Power Sector Reform in Nigeria: Institutional Challenges and Prospects for Effective Performance

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Abstract
The power sector reform in Nigeria is yet to produce the desired result. The privatization of Power Holding Company of Nigeria (PHCN) which is the most integral and visible component of the reform has not improved power supply. Power outage is still persistent and there are no signs that power supply would improve in the nearest future. The failure of privatization to restore efficiency in the power sector and to engender constant electric power has cast doubts on the viability of the policy. This paper probes the failure of privatization to improve power delivery vis-à-vis the position of the privatization advocates who had argued that the transfer of ownership and management of the power sector from government to private investors would not only engender competition and efficiency, but also serve as the antidote to mismanagement and corruption that have been the recurring features of the sector over the years. Using secondary data and qualitative methodology, the paper argues that corruption and inefficiency have persisted in the post-privatization era, and that the power sector reform is deficient because it failed to take cognizance of certain institutional challenges such as the inability of the security agencies to stop vandalisation of power facilities like power cables, transformers, gas pipelines, etc, and acts of sabotage by vested interests like diesel and generator dealers. These challenges are as a result of institutional decay rather than the nature of ownership of the power sector. Hence, privatization alone cannot solve the prevailing power deficit crisis in the country. The paper also argues that the "success" story of deregulation in the telecom sector which is often cited by government officials and privatization advocates to advance privatization policy and which partly informed the privatization of PHCN, would not necessarily replicate in the power sector because of its inherent monopoly. Privatization of PHCN may have removed the national monopoly once enjoyed by NEPA and its successor - PHCN, but it has also created another kind of monopoly – private monopoly. That is to say, privatization only transformed the monopoly, it has not eliminated it. In conclusion, the paper submits that more than any other factor, dysfunctional institutions are mainly responsible for the persistent power crisis in the country. And until these institutional dysfunctions are properly tackled, they will continue to hinder efforts aimed at ensuring effective performance and improved power delivery, irrespective of whether or not the power sector is owned and managed by the government or private investors.

Introduction
Electric power is an inevitable requirement for industrialization. Unfortunately, Nigeria has been suffering from many years of irregular electric power supply. The implications of this have been lack of industrialization and sustainable economic development. Factors such as government ownership, corruption and inadequate generation, transmission and distribution capacities have been adduced to be responsible for the epileptic supply of electricity in the country. In order to tackle these problems, the Nigerian government decided to reform the power sector through privatization under which ownership of power plants, and distribution rights were transferred to private investors who are expected to inject more resources to build new power plants and to increase electricity generation and distribution capacity of the country as soon as possible. The government has also used the success of liberalization policy in the telecom sector as an analogy to imply that the privatization of the power sector would as well be successful (Road Map for Power Sector Reform, 2010).

However, about a decade down the line, the power sector reform has not produced the desired result of constant electric power supply, and there are no signs that it would, in the near future. Corruption, inefficiency and lack of constant power supply are still prevalent in the

power sector despite its privatization. This shows that perhaps the problem of the sector goes beyond privatization and the transfer of ownership from government to private investors. And it appears that the power sector reform is not succeeding mainly because it fails to take into cognizance the fundamental problems of the power industry which are dysfunctional institutions. This paper critically examines the power sector reform in order to highlight the reasons why it has not, and may not yield the desired impact as widely anticipated by some of the stakeholders.

A Brief Overview of the Power Sector in Nigeria

The history of electricity in Nigeria dates back to 1896 when it was first introduced in Lagos (Niger Power Review, 1985:1-6). Later in the 1950s, two bodies - Electricity Corporation of Nigeria (ECN) and Nigerian Dams Authority (NDA) were established by an Act of the Legislative Council to generate and extend electricity to other major cities in Nigeria. While NDA was mandated to explore the hydro-potential in the country through construction of dams for irrigation and electricity generation, the ECN was mandated to transmit electricity generated from such dams to designated areas where it would be used and also to explore other sources of electricity generation such as coal et cetera. At first, electric power was made available only to government buildings and quarters such as European quarters (later Government Reserved Areas, GRAs). This was later extended to non-government households. As the population of Nigeria expanded and there was more need and demand for electricity, the Federal Military Government through Decree No. 24 of April, 1972 merged ECN and NDA to form the National Electric Power Authority, NEPA. Thus NEPA became one of the public corporations in Nigeria and it was empowered to generate, transmit and distribute electricity throughout the Federation in a most commercial and efficient way. Also, under bilateral economic agreements, this mandate has since been expanded to include supply of electricity to other African countries such as Niger Republic, Benin Republic and Togo (Anuforo, 2015). NEPA started operations with only 1 hydro and 3 thermal power stations and these include; Kainji Hydro Power Station, Ijora, Delta and Afam Thermal Power Stations (NEPA, 1998). With the ever-increasing population and the resultant explosion in domestic, commercial and industrial activities, Nigeria has one of the largest electric power demand potentials in Africa. "The availability of viable energy options like low-cost electricity, renewable and alternative energies and others are indispensable to socio-economic development in Nigeria" (Nwankwo, 2013:75).

Although there have been expansion in electricity generation, transmission and distribution capacities in Nigeria (Simbine cited in Onu, 2003), this expansion has not been adequate enough to generate and distribute enough electric power to the ever teeming population. Accordingly, Sambo (cited in Olugbenga, Jumah & Phillips, 2013) argue that for about two decades prior to 1999, there was no significant investment in power infrastructure in Nigeria, hence its current electricity challenges. Also, the inefficiency of NEPA was equally attributed to corruption and mismanagement among some of its staff and political office holders.

Generally, Sub-Saharan Africa has a problem of power deficit and closing this deficit would require a massive increase in power generation capacity up to 300,000MW. This would require a huge investment of about 300 billion dollars by 2020 (International Energy Agency cited in The AFRICAPITALIST, 2014:27). In fact, to understand the power or energy crisis in Africa and how it affects its development, Nigeria provides the best case study. For many years now, the available electricity generation capacity by the Nigerian government has been between 3,000MW and 4,000MW despite annual capital injection into the power sector averaging 2 billion dollars per annum (Presidential Action Committee on Power - PACP,

2010:17). This available generation capacity is of course grossly inadequate for a population of over 150 million people given that even South Africa with a less population (50 million people) has about 40,000MW generation capacity. With this low generation capacity, industrialization cannot take off in Nigeria and even if it does, it cannot be sustained. It is against this background that Roadmap for Power Sector Reform submits that:

> The rule of thumb for any developed industrial nation is that at least 1 gigawatt (i.e. 1,000 megawatts) of electricity generation and consumption is required for every 1 million head of population…Nigeria's per capita electricity consumption is amongst the lowest in the world and far lower than many other African countries. Nigeria's per capita electricity consumption is just 7% of Brazil's and just 3% of South Africa's. Brazil has 100,000MW of grid-based generating capacity for a population of 201 million people. South Africa has 40,000MW of grid-based generating capacity for a population of 50 million people. As at August 2010, the peak generation supplied by Nigeria's PHCN was just 3,804MW for a population of 150 million people (Roadmap for Power Sector Reform, 2010:16).

Moreover, the problem of power generation is not just low generation capacity; there is also the challenge of under-utilization of the installed generation capacity. For instance, the total installed generation capacity of power plants in Nigeria is over 7000MW (see table 1 and table 2 below). However, while national peak demand estimate is 17,720MW, the electricity that is actually generated and made available to consumers fluctuates between 3000MW and 5,000MW. There is also a transmission constraint. The country's current transmission capability is 7,000MW, but the actual operational capability is only 5,500MW (THISDAY, 2016). The implication is that the differential arising from the unused installed capacity is lost. This means a lot for a country that is yet to meet its national energy demand.

Table 1: Hydro Power Plants In Nigeria

Generation station	**Installed capacity**	**Location**
Kainji	760MW	Niger State
Jebba	578MW	Niger State
Shiroro	600MW	Niger State
Zungeru	950MW	Niger State
Total	**2,888MW**	

Source: Adapted from Tallapragada PVSN cited in Olugbenga, Jumah & Philips, 2013

Table 2: Thermal Power Plants In Nigeria

Generation station	**Installed capacity**	**Location**
Egbin	1320MW	Lagos State
Ughelli	912MW	Delta State
Sapele	1020MW	Delta State
Geregu	434MW	Kogi State
Omotosho	335MW	Ondo State
Olorunshogbo	335MW	Ogun State
Afam	726MW	Rivers State
Total	**5,082mw**	

Source: Adapted from Eberhard & Gratwick cited in Olugbenga, Jumah & Philips, 2013

Factors such as insufficient gas supply and dam water to power some of the thermal and hydro power plants to optimum capacity are blamed for this problem of under-utilization of installed generation capacity. The problem of gas supply is mainly caused by the Niger Delta militants' repeated vandalisation of pipelines that supply gas to the power plants. Moreover, apart from the challenge of gas and water supply, other major factors responsible for the under-utilization of generation capacity are: "frequent breakdown of generation plant and equipment because of inadequate repairs and maintenance and inadequate spare parts" (Ifedi cited in Abiola & Adebayo, 2011:2).

Apart from inadequate electricity generation capacity in Nigeria, there is also inefficient transmission networks and distribution infrastructure as well as inadequate human capital to deliver the required services to power consumers (Wurim, 2012). That is to say Nigeria's energy crisis is tripartite – low generation capacity, inadequate transmission lines and ineffective distribution infrastructure. This cuts across almost the entire electricity chain which includes: generation (the upstream), transmission (the midstream), distribution (the downstream) and consumption (see table 3 below). Unfortunately, the electricity chain is never complete and cannot achieve its purpose of powering homes and businesses and facilitating industrialization to stimulate economic development until the generated power gets to the consumers.

Table 3: The Electricity Chain

GENERATION → TRANSMISSION → DISTRIBUTION → CONSUMPTION

Meanwhile, in spite of the availability of huge renewable sources of power such as wind and solar, the government has not been able to fully harness these energy potentials to boost electricity supply in the country (Ubi, 2012). There is no gainsaying that without tapping these renewable energy sources, Nigeria's energy-mix will remain deficient. All these inadequacies in the power sector combined together to cause persistent electric power outages in the country which has continued to hinder not only commercial and industrial production, but also domestic activities.

For over three decades now, the power sector in Nigeria has been negatively affected by the anomalies highlighted above. The power supply in the country has been so unreliable that many households and businesses have resorted to buying and using generators to meet their energy needs. This has social, economic and environmental implications. Apart from the high cost of fuelling these generators, the carbon-monoxide emissions from them constitute danger to human health and also contribute to the depletion of the Ozone layer, and this causes global warming which is responsible for climate change. Moreover, the cost of using generators to run businesses is so high that many small and medium scale enterprises cannot afford it and as such, are closing shops. Even big companies like Michelin, Unilever et cetera are relocating to neighbouring countries like Ghana where power supply is more constant and the cost of doing business is low. The winding up of small businesses and the migration of foreign investments out Nigeria as a result of irregular power supply have continued to increase unemployment in the country and impede its quest for industrialization and economic development.

It was in an attempt to eliminate this inefficiency and to solve the problem of irregular electricity supply that the Federal Government initiated the privatization policy for the power sector hence, the change of NEPA to Power Holding Company of Nigeria (PHCN) in preparation for privatization.

The Privatization Policy in the Power Sector

One of the most noticeable economic changes on the eve of the 20th century was the transition of many countries in several parts of the world from a centrally planned economic system to one that is market oriented (Fafowora, 1998). Suffice it to say that privatization is an integral aspect of this transition which has continued into the 21st century. Privatization has become an integral part of the liberal reforms that are taking place in Africa. Although a Western ideology, African leaders have been compelled to believe and to adopt privatization as the only solution to the problems of corruption, mismanagement, inadequate funding and inefficiency that have characterized public enterprises in the continent over the years. Privatization is a partial or full transfer of government/state ownership and management of public enterprises to private individuals or investors. According to Simbine (2003:111), privatization can be viewed "as a process by which ownership and control of government agencies set up to provide certain public goods and services are transferred to the private sector". Nwoye (cited in Arowolo & Ologunowa (2012), sees privatization as "the transfer of ownership and control of enterprise from the state to the private sector".

Privatization, according to its proponents, would engender efficiency and economic development and eradicate corruption and red tape bureaucracy often associated with government owned corporations. On the other hand, privatization critics are of the view that the policy is a form of neo-colonialism which is being used by the West to further its economic domination of the Third world countries especially those in Africa. They also argue that there is no linkage between privatization and economic efficiency. In other words, there is no proof that privately-owned enterprises are corrupt-free and perform better than public or government-owned enterprises. In consonance with the above view, Arowolo and Ologunowa posit that:

> The twin-problems of mismanagement and corruption encountered by the state-owned corporations constitute the impetus for the recent privatization of those corporations in Nigeria. Private sector seems, however, inseparable from public sector as viable public sector serves as guide for the private sector. It goes on to reason that a decaying public sector would give rise to inefficient private sector. Also, private sector has its own inherent contradictions as privatization in itself is not an antidote to corruption and mismanagement of which the public sector is being accused (Arowolo & Ologunowa, 2012:785).

Etieyibo (2011) argues that even if privatization will bring about some economic benefits, it lacks moral justification because the public enterprises to be privatized are established not for profit maximization, but to render essential services to the citizenry.

Privatization policy in Nigeria dates the back to 1986 Structural Adjustment Programme (SAP), which was initiated and imposed on Nigeria by the World Bank and the International Monetary Fund (IMF) as the only solution to the country's socio-economic stagnation as at then. The policy reforms proposed and prescribed for Nigeria by SAP were embedded in

liberalization and privatization. These include the abolition of subsidies and the commercialization and/or privatization of public enterprises (Eyiuche, 2003). These policy recommendations were adopted and approved by the Council of States in November, 1987. Thus Decree No. 25 of October, 1988 set the stage for privatization in Nigeria. The Decree provided the legal and institutional framework for the planning, organization and implementation of commercialization and privatization programme in the country. It created a body called Technical Committee on Privatization and Commercialization (TCPC) which later metamorphosed to Bureau for Public Enterprises (BPE) charged with a mandate to commercialize and privatize public utilities in Nigeria.

In Nigeria, the power sector is one of the areas where privatization is being experimented with the aim of bridging the energy deficit gap. It is a known fact that the entire Nigerian electricity architecture has been grossly inadequate for decades. In fact, from power generation through transmission to distribution, there is a yawning deficit. It is estimated that about 6000MW of electricity is generated by private individuals using diesel-powered generators and this is twice the average available national-grid capacity of 3000MW. The deficit of constant electricity in Nigeria has been affecting its productive industries and quest for socio-economic development. For instance, for Nigeria to achieve its Vision 20:2020, it requires at least 40,000MW of electricity, and to generate this capacity, it must inject at least 10 billion US dollars annually to improve the entire electricity chain for the next 10 years or more (Roadmap for Power Sector Reform, 2010).

The capital intensive nature of the power sector, coupled with corruption and inefficiency that characterized it over the years, has compelled the Federal Government to privatize it. "The overwhelming aim of power sector privatization is to "ensure that Nigeria has an electricity supply industry…that can meet the needs of its citizens in the 21st Century" (Bureau of Public Enterprises, 2013:7). The formulation of the National Electric Power Policy (NEPP) in 2001 followed by the passing into law of the Electric Power Sector Reform Act, 2005 (EPSRA) laid the foundation for the commencement of the privatization process (EPSRA, 2005). EPSRA provided the legal framework for the metamorphosis of the Nigerian Electricity Power Authority (NEPA) on 30th May, 2005 into a holding company to be known as Power Holding Company of Nigeria (PHCN). The enactment of EPSRA also paved the way for PHCN privatization which is expected to engender competition and efficiency. From then, PHCN became a holding company with subsidiaries registered at the Corporate Affairs Commission (CAC) as private companies. The names of these registered companies for electricity generation, distribution and transmission are listed in the table below:

Table 4: HCN Successor Companies

Generation Companies (Gencos)	**Transmission Company (Transco)**	**Distribution Companies (Discos)**
Kainji Power PLC	Transmission Company of Nigeria (TCN)	Abuja Electricity Distribution PLC
Shiroro Power PLC		Benin Electricity Distribution PLC
Ughelli Power Plc		Eko Electricity Distribution PLC
Sapele Power Plc		Enugu Electricity Distribution PLC
Afam Power Plc		Ibadan Electricity Distribution PLC

Geregu Power Plc		Ikeja Electricity Distribution PLC
		Jos Electricity Distribution PLC
		Kaduna Electricity Distribution PLC
		Kano Electricity Distribution PLC
		Port-Harcourt Electricity Distribution PLC
		Yola Electricity Distribution PLC

Source: Adapted from *Vanguard*, 2006, April 13, p.19

The process of unbundling and "privatizing the successor companies commenced earnestly in 2010 after a suspension of the process in 2007. Consequently, 207 interested parties were shortlisted from the Expression of Interest exercise, with the ultimate emergence of 15 preferred bidders for the successor companies" (Power Reform Roadmap, 2013:24). Apart from Transmission Company of Nigeria (TCN) which is still under government control, both Generation and Distribution Companies were fully privatized in 2013. It is on record that Federal Government made billions of dollars from the sale of PHCN. Thus, according to the *Nation* Newspaper:

> Of the 14 successor companies scheduled for handover, a total of 2,525,824,534 billion US dollars was realised as proceeds. Out of the amount, 1,256,000,000 billion US dollars came from the Distribution Companies (DISCOs) while the Generation Companies (GENCOs) raked in 1,269,824,534 billion dollars (The Nation, 2013:1- 2).

According to the then Minister of Power - Prof. Chinedu Nebo, the Federal Government has given share certificates and licenses to the new owners of the GENCOs and DISCOs. The new investors who received their certificates and licenses include:

1. Mainstream Energy (for Kainji and Jebba Generation Company).
2. North-South (for Shiroro Generation Company).
3. Amperion (for Geregu Generation Company)
4. Transcorp/Woodrock (for Ughelli Generation Company)
5. NEDC/KEPCO (for Egbin Generation Company)
6. Kann Consortium (for Abuja Distribution Company)
7. Viregeo (for Benin Distribution Company)
8. West Power and Gas (for Eko Distribution Company)
9. NEDC/KEPCO (for Ikeja Distribution Company)
10. Sahelian (for Kano Distribution Company)
11. Integrated Energy Distribution and Marketing Company (for both Ibadan an Yola Distribution Companies)
12. 4Power Consortium (for Port-Harcourt Distribution Company)
13. Interstate (for Enugu Distribution Company)
14. Aura Energy (for Jos Distribution Company)

Source: *THISDAY*, 2013, October 1, pp.1 & 8)

It is worthy to note at this juncture that apart from the privatization of PHCN, there were also other good initiatives contained in EPSRA and which were subsequently implemented as part of the power sector reform aimed at boosting power supply in the country. These include: the introduction of Independent Power Producers (IPP) project which allowed private investors and state governments to build and own power plants and to generate power which could be integrated into the national grid to boost power supply and the Rural Electrification Project and the creation of the Nigerian Electricity Regulating Commission (NERC), to ensure proper regulation of the power industry in order to circumvent exploitation of the ordinary consumers by the new owners of the successor companies of PHCN (EPSRA, 2005).

The problem however, is that despite all these good initiatives to ensure the success of the power sector reform, the reform has not produced the desired results. The privatization of PHCN has not solved the problem of gas pipeline and power facilities vandalisation. Neither has it improved power generation, transmission and distribution nor guaranteed constant power supply. The fundamental question then is: why has privatization failed to engender effective power delivery to bridge the power deficit gap? The answer to this question could be located in the decay character of Nigerian institutions. It is this we must now turn to.

Structural/Institutional Challenges versus Effective Power Delivery

It is now over a decade since the introduction of power sector reform in Nigeria and almost half a decade of the privatization of PHCN (with the exception of Transmission Company of Nigeria).Yet, frequent power outage is still prevalent. Privatization has not engendered constant electric power supply in the country, and there are no signs that it would in the nearest future. On the contrary, the privatization policy seems to be producing negative impacts such as job losses, increase in electricity tariffs and over-billing and capitalist monopoly of the power sector. In terms of quality of electricity, Nigeria is ranked 141 out of 148 countries that were surveyed globally, and its citizens still spend about 13 billion dollars on fuel-powered generators (ICRC, CBN, Adam Smith International cited in Angbazo, 2014:6-7). According to FGN statistics, "…power outages cost Nigeria about 3% of its GDP annually…Only about 41% of the population currently has access to electricity; and for that segment of the population, only 30% of its needs are currently met" (African Development Fund, 2013:V).

With the above statistics, it is logical to assert that, despite the reform in the power sector and the ensuing privatization of PHCN, power outages still persist and seem intractable. It would be recalled that prior to privatization, more than half of Nigeria's population did not have access to electricity. The situation has not changed after privatization. Before privatization, Nigeria's available electricity generation capacity was less than 5000MW. This did not change after privatization. Most Nigerians depended on diesel-powered generators prior to privatization. The story is still the same today. Also, prior to privatization, power supply was irregular. After privatization, power supply has even become more irregular. And worst still, without improving on power delivery, the privatized DISCOs have started increasing electricity tariffs for consumers. No wonder the post-privatization era has been characterized with protests which are signs that the policy is not producing the expected positive result. It would be recalled that in the first quarter of 2016, there were nationwide protests in Nigeria disparaging the inefficiency and exploitative activities of the new owners of DISCOs. From the various inscriptions on the placards of the protesters across the length and breadth of Nigeria, one could decipher their anger. Some of the placards read: "We need light not darkness", "No light no pay", "We say no to tariff increase", "Meters are free, do not pay for them", "No more electricity slavery in Nigeria" Increase in tariffs, more hardship for the

people", and so forth (Channels TV News Update, 8 February, 2016). Of course, the increase of electricity tariffs by the privatized DISCOs without improving power supply is exploitation. Also, the DISCOs have failed to install prepaid meters for every electric power consumer in the country, and there are even cases where theyfailed to install prepaid meters for customers who have paid for them (Egbesola cited in Asu, 2016). There is no doubt that the prepaid meters would have mitigated the exploitation of electric power consumers using estimated electric bills which often contain charge for power not consumed. But the action of the DISCOs in the post-privatization era is a continuation of the old order of giving fictitious estimated bills to customers. Collecting money from customers for prepaid meters without supplying them is extortion. Collecting electricity tariffs from customers for power not supplied or consumed is even a bigger corruption.

What all these indicate is that the problem of corruption and ineffective power delivery is beyond the change of ownership which the power sector reform has done through privatization. The major challenge of the power sector is dysfunctional institutions. Certain institutions whose functions are either directly or indirectly necessary for effective power delivery have continuously failed to efficiently perform their functions. For instance, institutions like the Nigerian Police whose primary responsibility is maintenance of law and order as well as internal security of lives and property have failed woefully to protect PHCN facilities like transformers, transmission lines and cables from vandalisation. The same weakness characterizes paramilitary agencies like the Nigerian Security and Civil Defence Corps (NSCDC) which is responsible for the protection of the nation's strategic assets such as gas pipelines and electricity equipment. Privatization cannot make these security agencies to efficiently perform their duties with respect to effective protection of power infrastructure. Also, privatization cannot create a different set of police, or security agents for the new owners of GENCOs and DISCOs. They still have to rely on the old security structure to guard power facilities and gas pipelines. And just like in the pre-privatization era, the security agencies in Nigeria have demonstrated in the post-privatization era that they lack the capability to engage the vandals who even have superior weapons and incentives. The inability of the security agencies, including the Nigerian Military to preempt the recent attacks on gas pipelines by the new militant group – the Niger Delta Avengers, attest to this (Amaize, Oyadongha, Nawbughiogu, Yafugborhi, & Brisibe, 2016). The attacks nearly grounded economic activities in Nigeria as power generation dropped to a record low of 2051MW (see NERC, 2016).

Similarly, the NNPC and Ministry of Water Resources/River Basins Authority have failed to provide enough gas and adequate dam water, respectively, to power some of the existing Thermal and Hydro Power Plants to their installed optimum capacity. We have observed that one of the major problems facing the power sector over the years is vandalism. Problem like inadequate gas supply is often associated with vandalisation of pipelines conveying gas to power plants. Also, external and internal acts of sabotage by vested interests who benefit from the power deficit crisis by importing generators into the country is partly responsible for occasional power losses and power failure. In this regard, Ofoegbu laments that:

> I can understand that occasionally, they [generator sellers] influence the corrupt officials of local distribution networks to make sure that there is periodic power failure so that they can sell their generators (Ofoegbu, 2014:2).

Corroborating this view, Ojo (2016) submits that there is "a school of thought [that] believes the cabal milking the country through importation and sales of generators are behind the vandalism of the gas pipelines". The implication of these decades of institutional decay and weakness is that it hinders efforts towards effective power delivery which in turn continuously impedes the country's quest for impactful economic growth and development. Therefore, the problem of PHCN was not its ownership by the Nigerian Government, but rather the failure of some institutions to effectively perform their functions which are necessary for effective performance of the power sector. These institutional failures are part of the general crisis of character of the Nigerian state. Ever since the state became a source of wealth accumulation and access to state power became an instrument for appropriating the common patrimony (Ake, 1996; Joseph, 1987), the Nigerian elites have deliberately and continuously undermined efficiency in state institutions through politicization and inadequate funding in order to make these institutions susceptible to their whims and caprices. The governing elites' thinking is that, if the state institutions are to be made efficient by equipping them not only with the right people and tools, but also with the right remunerations, these institutions may become so efficient and strong that they would develop resistance to any attempt to use them for the private ends of the elites. This is partly why any reforms that will strengthen state institutions in Nigeria are hardly undertaken religiously. Even when such reforms are initiated by the government they are usually designed to be cosmetic. Thus, they cannot sufficiently remedy those deficiencies that would bring the needed change.

Power sector reform is perhaps a good idea, but from the way it is being implemented, it appears to be one of such cosmetic initiatives of the government, hence the government's attempt to address the problem of power deficit through privatization without recourse to tackling inefficiency in those institutions whose functions affect the performance of the power industry. The fact is that privatization cannot, for instance, make the Police and NSCDC to be efficient and to curtail vandalisation of power installations. Neither can it compel NNPC and other government ministries or agencies to perform their auxiliary but strategic duties diligently. Privatization, no doubt may increase private investments particularly in the area of electricity generation and distribution, but it cannot address the challenge of dysfunctional institutions. And even if the privatization of PHCN will later lead to increased power generation and procurement of more transmission and distribution equipment, there will still be the challenge of evacuating the generated power to the point of distribution, or distributing it when evacuated to consumers because the transmission lines and distribution transformers and cables have been vandalized. Another likely scenario is one in which enough power plants are built as a result of liberalization and the ensuing new investments, but there are no enough gas and dam water to power them to their maximum capacity. That is to say privatization alone cannot solve the problem of irregular power supply in Nigeria. For the power sector reform to succeed, it must take cognizance of these institutional challenges and the Nigerian government must restructure and strengthen these institutions to enable them perform their functions effectively. Perhaps this is why Arowolo and Ologunowa assert that:

> Although there are gains in privatizing public enterprises, such exercise would remain futile if certain measures are not put in place before privatization. It has been discovered that privatized public corporations in Nigeria are not performing better than the way they were, prior to their privatization Arowolo & Ologunowa, 2012:794).

There is no doubt that deregulation has some advantages when well implemented. It also has some disadvantages if not well applied. For example, even in the telecom sector that is often cited as a success story of deregulation, there is a negative side that is usually not acknowledged, that is the privatization of NITEL which was a total failure. Neither NITEL nor its mobile arm – MTEL is efficient today despite their privatization. The Nigerian government is usually quick to mention the affordable and "efficient" communication services brought by the coming of MTN, GLO, AIRTEL and other private telecom companies into the country as the dividends of its market economy driven reforms, but it often fail to also point out the failure of NITEL and some other companies and sectors that have been privatized or deregulated. For instance, the deregulation of the downstream sub-sector of the petroleum industry and the subsequent granting of over 20 licenses to different investors to establish refineries in Nigeria has not yielded any significant result except the recent effort by Dangote Group (one of the beneficiaries of the new licenses) to build one refinery in Lagos. The question is what happened to other licenses? Among other factors, perhaps, institutional bottlenecks such as the realization that the security agencies lack the capability to protect the pipeline infrastructure that would supply crude oil to their refineries after they are built might have prevented the owners of those licenses from utilizing them. This again underscores the crucial role of efficient state institutions to the workings of any kind of economy, including a deregulated economy.

Also, the frequent allusion to the success of deregulation in the telecom sector by senior government officials when issues related to privatization in the power sector are being discussed indicates the government's unilinear understanding and application of the concept of privatization, and by extension, deregulation. In the subsequent sub-section, we shall demonstrate how this unilinear approach is not only misleading but may not achieve the desired objectives.

Liberalization in the Telecom Sector and Privatization in the Power Sector: A Misleading Comparison

Although this paper is about the power sector reform, it is perhaps imperative to interrogate government's usual analogy of the success of telecom's deregulation with the anticipated positive result from the privatization of PHCN. Such interrogation will help us to understand the hypothesis that informed government privatization policy in the power sector and why that supposition is misleading. The government's hypothesis is that just as liberalization policy engendered competition and efficiency in the telecom sector, the privatization of the power sector would produce similar positive effects. This hypothesis could be deduced from the statements (both written and oral) of some former senior government officials at different fora. For instance, in the "Foreword" to Roadmap for Power Sector Reform by President Jonathan, he posited that:

> In the same way that the reforms in the telecommunications sector paved the way for the benefits we all enjoy today, we believe that with diligent implementation and meticulous application of what this Roadmap provides, we will see an end to the chronic electric power supply shortages we know too well, and witness the birth of a modern, efficient, customer focused, private sector driven electricity supply industry (Roadmap for Power Sector Reform, 2010:4).

Similarly, in her book, *Reforming the Unreformable*, the former Minister of Finance and Coordinating Minister of the Economy – Dr. Ngozi Okonjo-Iweala submitted that privatization became inevitable because of corruption, mismanagement, inefficiency and lack of investment that characterized virtually all Nigeria public enterprises. She went further to argue that NITEL for instance, after 50 years of existence and national monopoly could provide only 450,000 land lines to Nigerians as at 1999. However, the situation changed for good in 2001 when the government opened up the telecom sector through deregulation and privatization which led to NCC auctioning three digital mobile licenses to operators Econet (now Airtel), MTN, GLO, and MTEL. This engendered competition and foreign and local investment that produced a dramatic increase of mobile phone lines in Nigeria to 38 million in 2007, and by 2010, the number had more than doubled to 85 million with many Nigerians subscribing to multiple lines, thus making Nigeria the world fastest-growing teledensity country. The Minister concluded that privatization would repeat similar success in other public enterprises such as NEPA which she observed had consistently delivered one of the lowest levels of average per capita electricity production in the world which has compelled most if not all Nigerian manufacturing firms and small and medium size enterprises to resort to back-up generators (Okonjo-Iweala, 2012).

Also, in 2014, the then Minister of Power, Prof. Chinedu Nebo, noted that in terms of efficiency and service delivery the power sector was set to even surpass the success of the telecom sector (Nebo, 2014). Even some public affairs analysts also joined the government privatization euphoria. For example, while arguing that the privatization of PHCN would engender efficiency in the power sector just as it did in the telecom sector, Johnson Eze – a news magazine publisher and analyst, wrote that courtesy of deregulation and privatization, Nigeria now has one of the fastest growing telecom sectors in the world and the benefits are ubiquitous (Eze, 2015).

The presumption of government that informed deregulation and privatization in the power sector is palpably clear from the above submissions, especially from the former Minister of Finance who was part of the deregulation and privatization reform from the beginning and who, with her Harvard and World Bank background, is also believed to be the force behind most of the liberal policies in Nigeria since the inception of the Fourth Republic when she first served as a Minister under President Olusegun Obasanjo. However, we argue that such presumption is not only wrong, but would not produce the expected objective assuming the government is sincere with the policy. Events in the post-privatization era have not only invalidated the government's presumption, but also shown that it is misleading. Privatization has neither engendered competition nor efficiency in the power sector and there is no possibility that the policy will thrive because of the following reasons:

First, the telecom sector and power sector are quite different, thus a policy prescription that worked for the former may not necessarily work or produce the desired result in the latter. Second, unlike the telecom sector where competition can thrive and produce efficiency, competition cannot thrive in the power sector because of its monopolistic nature. In other words, 'competition' in its economic sense or as it applies to the telecom sector in Nigeria cannot be applied to the power sector. It would be recalled that prior to deregulation and privatization of the sector, NITEL enjoyed monopoly because there was no other company in the sector to compete with. The unbundling of the sector through deregulation attracted new investors and companies such as MTN, Glo, Econet (now Airtel) etc. The services offered by these companies are mobile and the medium through which those services get to the consumers is air and it is not geographically limited (this is not possible in the power sector

where the medium is cables which are fixed and geographically bound), and because air is everywhere and accessible too, two or more telecom companies can easily deploy technologies to modulate it into sound waves to enable communication services. Thus, it is possible for two or more telecom companies to have access and provide service to any locality or house in Nigeria and beyond, and subscribers could also stay in the same house or even in the same room and make and receive calls using different networks at the same time. This possibility also brings limitless choice of migration for the consumers since they could switch from MTN to Glo or to any other network of their choice any time any day at a cost which may be lower in some instances. In the ensuing competition for market or customers, the telecom firms tried as much as possible to be efficient in order to attract customers through improved service delivery and low tariff charge.

However, this kind of competition is not feasible in the power sector where electric power distribution is geographically limited, thus making it almost impracticable for more than one electricity firm to operate in the same locality at the same time or for electric power consumers to have alternative power supplier that they can switch over to if they are not satisfied with the services of their current power provider. We shall prove this using the electricity distribution companies (DISCOs) because their services impact directly on electric power supply and consumers. Hence, if there is going to be any competition in the power sector that will bring efficiency and have meaningful impact it must be experienced at the distribution stage.

Electricity distribution in Nigeria is geographically restricted, hence the DISCOs can operate only in their different jurisdictions. For example, Ikeja Electricity Distribution Company (IDC) can only distribute electric power in the neighbourhoods within its domain but it cannot do the same in the domain of EKO Electricity Distribution Company (EDC) and vice versa, even though their domains share the same boundaries. Another reason why competition is not feasible in the power sector is that electricity distribution infrastructures (cables) which serve as the medium through which electric power gets to the consumers are fixed in every neighborhood to the point that every street and, or every house has its own electricity supply cables which can only be used by one DISCO at a time. Consequently, electric power consumers connected to these cables do not have alternative power supply route. The implication is that even if another DISCO wants to supply electric power to that same neighbourhood or house, it cannot because it does not have the needed connections.

The prevailing scenario after privatization is that each of the privatized electricity companies now has a monopoly over a particular locality. For example, Ikeja Electricity Distribution Company supplies electric power to Ikeja area and its environs, and no other DISCO competes with it in its area of operation. In a similar manner, the Enugu Electricity Distribution Company would not have to worry about competition with any other electricity distribution company since it exclusively covers and controls the entire South-East zone. The same thing applies to other electricity distribution companies in their areas of operations. The danger in this arrangement is that it creates geographical monopoly. Thus, each of these companies could render poor services in its domain and even exploit their customers without any fear of losing such customers because there are no other competitors in that domain. No wonder the new owners of DISCOs have begun to exploit Nigerians with increased electricity tariffs even when power supply has not improved. Corroborating this fact, the former National President of NUPENG – Mr. Achese Igwe laments that the "Nigerian electricity consumers are being short-changed, cheated and embarrassed with fraudulent bills when there is no electricity…These fraudulent bills are putting more hardship on the poor who now

have to cough out monies for electricity they don't get" (*Daily Independent* Newspaper, 2014). Acknowledging the failure of privatization to enhance power supply, the Senator representing Kaduna Central Senatorial District, Shehu Sanni, once said that apart from the job loss that accompanied the privatization of PHCN, the policy "has not translated into consistent electric power in our homes, in our offices, in our markets and in our work place" (Sanni, 2015).

Arguably, the power sector reform particularly as it relates to the privatization of PHCN has removed the national monopoly once enjoyed by NEPA and its successor - PHCN, but it has also created another kind of monopoly – private monopoly. The private investors who bought over the assets of PHCN, especially the DISCOs, now enjoy monopoly in those domains where they have service coverage. In other words, each of the DISCOs now enjoy geographical monopoly which means that privatization in the power sector only transformed the existing monopoly, it did not eliminate it.

The truth is that the kind of competition that will yield efficiency by way of improved service and reduction in tariffs cannot thrive in any sector of the economy where there is inherent monopoly like the power sector. Although there is a school of thought which believes that both monopoly and competition run concurrently in Nigeria's power sector, monopoly, yes, but competition, no, because not only is electric power distribution by each DISCO geographically bound, even the wiring infrastructure with which to enable the distribution is domain fixed and not transferrable. If Ikeja DISCO, for instance, cannot supply electric power to Kano residents where Kano DISCO operates, even if it wants to, and vice versa, where then is the competition? The same applies to other DISCOs. The DISCOs may want to compete, but they cannot because they are geographically restricted. The monopolistic nature of the power sector particularly as it relates to power distribution makes it impossible for competition to thrive. Competition is no doubt, desirable in the industry, but it is not practicable. What is practicable though is having strong institutions. And in an industry with a monopolistic nature like the power sector, it is strong institutions that can engender efficiency. That is to say, strong institutions are to the power sector what competition is to the telecom sector. It is only through effective workings of regulatory institutions like NERC and other relevant institutions like the Nigerian Police, NSCDC, NNPC, Ministries of Power and Water Resources etc, that efficiency and improved power delivery can be guaranteed in the Nigerian power sector.

Conclusion and Recommendations

In the final analysis, this paper concludes that it is no longer tenable to argue that privatization is the answer to the power sector crisis since irregular electric power supply has persisted even in the post-privatization era. Problems such as sabotage by diesel generator dealers and vandalisation of electricity generation, transmission and distribution facilities like gas pipelines, power cables, transformers, etc, have also lingered despite privatization. There are no indications that privatization can contain these challenges which have prevailed as a result of institutional decay rather than the nature of ownership of the power sector. Hence, more than any other factor, dysfunctional institutions are mainly responsible for the persistent power failure in Nigeria. And until these institutional dysfunctions are properly addressed, they will continue to hinder any effort aimed at ensuring efficient power delivery irrespective of whether the power sector is owned and managed by the government or private investors.

Based on this fact, the paper, therefore, recommends that the power sector reform should be broadened to take cognizance of, and attempt to address the prevailing institutional

challenges particularly ill-equipped, poorly funded and inefficient security agencies coupled with ineffective NNPC and Ministries of Water Resources and Power, etc. Privatization cannot thrive in the power sector when implemented in isolation as it is presently done. Much as the privatization of the power sector has become inevitable partly because of the blowing wind of globalization and the liberal reforms it foisted on developing countries particularly those in Africa such as Nigeria. This paper suggests that the policy should be implemented with recourse to repositioning and strengthening those institutions whose functions are very necessary for effective power delivery. It is only when the power sector reform is accompanied by the strengthening of relevant institutions to perform their functions effectively that it can yield the expected positive results.

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