



Perspective of Bioresources Conservationist on Impact of Fuel Subsidy Removal Policy on Nigerian Environment

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ABSTRACT: One of the major environmental impact of fuel subsidy removal in Nigeria would be the increased transportation costs, decreased demand and supply for fuels which will reduce carbon emission in Nigeria with a direct impact on fertilizer supply to agricultural production which in-turn will reduce the excess use of fertilizers leading to the production of high quality agricultural products that could earn foreign exchange for the country. Hence, the objective of this paper was to evaluate the viewpoints of bioresources conservationist on the impact of fuel subsidy removal policy on Nigerian environment using appropriate standard techniques to source data and information from Online and library sources. The findings revealed that majority of Nigerians have reverted to environment to source for immediate needs, to balance off high cost of agricultural goods and other necessities of man due to transportation costs from subsidy. The removal has brought great deal in environmental activities with severe impact on the flora and fauna, which would eventually lead to depletion, degradation, loss of species, unsupportive environmental benefits, frequency of harvest without replacement, increase number of people depending on environment. In conclusion, any policy now or future should consider the positive and negative impact on the natural economy, citizen and prepare short and long term amelioration program before pronouncement to reduce over harvest of environment

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Environment derived from the old French word 'environer' - which means to 'surround, encircle, and 'enfold' according to Kumar (2018). Thus, environment denotes conditions in which living and nonliving things co-exist together within define ecosystem. The environment consists of the physical, biological, and cultural elements interrelated discretely, composed and linked with one another without a clear cut distinction. Although the fact still remains man is the greatest influencer of the environment and have put all these interrelated components together to better his lots (Chu and Karr,

2017, Lewkowicz, 2011). The earliest economic growth and developmental ventures by man for example in Nigeria started with the manipulation of the environment in diverse ways, the cultivation of staple food crops to feed, store, sale also to obtain some cash for other needs, and later added with cash crops as trees plantations in an effort to expand production base for export to earn foreign income for further development (Chete *et al.*, 2014). Nigeria witnessed tremendous growth and development as new independent state in the 1960s through regional governments' earnings from the sales of agricultural

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produce from individual regions, and these were solely cocoa (West), rubber and timber (Mid-West), oil palm and cocoa (East), cotton, groundnut, hide and skin (North) to mention a few. In the euphoria of all these huge achievements and successes through agriculture from environment by the then regional governments in Nigeria, the desire to consolidate on gains made, came with the sudden discovery of oil in South-South - Oloibiri in present day Bayelsa State (Okotie, 2018) led to gradual decline of agricultural activities from the environment in Nigeria. Nigeria became large scale oil producing country in 1970s with "oil boom" and therefore oil became the main stay and highest foreign income earner for the country, came with lots of infrastructural developments and living conditions of Nigerians improved tremendously. However, agriculture was relegated to the background till date with no corrective measures in sight to boost agricultural production (Ibeaja *et al.*, 2022; Osabohien *et al.*, 2019).

Oftentimes, government at all levels make use of legislations, policies and laws to stimulate agriculture, economic activities and even protect the environment for the good of the generality of citizens, which may impact on the people and economy positively or negatively.

Policies are set of legislations made or formulated by the government and those entrusted with responsibility at the corridor of power to effect, amend, or frame a problem or concern that have been acknowledged in the political territory by policy makers or sometimes on the larger public as impacting on the peoples' wellbeing and economy (Hassel, 2015). At the inception of this present administration around the middle of 2023, Nigerians were made to face the removal of fuel subsidy policy; and this has brought about enormous change to the entire economic atmosphere of Nigeria and its citizens. There were "sky rocketing" increases in the prices of every items of trade and services in the Nigeria. Fuel subsidy policy removal revealed to all Nigerians the realities of Nigerian economic situation across all sectors, which indeed depended on fuel to thrive and consequently the prices of essential and non-essential goods and services for example: food items, electricity tariffs, transportation fare, cost of transporting farm produce from the farm and other food items to the market, manufactured food items from factories to market, drugs/medicines, school fees both in government and private institutions went higher than before now and to worsen the situation naira and dollar exchange rate became unstable and reaching the highest point for the first time in the history of Nigeria. The exchange rate as at May 2023 before the

present administration was averaged 460.702 (USD/NGN) in May 2023, while a year after with the present administration the exchange rate averaged was 1,505 (USD/NGN) (CBN, 2024). Many Nigerian families including the rich and the poor were made to look inward and make necessary adjustment to accommodate and live up with the realities on ground concerning the policy on fuel subsidy removal. This fuel subsidy policy has driven many families back to the pre-independent age where families depended much on the environment for survival: forest region produce (cassava, yam, cocoyam, cereals, crude oil, oil palm, timber, rubber), savanna region(spices, yam, beans, groundnut, soybean, cereals-millet, guinea corn, maize, rice beniseed) swampy lowland (yam, cocoyam, cereals-corn, rice, spices, vegetables) and other natural resources from the forest e.g. leaves, fruits, honey, bush meat etc., to meet up with the daily need of the family.

Every living thing no matter the size depends on natural resources available within its environment to survive (Malmstrom, 2010) hence, it is an undeniable reality that all organisms must have continuous access to resources obtainable from their environment on a daily bases. Thus, the objective of this study is to examine the impact of fuel policy removal on Nigerian environment based on perspective of a bioresources conservationist.

MATERIALS AND METHOD

Data collection: Data for this paper were collected from observations and listening from people's reactions based on the fuel subsidy removal policy, from the aforementioned groups whom obviously reacted to the sudden hardship experienced by individual, families, cooperate organizations, civil society organizations, NGOs and even the 3 tiers of government in Nigeria in one way or the other as a consequence of the fuel subsidy removal of the federal government, without adequate preparations and consultations with all stakeholders on how to ameliorate the difficulties that were expected to come with the removal on people and economy. This study would make use of observations, listening methods and to also source data and information from Online and library sources to detail this study in line with Kumar (2022), Taherdoost (2021) and Syed, (2016).

RESULTS AND DISCUSSION

Environmental components and man: The environment is the sum totals of biotic and abiotic elements which interact with human beings and are major factor that influences the environment positively or negatively. Environment comprises of all

natural resources provided by nature for all living things (human beings, animals, plants and micro and macro organisms) to sustain themselves on it, for example to exploit, modify, brake down, immediate use and or for further processes, conversion and production within and sustaining the environment (Buongiorno and Chiamonte, 2023). Every effort by man to exploit the environment would either result to positive or negative impact on the available resources and thus bring about a reduction or increase in the environmental biodiversity across all the various ecosystems, which render valuable services and co-existence of man and other lesser members of the ecosystems in the entire environment (Keniger *et al.*, 2013; Saraswati *et al.*, 2024). Environment with its diverse biodiversity found in many different places with species, genetic, and ecosystem diversities across the globe, enhances each other and boost the environment wellbeing where individual species irrespective of their magnitude, nature and shape have a significant role to play in ensuring normal sustainability for all life forms dwelling there. Unarguably, man derives lots of benefits from the environment for example, most of the food crops we eat today came from the selected species domesticated and hybridized, medicines/drugs from higher and lower plants and from microorganisms, wood for construction purposes, all our domesticated animals of today originated from the wild through biotechnological breakthrough, while fossil fuels, coal are from geological past (Gómez-Fernandez *et al.*, 2024; Purugganan, 2019) as products from the environment. Hence the need for the preservation of the environment cannot be ignored, nonetheless; we act now before it becomes too late because of the impact of man on the environment on daily bases for other purposes apart from providing food and shelter. In summary, the environment could be termed as store house actually prepared by nature and kept for all living things to depend on it. It is left for all living things especially man who needs all these biodiversity resources mostly to protect the environment as much by reducing its influences on it. Man needs the environment and its numerous biodiversity for his sustainability according to Naem *et al.*, (2016) and Sandifer *et al.*, (2015).

Protection of the environment through laws, protocols, policies and legislations: Environment consisted of two different ecosystems around the world and it is made up of aquatic and terrestrial ecosystems. The terrestrial contains many of the biodiversity hotspots; places with rich and unusual concentrations of endemic flora and fauna species found in them. These biodiversity hotspots located around the globe are made up of both renewable and

non-renewable components uninterruptedly being under risk due to level of exploitation and destruction of some of these resources which may go into extinction in near future except we take control, place restriction on harvest, conserve and sustain them for continuous use and made available at all times. Several living and non-living things both the strong and the weak are found within the environment, and the environment have natural ways of maintaining balance and bring about cordial relationship and coexistence among them. Among all creation, only man has greater impact on the environment (Chu and Karr, 2017; Shende *et al.*, 2015; Oldfield and Dearing, 2003). The impact caused by man on the environment are diverse and one of such is through population explosion which require clearing more space, the provision of modern facilities to improve the wellbeing, road construction for access roads, places of recreation, schools for learning, health facilities for human beings and lots more have brought about serious demand and threat to the environment consequently leading to more deforestation and over exploitation of some of the natural resources away from their natural place in the environment. The economic situation in Nigeria is not peculiar to Nigerians alone; it is a worldwide phenomenon, in which inflation can only be reduced with the right economic policies across all facets of the world economy beginning from the advanced economics to emerging economics and trickling down to the developing economics. According to United Nations-on sustainable development overview world economic situation and forecasts for 2024, states that food price inflation remains a risky issue, worsening food insecurity and poverty, mostly in unindustrialized countries. An estimated 238 million people experienced acute food insecurity in 2023, an upsurge of 21.6 million from the earlier year (World Bank Group, 2023).

Considering all these circumstances, the environment is always the last point of hope for man's survival which may be either to clear more virgin forest/land for agricultural production of more food items, harvesting of many forest resources like fire wood in place of gas or kerosene, leaves as vegetables due the high cost of those produced locally which are expensive, hunting of animals, harvesting fishes from the water bodies to meet up with daily protein requirement etc. which are consumed by families and some are sold for immediate cash (Polaskya, *et al.*, 2019; Xu *et al.*, 2023). The continuous harvest from the environment unabated, present a serious danger on the sustainability of the flora and fauna for immediate and future use, and also for generations to come. Hence there is need for interventions in several methods to control the harvest; deforestations and

destruction of our natural environment form being completely reduced to nothing as the environment provide benefits to all living things and takes very long duration to rebuild to its original nature. To put checks and balances on the over exploitation of the environment and its natural resources, government of most countries in the world in conjunction with national, international, multinationals and non-governmental organizations (NGOs) advocate for the protection of endemic plants and animals found in an ecosystem from been over harvested either for food, drug/medicine, games, and at times illegal trafficking across boarders and senseless killing for fun which reduces the population and perhaps leads into gradual extinction (IUCN 2023). When these plants and animals are allowed to thrive they provide enormous benefit to human beings for example biological resources, ecosystem services, social and aesthetic benefits and to other inhabitants of the ecosystems, carbon sink and by extension the entire environment (Bizikova, 2011). It was based on these that many environmental, biodiversity and conservation laws were made to guide the harvest, handle or mishandle, and also avert the discharge of different waste materials into the environment especially water from factories as industrial wastes; climate change reduction, maintainable energy, protection of biological diversity and safeguarding of forests, oceans and the soil, for generations (Noroz and Ataei, 2021; Bizikova, 2011; Dupuy, 1991). Some of these advocacies were in forms of conventions or conferences and protocols backed up by United Nations through many of its organs for example: the United Nations Framework Convention on Climate Change (UNFCCC or FCCC) is an global environmental agreement created at the United Nations Conference on Environment and Development (UNCED), casually known as the Earth Summit, held in Rio de Janeiro from June 3 to 14, 1992; and also another historic Protocol was agreed in Kyoto, Japan, on the 11 December 1997 and hence got the name Kyoto Protocol; drawing the attention of the world to decrease the growing concentration of greenhouse gases (GHGs) in Earth's atmosphere, in which UNFCCC put in place the first ever agreement between nations to order country-by country reduction in GHGs.

In 1999, Nigeria formulated policies for the protection of the environment and each of the policy was towards one or several aspect of the environment for its protection and preservation. Nigeria has National Environmental Standards and Regulations Enforcement Agency (NESREA) Act, which empowers the Agency to be responsible for enforcing all environmental laws, guidelines, policies, standards

and regulations in Nigeria, as well as enforcing compliance with provisions of international agreements, protocols, conventions and treaties on the environment to which Nigeria was a signatory.

Attitudinal changes due to the policy removal: The inauguration and acceptance speech broadcast by the elected President and his pronouncement of fuel subsidy policy removal by Federal government as a result of the huge money committed to service it was not sustainable by the government any longer as a major reason for its removal. According to the President elect, the money used to service this fuel subsidy would be deployed to other areas of the economy, infrastructural development and proper funding of education, health, defence etc. The citizens took the announcement of the policy removal with mixed reactions and within few days of its pronouncement, prices of goods and services went "sky rocketed" far more than what was obtained during COVID 19 era of 2019 and 2020 in Nigeria. Since then prices of goods and services have continued to increase every day causing much outburst, pains and reduction in people purchasing power which led to demonstrations in many places across the Nigeria, to call the attention of the government to the fact that the ordinary people who constituted about 90% of the population are suffering due to its policy on fuel subsidy removal and while the government on its own part informed the citizens that the federal government is doing everything possible to ameliorate the suffering of its citizens, although a very hard decision that must be taken by government if we are to move forward as a country.

Most often times government policies can have a significant positive impact directly on the citizens' lives and wellbeing, while sometimes, it could have negative impact on education, healthcare, employment and social welfare and at other times it could affect various aspects of human life, from financial stability to overall well-being of the citizens (Luan and Lin, 2022). With the introduction of this policy, it was observed that most Nigerians social lives were affected as the number of cars plying our roads reduced, unnecessary journeys on weekends, public holidays, wedding and special festivals were also affected as it also reduced, with a new common idea of "send the envelop that is all we are looking forward to", the luxury of using big "cars" have also reduced to a very reasonable extent that people prefer to use smaller vehicles where it is available rather than "big car", the use of motorcycles and many other means of transportations which were left behind as old fashion before now were reintroduced back into the Nigerian system. Making cell phone calls seems to be the order

of the day than to embark on unnecessary journeys as way to save the available resources at hand. This policy removal has caused the citizens to rethink and go back to most of the objects we were used to, but were abounded before now came to front stage again as means to cut down on cost of living and cope with the available resources at disposal of the people.

Every Nigerian citizen through this policy have come to know the extent of damage we have all caused to our national economic and social lives as a people who have so much depended on “everything imported” as been better than “Nigerian made goods and services”, by so doing have rendered all our vibrant and thriving local manufacturing factories go moribund (Jeje *et al.*, 2016).

Nigerian economy depend on the environment which provides staple food crops, cash crops, extractive raw materials, power generation etc., will require government policies that can be followed up adequately, monitored, sustained and with adequate security provided for example to the ordinary farmers across Nigeria to go back to the farms, work and produce the much needed food items to reduce the high cost of essential food materials and ameliorate the hardship faced by Nigerian people at the moment. On the other hand if corrective measures are not put in place, then the resultant effect would be that the environment would be further ruined and impacted negatively because of the rush back to the environment for man survival due to high cost of food and other items that are required daily.

Prices of goods and services changed due to policy removal: Prices of factors of production and incentive which included machines, electricity tariff, locally and foreign sourced raw materials, company taxes, different fuel types to power the machines/generators and move raw material around, finished goods items etc., impacted on the prices of the final products that were purchased along the value chain. The producers have to make profit to pay for all the aforementioned factors of production, salaries and meet up with other statutory obligations to the society and government. Before the pronouncement by the federal government on fuel subsidy removal, the prices of essential and non-essential goods and services were still affordable when compared with what it was immediately after the policy removal (Tables 1-5). In 2023, between March and May, the composite consumer price index (CPI) for that period compared with the same period in 2024 as presented in (Tables 1 and 2) sourced from Nigerian Bureau of Statistics (NBS, 2023 and 2024). In March 2023 compared with March 2024 revealed food (626.7; 877.5) and (2.07%; 3.62%) change

respectively, while for all items index for same period (527.0; 701.9) and (1.86%; 3.02%) change respectively; April 2023 and 2024 food (640.0; 899.5) and (2.13%;2.50%) change respectively, while for all items index (537.0; 718.0) and (1.91%; 2.29%) change respectively, for the May food (654.1; 920) with (2.19%; 2.28%) respectively, while for all items index (547.5; 733.4) and (1.94%; 2.14%) change respectively. In all, the data for same aforementioned periods above revealed increases in food and all items after fuel subsidy removal and also with changes in the electricity tariffs, the fluctuations in Naira Dollar exchange rate of Central bank of Nigeria (CBN, 2023 and 2024), the parallel market prices to a USA Dollar, cost of transportation, and unavailability of enough farm produce into the markets due to insecurity in most farming communities of Nigeria, all have contributed to the high cost of food and all other items across the country. Thus, citizens are now spending more on the same items they purchased one year ago. The immediate impact would be a review of eating habit that will change to locally available food items from the foreign food items that have become so expensive to buy. It has also revealed that most individual and families now source for local food stuffs and make different food items from them to have varieties in their food menu list. In time of food crises with any nation, the people think of making a difference from their situation which leads to innovations according to Newman *et al.*, (2023).

In the months of January to May 2023 and same period in 2024, comparism was made for the price of one liter of kerosene in Naira. It revealed January 2023 and January 2024 (1,153.40; 1329.53), February (1173.89; 1340.94), March (1142.46; 1439.04), April (1160.47; 1439.04), May (1206.05; 1450.35) respectively. In the same period of January to May 2023 and January to May 2024; a comparism for average retailer price in Naira per one kilogram of cooking gas revealed the following January 2023 and January 2024 (917.75; 1027.85), February 2023 and February 2024(920.11; 1230.9), March 2023 and March 2024 (922.10; 1318.32), April 2023 and April 2024(928.45; 1304.32) and May 2023 and May 2024 (813.65; 1483.69). Therefore it revealed that when one by-product price goes up, the other by-products are also inclusively affected. The price increases cuts across all the by-products that are from crude oil. In the case of fuel (PMS) the multiplier effect cut across every goods and services of Man and all the other living elements which depended upon each other on a daily bases, for example animal feed from feed milling factories, farmer to the buyer, feed maker and finally to the animal house involves cost along the value chain. Consequently, the direct effect was felt by all. No

single food item or service was spared untouched because every individual require at least one meal and a service every day to survive (Tables 1-5).

Charcoal is a product from burning wood logs in the absence of oxygen and this comes from the environment and serves as one of the alternatives based on which is affordable and has become popular for use by rural and urban families. Apar from been a source of income both locally and export internationally, the demand has increased locally due

to high cost of kerosene and natural liquefied gas. A bag of unprocessed charcoal is sold between #4000 and #5000, while processed charcoal cost between #7000 and #8000 according to market source. Family who cannot afford either kerosene or liquefied gas, would shift to charcoal for household and commercial use. The impact would be on the environment which has to accommodate more people, who would now join in making charcoal as a means of cooking and source of income and thus increase in the source of wood to make charcoal.

Table 1: Composite Consumer Price Index for food

Month	Year (2023)	%Change	Year (2024)	%Change
	#Price		#Price	
March	626.7	2.07	877.5	3.62
April	640.0	2.13	899.5	2.50
May	654.1	2.19	900.0	2.28

Source: National Bureau of Statistics (NBS), Monthly Report, 2023 and 2024

Table 2: Composite Consumer Price Index for all items

Month	Year (2023)	%Change	Year (2024)	%Change
	#Price		#Price	
March	527	1.86	701.9	3.02
April	537	1.91	718	2.29
May	547.5	1.94	733.4	2.14

Source: National Bureau of Statistics (NBS), Monthly Report, 2023 and 2024

Table 3: Average retail price per liter of Household Kerosene

Month	Year (2023)	Year (2024)
	#Price/L	#Price/L
January	1,153.40	1,329.53
February	1,173.89	1,340.94
March	1,142.46	1,354.49
April	1,160.47	1,439.04
May	1,206.05	1,450.35

Source: National Bureau of Statistics (NBS), Monthly Report, 2023 and 2024

Table 4: Average retail price per liter of Household cooking gas

Month	Year (2023)	Year (2024)
	#Price/L	#Price/L
January	917.75	1,027.85
February	920.11	1,230.9
March	922.10	1,318.32
April	928.45	1,304.32
May	872.14	1,483.69

Source: National Bureau of Statistics (NBS), Monthly Report, 2023 and 2024

Table 5: Average retail price for Petro/L

Month	Year (2023)	Year (2024)
	#Price/L	#Price/L
January	257.12	668.30
February	263.76	679.36
March	264.0	696.79
April	254.06	701.24
May	238.11	769.62

Source: National Bureau of Statistics (NBS), Monthly Report, 2023 and 2024

In short run the demand for charcoal is met due to rise in the number of people that makes charcoal, as the other alternatives like liquefied gas, kerosene and electricity are equally expensive. However, in the long

run the environment is deforested, increase in water erosion, climate change, reduction in biodiversity. We are all witness to climate change which cut across the entire world, if the right polices or legislations are not put in place to regulate and put restriction on the harvest of natural resources from the environment it might cause the extinction of some flora and fauna species in the near future. Before now we used to have bigger trees in the environment, but nowadays due to over logging, destruction of bushes for urbanization which has reduced most of our plants to small trees of about 10-25cm and shrubs less than 10cm in diameter which can be seen from the sizes of wood used for fire wood and charcoal making (Plates 1 and 2).



Plate 1: Heap of fire wood from the forest similar sizes
Source: OGAZIE and EKEKE, 2024



Plate 2: Heap of fire wood from the forest with mixed sizes

Source: Ogazie and Ekeke, 2024

It is when human beings are pushed to wall that best results comes out of human beings because human beings sorts ways of how to get out of the situation they found themselves and armed with innovative ideas which bring out new methods of solving problem at hand (Newman *et al.*, 2023).

Some family basic needs: There are some very basic needs of the family apart from food, housing for accommodation, schools for education and health facilities for treating sick person which are required daily and whose prices changed immediately with the fuel subsidy removal pronouncement. Some of these basic needs cannot be provided by most families due to the high prices attached on them and not to talk about having enough money to provide food on the table. The following items are needed for example: electricity light whose tariffs changed because of subsidy removal by the federal government as huge sum of money were always set aside to upset debts from the use of light, hence removing it would afford the government to divert this fund to other sectors of the economy. Most families cook with electric cooker, liquefied natural gas, kerosene, thus reducing the dependence on the environment for the supply of charcoal and fire woods which were reduced for local use except for export by those who took charcoal making as business and pay taxes to government. With the high prices attached to liquefied gas, kerosene and electricity tariffs, charcoal and fire wood usage became so popular and this encouraged many families and individual back to the environment to source for them. Before the removal of both subsidies on fuel and electricity, the prices on electricity tariff, kerosene price, gas were affordable by urban and the rural populace and made life easy for Nigerians. This actually helped in short and long run on the safeguard of environment and reduced over harvest of natural wealth and its usage. However, the reverse is the situation now with all the removable subsidies set aside by the federal government (Plates 1 and 2, and

Tables 3 and 4). Hospital bills due to increase in the prices of drugs, became serious issue because most drugs were imported from abroad and consultation fees charged by professionals also went high, essential drugs prices for some set of people for example patients with asthma, sickle cell anemia to mention a few also went high and that it affected the health of most people who could not afford to purchase these drugs and it worsened their health conditions. Some patients even switched over to less cheaper drugs and others went back to herbal drugs as an alternative to remain alive with severe effect on their health situation. The resultant effects would be less healthy family members to work for the family and earn enough income to sustain the family. The family is faced with lots of issues and these can result into family breakages, fewer hands in the offices, schools, business centers and even on the farms to plant the crops and harvest them. A family is said to be happy when every member have food to eat, accommodated and clothed coupled with sound mine which is health, then the family can invariability produce what they can eat (Golics *et al.*, 2013; Russell, 2004).

Insecurity in the country: Before the last administration of President Buhari, there had been security breaches across most part of the country and hence this present administration also inherited this same security issues. The security threats to human lives have brought untold hardship on the people who cannot even access their farms from which they obtain their livelihood. Some of the security issues at hand to contend with for example: kidnapping of people on transit, Boko Haram- killing of farmers either in their farms or from farms, unknown gunmen, the agitation of self-rule, ethnic indigenes are often killed and denied occupation of their ancestral homes by cattle herdsmen, women are killed or raped and many other inhuman treatment to fellow human beings in the name of one injustices' to the other which can be settled without all these. Unarguably, agriculture is the largest employer of labour in Nigeria with about 70% engaged in it and down the value chain (Ogbalubi, 2013; Omorogiuwa *et al.*, 2014) to agro-allied industries. Once this farmers are disturbed in any form, it brings about a short full in food production and it is the situation we have found ourselves in Nigeria. Most of the staple food items come from the rural areas where we have more farmers dwelling there with their families. Farmers have to travel long distances away from communities to clear, cultivate, and plant their crop, however, insecurity does not allow them move far, cattle eating up their crops, and the little that is harvested is expensive to transport to the market due to increase in fuel price and this reduces mobility of the farmers with their harvest to the market

consequently not affordable to lots of Nigerian citizens who struggles to work each day to sustain their family or individual. Without tackling insecurity to a point where farmers can resume farming activities fully without fear, the high price of food items from point of production to the market will definitely continue because nobody wants to die for going to the farm to cultivate and plant crops which the farmer is not sure of harvesting at harvest time.

When the citizens are given hundred percent assurance of security over lives and properties, it will encourage farmers to go back and cultivate the land. The effect will be that there would be plenty food in the land and this would force prices to come down irrespective of the price of fuel in the country. When the demand for farm produce is high and met with a corresponding increase in supply of farm produce, provided federal government tackles insecurity, bring about price stability in the economy. At the end the environment benefits due to the safety of life and property because there would be no need to concentrate within neighborhood for farm work but returning back to former land which are far away from the communities.

Increase in homestead gardening activities: Effort to bring down the high prices of farm produce in the markets across the entire country encouraged most families or individual resorted to planting of various types of vegetables, spices and tuberous materials in buckets, bags and even removing some pieces of compound tiles and slabs within homestead for those who stay in urban centers as an innovation. While those who stay in the rural communities make use of unused parcels of land within and around the communities to plant various types of vegetables, cereals, spices, yam, cocoyam and some variety of cassava that can be boiled and eaten like yam for the family. When there are surplus harvests, sales are made for immediate cash to buy other food items from the market which the families cannot provide. It has become a common sight to see individual and groups use the spaces in their work places, markets and plant various crops for example: outskirts of major markets, motor garages, malls, and mechanic workshops with crops such as vegetables, corn, spices like pepper, ginger, turmeric, cassava and yam. These are the new ways of supporting and helping the family, individual and other stake holders in the society to manage the effect of fuel subsidy withdrawal by the government of federal Republic of Nigeria. However, in a state of crisis like the removal of subsidies on some essential provisions like fuel and electricity that cut across all sectors of Nigerian economy which has placed all Nigerians on survival phase, it spur innovation from the people to take drastic measures and work to ameliorate the hardship created by the subsidy

removal according to Kuckertz *et al.*, (2020) and Murray *et al.*, (2010). When every individual or family engages in small farming activity within and around their immediate environment, it helps bring down the prices of the available food items as more would be available for other families or individual who would not have access to such household gardening. The cash that would have been spent on such items is now made available for some other goods and services for the family or individual and that would reduce the hardship of the family and dependence on the environment for all the needed food and other items.

Decrease in arable farmland for crop production: Real large scale farmers don't cultivate arable farmland within their vicinity, rather they go far away into places where they would be able to cultivate large hectares of arable farmland to plant either sole or mixed crops which would be harvested at the end of the cropping season. Ridges or mounds are made with machines or animals mounted with plougher for other farm operations like remolding of ridges, harvesting of crops, and application of other farm input like fertilizer and pesticides. Farmers all over Nigeria are not safe due to insecurity caused by banditry, kidnapers and cattle herdsman who sometimes allow their cows to graze people's farmland and without any due compensation to the crop owners for their damaged or grazed crop, which brings about quarrels, burning down of communities and killings of people. These issues have also significantly contributed to the very high cost of farm produces experienced due to fuel subsidy removal. According to Usman (2022), Ilesanmi and Odefadehan (2022) insecurity have contributed to the shortage of essential food items, the willingness by the farmers to return back to farm is there; but life secured first and then all other things would follow. Thus, the quantity of arable farmland used for crop production has decreased substantially and crop production was also affected because only nearby arable farmland around homestead seems to offer security to life and property due to the presence of native people vigilante and at times the Nigeria armed forces and paramilitary that has their detachments within the troubled communities. Insecurity and depletion in arable farmland sizes and coupled with fuel subsidy removal have significantly contributed to short full experienced by Nigerians and by extension the environment in which this farmers dwell are also impacted due over use and pressure on the land.

Materials obtained directly from environment: Plant life is the aggregate of all the plants growing in an area and as such is the most visible feature of most landscapes, before now acknowledged by the early

Greeks as a way of differentiating one area from another (Box and Fujiwara, 2013). In the same manner, the vegetation also dictates the types of animals found there. Therefore the vegetation which is found in the environment is a combination of flora and fauna species which makes up the biodiversity of the region or country. Vegetation of a country could consist of desert, ice sheets, tundras, grassland and forest (Faber-Langendoen, 2016), while the vegetation of Nigeria consist of forest, desert, savanna grassland, mangrove and desert (Akinsoji *et al.*, 2016). Each of this vegetation zones provides us with different types of supplies to human and other components in the environment. It provide us with the following: vegetables as food item, wood for making fire to cook, wood for home construction, dyes, rope and twine for tying; leaves for wrapping and preserving food items, plant backs, flowers, fruits, leafy twigs for drugs and different types of animals on ground, and different water sources. Insecurity is a very serious and general issue in Nigeria; however, the level and magnitude of insecurity across different places within and outside each state of the federation differ. Where insecurity is not a serious threat to life, provide opportunity to move about freely, the high cost of food items in the market have made families, individual and community members resort to the forest to harvest some vegetables, fire wood, hunt for animals, catch fish from streams, rivers and lakes which normally, all these would have been sourced from the market places and neighborhoods. The high cost of protein rich food items have gone so high and necessitated families or individual search for protein containing materials from the forest to provide the much needed protein in the diet for optimal functioning of the human body (Ogazie *et al.*, 2022, Hamadina *et al.*, 2018). For example from March to May 2023, the consumer price index (CPI) for 1 kg of beef boneless was #2,479.61; #2495.69; #2520.52, while for the same period a year after revealed increases in consumer price index for same 1kg of beef boneless #4,309.16; #4,829.13; #4,712.0.(NBS, 2023 and 2024). For most families and individual, the forests and water bodies at this time of high prices in food items thus provide variety of bush meats since the ones in the market are expensive to procure; it also provide different types of vegetables, leaves, back of trees, roots, flowers and fruits as food and drug for family members. The cost of buying a kilogram of gas, one liter of kerosene or use electricity to cook food in homes will drive many Nigerians to look elsewhere for alternative measures (Tables 3 and 4). All these activities affect the ecosystems and biodiversity of the environment which has a far reaching effect in the short and long run on our environment and its inhabitants according to Bhatt (2022); Sassen and Sheil, (2013). With continuous

exploitation of the resources from the environment will impact it and would reduce the optimal functionality of the ecosystems and endanger the other members in the ecosystems for survival.

Forests deforestation: Climate change as result of global warming, greenhouse effect and others is an ongoing and daily experienced by all both in the developed and less developed countries of the world because of human impact on the environment which keeps increasing daily. For example in Nigeria, virgin forests are cut down on daily bases for farming space, industrial layouts, social amenities, charcoal making for cooking and export, oil exploration activities both in north, south, east and west, laying of industrial pipelines from one location to another by Nigerian national petroleum cooperation (NNPC), etc., impact on the capacity of the forests in the environment on carbon sink (Whitehead, 2011) and decrease in biodiversity production (Archana, 2013).

The encroachment of desert, solid mineral exploitation in the Savanna North of Nigeria and annual fire burning of the bushes which has affected the density, growth and development of Savanna tree species (Smit *et al.*, 2010; Trollope, 2007). However, while efforts are been made to reduce all these impact on the environment through laws, policies, conferences and protocols by regional and international bodies, some actions by human beings still encourages and cause great impact in some indirect ways which we sometimes over look while it is affecting the environment for instance soil nitrogen, phosphorus, calcium and pH, atmospheric CO₂, herbivore, pathogen, and predator densities, disorder regimes and climate (Tilman and Lehman, 2001). When policies are made by government of a country to guide its citizens and those policies seems to impact negatively on the economic wellbeing of citizens in the short term, the resultant effect would be that the citizens would run back to the environment for the immediate need and this might cause far reaching disruption on the environmental relationship with all living and non-elements (Chan *et al.*, 2016). When a policy is made, it is good to consider the immediate effect on the citizens and the economy, the policy should be such that has some immediate amelioration for the citizens on the short run while the long run soothing effect is gradually implemented. It would reduce looking directly or indirectly for immediate and alternative measures of survival and therefore less dependence on the natural resources in the environment, thus reduction in exploitation beyond the ecosystems capacity to regenerate back for continuous use by man. Man and other inhabitants depend on the environment for daily survival and functioning, thus the

environment need to be protected from over used because it would affect man mostly than others members in the environment.

Climate change: The world as a whole has been experiencing climate changes as a result of so many factors introduced by man and those which occurs naturally, but man is a major element that influences the environment more than all the other inhabitants within the environment (Chu & Karr, 2017). Activities of man given the opportunity to conquer and rule the world has impacted so much on the environment in a way that times and seasons in most places have slightly changed or cannot be predicted accurately (Shivanna, 2022). Altogether these activities add huge amount of greenhouse gases to naturally occurring in the atmosphere, in effect, rising greenhouse effect and global warming (Shivanna, 2022). Interestingly, this fuel subsidy removal would encourage more families to go back to agriculture, for cultivation and available nearby forests which would have served as carbon sinks and provide accommodation to other inhabitants; would be affected through the cut down for crop production. With the increasing global population and to mitigate the demand for food from the population increase would require additional land space for residential buildings, factories, roads, schools which would impact heavily on the environment according to Chu and Karr (2017). As a result, all the species, genetic and ecosystem diversities are affected. Increase in climate change also impact on crop production and if not managed would bring about less crop yield or total loss, increase in diseases and pest incident are some of the resultant effects from climate change (Raza *et al.*, 2019). Consequently, the last hope for man's survival in situation of crises of food items is always the environment which provides all that man need on a daily bases, so the environment should be protected so that it can continue to play its vital role in production and support as expected from it.

Environmental degradation: Many parts of Nigeria are already facing serious life threatening difficulties with land degradation caused naturally as a result of landslides or land movement, heavy rain fall, storm, desertification, and sometimes by human activities in search and mining of previous stones or metals especially in the Savanna zones; while the forest and mangrove regions of Nigeria where oil prospecting activities are ongoing destroying forested land and water ecosystems of the mangrove environments (Chu and Karr, 2017; Macaulay, 2014; Ladan, 2004; Tong *et al.*, 2022; Urama and Ozor, 2010). Land degradations due to desert encroachment resulting in wind erosion impact on the vegetation which has made the cattle nomads to move down south in search of

where they can find vegetation for their animals, therefore causing serious conflicts with indigenous land owners because of animals grazing on planted crops. The results of all these have not been good enough for now and may continue if not carefully handled for a lasting solution to it, have affected the cultivation of arable farmlands for food crop production and thus nothing to bring to the market for Nigerians to purchase to feed their families. With fuel subsidy removal by the federal government, people in those areas affected with land degradation, landslides, desert encroachment, and flooding have all abandoned their places of dwelling for areas that are safe hence mounting serious pressure on the new locations in the environment that are safe to accommodate them. Environment manipulations would have to provide all the necessary food and other items needed by the people for survival when they cannot afford the prices of goods and services at the current period (Tables 1-5). Our environment is such that our forests, rivers, oceans and soils provides the entire food we eat, the air we breathe, the water used to irrigate our crops and at homes, and for our wellbeing, pleasure and wealth. All these natural assets are often called the flora and fauna 'natural capital' all found within the environment (Hamilton *et al.*, 2019).

Resources from water: Water as a natural resource within the environment has so much benefits to offer to man and other inhabitants in and around the water sources. It offers man with water to drink and for domestic activities, animals, irrigate crops and provide him with many food items found in the water for example: fish, water snails, crayfish, water turtle, water snakes etc., (Kiliç, 2020), while man takes advantage to trap and kill animals for food that comes to water source for a cool drink any time of day. We have professional fishermen and while some do it as part time activity. With the high cost of food items in the market, this might have informed all to take up fishing as second business to support and meet up with family needs and hence more hands in the sourcing and harvesting of water animals, and would impact on quality and quantity of water resources. It affects the productivity of water components leading to reduction in harvest yield because of the extra hands that have joined the real professional fishermen. Human beings are known to find means of overcoming crises by adoption of new innovative ways when pushed to face realities of life (Abrams, 2020). And coping up with what the removal of fuel and other subsidies has brought on the citizens' economic lives, places serious load on environment as the only means of argument food and other items needed daily. All these at the end would exert great impact on the environment, and if prompt and adequate steps are not taken to reduce

impact on the environment, it would reduce its ability to support man in the first place and then other inhabitants of the environment.

Conclusion: The study revealed that this policy which was put in place for the common good of the government operations, a duty to its citizens which turned out to be counterproductive and caused severe hardship to all in the first year of this present government. Inevitable it was a policy hurriedly put in place without adequate consultations and adequate amelioration programs put in place towards its implementation. Hence, the hardship experienced by the citizens in the areas of transportation because of the high cost of fuel affected every aspect of the society especially on the availability of food items in the market and in effect many Nigerians shifted to farmlands cultivation to meet up with necessary food items which greatly impacted on the environment as more people now depend on it. Thus, this fuel subsidy removal needs further deliberations and more consultations in the near future.

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