

Ethical wit, artisanal refining business and environmental wellbeing in Niger Delta, Nigeria

Ucheawaji G. JOSIAH

Religious Studies Department,
Faculty of Arts, Adeleke University,

Loveday C. ONYEZONWU

Christian Religious Studies Department,
Federal University of Lafia,

Enebieni E. EKO

Department of Religious Studies,
Clifford University,

Abstract

The economic benefits of artisanal refining of petroleum product in the Niger Delta (ND) of Nigeria appear to have resulted in ethical subjectivism among artisans, with attendant environmental effects. The covid-19 lockdown was viewed as an alternative approach to environmental succour especially for the ND region. This research evaluates the ethical implications of artisanal refining in the ND amid the lockdown; examines the effects of the activities on the environment with suggestions for a sustainable environment. Descriptive analysis and Key Informant Interview (KII) was adopted for the study. Nineteen (19) booths within Rivers; thirty-five (35) in Bayelsa State and one (1) in Delta State respectively comprise the scope of the study. The data were content analysed. This paper hypothesizes that the Niger Delta region is confronted with environmental assault resonating from man's deviation from responsible relationships in the society as well as the environment hence it adopts the Aquinas' paradigmatic theory of natural law which stresses the need to maintain law and ethical principle on which all creation is ordered. Findings reveal a deliberate violation of ethics of obedience to constituted authority, ethics of respect as well as ethics of environmental stewardship. The lack of economic motivation by the government resulted in ethical breaches which translated into environmental degradation. The ethical consciousness of the people needs to be strengthened for needed environmental transformation especially in moments when the

75



economic gains of this business interfaces with lived realities of poverty in the region.

Keywords: *ethical consciousness, ethics of environmental stewardship, refining business, covid-19 lockdown, Niger Delta of Nigeria,*

Introduction.

The local artisanal refining of petroleum product in the Niger Delta region of Nigeria comes along with prospects and challenges. Owubokiri, highlighting the environmental implications of local Artisanal refining of Petroleum Products (also known as *kpo-fire*) in the Niger Delta of Nigeria, avers that in the course of acquiring crude oil for the refining process, the locals or better say, natives of the Niger Delta, resort to vandalizing of oil pipelines.¹ This in turn resonates in spillages, and in the process of refining, hydrocarbon compound emits into the atmosphere in the form of soot with high damaging effects on the human population within the region. *Kpo-fire* is local parlance that describes Artisanal refining of Petroleum products especially in the Niger Delta region of Nigeria. Etymologically, the word is derived from the sound generated from fire when fuel is poured into it during the process of oil refining.

The economic prospect of this informal economy is revealed in the prevailing daily activities within the coastal regions of the Niger Delta States of Rivers, Bayelsa and partly Delta. For instance, in Asari Toru Local Government Area of Rivers State specifically in Iyalama community, between three (3) to four (4) million litres of diesel were refined daily before the interception by the Nigerian Navy in 2017.² Besides, Yenagoa, the State capital of Bayelsa, harboured over 2000 fabricated refineries that were

¹J.I. Owubokiri, 'The Niger Delta & Kpo fire millionaires: Unraveling ecological Ruination', 2019, <https://sweetcrudereports.com/the-niger-delta-kpo-fire-millionaires-unraveling-ecological-ruination/> (accessed 27 April 2020).

² V. Edozie, 'Rivers community where illegal bunkering thrives', Daily Trust, 29 July 2018 <https://www.dailytrust.com.ng/rivers-community-where-illegal-bunkering-thrives-263115.html> (accessed 18 May 2020)

destroyed by the military within three months.³ Some of these youths lose their lives to raiding by the Joint Task Force (JTF) as they operate in the mangrove and forest regions. The Federal Government of Nigeria employed this approach to scare and discourage the artisans from such business in the region possibly for the protection of the environment from continuous pollution.⁴

Despite this measure, the economic gains of this business seem to dwarf the inherent ethical implications and environmental dangers. However, in recent times, Dickson observes that an alternative, effective, efficient and natural approach to environmental succour in the Niger Delta region is the Covid-19 pandemic lockdown which probably would restrict artisans' movement to operation sites.⁵ Given the foregoing, this research focuses on how the Covid-19 pandemic lockdown in Nigeria has hitherto, enhanced or otherwise hampered the environmental situation in the Niger Delta (ND) region. Thus, the main research questions are, "to what extent did the Covid-19 induced lockdown in Nigeria affect the Niger Delta environment in relation to the *kpo-fire* business in the region? Could this effect translate into any environmental good for the Niger Delta region? Were the restrictions on the artisans productive or counterproductive? Could the Covid-19 lockdown in Nigeria elicit some ethical concerns regarding the situation the artisans found themselves?

In responding to the above questions, this research intends to: (1) evaluate the ethical implications of artisanal refining in the ND during the Covid-19 lockdown; (2) examine its effects on the environment, and (3) recommend way forward for a sustainable

³ *Nairaland Forum*, 'Army Destroyed 2000 Illegal Refineries', 2017. <http://www.nairaland.com/784726/army-destroyed-2000-illegal-refineries> (accessed 2 November, 2017).

⁴ I. Daminabo, C. Aloni and B.A. Chinago, 'KPO-Fire: the effect of unharnessed technology in Niger Delta, South - South Nigeria', *Journal of Resources Development and Management*, 34 (2017): 10-14.

⁵B. Dickson, 'Niger Delta: coronavirus forces illegal crude refiners out of business', 2020.

<https://theportcitynews.com/2020/05/14/n-delta-coronavirus-forces-illegal-crude-refiners-out-of-business/> (accessed 17th May, 2020).

environment of the Niger Delta of Nigeria. Nevertheless, this research is set to contribute significantly to the fields of religion as well as environmental ethics.

I. Brief History and Prevalence of Kpo-fire Business in the Niger Delta of Nigeria

The Artisanal refining of Petroleum Products is what is known as *kpo-fire* business in the Niger Delta Region of Nigeria. The word *kpo-fire* is a postcolonial local slang or parlance used in describing refining/bunkering business that has been thriving in the Niger Delta region. It is coined from the explosive sound generated when fuel is poured on fire in the process of refining the crude within the mangrove forest. It is also regarded by the people involved, as their own “way of getting a piece of the national cake”.⁶

This business began in 2003 when Alhaji Mujahid Asari-Dokubo, the leader of the Niger Delta Peoples Volunteer Force (NDPVF) held sway as it were, as a warlord in the creeks of Niger Delta. By this period of its inception, any petroleum product that was not produced by the Nigerian National Petroleum Corporation (NNPC) within the West Africa region was nicknamed “Asari Oil or fuel”.⁷ Recently this informal economy has become a fanfare.

The Literature

The burning quest for environmental-justice has been a global concern.⁸ Even Africa is not exempted from this issue.⁹ Clearly,

⁶ *Dailytimes* ‘Kpo-Fire! Crude, Oily Way of Eking out a Living’, *Daily Times*, 23 December 2014. www.kpo-fire-crude-oily-way-of-eking-out-living/amp/ (accessed 29 March 2015).

⁷ C. Akasike, ‘Appraising a Country’s Solution to Illegal Bunkering’, *Nigerian Best Forum (NBF)*, July 28 2012. www.nigeriabestforum.com/index.php?topic=175302.0 (accessed 5 January 2021).

⁸L. Rasmussen, ‘Global Eco-Justice: The Church’s Mission in Urban Society’ in Dieter Thessel (et.al) (eds.) *Christianity and Ecology Seeking the Well-Being of Earth and Humans*, (Cambridge, Massachusetts: Harvard University Press, 2000). See also, S.M. Nwaomah, ‘Biblical Ecology of Stewardship: Option in Quest for Sustainable Environment in

Africa's (including Nigeria's) religious ideas were very much about relationships with people, animals, and land where respect for these was not a matter of negotiation. The foregoing is captured by Mbiti¹⁰, Ranger¹¹ and Taringa¹². But in the Nigeria's Niger Delta Region today, this value is gradually eroding thus resulting in environmental degradation as a result of some economic realities such as oil exploration and exploitation especially, by Oil Companies. This view is expounded by Nwaomah¹³, Abodunrin¹⁴, Ademiluka¹⁵ and Josiah & Amah¹⁶. Accordingly, Nwaomah and Abodunrin, opined that certain provisions in the 1969 Petroleum Act (CAP 350) prohibiting oil-based activities in certain areas of the human community were violated by oil companies in the Niger Delta Region. On one hand, Ademiluka applied the message of the eighth-century BCE prophets in Israel against injustice to the

the Niger Delta Region of Nigeria', *The Living Word: Journal of Philosophy and Theology* 113 (2) (2007): 89-103.

⁹ U.G Josiah and G.H. Amah, 'The Mourning of the Land as Occasioned by Oil Mineral Pollution in the Niger Delta of Nigeria', *IOSR Journal of Environmental Science, Toxicology and Food Technology (IOSR-JESTFT)* 4 (6) (Jul-Aug 2013): 44-49 www.iosrjournals.org

¹⁰ J.S. Mbiti, *African Religions and Philosophy* (Ibadan: Heinemann Educational Books, 1969)

¹¹T.O. Ranger, 'African Traditional Religion', in Stewart Sutherland (et.al) (eds.) *The World's Religions* (London: Routledge, 1988)

¹²N.T. Taringa, 'Towards an African-Christian Environmental Ethic' in Joachim Kuegler, Masiwa R. Gunda, Lovemore Togarasei, Eric Souga Onomo in cooperation with Ezra Citando & Nisbert Taringa (eds.) *Bible in Africa Studies* 13 (Bamberg: University of Bamberg Press, 2014).

¹³S.M. Nwaomah, 'Biblical Ecology of Stewardship: Option in Quest for Sustainable Environment in the Niger Delta Region of Nigeria', *the Living Word: Journal of Philosophy and Theology* 113 (2) (2007): 89-103.

¹⁴Abodunrin, A.O. 'Anti-Pollution Laws in Deut 23:13-14', in C.U. Manus (ed.), *Biblical Studies and Environmental Issues in Africa* 1(143) (2008): 137 -145.

¹⁵Ademiluka, S.O, 'Interpreting the Eighth-Century Prophets in Israel in the Context of Unrest in the Niger Delta Region of Nigeria', *Bible in Africa Studies: from Text to Practice, the Role of the Bible in Daily Living of Africa People Today*, (eds.) Joachim Kuegler, Lovemore Togarasei & Masiwa Ragies Gunda, 2nd Edition., 4 (Bamberg: University of Bamberg Press, 2011), Pp. 45-62.

¹⁶Josiah and Amah, 'the Mourning of the Land as occasioned by oil Mineral pollution in the Niger Delta of Nigeria', *IOSR Journal of Environmental Science, Toxicology and Food Technology*.

situation of unrest in the Niger Delta of Nigeria. He identified a collaborative role of the multinational companies such as Shell-BP and the governments in the degradation of the region and its resultant effect of unrest in the region. And on the other hand, Josiah & Amah in their quest for eco-justice for the Niger Delta region of Nigeria observed that the region is highly predisposed to pollution assault occasioned by hydrocarbon (oil-mineral and related products).

These scholars have addressed the role of successive governments in alliance with oil companies in the degrading of the Niger Delta Region, as well as the part played by residents of the region in the formation of ethnic movements leading to unrest. However, little or no attention has been given regarding *kpo-fire*, a postcolonial concept¹⁷ which currently, is detrimental to the Niger Delta environment as well as the role of the prevailing Covid-19 pandemic in ameliorating the environmental situation in the region. Nevertheless, beyond government's negligence and its aftermath unrest by youths, this work, seeks to extend the environmental discourse to the apparent thriving business of *kpo-fire* in the context of Covid-19. This calls for ethical consideration generated from African traditional and Christian religious viewpoints. It is important because morality in Hebrew as well as in the African mind takes a dimension where moral truth about God is the basis for justice in society and prosperity in nature.¹⁸ Therefore, justice as a fair and right relationship is not only

¹⁷K. Donkor, 'Culture, Emerging Issues, and Adventist Theology in Africa' in Sampson M. Nwaomah, Eriks Galenieks and Davidson Razafiarivony, (eds.) *Culture, Adventist Theology and Mission in Africa* (Nairobi, Kenya: The Theological Seminary of Adventist University of Africa, 2016), Pp. 3-30.

¹⁸R.R. Ruether, 'Conclusion: Eco-Justice at the center of the Church's Mission' in Dieter Thessel (et.al) (eds.) *Christianity and Ecology Seeking the Well-Being of Earth and Humans*, (Cambridge, Massachusetts: Harvard University Press, 2000), Pp. 603-614. See T.D. Hammond. 'Establishing dialogue: Thoughts on 'cosmology', 'religion' and science' in C.W. du Toit (ed.), *Faith, science & African culture African cosmology and Africa's contribution to science* (Pretoria: UNISA, 1998), Pp. 1-9. See also G. Setiloane, 'Towards a bio-centric theology and ethic — via Africa', in C.W. Du Toit (ed.), *Faith, science & African culture, African cosmology and Africa's contribution to science* (Pretoria: UNISA, 1998), Pp. 73-84.

between humans but also includes "nature" which means that justice as a moral obligation deals with fairness among humans and between humans and all other parts of creation.¹⁹

i. Covid-19 in Nigeria: History and Stages of Lockdown

Consequent upon the information passed globally by the World Health Organization (WHO) on the novel disease, COVID-19, the following data become a very useful first-hand document in writing the history of coronavirus in Nigeria as a prima facie statement or information on the existence of the disease. This is so because without this very important introductory statement of fact about this new disease from *the World Health Organisation -WHO*, there will be no history of COVID-19 in Nigeria.

WHO in her article on *The Events as they happen* describes the first appearance and nature of this novel disease as follows: "a pneumonia of unknown cause detected in Wuhan, China was first reported to the WHO country Office in China on 31 December 2019."²⁰ It was WHO who first declared the outbreak of this novel disease as "a Public Health emergency of International concern on 30 January 2020." And subsequent upon this declaration, WHO, on February 11, 2020, "announced a name for the new coronavirus disease: COVID-19."

Roseline O. Ogundokun and others, associate the novel disease in Nigeria with a pandemic already declared by WHO to be "caused by severe acute respiratory syndrome corona virus 2 (SARS-CoV-2)."²¹ The first known and confirmed case of this novel disease in Nigeria was announced on Friday, February 27, 2020. Further information on this first case was reported by the Nigeria Centre

¹⁹Ferguson, R.J. 'the Ancient Egyptian Concept of Maat: Reflections on Social Justice and Natural

Order', *CEWCES Research Papers* 13 (2) (2016): 2

http://epublications.bond.edu.au/cewcres_papers/13

²⁰WHO 'Events as they happen: Rolling updates on coronavirus disease' 2020.

<https://www.who.int/emergencies/diseases/novel-coronavirus-2019/events-as-they-happen> (accessed 9 June 2020).

²¹ R.O. Ogundokun, A.F. Lukman, G.B.M. Kibria, J.B. Awotunde and B.B. Aladeitan 'Predictive Modelling of COVID-19 confirmed cases in Nigeria', 15 August 2020.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7428444/#bib18> (accessed 9 October 2020).

for Disease Control (N.C.D.C), of “an Italian citizen who works in Nigeria and returned from Milan, Italy to Lagos, Nigeria on the 25th of February 2020. He was confirmed by the Virology Laboratory of the Lagos University Teaching Hospital, part of the Laboratory Network of the Nigeria Centre for Disease Control”²². The second case was announced by the Minister of Health, Osagie Ehanire at the boardroom of the University of Benin Teaching Hospital, to have been “a contact of the index case and not a new importation into the country”.²³

By these two known COVID-19 cases, the Federal Government of Nigeria was alerted to quickly shut down from operations five of her international airports, namely: Enugu, Lagos, Rivers, Kano, and FCT as immediate surveillance and control of international transmission of the disease from other international communities, as was announced by the Minister of Health, Osagie Ehanire, at a news conference in Abuja.²⁴

Among other measures taken by the Federal Government to get at the root of the invading presence of this virus in Nigeria was the inauguration of a Presidential Task Force on COVID-19 by President Muhammadu Buhari on March 9, 2020 “to coordinate and oversee Nigeria’s multi-sectoral inter-governmental efforts to contain the spread and mitigate the impact of COVID-19 pandemic in Nigeria”.²⁵

²²Nigeria Centre for Disease Control (NCDC). ‘First Case of Corona Virus Disease Confirmed in Nigeria’ February 28, 2020.
<https://www.ncdc.gov.ng/news/227/first-case-of-corona-virus-disease-confirmed-in-nigeria>.

²³Okwumbu, R. ‘Nigeria records second case of COVID-19’, *nairametrics.com*, 9 March 2020
<https://nairametrics.com/2020/03/09/nigeria-records-second-case-of-covid-19/> (accessed 27 April 2020)

²⁴*Premium Times*. “Coronavirus: Nigeria “strengthens” surveillance at five international airports.” *Premium Times, Nigeria*, January 29, 2020.
<https://www.premiumtimesng.com/news/top-news/374865-coronavirus-nigeria-strengthens-surveillance-at-five-international-airports.html>

²⁵State House. ‘About the PTF: 2020 Presidential Task Force on COVID-19 powered by Vovida Communications Limited’,
<https://statehouse.gov.ng/covid19> (accessed 23 Sept. 2020).

ii. *Covid-19 Lockdown in Nigeria*

Lockdown, one of the measures to control the spread of the novel disease - COVID-19, was embraced by the Nigerian Government. Fedelis Mbah reports that the first lockdown which lasted for 14 days, a little over a month after Nigeria confirmed its first covid-19 case, kicked-off by 11.00 p.m local time (22:00 GMT) on Monday, March 30, 2020, was relaxed on Sunday, April 12, 2020, was announced Sunday, March 29 by President Muhammadu Buhari that, all citizens in Lagos, Abuja, and Ogun States "are to stay in their homes. Travel to or from other states should be postponed. All businesses and offices within these locations should be fully closed during this period." Mbah reported that the first lockdown announcement did not "include hospitals and stores selling essential items such as groceries and medicine." For Buhari, the lockdown was intended to enable the NCDC to "identify, trace and isolate all individuals that have come into contact with confirmed cases." Lagos being the epicentre of COVID-19 Nigeria, Nigerians in Lagos were concerned about hike in prices of commodities as one of the effects of a lockdown. So on Monday following the day of President Buhari's announcement, they flooded Lagos markets to buy food items for stacking against the unforeseen lockdown.²⁶

Yomi Kazeem reported that the Nigerian president, Muhammadu Buhari, on Monday, April 27 announced the easing down of the first lockdown saying, "a phase and gradual easing of lockdown measures" in the three States - Abuja, Ogun, and Lagos effective, May 4, due to "heavy economic cost" brought about by the lockdown. The Federal Government also added that easing the lockdown balances "the need to protect health while also preserving livelihoods." The easing of the lockdown did not, however, make way for interstate travel and neither did it

²⁶F. Mbah, 'Nigeria announces lockdown of major cities to curb coronavirus: The 14-day lockdown enforced in the commercial hub, Lagos, neighbouring Ogun and the nation's capital, Abujah', *Al Jazeera Media Network, 2003-2020*, March, 2020, <https://www.google.com/amp/s/www.aljazeera.com/amp/news/2020/03/nigeria-announces-lockdown-major-cities-curb-coronavirus-200330095100706.html> (accessed 9 June 2020).

remove restrictions on social and religious gatherings; the citizens were also required to make use of face mask.²⁷

Adenike Aloba reporting in Premium Time (Abuja) of June 1, 2020, reflected that "the first phase of the lockdown was subsequently extended by two weeks which elapsed by midnight of May 4. The second lockdown was an extension of the first lockdown both of them concurrently lasted for five week from March 30 to April 27, 2020, hence, may not be referred a second phase but an extension of the first phase. However, President Muhamadu Buhari had on April 27 announced the gradual easing of a five-week lockdown in FCT, Lagos, and Ogun State. A nationwide night curfew from 8 p.m to 6 a.m from 4-17 May, 2020, marked the end of this lockdown. Aloba reported that Mr. Mustapha, chairman of PTF," while speaking on the daily presidential Task Force on COVID-19 briefing said "the commencement of the second phase of the lockdown was approved by President Buhari." The PTF had submitted a recommendation to President Buhari and a presidential approval has been granted on the second phase of the lockdown to begin from June 2nd - 29th, but it is subject to the report of the PTF on the trending nature of the virus in the country.²⁸

Aloba alludes to three statements in the assessment of Mr. Mustapha on the way forward and Nigeria's preparedness for the second phase of the lockdown, as follows:

1. Nigeria is ready to allow science and data determine her caution advancement into the second phase of the eased lockdown for a period of four weeks.
2. "Application of science and data to guide the targeting of areas of on-going high transmission of COVID-19 in the country.

²⁷Y. Kazeem, 'Nigeria is set to ease its coronavirus lockdown in major cities despite mounting cases', *Quartz Africa.com*, 27 April 2020. <https://www.google.com/amp/s/qz.com/africa/1846758/nigeria-to-ease-coronavirus-lockdown-from-may-2-says-buhari/amp/> (accessed 7 June 2020).

²⁸A. Aloba, 'coronavirus: Nigeria 'strengthens' surveillance at five international airports.' *Premium Times, Nigeria*, January 29, 2020. <https://www.premiumtimesng.com/news/top=news/374865-coronavirus-nigeria-strengthens-surveillance-at-five-international-airports.html>

3. That COVID-19 is not over he said, "This is a fight for life and our advancement to phase two does not mean that COVID-19 has died; It is still potent and highly wasteful of human lives. I implore all Nigerians and corporate citizens to the responsibility and play the expected role."

iii. *The Effect of COVID-19 Lockdown in Nigeria*

Whatever might be considered as the effect of lockdown in Nigeria, the bottom-line will be traced to the economic atmosphere of the citizenry. Tolu Olarewaju, a lecturer in Economic, Staffordshire University, examines lockdown in Nigeria on her economy and citizens. Though the lockdown was a nation-wide phenomenon, it was propelled by the federal government and implemented by state governments in Nigeria. Olarewaju considers the two states and Federal Capital Territory where the federal government implemented the lockdown, namely: Lagos, Ogun, and Abuja, and their citizens, and focuses on those to be affected hardest to constitute "households that rely on day to day activities of self-employed individuals for consumption." A survey of the Nigerian economy as a developing economy compared to other developed economies or nations in the face of COVID-19 pandemic reveals unequivocally that these nations "have implemented economic support measures to mitigate the impact of lockdown on their economies," but Nigeria will certainly have a huge shortfall in this regard. This weakness was enshrined in President Muhammadu Buhari's speech in which he avers that, "he acknowledge that the restrictions may make it hard for people to feed themselves and so 'relief materials' would be distributed to communities around the states affected." However, whether this official statement worked out equitably, is yet to be verified. Olarewaju wishes Nigeria government would have taken "into account the country's peculiar economic circumstances when it "implemented" its mitigation measures. In particular, it must bear in mind the millions of Nigerian households whose livelihoods depend on the self-employed and small scale entrepreneurs." In his research on the population distribution and classes in the Nigeria economy, Olarewaju points out the following:

Nigeria has a very high self employment rate. In terms of occupational proportions from household perspective,

his research showed that 41.4% household members reported being own account self-employment; 26.5% in paid employment, 2.8% reported that they were employers of labour, 15.7% indicated that they were unemployed, while 13.6% reported being non-active in the labour force.²⁹

This percentage distribution, according to Olarewaju, agrees with “the figures from the National Bureau of Statistics,” but reveals that, “employment rate in Nigeria has recently grown worse and the national employment rate does not reflect the situation in individual states.” Such an economy under lockdown, according to his research, will manifest the following features:

1. Occupational status has implications for household consumption, in that employers were typically the greatest contributors to household consumption ranging between 12% and 66%.
2. Paid workers were typically the second highest contributors to household consumption, especially for wealthier households, and tended to rely more on the activities of non-account self-employed individuals.”

The result of his analysis includes:

- a. There will be significant consequences for household consumption in the cities that are under lockdown.
- b. Loss of income will be the immediate concern for individuals who have been contributing to household consumptions through their entrepreneurial activities and engage in hand-to-mouth self employment.
- c. It will be hard for such individual to participate in the lockdown when their households depend on them for consumption.

²⁹T. Olarewaju, ‘Lockdown will hit Nigeria's small scale entrepreneurs hard. What can be done’, *The Conversation, 2010-2020*, <https://www.google.com/amp/s/theconversation.com/amp/lockdown-will-hit-nigerias-entrepreneurs-hard-what-can-be-done-135362> (accessed 9 June 2020).

Suggested solution:

1. Food bank such that has been put in place by the governor of Ekiti State, with stipend to self-employed citizens whose daily income would be interrupted. If the lockdown affect self-employed workers - they would be considered in the stipend.
2. Emergency food response.
3. Nigerian entrepreneurs should control donations of large sums to government, but such money should be given to self-employed individuals who are lifeblood of cities like Lagos.
4. The big entrepreneurs should remember their customers as the lockdown has kept them at home without business.
5. Entrepreneurs tax burdens should be reduced.

Methods and Design

This study is purely a qualitative research. Therefore, to achieve the study's preoccupation, the descriptive analysis and the Key Informant Interview (KII) were utilised. Relevant data from informants who also doubled as artisans from selected locations of the *kpo-fire* business within the ND region of Nigeria were generated using Purposive Random Sampling technique. Given the reality of the inter-state lock down in Nigeria at the time of the research, the chosen pattern for the interview was electronic in nature. The interview was granted to four key informants who also doubled as artisans in order to generate useful information on the refining business in different locations within the Niger Delta region. The breakdown of the locations are as follows: nineteen (19) booths or locations within Rivers; thirty-five (35) booths or locations in Bayelsa and one (1) booth or location in Delta States respectively. The informants requested anonymity regarding their identity hence, as part of the research ethics, and due to the sensitive nature of the business currently, their identity is kept confidential with the use of "informant A-D" to represent the respondents within the four (4) different locations of operations. The three States of Rivers, Bayelsa and part of Delta were chosen from the Niger Delta region as the scope of our study for their high presence of artisanal modular refineries. The data generated for this study were subjected to content

analysis arriving at various inferences and conclusions in the paper.

Theoretical Framework

This paper hypothesizes that the Niger Delta region is confronted with environmental threats resulting from human's deviation from responsible relationships in the environment hence it adopts Thomas Aquinas' paradigmatic theory of natural law which stresses the need to maintain law and ethical principles on which all creation (including humans), is ordered.³⁰ It therefore organically follows that any deviation from these ethical principles results in dislocation. In the case of this study, such departure from set laws sustaining the fabrics of the society as well as the environment translates into environmental damage. This view is echoed by certain scholars of theology who have developed the term eco-justice to reflect a universal religious aspiration for a balanced relationship between humans and the earth.³¹ Thereby, emphasizing that the fate or good of human beings is dependent on the fate and good of the earth because they are interdependent and that environmental degradation and economic injustice go hand in hand; thus implying a link between environmental justice and human rights.³²

FINDINGS

This section focuses on the information gathered from the Key Informant Interview where certain informants labeled "A-D" offered information regarding artisanal refining of petroleum products in the Niger Delta region of Nigeria.

³⁰ Murphy, Mark, "The Natural Law Tradition in Ethics", in Edward N. Zalta (ed.), *The Stanford Encyclopedia of Philosophy* (winter Edition, 2011), <http://plato.stanford.edu/archives/win2011/entries/natural-law-ethics/> (Accessed 25th October 2012).

³¹ Warner, and Decosse, 'what: using ethical principles in moral reasoning about the environment', *Markkula Centre for Applied Ethics*.

³² Onyeyonwu, 'Christian ethical perspectives on waste accumulation and evacuation in Port Harcourt metropolis, Rivers State, Nigeria'.

According to Informant A, four locations were identified as Inyonoron, Asarama, Opokiri and Ataba locations all in the Andoni/Okrika region of Rivers State. According to him, these locations are functioning very well even amid the Covid-19 lockdown. This is major because they are located on the coastal wing of the State. When asked if the business was affected by the Covid-19 lockdown, the response was negative. He gave the reason why the business was not affected by lockdown. According to him, the sites are in the interior area where security personnel would hardly get to. Regarding how they get the crude for the refining, the respondent disclosed that the crude was bought from bunkers and then subjected by them to the refining process. This becomes very obvious and corroborated in the light of the account of Informant B below. Again, according to Informant A, the location at Creek Road, Port Harcourt was affected by lockdown. The reason for that is said to be the fact that this location is at the heart of the city where security patrol scuttled the flourishing business. When asked if the government should step in to the business and standardize the refining process, the response was that they lack trust in the government of Nigeria. The respondent avers that as soon as the government steps into the business, the boys will lose their livelihood.

When asked about how the artisans got the raw product for refining, Informant B submits that in Eleme-Oyigbo axis of Rivers State, the usual deal is bunkering of the oil pipe in various boots. They have to get either already refined petroleum product or the raw crude itself given the information that gets to them from their informant within the legally established refinery depot. There are about 14 oil booths within the Eleme-Oyigbo axis. These booths are dedicated to different products. Some already refined and others raw crude. The youth through their informants get information on the particular product transported through the pipes to the depot. As they get refined products, they keep them in their storage and then commercialize them. The informant referred to certain youth presidents within the region who have their storage ready for product disposal. And when asked about the motivation for their activities, the informant reiterates that it is a way of getting their share of the "national cake." According to the informant, the raw crude is sold to those who in turn refine the products. This informant disclosed that the

kpo-fire business is mostly done within the coastal regions of the State especially because of the presence of water and the mangroves. When asked the effect of the covid-19 lockdown on their business, the informant avows that they always have their way as the security personnel around the region are being compromised.

In Delta State, a location was identified by Informant C who appeared to be economical with information. However, he was able to name a location called the *Ekogbene* location. Describing the location, Informant C explained that the location is in the interior part of Delta State close to the Atlantic. In this location, he admits that the artisanal refining process takes an active toll. When asked how they got the raw crude for refining, he explains that the artisans get their crude from legal operators who go through the high sea to the depot. He held that these legal dealers reserve some crude which they sell to the artisans in this location. On whether or not the Covid-19 lockdown had affected operations in the site, he replied that there was slight restriction especially at the point where artisans tried to locate their way to the location which lies in the interior part. However, he suggested the fact that the security personnel were compromised as some of them aided the business because they have their share as well.

According to the Key Informant D, at least thirty-five (35) locations within the Ayama Ikirimo Local Government Area of Bayelsa State were blocked by law enforcement agencies thereby posing difficulties for the artisans to operate. However, they were able to operate skeletally as some security personnel were tipped. But amongst these locations, the most secured zone was the Okaki region. This region according to the informant had much security personnel and there was barely any operation in that region. But for the locations that were operating skeletally, the rift between the artisans and the Civil Defense personnel was eminent.

Again, when asked about their economic experiences during the Covid-19 lockdown in the State, the Informant responded that the lockdown affected the business adversely in that no buyers of their product were available also as there was no much supply either. According to Informant D, before the lockdown, a drum of the raw products was bought by artisans of these locations at the

rate of sixteen thousand naira (#16,000), an equivalent of \$44.4, whereas, as the lockdown commenced, a drum was bought at twenty-five Thousand Naira (#25,000), equivalent of \$69.4. The current price of the raw product and the economic status of buyers made it difficult for artisans. When asked where the buyers come from, the informant D, noted that some come from a distance as far as Abuja, and others from Onitsha in Anambra State. Asked about the quantity of refined diesel in their location, the informant responded that per night, a camp produced one hundred and twenty (120) drums and eight hundred (800) drums per week during the lockdown. This is quite small compared to the period before the lockdown according to informant D; at least, four hundred and fifty (450) were refined in one of the thirty-five (35) locations per night. When asked how and where they get their raw product from, the informant said the raw products were bought from the Beniside Bayelsa Flow Station. Usually, the use of a chopper (helicopter) for the flight was the means for transporting the raw product from the flow station after purchase.

Discussion and Inferences

i. Violation of Ethics of Obedience/Respect to Political Order or Authority

There was a deliberate violation of the ethics of obedience to government exemplified in disobedience to lockdown rules in some booths such as Inyonoron, Asarama, Opokiri and Ataba locations all in the Andoni region of Rivers State. According to the findings, these locations functioned very well even during the Covid-19 lockdown although there was slight restriction especially at the point where artisans tried to locate their way to the booths which lie in the interior part. Initially, man's instinct for survival induced fear on the people at the very early stage of the lockdown. But the reduction in the people's economic power led the people out to the site for survival.

Another manifest and the worrisome act of disobedience to legitimate orders of government is the compromise on the part of some security agents. When asked the effect of the covid-19 lockdown on their business, some of the informants submit that

they always have their way as the security personnel around the region are being compromised. The reason the security personnel were compromised and aided the business was that they have their share as well. According to the Key Informant D, at least thirty-five (35) locations within the Ayama Ikirimo Local Government Area of Bayelsa State were blocked by law enforcement agencies thereby posing difficulties for the artisans to operate. However, they were able to operate skeletally as some security personnel were tipped. In other words, the security officials received some form of inducements either in cash or getting some quantity of crude which they sale.

This group of security agents who indulge in bribery slow the wheel of progress of government. Their action shows that they are loyal to their stomach rather than their country. They play the role of traitors and saboteurs of the very government and people they swore to serve and protect. Their action is a mark of moral irresponsibility. They have breached the trust of both the government and the larger sections of the citizenry. And this is a sign of a bad work ethic.

As it has been observed, obedience to government embodies many ideas such as respect, loyalty, patriotism, cooperation, participation and commitment. Obedience to legal authority and law, especially, environmental regulations, as well as moral values and standards of behaviour is the distinguishing factor between a civilised and ordered society and anarchist society. Obedience to political order and law implies that substantive rules and procedures are observed and change will be effected following such rules and procedures. Obedience to the rules and procedures arise from their creation by an elected parliament, an independent judiciary, and so on.³³ Respect for government and its laws is not just a legal obligation, but also a moral one. Loyalty

³³C. Mark, '*Respect for law and authority: the Australian achievement*', <http://www.ourcivilisation.com/cooray/btof/chap19.html> (accessed 2 August 2012) and cited in Onyazonwu, L.C. '*Christian ethical perspectives on waste accumulation and evacuation in Port Harcourt metropolis, Rivers State, Nigeria*', (PhD thesis, University of Ibadan, Ibadan Nigeria, 2014).

to a legitimate government is one of the true tests of the citizens' responsibilities.³⁴

On the other hand, disobedience to or disrespect to political order breeds indiscipline, lack of trust, conflict and tension in the polity. Respect for constituted authority exemplifies loyalty. It means a person answering allegiance to his/her country. He/she is loyal to the country to which he/she belongs because what serves its interest also serves the interest of the individual. What threatens the country threatens the individual as well. This is the essence of national loyalty. Disobedience to a legitimate government, in ethical terms, symbolizes indiscipline. Indiscipline births a variety of civic problems such as lawlessness, divisiveness, disorder, intolerance, idleness, laziness, inefficiency and poor attitude to work and public property. But disciplined citizens show respect and commitment to the law, rules, duty, the dignity of labour and others' rights. Disciplined people respect orderliness and agreements.³⁵

When citizens respect government authority, they will obey the laws that promote public interest such as sanitation and environmental laws. The ethics of respect or obedience to the authority of a legitimate government imposes on the citizens the obligation to cooperate and partner with the government in building an orderly and pollution-free environment. The citizens understand their cooperation with the government to improve the health and general well-being of the society, as one expression of their social engagement. The degree citizens respect environmental laws of the state reveals the level of their ethical reasoning about the environment.³⁶

³⁴L.C. Onyazonwu, 'African Indigenous Religious Ethics and Modernization: A Tale of Culture Contacts and Contests' *AKSU DIAKONIA: Journal of Religion and Culture*, 1(1) (2018): 129.

³⁵A. Dzugba, *Nigerian Politics and Moral Behaviour: a Study in Politics and Ethics* (Ibadan: JOHN ARCHERS, 2007), Pp. 36-39, cited in Onyazonwu, L.C. 'Christian ethical perspectives on waste accumulation and evacuation in Port Harcourt metropolis, Rivers State, Nigeria' (PhD thesis, University of Ibadan, Ibadan Nigeria, 2014).

³⁶K.D. Warner, and Decosse, D., 'what: using ethical principles in moral reasoning about the environment', *Markkula Centre for Applied Ethics*. http://www.scu.edu/ethics/practicing/focusarea/environmental_ethic

In Christian ethical thought, Christians are under moral imperatives to subject themselves to the political order in the various communities and countries where they live and work. They are equally religiously required to respect and care for the environment. A Christian, who understands these two divine imperatives, will live responsibly in society by desisting from flouting environmental laws of the State. The biblical injunction on obedience to authority is unambiguous.³⁷ Paul, the apostle of Christ made this point in one of his letters:

Obey the government, for God, is the one who has put it there. There is no government anywhere that God has not placed in power. So those who refuse to obey the laws of the land are refusing to obey God, and punishment will follow. (Romans 13:1, 2 LB).

This same instruction is re-echoed by Peter in I Peter 2:13, 14 LB. In his letter to Titus, Paul issues similar instruction (see Titus 3:1, LB).

A sign of moral irresponsibility and the breach of the trust of both the government and the larger sections of the citizenry as well as a sign of bad work ethic were exhibited by the artisans and the security agents under study.

ii. Crude oil bunkering as a violation of environmental ethics

Regarding how they get the crude for the refining, the respondent disclosed that the crude was either bought from bunkers or bunkered by them directly and then subjected by them to the refining process. This is evident in the response of Informant B who submits that in the Eleme-Oyigbo axis of Rivers

s/ (accessed 9 July 2012) cited in Onyizonwu, L.C. 'Christian ethical perspectives on waste accumulation and evacuation in Port Harcourt metropolis, Rivers State, Nigeria', (PhD thesis, University of Ibadan, Ibadan Nigeria, 2014), 116.

³⁷L.C. Onyizonwu, 'Christian ethical perspectives on waste accumulation and evacuation in Port Harcourt metropolis, Rivers State, Nigeria', (PhD thesis, University of Ibadan, Nigeria, 2014), Pp. 115-116 & 129.

State, the usual deal is bunkering of the oil pipe in various booths. They have to get either already refined petroleum product or the raw crude itself.

Previous research on the causes of the crude oil spill in the Niger Delta reveals that more than 30% of the spills were due to unknown causes, while 20.74% were attributed to third party activity.³⁸ Illegal oil bunkering and artisanal refining is on the rise in various communities in the Niger Delta and worsen the ecological destruction and social conflict caused by the oil industry. Oil theft and artisanal refining are widespread resulting in an estimated daily loss of 2,000 to 3,000 barrels of crude oil. Environmental degradation is the most noticeable and direct impact of illegal refining and oil theft. Vegetation is visibly affected; crude saturates the mangroves and oil disturbs the surface water. The environmental destruction associated with illegal oil refining harms traditional livelihoods tied to the land and water.³⁹ Accordingly, Osuagwu and Olaifa opine that oil spills in the ND occur largely due to the continuous incidence of vandalism and corrosion of oil pipelines.⁴⁰ Such spillages destroy aquatic life and hamper agricultural activities in affected communities. The long term effect of oil spillage is usually associated with a reduction in crop yield and fish mortality.

These destructive acts of bunkering violate both African and Christian environmental ethics. Christian ecological ethics recognizes the common origin and interdependence of all creation. It emphasizes the divine origin and nurture of nature

³⁸ B. Ordinioha and B. Seiyela, 'the human health implications of crude oil spills in the Niger Delta, Nigeria: An interpretation of published studies', *Nigerian Medical Journal*, 54 (1) (2013): 10-16. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3644738/>

³⁹M. Obenade, and G.T. Amagbara, "Perspective: The Environmental Implications of Oil Theft and Artisanal Refining in the Niger Delta Region." *Asian Review of Environmental and Earth Science*, 1, no.2 (2014): 25-29. Retrieved from <http://www.asianonlinejournals.com/index.php/AREES/article/view/674/668>

⁴⁰Osuagwu, E.S. and Olaifa, E. 'Effects of oil spills on fish production in the Niger Delta' *PLoS ONE*, 13 (10) (2018): 1-14, <https://doi.org/10.1371/journals.pone.0205114>.

thus, advocates for respect for the human and non-human environment. Theologians have developed the term eco-justice to reflect a universal religious aspiration for a balanced relationship between humans and the earth.⁴¹ It emphasizes that the fate or good of human beings is dependent on the fate and good of the earth because they are interdependent; that environmental degradation and economic injustice go hand in hand; and that there is a link between environmental justice and human rights.⁴² Similarly, African environmental ethics teaches the sacredness of nature and uncompromising reverence for the same. This was vividly demonstrated by isolating and designating certain places as sacred. Alamu observes that in an ecological sense, sacred places are regarded as part of the ecosystem; that the concept of the sacred/holy spots was a tool in the hand of the people in antiquity to preserve their environment.⁴³ The environmental features framed in sacred spaces are drivers for sustainable development; hardly would a fire engulf these sacred spots because the people and the community are mindful of their safety. Thus, life-sustaining effects of sacred places have positive effects on ecosystems. Onyizonwu also submits that in primordial Africa, nature was highly cherished and preserved. Land could remain uncultivated for a long time. The land was considered sacred and belonging to the living, the unborn and the dead. Forests were kept to preserve wildlife.⁴⁴ In contrast, environmental behaviour today is characterised by unethical use of the environment typified in oil theft/bunkering and *kpo-fire*. Without a doubt, uncontrolled resource extraction and unsustainable development are degrading most of Africa's ecosystems particularly the Niger Delta of Nigeria. Such unethical environmental behaviour has resulted in a loss of human and non-human lives thus, in essence, it has reduced the value and

⁴¹ Warner, and Decosse, 'what: using ethical principles in moral reasoning about the environment', *Markkula Centre for Applied Ethics*.

⁴² Onyizonwu, 'Christian ethical perspectives on waste accumulation and evacuation in Port Harcourt metropolis, Rivers State, Nigeria'.

⁴³ A.G. Alamu, 'Sacred Places in African Traditional Religion and the Quest for Sustainable Environment' in Okon, E.E. (ed.) *African Traditional Religion and Philosophy*, (Calabar, NI: University of Calabar Press, 2013), Pp. 253, 258.

⁴⁴ Onyizonwu, L.C. 'African Indigenous Religious Ethics and Modernization: A Tale of Culture Contacts and Contests', 129.

dignity of the human person as well as threatens the sustainability of the flora and fauna.

iii. Lack of trust in government

When asked if the government should step in to the business and standardize the refining process, the response was that they lack trust in the government of Nigeria. The respondents aver that as soon as the government steps into the business, the boys will lose their livelihood. And when asked about the motivation for their activities, the informant reiterates that it is a way of getting their share of the "national cake." This suggests that the 'national cake' is not equitably shared by those who are in charge of handling and distributing the 'cake'. If not, why would the people lose their livelihood when the government steps into the crude oil refining business as claimed by the informant? According to the informant, the raw crude is sold to those who in turn refine the products. This informant disclosed that the *kpo-fire* business is mostly done within the coastal regions of the State especially because of the presence of water and the mangroves. The implication of this is that there is a disconnect between the people/citizens and their government. Some section of the citizenry sees the government as irresponsible and incapable of commanding their loyalty. This disillusionment may not be unconnected to the glaring but preventable poverty that is ravaging the oil-rich Niger Delta region while government officials and elites live in opulence/extravagance.

Our opinion on this particular finding of this research has been validated by the previous submission of Uslaner⁴⁵ where he argues that in building trust, equitable distribution of resources is of greater importance than the wealth of society itself. He further asserts that trust in government is a reflection of whether the citizens have favourable impressions of the people in power and the institutions of government, as well as whether they agree with the policies of the government in power; that confidence in government is a product of one's experiences.

⁴⁵Uslaner, *the Moral Foundations of Trust*

With the collaboration of the security personnel and this breed of disillusioned youths, there is a looming danger of a gradual and unchecked entrenchment of a 'banana republic' within a republic, controlled by a cartel of non-state actors. Such a foreboding would birth negative economic, ethical, security and environmental outcomes.

Conclusions/Recommendations

This paper has been able to identify the origin, motivations, methods of operation as well as gains and pains of *kpo-fire* business in the Niger Delta viz-a-viz the extent Covid-19 lockdown affected illegal refining of crude oil (*kpo-fire*). Data generated from the key informants interviewed reveal that there was very minimal obstruction of artisanal refining of crude oil during the Covid-19 lockdown. They largely aided by compromised security agents who collected bribes and relaxed enforcement of legitimate restriction orders of government. Consequently, despite inter-state lockdown, oil bunkering and artisanal refining of such stolen crude thrived across the three states under study namely: Rivers, Delta and Bayelsa.

The findings of this research also revealed that the real motivation for *kpo-fire* business is the individuals' economic survival. This survival instinct took centre stage and dethroned fear of possible infection by Covid-19, in the minds of the people. Artisanal refining of crude oil is not just an economic issue it is also an environmental issue.

The study affirms that dealers in *kpo-fire* lack trust in government; that their activities before, during, and after the Covid-19 lockdown violates ethics of obedience to constituted authority; the environmental footprints occasioned by the destructive effects of *kpo-fire* business hurt and harm the entire ecosystem – both human and non-human elements. Its destructive impacts on the flora and fauna violate both Christian and African ecological ethics – both of which recognise the interdependence of all creation as well as advocate for respect for nature.

It is however observed that the failure of economic motivation in the Niger Delta region of Nigeria has been revealed in the failure of ethical motivation⁴⁶ which has translated into environmental degradation. To this end, therefore, there is the need to strengthen, through seminars and workshops, the Ethical wit of the people with regards to the environment since a region's ecological system may not be transformed until its ethical system is reformed.⁴⁷

Declaration of Interest Statement

We wish to declare that we do not have any conflict of interest regarding this study.

Acknowledgements

We wish to acknowledge the artisans for obliging us with the needed information regarding this study. We appreciate their openness and assistance even for the willingness to give us access to pictures from the *Kpo-fire* sites as attached under the appendix of this work. We also appreciate Mr. Miracle Dickson, Mr. Philip Otogwung, Mr. Daniel Okringo, Mr. Ataisi Mbu and Mr. Michael Ogbobeni for linking us up with the artisans. Thank you so much for your assistance.

Bibliography

Abodunrin, A.O. 'Anti-Pollution Laws in Deut 23:13-14', in C.U. Manus (ed.), *Biblical Studies and Environmental Issues in Africa* 1(143) (2008): 137 -145.

Ademiluka, S.O, 'Interpreting the Eighth-Century Prophets in Israel in the Context of Unrest in the Niger Delta Region of Nigeria', *Bible in Africa Studies: from Text to Practice, the Role of*

⁴⁶P. Koslowski, 'Argumentum Ethico-Economicum: The Argument for the Existence of God from Ethical Economy', *Filosofia Della Religione Oggi?* 75, (1&2) (2007): 381-396. <https://www.jstor.org/stable/24488472>.

⁴⁷ C.U. Manus, 'Towards a Holistic Environmental Ethics and Sustainability in Africa' in Chris Ukachukwu Manus (ed.) *Biblical Studies and environmental Issues in Africa*, (Ibadan, Nigeria: M.Alofe Nig. Enterprises, 2008), 306-320).

the Bible in Daily Living of Africa People Today, (eds.) Joachim Kügler, Lovemore Togarasei & Masiwa Ragies Gunda, 2nd Edition, 4 (Bamberg: University of Bamberg Press, 2011), Pp. 45-62.

Adenike, A. 'Nigeria: Coronavirus-Second Phase of eased Lockdown to Last for Four Weeks - Official', *AllAfrica.com*, <https://allafrica.com/stories/202006020045.html> (accessed 8 June 2020)

Akasike, C. 'Appraising a Country's Solution to Illegal Bunkering', *Nigerian Best Forum (NBF)*, July 28 2012, www.nigeriabestforum.com/index.php?topic=175302.0 (accessed 5 January 2021)

Alamu, A.G. 'Sacred Places in African Traditional Religion and the Quest for Sustainable Environment' in Okon, E.E. (ed.) *African Traditional Religion and Philosophy*, (Calabar, NI: University of Calabar Press, 2013), Pp. 253, 258.

Aloba, A. 'coronavirus: Nigeria 'strengthens' surveillance at five international airports.' *Premium Times, Nigeria*, January 29, 2020. <https://www.premiumtimesng.com/news/top-news/374865-coronavirus-nigeria-strengthens-surveillance-at-five-international-airports.html>

Dailytimes 'Kpo-Fire! Crude, Oily Way of Eking out a Living', *Daily Times*, 23 December 2014. www.kpo-fire-crude-oily-way-of-eking-out-living/amp/ (accessed 29 March 2015).

Dickson, B. 'Niger Delta: coronavirus forces illegal crude refiners out of business', 2020. <https://theportcitynews.com/2020/05/14/n-delta-coronavirus-forces-illegal-crude-refiners-out-of-business/> (accessed 17th May, 2020).

Donkor, K. 'Culture, Emerging Issues, and Adventist Theology in Africa' in Sampson M. Nwaomah, Eriks Galeniaks and Davidson Razafiarivony , (eds.) *Culture, Adventist Theology and Mission in*

Africa (Nairobi, Kenya: The Theological Seminary of Adventist University of Africa, 2016), Pp. 3-30.

Dzurgba, A, *Nigerian Politics and Moral Behaviour: a Study in Politics and Ethics* (Ibadan: JOHN ARCHERS, 2007), Pp. 36-39, cited in Onyezonwu, Loveday C. "Christian ethical perspectives on waste accumulation and evacuation in Port Harcourt metropolis, Rivers State, Nigeria" PhD thesis, University of Ibadan, Ibadan Nigeria, 2014.

Edozie, V., 'Rivers community where illegal bunkering thrives', Daily Trust, 29 July 2018 <https://www.dailytrust.com.ng/rivers-community-where-illegal-bunkering-thrives-263115.html> (accessed 18 May 2020)

Egbas, J, 'When will the dark skies leave Port Harcourt city?' 2018.

<https://www.pulse.ng/news/local/stop-the-soot-when-will-the-dark-skies-leave-port-harcourt-city/rsw4mhv> (accessed 5 January 2021).

Ferguson, R.J. 'the Ancient Egyptian Concept of Maat: Reflections on Social Justice and Natural Order', *CEWCES Research Papers* 13 (2) (2016) http://epublications.bond.edu.au/cewcres_papers/13

Hammond, T.D. 'Establishing dialogue: Thoughts on 'cosmology', 'religion' and science' in C.W. du Toit (ed.), *Faith, science & African culture African cosmology and Africa's contribution to science* (Pretoria: UNISA, 1998), Pp. 1-9.

Josiah, U.G and Amah, G.H. 'The Mourning of the Land as Occasioned by Oil Mineral Pollution in the Niger Delta of Nigeria', *IOSR Journal of Environmental Science, Toxicology and Food Technology (IOSR-JESTFT)* 4 (6) (Jul-Aug 2013): 44-49 www.iosrjournals.org

Kazeem, Y, 'Nigeria is set to ease its coronavirus lockdown in major cities despite

mounting cases', *Quartz Africa.com*, 27 April 2020.

<https://www.google.com/amp/s/qz.com/africa/1846758/nigeria-to-ease-coronavirus-lockdown-from-may-2-says-buhari/amp/> (accessed 7 June 2020).

Koslowski, P. 'Argumentum Ethico-Economicum: The Argument for the Existence of God from Ethical Economy', *Filosofia Della Religione Oggi?* 75, (1&2) (2007): 381-396.
<https://www.jstor.org/stable/24488472>.

Manus, C.U. 'Towards a Holistic Environmental Ethics and Sustainability in Africa' in Chris Ukachukwu Manus (ed.) *Biblical Studies and environmental Issues in Africa*, (Ibadan, Nigeria: M.Alofe Nig. Enterprises. 2008).

Mark, C. '*Respect for law and authority: the Australian achievement*,'
<http://www.ourcivilisation.com/cooray/btof/chap19.html>
(accessed 2 August 2012) and cited in Onyazonwu, L.C. 'Christian ethical perspectives on waste accumulation and evacuation in Port Harcourt metropolis, Rivers State, Nigeria' (PhD thesis, University of Ibadan, Ibadan Nigeria, 2014).

Mbah, F. 'Nigeria announces lockdown of major cities to curb coronavirus: The 14-day lockdown enforced in the commercial hub, Lagos, neighbouring Ogun and the nation's capital, Abujah', *Al Jazeera Media Network, 2003-2020*, March, 2020,
<https://www.google.com/amp/s/www.aljazeera.com/amp/news/2020/03/nigeria-announces-lockdown-major-cities-curb-coronavirus-200330095100706.html> (accessed 9 June 2020).

Mbiti, J.S. *African Religions and Philosophy* (Ibadan: Heinemann Educational Books, 1969)

Nairaland Forum, 'Army Destroyed 2000 Illegal Refineries', 2017.
<http://www.nairaland.com/784726/army-destroyed-2000-illegal-refineries> (accessed 2 November, 2017).
Nigeria Centre for Disease Control (NCDC). 'First Case of Corona Virus Disease Confirmed in Nigeria' February 28, 2020.
<https://www.ncdc.gov.ng/news/227/first-case-of-corona-virus-disease-confirmed-in-nigeria>.

Nwaomah, S.M. 'Biblical Ecology of Stewardship: Option in Quest for Sustainable Environment in the Niger Delta Region of Nigeria', *The Living Word: Journal of Philosophy and Theology* 113 (2) (2007): 89-103.

Nwaomah, S.M. 'Eco-Justice and the Niger Delta Environmental Challenges: Reflections on Matthew 7:12' *Philosophy Study*, 3 (4) (2013): 291-299.

Obenade, Moses and Amagbara, Gordon T. "Perspective: The Environmental Implications of Oil Theft and Artisanal Refining in the Niger Delta Region." *Asian Review of Environmental and Earth Science*, 1, no.2 (2014): 25-29. Retrieved from <http://www.asianonlinejournals.com/index.php/AREES/article/view/674/668>

Ogundokun, R.O., Lukman, A.F., Kibria G.B.M., Awotunde, J.B. and Aladeitan B.B. 'Predictive Modelling of COVID-19 confirmed cases in Nigeria', 15 August 2020. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7428444/#bib18> (accessed 9 October 2020).

Olarewaju, T. 'Lockdown will hit Nigeria's small scale entrepreneurs hard. What can be done', *The Conversation*, 2010-2020, <https://www.google.com/amp/s/theconversation.com/amp/lockdown-will-hit-nigerias-entrepreneurs-hard-what-can-be-done-135362> (accessed 9 June 2020).

Onyazonwu, L.C. 'Christian ethical perspectives on waste accumulation and evacuation in Port Harcourt metropolis, Rivers State, Nigeria', (PhD thesis, University of Ibadan, Nigeria, 2014), Pp. 115-116, 129.

Onyazonwu, L.C. 'African Indigenous Religious Ethics and Modernization: A Tale of Culture Contacts and Contests' *AKSU DIAKONIA: Journal of Religion and Culture*, 1(1) (2018): 129.

Ordinioha, B. and Seiyela, B. 'The human health implications of crude oil spills in the Niger Delta, Nigeria: An interpretation of

published studies', *Nigerian Medical Journal*, 54 (1) (2013): 10-16. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3644738/>

Osuagwu, E.S. and Olaifa, E. 'Effects of oil spills on fish production in the Niger Delta' *PLoS ONE*, 13 (10) (2018): 1-14, <https://doi.org/10.1371/journals.pone.0205114>.

Owubokiri, J.I. 'The Niger Delta & Kpo fire millionaires: Unraveling ecological Ruination', 2019, <https://sweetcrudereports.com/the-niger-delta-kpo-fire-millionaires-unraveling-ecological-ruination/> (accessed 27 April 2020).

Ranger, T.O. 'African Traditional Religion', in Stewart Sutherland (ed.) *The World's Religions* (London: Routledge, 1988).

Rasmussen, L. 'Global Eco-Justice: The Church's Mission in Urban Society' in Dieter Thessel (et.al) (eds.) *Christianity and Ecology Seeking the Well-Being of Earth and Humans*, (Cambridge, Massachusetts: Harvard University Press, 2000).

Ruether, R.R. 'Conclusion: Eco-Justice at the center of the Church's Mission' in Dieter Thessel (et.al) (eds.) *Christianity and Ecology Seeking the Well-Being of Earth and Humans*, (Cambridge, Massachusetts: Harvard University Press, 2000), Pp. 603-614.

Okwumbu, R. 'Nigeria records second case of COVID-19', *nairametrics.com*, 9 March 2020 <https://nairametrics.com/2020/03/09/nigeria-records-second-case-of-covid-19/> (accessed 27 April 2020)

State House, 'About the PTF: 2020 Presidential Task Force on COVID-19 powered by Vovida Communications Limited', <https://statehouse.gov.ng/covid19> (accessed 23 Sept. 2020).

Setiloane, G. 'Towards a bio-centric theology and ethic — via Africa', in C.W. Du Toit (ed.), *Faith, science & African culture, African cosmology and Africa's contribution to science* (Pretoria: UNISA, 1998), Pp. 73-84.

Taringa, N.T. 'Towards an African-Christian Environmental Ethic' in Joachim Kuegler, Masiwa R. Gunda, Lovemore Togarasei, Eric Souga Onomo in cooperation with Ezra Citando & Nisbert Taringa (eds.) *Bible in Africa Studies* 13 (Bamberg: University of Bamberg Press, 2014).

Uslaner, E.M. *The Moral Foundations of Trust* (UK: Cambridge University Press, 2002).
<http://catdir.loc.gov/catdir/samples/cam031/2001052721.pdf>

Warner, K.D and Decosse, D., 'what: using ethical principles in moral reasoning about the environment', *MARKKULA CENTRE FOR APPLIED ETHICS*.
http://www.scu.edu/ethics/practicing/focusarea/environmental_ethics/ (accessed 9 July 2012) cited in Onyazonwu, L.C. 'Christian ethical perspectives on waste accumulation and evacuation in Port Harcourt metropolis, Rivers State, Nigeria', (PhD thesis, University of Ibadan, Ibadan Nigeria, 2014), 116.

Warner, K.D and Decosse, D., 'A Short Course in Environmental Ethics'
http://www.scu.edu/ethics/practicing/focusareas/environmental_ethics/ (accessed 9 July 2012) cited in Onyazonwu, L.C., 'Christian ethical perspectives on waste accumulation and evacuation in Port Harcourt metropolis, Rivers State, Nigeria', (PhD thesis, University of Ibadan, Ibadan Nigeria, 2014), 128.

WHO 'Events as they happen: Rolling updates on coronavirus disease' 2020.
<https://www.who.int/emergencies/diseases/novel-coronavirus-2019/events-as-they-happen> (accessed 9 June 2020).

Interview granted regarding the effect of Covid-19 lockdown on artisanal refining of Petroleum Products in Niger Delta Region of Nigeria

S/N	Key Informants	Region	Date of interview
1	Key Informant A	Andoni region of Rivers State	19 th May, 2020

2	Key Informant B	Eleme-Oyigbo region of Rivers State.	Thursday 21 May, 2020
3	Key Informant C	Delta State region.	19 th May, 2020
4	Key Informant D	Bayelsa State region.	7 th August, 2020

APPENDIX



Figure 1: The crude in trough ready for local refinery processing
(Image taken by Informant A at Opokiri booth, 2020)



Figure 2: The condition of the arena arising from artisanal refining processing
(Image taken by Informant A at Opokiri booth, 2020)



Figure 3: The condition of the environment arising from artisanal refining processing (Image taken by Informant A at Opokiri booth, 2020)



Figure 4: The condition of the environment arising from artisanal local refining process.(Image taken by Informant A at Opokiri booth, 2020)

