

Contributing to the Control of Black Soot in Rivers State as an Act of Environmental Protection for Resourceful International Acclaim

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Article History	Abstract
Original Research Article	<p><i>This work set out to examine contributing to the control of black soot in Rivers State as an act of environmental protection for resourceful international acclaim. The black soot is antithetical to the environment and health of the people. This spurred the objective of the study to be focused on finding out the causes, effects, consequences, measures put in place and challenges face to curb it, as well as the solutions to this phenomenon. The research was carried out using the historic method and made use mainly of secondary sources of data. The study found that black soot is prevalent in Rivers State; unemployed individuals are hardly engaged in the control of this phenomenon; the main causative factor is illegal oil refining; the black soot phenomenon constitutes environmental and health hazards; and government has not done enough to control the black soot phenomenon. Consequently, the study recommended empowering individuals and NGOs through adequate funding to help curb the black soot; punishing defaulters to deter others; proper education and socialization of the people on environmental protection; all stakeholders participating in the enabling environment for a black soot free Rivers State; electing upright and dedicated political leaders that will help protect the environment for the good of all and sundry in Rivers State.</i></p> <p>Keywords: black soot pollution, environmental protection, illegal oil refining, air pollution, public health impacts, environmental governance, Rivers State, Nigeria.</p>
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<p>Copyright © 2026 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY-NC) which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.</p> <p>Citation: Prof. Innime Righteous & Dr. Umasom Eromoni-John. (2026). Contributing to the Control of Black Soot in Rivers State as an Act of Environmental Protection for Resourceful International Acclaim. UKR Journal of Multidisciplinary Studies (UKRJMS), 2(2), 134-141.</p>	

Introduction

The place of environmental protection in the control of diseases and maintaining the environment cannot be over-emphasized. Robinson (1986) posits that, “Environmental protection is a systematic approach to finding practical ways for saving the air, water, energy, and materials, and reducing negative environmental impacts.” This shows that the study area of environmental protection is an expansive and ever evolving one.

Air pollution is one of the major environmental health risk factors worldwide, with outdoor air exposure contributing to about 3 million deaths every year (WHO 2017). Air pollution accounted for approximately 6.5 million deaths (11.6% of global mortality) worldwide during the year 2012 alone. In fact, roughly 94% of those deaths occur in developing countries and are primarily associated to non-communicable diseases (NCD), including cardiovascular diseases, chronic obstructive pulmonary disease (COPD)

and lung cancer. Recently, industrial activities continue to be a large component of poor air quality. Nigeria: 94% are exposed to Particulate Matter (PM_{2.5}) > WHO limits, a value much greater than the average of 72% for Sub-Saharan Africa (World Bank, 2017); And particularly disadvantaged and low-income populations are more adversely affected by this environmental hazard.

Empirical Investigations have continually identified ambient air quality in the Niger Delta region of Nigeria, especially Port Harcourt as being poor and levels of ambient air pollutants sometimes above those specified by national and international regulations (Godson & Sridhar 2008). Recent studies on concentrations of air pollutants in cities of Rivers State have demonstrated a downward trend in environmental quality, paralleled by an increased burden of airborne diseases [12, 13];. These results highlight the

increasing public health burden associated with chronic exposure to polluted air in that area.

Residents of Rivers State particularly the Port Harcourt metropolitan area have suffered adverse environmental impacts since late 2016 as a result of dust (soot) contamination. It has been referred to as a double burden of air pollution: widespread background pollution levels before the pandemic and soot emerging as a new major environmental health risk. The dire nature of the situation incited protests against alleged government inaction. The government then declared a state of emergency in early 2017 and launched a task force to investigate the matter. Particulate pollution has been shown internationally to be associated with increased morbidity and mortality of affected populations (Yakubu, 2017), highlighting the need for appropriate environmental and public health interventions.

Given the foregoing, it is important to point out that environmental protection is good for our having a clean environment for the benefit of our health in the society. However, the ruling political elite in many communities only pay lip serve to environmental protection, with the masses watching without solutions. Consequently, this study is poised to examine the state of environmental protection in relation to the black soot phenomenon Rivers State, with the central intent of finding out ways in which unemployed individuals can join in the fight to control this awkward phenomenon and thereof find some employment opportunity to be independent of formal white collar jobs, which will immensely contribute to the improvement of the environment.

Conceptual Review

Concept of the Black Soot

The black amorphous soot. As observed by Yafugborhi (2018), specialists have determined the particle size to be 2.5 microns which can only be viewed using a powerful microscopic lens. So there is no way of preventing it from coming inside the houses and offices, even if the windows are closed. "As people inhale it, after a time, it becomes an irritant. The individual starts coughing. After persistent cough, a wound is created inside the lungs. The wound becomes cancerous and spreads to the liver and other vital organs."

Soot creates poisonous rain. A medical expert, Dr. Ebitumi Kuruba, warned thus: "The other danger is that this soot goes up in the air, mixes with the clouds and falls back as rain. So the rains coming down now turn out to be poisonous. This would go into the ground, affect the source of water we drink, the plants we grow and the food we eat" (Yafugborhi, 2018). Since the discovery of crude oil in the Niger Delta, hydrocarbon emissions associated to oil

exploration and production have always been problematic for environmental sustainability. However, the long-lasting soot pollution presently plaguing the region has generally been ascribed to further man-made causes. According to Idabor, this kind of pollution is mainly associated with emissions from illegal oil refining—known as Kpo fire—and oil theft cartels. Also responsible will be the unthinking incineration of tires, heating of asphalt, and other related eco-terrible moves. Such activities collectively worsen air quality and increase related health and environmental risks. "In Port Harcourt, there are over 100 abattoirs and many of these use rubber tyres to roast meat. Yet others burn tyres to extract copper wires. The heating of asphalt (used for roads) and burning of stolen petroleum products by security agencies that set ablaze frightening volume of stolen oil or illegally cooked diesel in large boats or tankers as well the machinery of the Kpo Fires caught in the act all contribute to the problem" (Yafugborhi, 2018).

Port Harcourt, Rivers State has witnessed a downward spiral of black soot pollution, commencement of an environmental management crisis dated from 2016 and accumulation of public outcry (Yafugborhi, 2018). Civil society groups and concerned residents have implored the government to adopt an urgent package of measures ranging from more money for environmental protection by increasing budgetary allocation, embarking on an environmental audit in oil-producing communities and strict enforcement of sanitation laws at local government levels. Other requests include public health awareness campaigns, daily release of air quality data, working with medical associations such as the Nigerian Medical Association to assess and communicate health effects of pollution. These calls highlight the imperative for a coordinated policy response and enhanced regulatory systems, not least regarding environmental provisions in Petroleum Industry legislation.

You were also trained on these developments and the response of different institutions is taking place Idabor, who was represented by the Deputy Director of Operations in the agency, Anderson Okorkong, said a stakeholders retreat put together by the Federal Ministry of Environment was held in Port Harcourt to discuss ways to curb soot pollution. It was attended by the stakeholders including government sector, oil companies, security forces and special task force to discuss how they can get them to work together in a coordinated manner. At the national level, there are also collaborative measures in place, through committees that involve the Vice President, Chief of Naval Staff and Joint Task Force towards creating uniform standard operating procedures for handling recovered stolen crude oil and from illegal refining (Yafugborhi 2018). These initiatives

underscore existing efforts to combat the complex dimensions of environmental devastation in the area.

Black soot pollution in Port Harcourt is generating rising fear over health and environmental impacts as experts warn that black carbon emissions can contaminate rainwater, soil, crops and drinking water (Yafugborhi, 2018). Because the exposure was reported over many years, it has raised fears that the pollutant could have permanent, and possibly irreversible health effects. Environmental activists have warned that soot particles that travel through the air can mix with moisture in the atmosphere and come back to earth as dirty rain, working their way through groundwater supplies and food crops. Ebitumi Kuruba stated that those processes could partial release harmful materials into source system, harming education systems that could be matter of life. Even with these apprehensions, however, political gridlock has often frustrated responses to the crisis and delayed appropriate action.

Previously celebrated for its lush landscape and beauty as the "Garden City", Port Harcourt has suffered a noticeable ecological shift since soot started settling on the city from late 2016. Widespread pollution — state officials have documented the contamination of homes, clothing and commercial goods in addition to residential wells. They have given eyewitness accounts, for example, Vanguard (February 14, 2017) "Layers of black particles coating every surface has forced traders to cover their goods and residents to take precautions. The absence of visible intervention, environmental advocates asserted, exacerbated public frustration and alarm at the decline in their basic living conditions.

The phenomenon which was first reported in Nov—2016 is more pronounced during early hours and many residents said they felt discomfort when swallowing, nasal pieces of dark substance, oral discharge high blood pressure. Port Harcourt has previously been compared to India and China in the context of air pollution catastrophes as a characteristic of rapid industrialization. In view of this, the Rivers State government set up a task force to look into the problem; while Federal Ministry of Environment declared it an emergency environmental disaster and urged residents to take precautionary measures such as keeping sealed their houses from external air (Vanguard, February 14, 2017) Such signs emphasize the extreme urgency today that policy action and environmental management has to continuously take effect if communities are to avoid long-term consequences of soot pollution.

According to a report by the World Bank in 2015, around 94% of Nigerians were still subjected to air pollution levels above what were considered acceptable limits from the WHO standards. The situation is worsened by a heavy dependence on power generators because of the absence of

electricity, together with the use of high-sulphur fuels in industrial activity and household burning of waste resulting from weak municipal solid waste management systems. Extended exposure to the unwholesome air environment has impacted seriously on public health and medical practitioners in Port Harcourt have started monitoring some of its effect, including increasing prevalence of respiratory diseases, such as asthma particularly among sensitive groups like children and aged persons. Air pollution, according to the United Nations Environment Programme, leads to an estimated 600,000 deaths across Africa each year. Environmental analysis also showed that because soot particles often contain toxic pollutants (sulphur dioxide and nitrogen dioxide) they react with moisture in the atmosphere therefore causing acid rain. These findings are alarming nonetheless, and environmental advocates say lax enforcement of regulations has kept the problem alive because proper political commitments have made no impact (Vanguard February 14, 2017).

Niger Delta residents have suffered decades of environmental destruction as a result of oil drilling, including oil spills, gas flaring, and illegal refineries. Sometimes, as highlighted in these discussions, the very means employed by government agencies to dismantle corresponding illegal refining locations have instead caused environmental degradation. These difficulties have been exacerbated by the emergence of black soot in recent years, as residents of Port Harcourt regularly find a coating consisting of fine black particles on household surfaces. These pollutants are mainly hydrocarbons and have been linked to emissions from illegal refining activities and limited other industrial activities. The Rivers State Government consequently set up a black soot task force, and allegedly shut down some firms caught flouting the environmental safety measures. It is well known from science that exposure to such hydrocarbon pollutants can cause serious health risks such as respiratory diseases and cancer; hence millions of residents in the region are exposed. (Vanguard, 2nd May 2018).

On a far broader scale, black soot need the type of concentrated intervention that results only if advanced and pressing q essaay stuff together + has been performed with with childhood cancer. The Rivers State Government has made initial steps in this direction but these efforts are far from enough to deal with the quantum of the problem. It requires stronger regulatory enforcement, proactive identification and punishment of polluting industries, as well as enhanced collaboration of government institutions, communities and civil society organizations. At the same time, public awareness campaigns should be intensified to educate residents about the health risks associated with exposure to soot and the measures that need to be taken in

order to relieve its impact. A multifaceted and united front is vital if we are to effectively fight back against the black soot pollution threat that looms over public health and our environment in the region.

Health warnings linked to soot exposure include the importance of washing hands frequently, covering food properly and cleaning household surfaces more often, which are basic preventive measures residents can come into effect. Nose masks are also highly recommended, especially when the particles of soot can be seen in your environment. But these protective steps are not enough and experts advocate that sustainable solutions must center on reducing soot at the source (Vanguard, May 2, 2018).

Environmental Pollution has always been a constant of life in the oil-rich Niger Delta region of Nigeria (Kazeem, 2017). While oil spills and environmental degradation have plagued communities for decades, the rise of black soot is newer, more insidious beast. From late 2016, citizens in Port Harcourt had reported the appalling deposition of soot on all surfaces both at home and outside of it. But such an act indicates a declining level of air quality.

The Federal Ministry of Environment proclaimed air pollution emergency in 2017 due to rising crisis with the major contributors of soot pollution being said to be incomplete combustion of hydrocarbons, asphalt processing and illegal artisanal refining activities. These measures proceeded by way of the closure of an asphalt manufacturing provision and sealing of a company found to have flouted law (Kazeem, 2017). Although these measures were put in place, growing public pressure has led residents to ask the United Nations Environment Programme to investigate further action and awareness campaigns, such as the #StopTheSoot initiative.

Air pollution is among the top risk factors for early mortality in Africa, worse than unsafe water, poor sanitation and malnutrition as scientific evidence shows. Nigeria is especially susceptible, as many cities in the country rank among the most polluted places on Earth according to the World Health Organization. Personal accounts from residents, like that of Nneoma Nzewi, also help convey the everyday struggles with soot pollution and the need to use face masks all day long to avoid breathing in particles.

The continued emission of soot in Port Harcourt since it was first perceived in the month of November, 2016 has called to question the responsiveness and effectiveness of government. Since Allen (2017) identified continued public displeasure with the progress of bylaw issues, concern arose only after meaningful pressure on social media and outcry from citizens who were equally aggrieved. These advancements underscore the need for proactive

environmental governance, persistent monitoring, and community involvement in tackling air pollution challenges.

According to Kerley (2018), the capital of Rivers State, which is in Port Harcourt has been greatly affected by soot pollution, an atmospheric contaminant comprising *miRead More* So far, the peak of soot over Port Harcourt and its immediate vicinity has been primarily attributed to two main sources: security agencies burning seized illegally refined petroleum products as well as artisanal oil refiners working in creeks and hinterlands around the metropolis. These practices have exacerbated environmental degradation and worsened the regional air quality.

Scientific evidence has linked soot with respiratory disease, lung cancer and heart disease — including blockages such coronary artery disease. Soot further serves as a major factor of climate warming in being an atmospheric pollutant. Despite the well-documented risks, this has raised questions about the lack of action from both federal and state governments. According to observers the attempts have not gone beyond half-hearted, do-not-offend-me measures without much actual long-term decrease of pollution or safeguarding of public health (Kerley 2018).

Subsequent reports (BBC News, 4 March 2017) show that while the federal government had declared an environmental emergency in Port Harcourt since 2016, emissions were still largely unabated three years later, with soot pollution continuing; and in some cases even intensifying. Actions like indiscriminate burning or disposal of confiscated petroleum products by security agencies, among others have continued to add to the gradual degradation of the environment. Ekpei (2017) further affirms that the ineffective and uncoordinated strategy of the Rivers State Government for restoring the ecosystem still exposes wider voids in environmental governance, tasks which must be undertaken with urgency and sustainability if efficacy will prevail.

Ademola (2018) points out four things you need to know about the soot as follows: 1. Soot is caused by illegal air pollution; 2. the soot has been around for over two years; 3. the soot has led to environmental degradation; and 4. the soot has cause health complications. The foregoing being obvious, it becomes a wonder why both the Federal and Rivers State Governments have no solutions to this phenomenon of black soot that has deadly consequences. It is at this point that it is important to stress that some unemployed youths can see this as an opportunity to cash in on making some money through concerted efforts in fighting the black soot alongside government. This act will attract international donors and government support for the despoliation of the environment anywhere means a

spillover to other parts, which accounts for the appreciation of efforts in this direction.

Concept of Environmental Protection

Introduction Environmental protection is increasingly being viewed as a fundamental human right towards which, vast bodies of literature in academic and political spheres have been dedicated to maximizing its potential on environmental sustainability as well as human well-being. It is a conscious effort on the part of individuals, organizations and governments towards the protection of the natural environment. Yet, mounting pressures associated with overconsumption, population growth and advancing tech have contributed to considerable—and often undeniable—environmental harm. Environmental movements have been instrumental in building awareness about these issues worldwide since the 1960s – focusing attention on sustainable practices over time.

Voluntary environmental agreements have started to be one solution in industrialized nations, as mechanisms under which organizations could potentially outperform minimum regulations and profess adherence to best practices for the environment. For instance, since October 2006 the Environment Improvement Trust has engaged in grassroots efforts to encourage environmental conservation (Karamanos, 2001). By contrast, this type of agreement is often applied in developing regions (especially Latin America), where there are deficiencies in compliance with existing environmental regulation (Blackman 2008). Although these agreements can deliver benefits—including improved capacity to manage the environment through institutions—they often struggle over baseline information, tracking effectiveness and measuring impacts.

Most natural resources are impacted outside of their natural service areas, leading to the need for international cooperation due to the transboundary nature of those environmental issues. As a result, nations have entered into many bilateral and multilateral treaties in an attempt to limit environmental damage due to air pollution as well as address the management of shared resources water and ecosystems. These agreements can be legally enforceable contracts or still aspirational guidelines for environmental behavior—some as far back as the early 20th century (Mitchell, 2003). The Kyoto Protocol, a prime example of how international agreements operate by motivating collaborative global action on climate change. These international initiatives highlight the need for global cooperation in tackling environmental issues.

The 1999 Constitution of the Federal Republic of Nigeria provides a framework for Environmental Protection in Nigeria. In particular, Section 20 declares that the state must conserve and protect the environment and natural

resources including air, water, land, forests and wildlife. This constitutional provision is complemented by the Environmental Impact Assessment Act which mandates both public and private projects to assess their environmental implications before initiating (FGN, 2016). This ensures that development activities should only be undertaken once environmental sustainability concerns had been addressed.

At the institutional level, the National Environmental Standards and Regulation Enforcement Agency is responsible for upholding laws regarding environmental enforcement through promoting sustainable development as well as biodiversity conservation and coordinating environmental governance across sectors (Gonzalez Garcia et al. There are also other sectors-specific regulatory bodies overseeing the compliance within such domains or industries. For example, the Environmental Guidelines and Standards for the Petroleum Industry in Nigeria was published as an initiative of the Department of Petroleum Resources to provide standards to monitor environmental impacts associated with the petroleum sector (FGN, 2016). Together, these frameworks are intended to ensure responsible resource use and environmental protection.

In addition, the NESREA Act gives the state and local governments power to create environmentally protected agencies that are custom made to fit that are appropriate for their own national, regional or local level. Even with laws that create such agencies, enforcement is still lacking in many of those states. This gap reflects the need for improved implementation mechanisms and community involvement. It also creates scope for youth involvement in environmental advocacy and monitoring programs which could draw both local and international support, while yielding positive outcomes for sustainable environmental governance.

Individuals and Creating Self-Employment through the Control of Black Soot in Rivers State

Black soot pollution, however, is a major monster in Rivers State eating into the environment and health of the people with alarming consequences that residents and stakeholders are just not taking lightly. It is during the last few years, especially around Port Harcourt that [the residents have said they noticed] a persistent spoilage of fine black dust on domestic furniture and cutlery as (its) occurrence has become manifest. They are known as hydrocarbons pollutants, which stem from industrial emissions, often attributed to companies whose robberies release more hydrocarbons that fall out as soot (Vanguard May 2, 2018) in their processes. This will led to alarming deterioration of environment health services quality and more worry about chronic health effects.

Confronted with this escalating crisis, there is growing awareness that environmental protection involves the action of civil society and private initiative. Individuals, especially self-employed actors, may create NGOs that specialize in environmental advocacy, monitoring and remediation. Data show chronic exposure to soot is linked to life-threatening health problems, from respiratory diseases to cancer [4], putting millions of residents at risk. Thus, it has now been aligned not just for public health and sustainable development reasons but also to employment creation as well as filling funding gaps from local and international sources (Vanguard May 2nd 2018).

The Rivers State Government, while admitting that the soot crisis was a serious concern that called for urgent concerted actions by all stakeholders, insisted that there is need to reflect before any actions were taken; however no intervening strategies have mitigated this problem. The ongoing nature of the threat suggests that more collaboration by stakeholders, (including not only local people but civil society organizations and businesses.) is needed. This means a collaborative, long-term approach is needed to tackle black soot's environmental impacts and protect the health of people.

Addressing the black soot crisis is a job for the government authorities and public to work together. Regulatory bodies that will be able to notice non-innocent industries and penalise them for not adhering to eco-friendly production techniques, but at the same time, people can provide actionable information that will assist in enforcement actions. Incentives or compensation may go so far as civic engagement. Moreover, mass scale awareness programs for creating an understanding of health risk related to soot exposure are needed. Unemployed young people can also collaborate with media and advocacy groups to broadcast information on prevention methods like washing hands frequently, covering food, cleaning surfaces and close the nose mask during high pollution. However, experts insist that long-lasting solutions must be focused towards eliminating soot emissions at the source (Vanguard, 2 May 2018).

At the policy level, Rivers State has also started responding to these environmental concern. A summit, organised by the Rivers State House of Assembly Committee on Environment in conjunction with the executive arm of government under the aegis "Our Environment, Our Heritage: Environmental Sustainability — A Right for All," was held to examine more issues on soot and environment (Bibor, 2018). The talks were in congruence with the ecological policy drive of the state administration, which has made pronouncements on policies to restore Port Harcourt as the long lost bastion of "Garden City."

Institutional support and potential funding will enhance NGOs involved in these processes.

In addition, there are attempts to improve environmental governance through legislation. Also speaking, Chairman of Rivers State House of Assembly Committee on Environment, Christian Ahiakwo disclosed that a Clean Air Bill is currently in the pipeline and would be given urgency once brought before them. He also criticized the federal response to the soot crisis as inadequate, given the swift action in other areas (Godwin, 2018). Acknowledging these gaps, also private actors and civil society shall be promoted to enhance and engage in advocacy and protect the environment alongside States.

Research Findings

Some findings have been made in the course of this study. One of the findings of this study is that it is common knowledge that there is the prevalence of the black soot phenomenon in Rivers State, which the government alone cannot fight but need the collaborative efforts of individuals.

Secondly, it is the finding of this study that illegal oil refining is the main cause of the black soot in Rivers State. Although there are other possible causes, the illegal oil refineries tend to make it increase by the day. This consequently calls to attention the need to nip such nefarious activities in the bud by both government and concerned citizens.

One other finding of this work is that the black soot phenomenon constitutes environmental and health hazards in Rivers State. Given the high rates of referrals to health facilities due to the effects of the soot, it is proper to agree that it actually constitutes environmental and health hazards.

It is equally the finding of this study that Rivers State Government has not done enough to control the black soot phenomenon, which should necessarily be a ground for unemployed individuals to wade in the fight. What we have been observing is a situation whereby the ruling elite in this state like to call on the Federal Government to intervene. We really need to call to their attention that they need to help the people of this state as it their mandate to protect lives and property here before external aids.

5.2. Conclusion

Environmental management in any locality or state is important for the citizenry to enjoy the benefits that come with having a clean environment. A poor state of environmental management is not proper for the overall development of any community and particularly that of Rivers State. Nevertheless, it is obvious that the problem of black soot is dependent on some variables like poor attitude

of the ruling elite, greedy commerce, corruption, inadequate sensitization of the effects of the soot etc that if properly checked and controlled, could help salvage the situation that is deteriorating every day and therefore giving all parties involved a bad image. The black soot will not produce an environment for good health to flourish. It will only encourage diseases and health hazards that are sure to take a lot of toll on the overall development of Rivers State.

Consequently, for the people of Rivers State to feel comfortable with their political elite and how they handle environmental management policies and implementation, they have to participate collectively or through NGOs to be assured by action that their rights will no longer be jeopardized on the altar of proliferation of black soot in Rivers State. This has not been achieved or even done in Rivers State, which calls for the active participation of individuals. The lot of the people has remained alarming and appalling in relation to ever increasing black soot that has attendant negative consequences.

5.3. Recommendations

The recommendations of this study are as follows:

1. Unemployed youths should go to acquire skills that will help them to contribute to controlling the black soot in Rivers State.
2. Those that cause the black soot should be severely punished to deter others.
3. Competitive tendering for the management of environmental management functions and contracts would ensure that the technically qualified and committed contractors are awarded relevant contracts.
4. Environment sanitation protection courts should be established to try all environmental pollution cases, especially causing black soot, as obtainable in other climes.
5. There is the need to educate the people about the danger of living in an environment polluted by black soot, which will help increase the spate of environmental consciousness in Rivers State.
6. Education on environmental sanitation will help promote good health. In this regard, the existing laws and regulations guiding environmental protection and health should be reviewed and enforced with stiffer actions in order to make them more effective and curb the black soot.
7. More attention should be given to environmental protection through sensitization by NGOs composed largely of unemployed persons.

8. Those that have been affected by the black soot consequences should be treated free by government as they owe it to them to protect the environment.
9. There remains an urgent need for sustainability of a clean environment, better living conditions through awareness campaigns, public lectures, seminars etc to ensure a better way to live and keep the environment free from black soot in Rivers State.

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