Fashina community, 32 years old, University degree holder)

Though having serious implications on health and socio-economic wellbeing, people in the communities are not oblivious to the fact that the siting of the company has had positive economic impacts. For example, the people agreed that the siting of the factory has aided the rapid development of the area. This is because it has attracted a number of people to construct residential houses in the communities. This notwithstanding, residents have expressed fear over the possible health risks that the black carbon emissions associated with the

production activities of the Ife Iron and Steel factory portend for residents in the surrounding communities. Residents who have been experiencing the fumes and soot of black carbon emission in their homes, offices, automobiles and laundries decried the attitude of the company to their plight. In one of the narratives, a resident argued that:

The black carbon emission from the factory has become a great concern to our people. It has thrown up a lot of health challenges among our people. It is not uncommon to see our people suffer rashes and associated body ailments on their skin. Our people, because of the emission, are given to sudden deaths, people go about with catarrh, someone has even associated his low sperm count to the emission from the factory...our people are dying gradually as a result of the effects of the company's operations on the environment and consequently on human health. (Respondent 02, Male, Community leader, Coker community, 48 years old, University degree holder)

Corroborating the position shared by many members of the communities around the plant, another respondent avers that:

....washing and drying of our clothes in the open has become a huge challenge to us as a community. The clothes get dirtied quickly, change colour and in no time become useless due to the black carbon emission emanating from the factory... Most households mop the floor of their apartments more than thrice daily, and even after mopping for more than three times you still see the floor dotted with soot after some minutes... (Respondent 06, Female, Housewife, Ogunwusi 1 community, 34 years old)

After many protestations about the health and related negative implications of the operational activities of the Ife Iron and Steel plant, the company has resorted to night production. The shift of active production operations from daytime to nighttime was done to assuage the people of the communities that the company is responsive and willing to take their grievances into consideration. But the residents claimed that though the company kept to the promise of producing at night, the communities still suffer from the activities of the company. Corroborating the position that production at night has not mitigated the negative environmental implications of the company's operation, a resident of Ogunwusi II community notes that:

Usually, when we wake up, you find out that cars parked clean the previous night are already stained with black

soot. In fact, when you wake up and put one of your fingers into your nostrils, you will see the traces of the black carbon in your nostrils... This is a great risk that we are subjected to in these communities as a result of the production activities of the company. (Respondent 05, Male, Resident, Ogunwusi II community, 34 years old, University degree)

The responses of the residents suggest that they were not aware of the enormity of the damage the company would cause when the company began operation less than a decade ago at a location few meters away from the communities. The residents of the communities had thought it was merely a factory occupying a piece of land from where it is to conduct its operation. Either as a result of failure to conduct environmental impact assessment or the failure to communicate the result of the findings of the study to members of the communities if it was conducted, residents in surrounding communities notably Fashina village were oblivious of the likely impacts the factory's activities would have on their environment among others.

the argument of the factory has always suggested that the company was informed of a report that suggested that the company will bring no harm to the communities but no one in the communities can attest to it. We haven't seen any such report... We all are not illiterate if we come across such a report we wouldn't have allowed them to site the factory here... They used their connections with the government and its people to deny us of our peace. They should just close this factory! (Respondent 14, Male, House Owner, Coker community, 61 years old, No Education)

Many in the communities as expressed by the respondent shared this view. This perception in relation to environmental pollution arising from the operational activities of iron and steel manufacturing companies and the implications on health and socio-economic livelihood of people in close proximity to such companies have been corroborated by the findings of earlier studies. For instance, Cock (2007) documents the health and socio-economic implications of the operations of iron and steel company (ISCOR and later Mittal) on the people residing in the Greater Steel Valley area in Guateng Province, Republic of South Africa. Tiwari, Bajpai and Dewangan (2016) have also documented how the operations of steel companies in Central India exert negative implications on the health and livelihood of people in the region. Dheeba and Sampathkumar (2012) have returned similar findings in Tamil Nadu region in India. In relation to Nigeria, Al-Amin (2013) has studied

environmental issues as it relates to the operations of Nigeria's iconic iron and steel company. The findings of Al-Amin's (2013) study are to the effect that the operations of certain sections of the Ajaokuta Iron and Steel Complex have negative implications on the environment and by implications impacted negatively on the health and wellbeing of workers in the complex and people in the adjoining communities. While not being specific on health and livelihood of people, studies by Akporido, Agbaire and Ipeaiyeda (2014) affirm that the operation of iron and steel companies have serious implications on the health of the environment in general and on soil and river contamination in particular. The contamination of soil and water bodies as a result of the operations of iron and steel companies portends serious negative implications on people's health, socio-economic wellbeing and livelihood. This is because contaminated soil impacts agricultural production while contaminated water spells doom for fresh water fishery and the use of water bodies by communities.

### ***Lack of Information on Environmental Impact Assessment and Community Resilience***

The lack of information on environmental impact assessment before the company commenced operations in the area undermines the ability of the affected communities to evolve resilience or coping strategies. This supports the position of Tierney, Lindell and Perry (2001) that when people are informed and understand the risk involved in the location of an industry, they are likely to adopt a form of resilience practice aimed at equipping them on how best to mitigate the consequences of industrial presence. For residents of Fashina, Coker, and Ogunwusi I and II they were not adequately educated or provided with information about the risks that might likely arise with the location of the factory in their communities and so were not prepared for the challenges ahead. A few years after the commencement of operations, the deafening noise from the factory's machinery, the effect of the accompanying vibration as well as the routine cloud of contaminated air being emitted into space soon became major sources of worry to the communities. In the narrative of one of the residents:

...When the factory was established, we as residents were very happy for them. We are [sic] of the opinion that the factory will bring development to our community, open up our area to further development, provide employment for our youths and attract the growth of infrastructural facilities to our community. On the contrary, the gains we envisaged at the inception of operation by the company has (have) turned to our pains... The dark cloudy smoke and poisonous air emission coming out of the factory is killing our community's major source of livelihood (Agriculture)... (Respondent 01, Male, traditional leader, 65 years old, Fashina, No formal schooling)

### ***Company position and government response to emission from Ife Iron and Steel Company***

While not dismissing the communities' complaints as frivolous, the Ife Iron and Steel Company claimed that it was doing its utmost to make life better for the residents of the communities that host the plant. The company claimed that the amount of black carbon emission that emanates from the operational activities of the company is too low to cause any harm to people's health when compared to emission generated by companies producing similar products in other locations. According to the Public Relation Manager of Ife Iron and Steel Company Nigeria Limited, black carbon emission is not the problem of the company alone, it is not even an exclusively Nigerian phenomenon but rather, it is a global challenge. The Personnel Manager that doubled as the spokesperson for the company notes that in order to further mitigate the negative implications of the operational activities of the company on the environment and people's health, the company has had to shift production activities to night time (Channels TV Interview, 2016). While this is true as alluded to by respondents, the position of those interviewed was that the shifting of the time of production made no difference as it relates to the emission and its impact on people's health and livelihood in the communities surrounding the plant.

The company strongly asserts that it has invested resources into ensuring that the emission to the atmosphere arising from its operational activities is minimal through capturing. Affirming this position, the company's Personnel Manager/spokesperson in a Press interview with Channels TV News aired on October 23rd, 2016 notes that:

We challenge anybody in this country or anywhere else... We are capturing far above the World Health Organisation regulated standard which is 70-80 percent. We are capturing not less than 80 percent of our emission... 15 percent coming out of the factory because it is visible for anybody to see.... For every advantage, there is always a disadvantage... Yes, they are asking for industrialization; industrialization comes with its own peculiar challenges as well.

The line of argument that the company is pushing in the position captured above shows that the company recognises that its operation has a negative impact on the environment and has implications for the health and livelihood of the people of communities that surround the plant, yet the company regards those negativities as the unintended consequences of industrialisation that the people have to live with. The company's position speaks directly to the experience of communities in the Greater Steel Valley in South Africa as it relates to their face-off with—powerful steel production entities like

ISCOR/Mittal. This power play and suppression of the voice of the communities was clearly brought to light by the works of Cock and Munnik (2006); Hallowes and Munnik (2006); Cock (2007) and Munnik (2012) as it relates to the struggle for environmental justice by the communities in the Greater Steel Valley.

On its part, the Osun State government avers that it is working on ascertaining the state of emission and attendant atmospheric pollution emanating from the operational activities of Ife Iron and Steel Company and others like it and that once the State and its regulatory agencies/institutions have their facts, the State will respond as appropriate. While granting a press interview on the issue, the Permanent Secretary, Ministry of Environment, Osun State, Architect Adewale Ojo notes that the location of the company was informed by the report of EIA (Environmental Impact Assessment) conducted before the company commenced operation in the area. According to the bureaucrat:

We had their EIA report and analysis. We examined it and we discovered it will not be harmful, that is why they are there. If for any reason they will be harmful, government have [sic] two options: to resettle those that are there (communities) or to ask the company to shut down or to relocate. (Press interview with Architect Adewale Ojo, Permanent Secretary, Ministry of Environment, Osun State, Nigeria. Source: Channels TV News on October 23rd, 2016)

The extent at which the government of Osun State has acted on the complaints of the people of Fashina and adjoining communities on the negative effects of the atmospheric pollution that arises from the operational activities of the Ife Iron and Steel Company on the environment, health and livelihood of the people of the communities cannot be ascertained by this study as it is not within the purview of the set goals of the study.

### **Conclusion Remarks**

It is without doubt that the activities of companies such as the Ife Iron and Steel Company have and continue to constitute threat to the environment, health and livelihood of people of the communities that play host to these companies. While such companies contribute to the economy of the communities, the localities and the nation at large, the apparent regulatory deficit occasioned by the failure to enforce extant laws, rules and regulations as it relates to the consequences of industries operations on the environment and by corollary the people constitutes looming disaster for host communities in particular and the nation in general. While the crisis of environmental pollution arising from the operations of the oil industry in the oil bearing Niger Delta region has been the focus of academic and policy research in Nigeria especially since the outbreak of protest by the Movement for the Survival of Ogoni

People (MOSOP) led by the late environmentalist, Kenule Saro-Wiwa, other parts of Nigeria continue to suffer from the negative impacts of industry location and attendant implications on flora, fauna, health and livelihood of Nigerians. While there are other numerous activities that negatively impact the environment in Nigeria as this study has shown, industrial activities loom large among the sources of pollution given the scale, intensity and negative implications that accompany pollution by industries. The study has also shown that while big corporations like the Shell Petroleum Development Corporation (SPDC) are culprits, smaller companies like the Ife Iron and Steel Company are also guilty as pollutants. Thus, what this study has tried to do is to beam the searchlight on the implications of operational activities of smaller companies like the Ife Iron and Steel Company and numerous others like it on the environment and how these impact people's lives and livelihood.

While the benefits of industries to host communities, local and national economies cannot be over-emphasized, there is the need for adequate attention to be given to the implications of their operations on the environment. To this end, it is important that comprehensive environmental impact assessment (EIA) be conducted before permission for location of industries such as the Ife Iron and Steel Company is granted by relevant authorities. There is also the need to strengthen the capacity and capability of enforcement institutions/agencies, especially at the sub-national level. There is the need to also re-think the idea of industrial park/industrial area as it has the potential to help mitigate host communities/companies conflicts especially on the issue of pollutions, emissions and effluents discharge.

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