The socio-economic and environmental implications of petroleum subsidies removal on Nigerians

[1]Akintoye Oluyemi Ayorinde*, [2]Asuquo Edung Etim, [3]Ubong Edet Harrison, [4]Onuoha Edwin & [5]Akintoye Taiwo Adesola

[1]Department of Environmental Management, University of Calabar, Nigeria
[2]Department of Environmental Education, University of Calabar, Nigeria
[3]Nigeria Erosion and Watershed Management Project, Uyo Akwa Ibom State
[4]Department of Special Education, University of Calabar, Nigeria

***Corresponding author: oluyemi.akintoye@unical.edu.ng**

Abstract

The removal of petroleum subsidies in Nigeria, a neoliberal approach to resources management, remains one of the most controversial economic reforms of the 21st century in the country. While aimed at fostering fiscal discipline and reducing distortions in the energy sector, the policy has ignited a ripple of socio-economic disruptions and unintended environmental consequences. This article explores the intertwined socio-environmental implications of fuel subsidy removal, with a particular focus on Nigerian households. Drawing on empirical studies, policy reports, and international frameworks, the paper critically analyzes how this shift impacts household welfare, environmental sustainability, and social equity. Policy recommendations emphasize the need for targeted mitigation strategies, sustainable energy investments, and a just transition framework. The environmental dimension, often overlooked, demands attention, especially as unsustainable coping mechanisms could reverse gains in forest conservation and public health. This article, thus underscores the need for a balanced policy approach that aligns fiscal responsibility with social justice and environmental sustainability. Without inclusive and responsive policy frameworks, subsidy reforms risk exacerbating inequality, fueling public discontent, and undermining the long-term objectives of energy transition and economic resilience in Nigeria.

Keyword: Neoliberal Resource Management, Socio-Environmental, Petroleum Subsidies Removal, Nigerian Households

Introduction

Petroleum subsidies have long been a contentious and politically sensitive issue in Nigeria, the largest oil producer in Africa. Nigeria, Africa's largest oil producer, has historically subsidized petroleum products to protect citizens from global oil price volatility and support domestic consumption. The subsidy regime, however, has evolved into an unsustainable fiscal burden, crowding out investment in infrastructure, health, and education (IMF, 2021; BudgIT, 2022). Thus, the subsidy program was initially introduced to cushion the economic effects of volatile global oil prices and make fuel affordable to citizens. However, over the years, it has evolved into a complex policy challenge riddled with inefficiency, corruption, and fiscal unsustainability (Okonjo-Iweala, 2012; BudgIT, 2021).

In June 2023, the Nigerian government officially removed the long-standing fuel subsidy. Although framed as an economic necessity, the abrupt removal triggered widespread public outcry, inflationary pressures, and heightened energy poverty. In recent years, especially with the mounting fiscal pressures and demands from international financial institutions, the Nigerian government has initiated steps to remove petroleum subsidies. While the removal of subsidies aligns with neoliberal economic prescriptions and potentially frees up government resources, it also has far-reaching consequences for socio-economic welfare and environmental sustainability. This paper explores the socio-environmental implications of this policy through a multi-sectoral lens, focusing particularly on household-level effects, gender disparities, and environmental outcomes.

The history of subsidy reforms in Nigeria is littered with episodes of social unrest and mass protests. The "2012 Occupy Nigeria Movement" is a prominent example where citizens mobilized nationwide against subsidy removal under President Goodluck Jonathan. In 2023, following a fresh round of subsidy withdrawals under President Bola Ahmed Tinubu, there were renewed labor strikes, protests, and political backlash (Al Jazeera, 2023). These reactions underscore the public perception of subsidy removal as a policy that punishes the poor while benefiting the elite. The absence of credible social safety nets, targeted relief measures, and public trust in governance exacerbates these tensions (Obi, 2021).

Rationale for subsidy removal in Nigeria

The rationale for removing petroleum subsidies in Nigeria has been grounded in several critical arguments. Removal of the Petroleum subsidies necessitated by Fiscal Burden Subsidies have constituted a significant drain on public finances. According to the Nigerian National Petroleum Company (NNPC), subsidy payments consumed over ₦4.4 trillion in 2022 alone, more than allocations to education and health combined (NNPC, 2022; IMF, 2023). Also associated corruption and inefficiency in the Petroleum Subsidies Program, has necessitated the removal of these subsidies**.** The opaque nature of the subsidy regime allowed for fraudulent claims, fuel diversion, and smuggling, especially to neighboring countries (NEITI, 2020).

Before the removal of the petroleum subsidies, there were widespread and sustained distortion of Market Signals . For instance, subsidies discouraged investment in the downstream petroleum sector and alternative energy sources, creating inefficiencies and dependency on imported refined products (World Bank, 2021).There were also international pressure which played major roles**.** Multilateral agencies such as the International Monetary Fund (IMF) and World Bank have repeatedly urged Nigeria to eliminate subsidies to ensure macroeconomic stability and attract foreign investment (IMF, 2023).

Socioeconomic effects on households

(i) *Increased cost of living*

The immediate consequence of subsidy removal is the sharp increase in pump prices of Premium Motor Spirit (PMS), commonly known as petrol. As of mid-2023, fuel prices more than tripled in many parts of the country, from ₦185 to over ₦600 per liter (Punch, 2023). This had a cascading effect on transportation costs, food prices, and general inflation, disproportionately affecting low-income households who spend a larger share of their income on energy and transportation (NBS, 2023).

(ii) *Reduced household welfare*

The surge in fuel prices often translates to reduced disposable income for families. Households are compelled to make difficult trade-offs, such as reducing food intake, withdrawing children from school, or forgoing medical care (Adeniran et al., 2022). Rural and peri-urban households, in particular, face harsher realities due to limited access to public transport and reliance on small-scale generators for electricity.

(iii) *Gender dimensions*

Women, particularly in low-income households, bear a disproportionate burden of the economic shocks following subsidy removal. They often manage household energy needs, food provision, and child welfare. The rise in kerosene and transport costs increases domestic hardship,

forcing women into informal labor markets or causing them to rely on less efficient and more polluting cooking fuels (UN Women Nigeria, 2023).

Environmental implications of petroleum subsidies removal in Nigeria

(i) Increased use of biomass and polluting alternatives

Subsidy removal has led to a significant rise in the cost of kerosene and cooking gas (LPG), which are essential domestic fuels. Many low-income households revert to using firewood, charcoal, and other biomass alternatives, which are cheaper but environmentally damaging. This trend accelerates deforestation, air pollution, and exposure to respiratory diseases (Ibitoye, 2013; UNEP, 2022).

(ii) Potential for cleaner energy transition

On a more positive note, the removal of fossil fuel subsidies could encourage investments in renewable energy. Without artificial price distortions, solar and other clean energy options become more economically viable. However, this transition requires robust policy frameworks, financial incentives, and infrastructure development to be effective (IEA, 2022; Energy Commission of Nigeria, 2021).

(iii) Fossil fuel use reduction vs biomass reliance

From a macro-environmental standpoint, subsidy removal may lead to *reduced fossil fuel consumption,* aligning with global climate targets. However, the short-term environmental reality is more complex. In the absence of clean energy alternatives, *many households shifted to wood-based biomass*, contributing to *deforestation, soil degradation, and air pollution* (UNEP, 2021; WHO, 2022). Nigeria already ranks among countries with the highest deforestation rates, and the post-subsidy energy shift exacerbates this trend.

(iv) Indoor air pollution and public health

Household air pollution from burning firewood and charcoal is linked to respiratory illnesses, especially among women and children. WHO (2022) reports that over 98,000 Nigerians die annually from indoor air pollution, and the figure is likely to increase due to biomass dependence triggered by fuel unaffordability.

(v) Emissions and sustainable transition challenges

Although removing subsidies contributes to carbon pricing and emission reduction frameworks under the Paris Agreement, Nigeria's energy infrastructure remains unprepared for a just transition. Less than 60% of the population has access to electricity, and renewable energy accounts for under 10% of total energy consumption (IEA, 2022). Without parallel investments in *solar, wind, and bioenergy*, the environmental benefits of subsidy removal may remain speculative or marginal.

Socio-economic implications of petroleum subsidies and its removal on Nigerian households

Fuel subsidies in Nigeria date back to the late 1970s, justified as a redistributive mechanism for sharing the nation's oil wealth (Chete et al., 2016). Over time, however, these subsidies became a source of economic distortion, corruption, and fiscal leakages. By 2022, Nigeria reportedly spent over *₦4.4 trillion (approx. $9.7 billion)* on subsidies, about 25% of its total budget (World Bank, 2022). Despite this massive spending, the benefits were unevenly distributed. Analyses revealed that only 3% of fuel subsidy benefits reached the poorest 40% of the population, while the wealthiest 20% reaped over 40% of the gains (Adenikinju, 2019; IMF, 2021). Thus, while

ostensibly pro-poor, the subsidy largely served as a regressive economic instrument. In notable ways, it contributed to:-

(i) Increased cost of living

The immediate effect of subsidy removal was a *spike in fuel prices*, rising from around ₦185 per litre to over ₦600 within weeks. This ignited a cost-of-living crisis, affecting transportation, food prices, and essential goods (NBS, 2023). The inflation rate rose to 29.9% in March 2024, with food inflation exceeding 35%, disproportionately affecting low-income households (NBS, 2024). Transportation costs, both for public and private travel, more than doubled, placing significant strain on urban and peri-urban commuters. Since most Nigerian workers rely on informal transport, the shock was immediate and painful (Afolabi & Okonkwo, 2023). The price wars from the completion and operation of the Dangote Refineries, a few Modular Port refineries, and the renovation of the Nigerian National Petroleum Corporation (NNPC) owned and operated refineries

(ii) Energy poverty and livelihood disruption

Fuel scarcity and unaffordability led households to *resort to alternative energy sources*, including kerosene, firewood, and charcoal. The decline in access to affordable energy particularly hit rural and off-grid communities, where energy poverty was already prevalent (Ike et al., 2020). For small businesses and informal sector workers, such as tailors, welders, food vendors—the rising cost of petrol and diesel resulted in either price hikes or business closures. A study by the Centre for the Study of the Economies of Africa (CSEA, 2023) found that over 40% of small-scale enterprises experienced significant operational disruptions within six months of the policy shift.

(iii) Income inequality and poverty

Subsidy removal, though fiscally rational, *aggravated social inequality*. Wealthier households could absorb the shock through energy-efficient technologies or alternate fuels. In contrast, poor households faced trade-offs between food, fuel, and education (World Bank, 2023). An IMF projection in late 2023 estimated that *7–8 million Nigerians* could slip below the poverty line in the absence of compensatory policies (IMF, 2023). This risk is heightened in households headed by women, persons with disabilities, and those in rural or conflict-affected areas.

(iv) Gendered and intra-household impacts

The gender dimensions of fuel subsidy removal are significant. Women, as primary caregivers and energy managers in households, are *disproportionately affected*. The increased time spent sourcing firewood, managing food prices, or adjusting household budgets reduces their productivity and social mobility (Ogundipe et al., 2022). It's logically, assumable, that girls may also be withdrawn from school to assist with domestic chores, especially in poor households, reinforcing intergenerational cycles of poverty and gender disparity (UNICEF, 2023).

The environmental sociology of petroleum subsidies removal in Nigeria

Petroleum subsidies in Nigeria, long defended as a form of economic protectionism and national equity redistribution, have become a fulcrum of environmental and social transformation in recent years. The removal of these subsidies in 2023 represents not merely an economic decision but a profound sociological moment, one that intertwines ecological conditions, class dynamics, institutional trust, and energy culture. From an environmental sociology perspective, this policy shift uncovers the nuanced relationships between human communities, ecological systems, and energy governance. It lays bare the underlying social structures and inequalities that shape the

distribution of environmental benefits and burdens (Mol, 2006; Dunlap & Brulle, 2015). Some of the issues include:-

(i) Historical context and sociological underpinnings

Nigeria's dependence on petroleum dates back to the 1950s, but the subsidy regime became entrenched during the 1970s oil boom, rationalized as a mechanism for equitable wealth distribution in a postcolonial developmental state (Chete et al., 2016). From a sociological standpoint, subsidies were not just economic instruments, but symbols of national entitlement, constructed through state narratives that positioned cheap fuel as a right of citizenship (Watts, 2010; Okeke, 2021). This framing reinforced a "moral economy" of energy, where access to subsidized fuel was normalized as compensation for the state's broader governance failures (Scoones et al., 2015). Consequently, subsidy removal—though fiscally logical—was perceived by many as a breach of the social contract, especially in a context where public services are underfunded and political elites remain largely unaccountable (Akinbode, 2020; BudgIT, 2022).

(ii) Social stratification and environmental risk

The removal of petroleum subsidies reconfigures Nigeria's environmental landscape by reshaping patterns of energy access and exposure to environmental harm. Middle- and upper-income households, often residing in electrified urban zones, can shift to generators or liquefied petroleum gas (LPG) when fuel prices rise. In contrast, lower-income households, particularly in peri-urban and rural areas, resort to biomass, charcoal, firewood, and kerosene, as coping mechanisms (Ike et al., 2020; Ogundipe et al., 2022). This unequal adaptation exacerbates environmental degradation, such as deforestation and air pollution, but it also reinforces class-based disparities in environmental risk exposure.

Environmental sociologists have long emphasized how ecological hazards, like indoor air pollution or deforestation-induced climate vulnerability, disproportionately affect the poor (Bullard, 1993; Martinez-Alier, 2002). In Nigeria, the subsidy removal acts as an environmental "redistributor," pushing marginalized populations toward dirtier and more labor-intensive energy sources. This reinforces what Beck (1992) described as a "risk society," wherein environmental burdens are unequally produced and unequally borne across social lines.

(iii) Gender, energy, and environmental reproduction

Subsidy removal also intensifies gendered divisions of environmental labor, a critical focus in environmental sociology. In many Nigerian households, women are primarily responsible for sourcing energy and managing household consumption. With rising fuel costs, women must spend more time collecting firewood or queuing for alternative fuels, leading to time poverty and reduced access to education or income-generating opportunities (UNICEF, 2023; Ogundipe et al., 2022). This dynamic demonstrates the concept of "environmental reproduction," where gendered labor reproduces both human life and ecological systems under unequal and often exploitative conditions (Rocheleau et al., 1996; Agarwal, 2001).

Moreover, the increased reliance on biomass fuels raises women's exposure to indoor air pollutants, contributing to respiratory ailments and higher mortality risks. WHO (2022) data suggests that over 90,000 Nigerians die annually due to indoor air pollution, with a disproportionate share being women and children. This intersection of gender, environment, and policy unveils how macro-level economic reforms translate into intimate, corporeal vulnerabilities.

(iv) Energy culture, trust, and the politics of transition

Environmental sociology also examines how cultural narratives and institutional trust mediate responses to environmental change. In Nigeria, fuel subsidies were not only economic artifacts but cultural symbols—linked to national identity, everyday survival, and deep skepticism toward the state. Their removal thus triggered a crisis of trust, particularly in the absence of transparent reinvestment mechanisms or effective social safety nets (World Bank, 2023; IMF, 2023).

Citizens' resistance to fuel price hikes, evident in protests and labor strikes, must be understood within the frame of historical environmental injustices. Decades of oil exploitation in the Niger Delta, for instance, have left communities with polluted lands, health crises, and broken promises (Watts, 2010; Okonta & Douglas, 2003). For many, the removal of subsidies feels like another episode of "ecological debt," where the poor continue to pay the environmental and economic costs of resource extraction without compensation or support (Martinez-Alier, 2002).

Environmental governance and structural inertia

The Nigerian state's approach to fuel subsidy removal also exposes the limitations of environmental governance. While the policy aligns with international climate goals—by reducing fossil fuel consumption and aligning with carbon pricing—it fails to account for local socio-environmental complexities (UNEP, 2021; IEA, 2022). Rather than a structured green transition, the withdrawal of subsidies has produced what scholars term "passive environmentalism"—where environmental benefits are incidental, not deliberate, and devoid of social justice orientation (Mol, 2006; Dunlap & Brulle, 2015).

Furthermore, state institutions remain weak in deploying renewable energy infrastructure at scale. Over 40% of Nigerians still lack access to electricity, and renewable energy constitutes less than 10% of national supply (IEA, 2022). Without investment in solar micro-grids, clean cookstoves, and community-based energy systems, the removal of petroleum subsidies may only shift the burden rather than resolve it. Thus, structural inertia within governance systems limits the potential for meaningful environmental transitions, especially for marginalized communities.

Conclusion

The removal of petroleum subsidies in Nigeria, by the Mohammed Buhari's Administration, through the enactment of the Petroleum Act, and its funding removal from the Nigerian Budget, as well as its implementation, during the Senator Ahmed Bola Tinubu's presidential tenure , though contestable, was a long-overdue economic correction. However, its implementation without robust cushioning mechanisms has inflicted socio-economic pain and exacerbated environmental vulnerabilities. Nigerian households, especially the poor, women, and rural dwellers, are caught in the crossfire of fiscal reform and energy insecurity.

Although, the removal of petroleum subsidies in Nigeria is economically rational and environmentally justifiable in the long term, its short-term consequences are deeply felt by ordinary Nigerians, especially the poor. The strains of the petroleum subsidies have been devastating on Nigerians, sending economic activities disruption tsunami-like waves, as far as Niger Republic and Cameroun, which both depend partly on traded Nigerian petroleum resources. The challenge for policymakers lies in balancing fiscal responsibility with social justice and environmental stewardship. Without adequate mitigation strategies, the policy risks deepening inequality, exacerbating energy poverty, and triggering socio-political instability.

Therefore, a comprehensive, transparent, and human-centered approach is imperative to navigate the transition away from subsidies toward a more sustainable and inclusive energy future for Nigeria. Also, stakeholders, led by the governments, at various levels, the legislature, the private sector, and political pressure groups, should synergize, to formulate strategies aimed at assisting households, in meeting at least, their food, medical, transportation and health needs. From an environmental sociological lens, the removal of petroleum subsidies in Nigeria reveals more than just a fiscal policy choice, it illuminates how power, inequality, and institutional trust shape ecological outcomes. This moment of energy reform offers a microcosm of broader dynamics in environmental justice, energy culture, and social reproduction. It compels scholars and policymakers to interrogate who benefits and who bears the cost of ecological change.

Although highly condemned by the majority of Nigerians, due to the widespread hardship, which became devastating, as over the Post-Buhari years, the removal of the petroleum subsidies, was economically wise, given the corruption and the sales of the same resources illegally, mounting local and international debts, and the lack of sincere efforts to renovate local production infrastructures, since this may disrupt existing benefits. But most Nigerians, believe that all these gains can still be squandered, without the expected benefits accruing to the populace. To ensure a just and sustainable energy transition, Nigeria must embed environmental policies within frameworks of social equity, community participation, and historical accountability. Environmental reform without social justice is not only ethically flawed, it is politically fragile and environmentally unsustainable.

Recommendations

(i) To mitigate the negative socio-environmental effects of subsidy removal, a multi-pronged approach is essential:

(ii) Social safety nets such as conditional cash transfers or transportation subsidies can cushion vulnerable households from price shocks (World Bank, 2022).

(iii) Expanding affordable and efficient public transportation systems can reduce the dependence on private vehicles and mitigate transport-related inflation.

(iv) Government support for solar mini-grids, LPG penetration, and energy-efficient cookstoves can promote a just energy transition and reduce environmental degradation.

(v) Public trust in subsidy removal can be enhanced by transparent reinvestment of the saved funds into sectors like education, health, and rural infrastructure (BudgIT, 2021).

(vi) Engaging civil society, labor unions, and community leaders in dialogue around subsidy policy can reduce resistance and foster inclusive policymaking.

(vii) he government should expand cash transfer schemes under the National Social Investment Programme (NSIP) to offset the financial burden on low-income families. These must be digitally transparent, regionally inclusive, and gender-responsive.

(viii) Subsidy removal should be accompanied by investments in decentralized renewable energy—solar mini-grids, efficient cookstoves, and LPG distribution—particularly in rural and underserved regions (SEforALL, 2022).

(ix) Savings from subsidy removal should be visibly reinvested in health, education, and public transportation. Public trust hinges on seeing the economic dividends of reform.

(x) Engaging stakeholders—labor unions, civil society, energy experts—in decision-making fosters legitimacy and buy-in. Nigeria's reform process must align with principles of just transition, ensuring that no community or demographic is left behind (ILO, 2015).

References

Adenikinju, A. (2019). *Energy pricing and subsidy reform in Nigeria*. Energy Policy, 132, 43–51.

Adeniran, A., Onyekwena, C., & Ekeruche, A. M. (2022). *Fuel subsidy removal in Nigeria: Welfare implications and pathways*. Centre for the Study of the Economies of Africa (CSEA).

Afolabi, A., & Okonkwo, E. (2023). *Household responses to energy shocks in post-subsidy Nigeria*. Nigerian Journal of Development Studies, 34(1), 14–37.

Agarwal, B. (2001). *Participatory exclusions, community forestry, and gender: An analysis for South Asia and a conceptual framework*. World Development, 29(10), 1623–1648.

Akinbode, S. O. (2020). *Petroleum subsidy reform and the political economy of trust in Nigeria*. Nigerian Journal of Public Policy, 45(1), 21–39.

Al Jazeera. (2023). *Nigerian workers strike over fuel subsidy removal*. Retrieved from aljazeera.com

Beck, U. (1992). *Risk Society: Towards a New Modernity*. SAGE Publications.

BudgIT. (2021). *Nigeria's Fuel Subsidy Regime: Dilemma of the World's Most Populous Black Nation*. Lagos, Nigeria.

BudgIT. (2022). *Nigeria's Fuel Subsidy in Perspective*. https://yourbudgit.com, (Retrieved on 16-5-2025)

BudgIT. (2022). *Nigeria's 2022 Budget: Fuel Subsidy Insights*. https://yourbudgit.com, (Retrieved on 16-5-2025)

Bullard, R. D. (1993). *Confronting Environmental Racism: Voices from the Grassroots*. South End Press.

Chete, L. N., Adeoti, J. O., Adeyinka, F. M., & Ogundele, O. (2016). *Industrial policy and industrialisation in Nigeria*. Brookings Institution.

Chete, L. N., Adeoti, J. O., Adeyinka, F. M., & Ogundele, O. (2016). *Industrial policy in Nigeria: Opportunities and challenges*. Brookings Institution.

CSEA. (2023). *Macroeconomic impact of fuel subsidy removal on SMEs*. Centre for the Study of the Economies of Africa.

Dunlap, R. E., & Brulle, R. J. (2015). *Climate Change and Society: Sociological Perspectives*. Oxford University Press.

Energy Commission of Nigeria. (2021). *Renewable Energy Master Plan 2021 Update*.

Ibitoye, F. I. (2013). *The challenge of sustainable energy in Nigeria*. Energy, 50, 458–465.

IEA. (2022). *Africa Energy Outlook 2022*. International Energy Agency.

IEA. (2022). *Africa Energy Outlook 2022*. International Energy Agency.

Ike, D. N., Eboh, E. C., & Ogujiuba, K. (2020). *Fuel subsidy removal and energy access in Nigeria*. Energy & Environment, 31(2), 254–271.

Ike, D. N., Eboh, E. C., & Ogujiuba, K. (2020). *Fuel subsidy removal and energy poverty in Nigeria: Environmental and social implications*. Energy Policy, 146, 111799.

ILO. (2015). *Guidelines for a Just Transition towards environmentally sustainable economies and societies for all*. International Labour Organization.

IMF. (2021). *Nigeria: Selected Issues*. IMF Country Report No. 21/173.

IMF. (2023). *Nigeria: Article IV Consultation Report*. International Monetary Fund.

IMF. (2023). *Nigeria: Post-subsidy reform analysis*. IMF Country Review.

IMF. (2023). *Post-subsidy fiscal strategy and poverty impact assessment in Nigeria*. IMF Country Report.

International Energy Agency (IEA). (2022). *Fossil fuel subsidy reform: A crucial element of clean energy transition*.

Martinez-Alier, J. (2002). *The Environmentalism of the Poor: A Study of Ecological Conflicts and Valuation*. Edward Elgar.

Mol, A. P. J. (2006). *Environmental governance in the information age: The emergence of informational governance*. Environment and Planning C, 24(4), 497–514.

National Bureau of Statistics (NBS). (2023). *Inflation Report – August 2023*. Abuja, Nigeria.

NBS. (2023). *Fuel Price Watch and Inflation Report*. National Bureau of Statistics.

NBS. (2024). *Consumer Price Index Report*. Retrieved from https://www.nigerianstat.gov.ng

NEITI. (2020). *Oil and Gas Industry Report*. Nigeria Extractive Industries Transparency Initiative.

Nigerian National Petroleum Company (NNPC). (2022). *Monthly Financial and Operations Report*.

Obi, C. (2021). *Oil subsidy politics and the challenge of reform in Nigeria*. African Affairs, 120(480), 441–462.

Ogundipe, A. A., Folarin, E., & Olayemi, T. (2022). *Gender and energy transition in post-subsidy Nigeria*. African Review of Economics and Finance, 14(2), 89–111.

Ogundipe, A. A., Folarin, E., & Olayemi, T. (2022). *Gender dynamics of energy poverty in Nigeria*. African Review of Economics and Finance, 14(2), 167–183.

Okeke, J. C. (2021). *Fuel subsidies and the cultural politics of energy in Nigeria*. African Affairs, 120(479), 234–257.

Okonjo-Iweala, N. (2012). *Reforming the Unreformable: Lessons from Nigeria*. MIT Press.

Okonta, I., & Douglas, O. (2003). *Where Vultures Feast: Shell, Human Rights, and Oil in the Niger Delta*. Verso Books.

Punch Newspaper. (2023). *Fuel prices surge after subsidy removal*. Lagos, Nigeria.

Rocheleau, D., Thomas-Slayter, B., & Wangari, E. (1996). *Feminist Political Ecology: Global Issues and Local Experience*. Routledge.

Scoones, I., Leach, M., & Newell, P. (2015). *The Politics of Green Transformations*. Routledge.

SEforALL. (2022). *Clean energy for all Nigerians: The Decentralized Energy Strategy*. Sustainable Energy for All.

UN Women Nigeria. (2023). *The Gendered Impact of Energy Access in Nigeria*.

UNEP. (2021). *Fossil fuel subsidies: An obstacle to sustainable development*. United Nations Environment Programme.

UNEP. (2021). *Fossil Fuel Subsidy Reform: The Challenges of a Just Transition*. United Nations Environment Programme.

UNEP. (2022). *Africa Air Quality Report*.

UNICEF. (2023). *Child well-being in the wake of subsidy removal in Nigeria*. Retrieved from https://www.unicef.org/nigeria

UNICEF. (2023). *Fuel subsidy removal and its impact on child and maternal health in Nigeria*. , https://www.unicef.org/nigeria (Retrieved on 16-5-2025)

Watts, M. (2010). *Oil, Development, and the Politics of the Bottom Billion*. Macalester International, 24(1), 65–98.

WHO. (2022). *Household air pollution and health*. World Health Organization.

WHO. (2022). *Indoor Air Pollution and Health*. World Health Organization.

World Bank. (2021). *Nigeria Development Update: Resilience Through Reforms*. Washington D.C.

World Bank. (2022). *Nigeria Development Update: Inflation and Subsidy Fiscal Risks*. World Bank Group.

World Bank. (2022). *Reforming Subsidies for a Better Future*.

World Bank. (2023). *Protecting the Poor During Nigeria's Fuel Subsidy Reform*. Retrieved from https://www.worldbank.org (Retrieved on 16-5-2025)

World Bank. (2023). *Protecting the Poor in a Post-Subsidy Nigeria*. https://www.worldbank.org (Retrieved on 16-5-2025)