



Effects of Erratic Electricity Supply on Socio-Economic Activities of Nigeria: A Study of Kaduna South, Kaduna State, Nigeria (2015-2019)

NASIR TAJUDEEN OMEIZA, BUBA AHMED, PETER PATRICK
Kaduna State University, Nigeria

Abstract. The relatively regular electricity supply that sustains the manufacturing sector, small and medium scale businesses, individuals and the society in the 70s and 80s is now in a state of comatose despite the privatisation, weak electricity infrastructure, lack of maintenance culture, corruption, lack of capacity to distribute the megawatts generated, lack of innovations and total dependence on foreign electricity equipment, inadequate qualified personnel, poor implementation of power sector reform and customer classifications are the causes of the erratic power supply in Nigeria. These problems pose serious threat to the growth and stability of Nigerian power sector. This study investigates the effects of erratic electricity supply on socio-economic activities in Kaduna South Local Government Area of Kaduna State between 2015 and 2019. The study was anchored on Structural Functional Theory. The study relied heavily on primary type of data and also utilised data collected from secondary sources on electricity supply. Frequency table and percentages were adopted for analysis of questionnaire for easy understanding. The study found that erratic power supply has affected socio-economic activities in Kaduna South LGA because small, medium and larger industries in it cannot sustain alternative power using generator due to high cost of fuel hence leaving business and the collapsed textiles industry in the study area culminating in increasing unemployment, poverty, security challenges such as armed robbery, frustration, political thuggery, which have negative effects on individuals, families and the society at large. Hence, the study recommends that government should license more electricity distributors in order to encourage competition for effective service delivery, metre all customers, use technology to detect interconnections and prevent vandalism among others which will go a long way in restoring the lost glory of

power supply in Kaduna South Local Government Area in particular, Kaduna State and Nigeria in general.

Keywords: Socio-economic Activities, Electricity Supply, Unemployment, Insecurity, Poverty, Economic Growth

1. Introduction

Electricity sub-sector is one of the sectors that is capable of stimulating the economy and ensure economic growth in Nigeria hence the development. For several decades, Nigeria has been experiencing epileptic electricity supply and successive governments have tried to stabilise the sector so as to drive the socio-economic growth and development of the country. However, the country is still grappling with unreliable and erratic power supply. It has affected the performance of the industrial sector which is the engine of growth and socio-economic development in Nigeria. This social issue affects all aspects of human endeavours in commerce, industry and households. Therefore, steady power supply in the state should be prioritised and encourage state's march towards economic self-reliance and development. When there is no electricity supply, everything crumbles as everything revolves around it.

Available records have shown that electricity was first generated in 1896 with two megawatts (2 megawatts) of electricity that only supply Lagos in Nigeria. The first electricity company was known as Nigeria Electricity Supply Company (NESC) established in 1929 to distribute electricity, by the year 2000, Federal government came up with a monopoly called the National Electric Power Authority (NEPA) with the sole aim of generating, transmitting and distributing it to the generality of the

Nigerian people. Efforts to reform the electricity sub-sector led to the 2005 power Reform Act and that of 2013 ensures the Power Holding Company of Nigeria (PHCN) and the 18 distribution companies of which Kaduna Electricity Distribution Company is one of them (Ibirogba, 2018).

According to the United States Agency for International Development (USAID) revealed that the power supply currently stands at 5000 megawatts is below the demands of Nigerian socio-economic activities and households which should be at least 12,522 megawatts. It would be recalled that in 2017, Nigeria spent a huge sum of \$5 billion dollars in fueling generating set and this far below the rate of fuel that goes into the independent power supply from companies and households to get things done without public supply because it is not readily available most especially in the afternoon when it is mostly needed across the country. The developed nations utilised various sources of power supply and based on priority in every city or state hence, epileptic electricity supply is alien to them (Cited in Ibirogba, 2018; Yehia, 2018; Nyatumba, 2019).

Kaduna Electricity Distribution Company is one of the 18 companies that bought over the distribution sub-sector when the bid was set to sell the Power Holding Company of Nigeria and also one of the 11 downstream operators in the electricity market in Nigeria. The area covered by it comprises Kaduna, Kebbi, Sokoto and Zamfara States. It has 8 Area Offices and 147 Customer Service Centres across these States with a population of about 490,000 and on average, it receives between 100 and 250 megawatts (16% and 35% respectively) daily as opposed to 600 and 700 megawatts (Muhammad, 2015; Kadunaelectricitypulse, 2018).

The collapse of textiles industry and exit of the numerous viable industries such as Michelin, Dunlop and others from Nigeria has brought about an escalation of the rate of unemployment and in varying degrees affects policies and programmes of the government. It led to high incidence of mass retrenchment of staff, turning thousands of Nigerian workers back to the labour market. This also increased the dependency ratio and the ever increasing population further led to the escalation of crime rate and insecurity coming into play as the saying that an idle mind can easily be taken over by the devil with negative tendencies detrimental to the Nigerian economy. Another corollary effect was increased level of poverty since most of those retrenched were the bread winners in their respective homes. So, poverty immediately set in just as standard of living deteriorated significantly. These

negative impacts of unemployment cuts across economic, social and political life of the nation thus slowing the pace of development of the country (Egwu and Chinwe, 2016; Aremu, 2019).

The insurgency in the country as at 2017, over twenty thousand lives were lost, over two million people were displaced and it also destroyed billions of dollars-worth of individual and government property hence Nigeria was ranked the world's third most terrorised nation after Iraq and Afghanistan (as second and first positions respectively) despite the resources dedicated to fighting insecurity in the country (Hassan, 2017; Zenn, 2017).

From the foregoing, the journal examined the effects of the erratic electricity supply on socio-economic activities in Kaduna South Local Government Area of Kaduna State between 2015 and 2019.

2. Literature Review

2.1 Electricity Supply and Socio-Economic Activities at Global Level

The total net electricity generation in the EU was 2775 Terawatt hours (TWh) in 2019, an increase of 4% compared with the year before (2018). The sources of electricity production vary among the member states. In 2019, in Denmark over half electricity production (57%) came from wind energy, while more than 60% of electricity production in Austria came from hydro power plants. Around 90% of electricity production came from fossil fuels in Malta and Cyprus, while over two thirds (67%) of electricity production came from nuclear power plants in France, followed by 53% in Slovakia. According to Brookings Institute Report (2016) United States of America is able to maintain constant electricity supply with the agreement and construction of pipeline from the Saudi Arabia's main oil fields in Dhahran towards the Mediterranean, allowing the flow of Saudi oil to United States and Europe. It concluded that power play an important role in American industries and defence (Brooking Institute Report, 2016; Europa, 2020). Evidences abound that power cut or erratic power supply is alien in the developed world of Europe and America.

Brazil was able to tackle rural electricity problem with the introduction of electricity for all programme which increased the grid connection from 3 million to 10 million from 2003 to 2008 and with the help of the locals, identifying the areas without power and the Ministry of Mines and Energy, with adequate funds from government (Bezerra, Callegari, Ribas, Lucena,

Pereile, Kaberle, Szklo and Schaeffer, 2017). Africa is plagued with power cut or load shedding which means reducing the number of hours of power supply daily has affected their economies particularly South Africa, hence, the introduction of Azuri's pay-as-you go Solar Technology System, helping Africa to move away from fossil fuel resources. The technology has already been initiated in Tanzania, Kenya, and South Africa among others. Therefore, the renewable energy is fundamental in shaping the future energy landscape of Africa, enhancing residents' quality of life; promoting political stability by offering opportunities for employment and preventing damage to the economy due to power cuts (Adewuyi and Emmanuel, 2018; Yehia, 2018; Nyatumba, 2019, Daily Trust, 2011; Olajide, 2008).

Africa in particular is characterised with erratic power supply because they failed to explore various sources of power supply such as wind, nuclear, solar among others hence the need for the political will to do it in order to create jobs through Small and Medium Scale Enterprises, smooth socio-economic activities generally and reduce the rate of crime in the country.

3. Electricity Supply and Socio-Economic Activities in Nigeria

The National Bureau of Statistics (NBS) stated that in 2015, 20,337.40 Gigawatt hours (GWh) were supplied across Nigeria. This fell by 6.36 per cent in 2016, when 19,044.30 GWh were supplied. Also, it rose in 2017 by 2.04 per cent with 19,432.39 GWh and further rose in 2018 by 10.55 per cent with 21,483.25 GWh. Thus, Benin Electricity Distribution Company (BEDC) recorded the highest number in 2015, while Ibadan Electricity Distribution Company (IBEDC) stood top between 2016 and 2019 (NBS, 2019; NBS, 2020).

This study purposively employed an in-depth interview to determine the effect of electricity supply on Magogo and Lagos economy. It revealed that both high and low income families tend towards the use of generators, make use of lamps, kerosene stove and solar energy while always preparing ahead of eventualities of power outages. They concluded that the way out is to fully implement the power sector reforms to urgently diversify the sources of generating electricity in Nigeria and mitigate the problem of corruption in the sector (Olurode, Ishola and Adebisi, 2018)

This dissertation on privatisation and commercialisation sought to know whether

privatisation of power sector bring sustainable electricity supply among other objectives. The result shows that 75 per cent of the respondents were dissatisfied as they earlier supported privatisation. The reason for the acceptance of privatisation by the respondents according to the author was on the assumptions that it will bring positive impact on the national economic growth and development. In other words, privatisation and commercialisation shall eradicate the bureaucratic monopoly that is embedded in it which strongly is opposition to fasting success but has failed; it concluded (Gasana, 2015). Today, the situation is worse than it is when the research was conducted hence there is a need for the citizens to embrace solar to augment the public power supply.

The power sector reforms between 1999 (2001) and 2019 did not yield meaningful results due to some challenges and adoption of the neo-liberal agenda in total without taking into consideration the nature of indigenous companies and also not carrying along all the stakeholders. The challenges include: foreign exchange rate, issues of currency fluctuation, corruption, transmission from one administration to another and risk of uncertainty in policy direction of successive administration, population explosion, vandalism, costing that did not reflect tariff regime, infrastructure building for generation, transmission and distribution among others. The study further revealed that despite these challenges, the reform yielded positive result particularly the commercialisation of the sector which eases the burden of total subsidy regime in the sector. It concluded that if policy-makers in the country failed to come up with the Nigerian model of neo-liberal policy philosophy, electricity sector policies will continue to fail but a systematic development of same with a law that such policies should not be abandoned by successive government will reduce the consequences of failure of policy hence, they recommended that the dilapidated infrastructure be overhauled and maintained, attract private investment and government should engage policy analysts as consultants to take a critical look at inputs made by international partners in respect of generation, design, implementation and evaluation of policies among other recommendations (Hamza, Esey and Sani, 2020).

4. Electricity Supply and Socio-economic Activities in Kaduna State

Households, most especially rural areas opt for biomass fuels such as wood fuel for their energy consumption due to lack of electricity and poverty.

Wood fuel in Kaduna state is the most highly consumed fuel, together accounting about 1,722,904 t/year consumed per person in the state. The study concluded that the use of biomass, especially wood, for energy generation in this country and Kaduna state in particular is an issue that may not be wished away owing to the vagaries associated with demographic and socio-economic conditions. Therefore, electricity supply should be made constant to save the trees (Zaku, Kabir, Tukur and Jimeto, 2013)

Oil is a major source of energy in Nigeria and the world in general. Being the mainstay of the Nigerian economy, it plays a vital role in shaping the economy, social and political destiny of the country. The study further revealed that Kaduna Refining and Petrochemical Company (KRPC) impacted negatively on the socio-economic parameters such as employment, health, housing, education and land value, thus making the inhabitants of the area blame the refinery for the rising wave in crime within the study area. The positive impact of the refinery on the study area is the increase in businesses and commercial activities hence contributed to better livelihood for many of the inhabitants of the study area. They concluded that the income of inhabitants from the respondents has a significant influence on the socio-economic life of the people in the study area, those earning low income have low educational attainment that could better their lives and contribute to the quality of their living standard hence the need for government to provide jobs and infrastructural facilities to enhance the socio-economic and political activities of the area. This can be achieved if there is a special provision backed by law from both federal government and representatives from that area among other recommendations (Ezra, Blamah and Ezemokwe, 2016).

Kaduna State Government Report (2013), (2016) and Oshodi (2019) revealed the low water supply from the twelve water treatment plants to nine urban centres due to erratic power supply. The distribution network to all the nine urban centres was estimated at 2,553.80km in Kaduna State. The installed capacity of water was 380 million litres per day (mld) of water while the requirement for the urban centres was 540.25 mld. The actual production of water from the twelve water works was 214.8 mld out of the 380 mld installed capacity as at 31st December, 2015 the low production was as a result of erratic power supply and dilapidated equipment.

5. Electricity Supply and Socio-Economic Activities in Kaduna South Local Government Area

The problems hampering small and medium enterprises in Kakuri, Kaduna South is the epileptic electricity supply and other problems which affects the socio-economic activities of the area hence the need for government to provide adequate infrastructural facilities such as reliable power supply and affordable tariff in order to boost industrial activities and create jobs among others (Suleiman, 2017; Adesanmi, 2018).

Nigeria's textile industry collapsed for more than two decades now and over 3 million job losses most especially in Kakuri, Kaduna South as a result of epileptic power supply and other problems. Also, the refusal of government to permit factories to invest in solar energy was another factor, the proposed intervention of 100 billion naira by the Federal Government and partnership with African Development Bank for the revival of it would bring back the once lively socio-economic activities in Kaduna South hence addressing the issue of unemployment, youth restiveness, drug abuse, crime in the area and its environs (Odedokun, 2015).

Power supply in Kaduna South varies from one community to another between 6 to 10 hours, 12 to 24 hours, some experienced voltage fluctuation twice for 2 to 4 hours a day twice in a month and some don't at all hence the majority of the respondents experienced outages. The study concluded that power supply in the area was epileptic and adversely affected every sector of the economy, created an additional strain on the financial burden of the household as they rely on generators as alternative power supply which is more expensive to maintain compared to public electricity supply. Thus, there is a need to inject more funds into the sector; the community should protect power equipments from being vandalised among other recommendations (Aderemi, Folurunsho and Musa, 2017).

6. Theoretical Explanation

The study made use of Functional Structuralism. The Structural Functional Theory or Functionalism emerged on the ideals of the French sociologist Durkheim (1917), he sees structure in terms of solidarity or as a set of relatively stable and patterned relationships of social units, while function is the consequences of social activities which make for adaptation or adjustment of a given structure or its component parts. It emphasised that the society relates through the various social institutions such as

government, law, education, religion, among others, and these working together ensures solidarity and stability. The lives of the people are guided and shaped by social structures which are relatively stable patterns of social behaviour. Each social structure has social functions, or consequences for the operation of society as a whole (Parson, 1951; Merton, 1968; Anosike, 2010).

Another important contributor to the structural functional theory is Parson who argued that for a system to achieve functional imperatives, there should be essential conditions in place for the enduring existence of a system, thus, he developed four-function paradigm to achieve equilibrium hence satisfying the needs of the society. These four functions are adaptation, goal attainment, integration and latency or pattern maintenance and tension management. According to him, the society requires the process of socialisation, the internalisation of social values, and the mechanism of social control so that deviance can be checked (Parson, 1951).

The society is a structure with interrelated parts designed to meet the needs of the people in it and same strive to achieve equilibrium as canvassed by structural functional theorists like Durkheim (1997) and Parson (1951) but not all contributions are inherently good or functional for society, thus, there are acts that have consequences which lesson the adaptation or adjustment of the system. Function here is in terms of the positive contribution of a part to the whole, thus, functions are those contributions or consequences that make for the adaptation or adjustment of a given society. Therefore, for the working of society and its institutions, it is important that all share a set of common values and norms (Merton, 1968).

The structure of the society is different from an organism which can be studied separately from its function. This function involves a structure consisting of a set of relationships among unit entities, the continuity of the structure being maintained by a life-process made up of the activities of the constituent units. Thus, the assumptions states that, there is a necessary condition for survival of a society is a minimal integration of its parts, the concept of function refers to those processes that maintain the necessary integration, and in each society, structural features can be shown to contribute to the maintenance of necessary solidarity. This theory is germane in highlighting the nexus between structural inefficiency, unemployment and security challenges. When a particular structure within the system is inefficient in service delivery, it affects other aspects

of the system hence producing negative consequences (Redcliffe-Brown, 1952; Anosike, 2010).

In sum, Functional Structuralism emphasised on individual's contributions, consensus and order which ensures the stability of the society. The theory tries to enhance one's ability to problem solving and assisting greatly in the performance of complex institutions that make up society hence all structures emerge and exist to perform certain functions. This means that structures can be identified according to certain function and the way it is created plays a crucial role in determining how it functions. Thus, structure consists of certain set or pattern of behaviour and the function of a structure determine its behaviour (Parsons, 1951; Durkheim, 1997; David, 2015).

By application, this structural functional theory explains the nexus between the erratic power supply and the socio-economic challenges that emerged as a result of the former. From the stand point of the arguments of functionalism, it is established that the failure of the Discos (Distribution Companies in Nigeria) to provide constant power supply led to the closure of companies and other businesses went into extinction because they can no longer afford to fuel their generator and government policy disallow them (particularly the textile industry) from using solar power hence the increasing rate of unemployment and security challenges such as armed robbery, political thuggery, frustration among others. This is clearly because, available evidence shows that there is increasing level of unemployment, poverty and insecurity, poor health service delivery among others (Anosike, 2010). The theory has been criticised for being incapable of explaining change and placed much emphasis on closed system and its hierarchy.

7. Methodology

This study has made use of primary and secondary sources of data. Questionnaires were administered in the study area. Similarly, books, Newspapers, journals and instrument materials were used as secondary sources of data. Regular verification and validation of data was done with all inconsistencies checked and resolved with the researcher and research assistants. Frequency tables and percentages were used in analysing the quantitative data obtained through questionnaire.

7.1 Data Presentation and Discussion of Findings

The data gotten from questionnaires administered in the field are presented below using tables. Table 1

consist of the respondents' perception on whether electricity supply in their area in Kaduna South in Kaduna State was erratic in nature, Table 2 constitutes the causes of erratic electricity supply, while Table 3 is on the effects of erratic electricity

supply. The study administered 440 questionnaires with the intent of analysing 400 as the shortfall would fall within the 10 percent (40) added hence 400 questionnaires were analysed.

Table 1: Respondents' Perception on whether electricity supply in their area in Kaduna South in Kaduna State was erratic in nature

Responses	Frequency	Percentage (%)
Yes	375	93.8
No	11	2.8
Indifferent/Not sure	14	3.5
Total	400	100

Source: Field Survey, 2021

Table 1 above shows that 375 (93.8%) of the respondents responded that electricity supply was erratic in the area, 11(2.8%) respondents indicated that electricity was not erratic in the area while 14 (3.5%) of the respondents remain indifferent on the nature of electricity supply in the area. This portrayed that most of the respondents in the study affirmed the erratic electricity supply in the area.

The data in the above table shows that majority of the respondents 375 representing 93.8 who are mostly small, medium, large-scale businesses and households were seriously affected as they cannot maintain the uses of generators as alternative sources of power for their daily consumption. The reviewed literature also supported this as posited by Aderemi, Folorunsho and Musa (2017) who posited that power supply in Kaduna South is epileptic and adversely affected every sector of the economy, creating an additional expenses on the households and business owner while maintaining alternative power supply which is more expensive compared to the public electricity supply.

Table 2: Respondents' Opinions on the causes of erratic power supply in Kaduna South

Responses	Frequency	Percentage
Lack of innovations and total dependence on foreign equipment	26	6.5
Corruption	64	16
Poor implementation of power sector reforms	54	13.5
Lack of capacity to distribute the megawatts generated and poor maintenance culture	65	16.3
All of the above	191	47.8
Total	400	100

Source: Field Survey, 2021

Table 2 above, shows that 26 (6.5%) of the respondents viewed that lack of innovations and total dependence on foreign equipment were the causes of erratic electricity supply in the area, 64 (16%) viewed that corruption was the cause, 54 (13.5%) said that poor implementation of power sector reforms was the cause, 65 (16.3%) responded that lack of capacity to distribute the megawatts generated and poor maintenance culture were the causes of erratic power supply in the area while 191 (47.85%) of the respondents was recorded for lack of innovation and total dependence on foreign electricity equipment, corruption, poor implementation of power reforms and lack of capacity to distribute the megawatts generated and poor maintenance culture all caused the erratic power supply in the area, which represent the majority of the respondents in the study.

The above table revealed that there are several causes of erratic electricity power supply which signifies the all of the above representing 191 (47.85%) and this findings is in line with Anierobi and Ananti (2017) who argued that epileptic power supply are caused by faults, dilapidated infrastructure, lack of qualified personnel to maintain the system. Abdulhadi (2021) a member of Kaduna Electricity Distribution Company Management Staff in charge of Tudun Wada Kaduna South Service Centre, revealed that customers has since 2019 been categorised into bands A,B,C,D and E. customers on tariff A enjoy a minimum of 20 Hours and above of electricity supply while those on Band B,C,D and E enjoy a minimum of 16Hrs,12Hrs,8Hrs and 4Hrs respectively. This is also responsible for the erratic electricity supply in Kaduna South because they are under Band D who are mostly low income earners and their response to payment of electricity bills is lower than A, B and C areas like Danmani,Ungwa Rimi, Kabala Costain respectively among others.

Table 3: Respondents’ Opinions on erratic power supply contributed to the unemployment and security challenges in Kaduna South

Rating Scale	Frequency	Percentage (%)
Strongly agree	201	50.1
Agree	123	30.8
Undecided	14	3.5
Disagree	34	8.5
Strongly Disagree	28	7
Total	400	100

Source: Field Survey, 2021

Table 3 above, 201 (50.1%) of the respondents strongly agreed that erratic power supply contributed to the unemployment and security challenges in Kaduna South Local Government Area, 123 (30.8%) agreed, 14 (3.5%) maintained neutral position, 34 (8.5%) disagreed while 28 (7%) strongly disagreed. This depicted that majority of the respondents strongly agreed that erratic power supply contributed to the unemployment and security challenges in Kaduna South Local Government Area.

Going by the above data, it is generally believed that erratic electricity supply was responsible for the increasing unemployment and security challenges in Kaduna South with 201 respondents representing 50.1%. George and Oseni (2012) posits that lack of constant power supply was responsible for the increasing crime rate in the country ranging from armed robbery, political thuggery, kidnappings and banditry. Hassan (2020) also observed that the moribund textile industry in Kakuri, Kaduna South which threw over three million workers into the labour market was largely responsible for the increasing crime rate in the area and it is a result of epileptic electricity supply.

8. Conclusion and Recommendations

It is evident from the findings of this study that erratic power supply affected the socio-economic activities of Kaduna South thereby resulting in the decrease in the Gross Domestic Product (GDP) and increase in unemployment and security challenges such as armed robbery, political thuggery, pick pockets, frustration, and prostitution among others. This study therefore, recommends that more licenses be given to investors to distribute electricity in order to break the monopoly currently enjoyed by the Kaduna Electricity Distribution Company as it would bring competition and efficiency and effectiveness would set in; every electricity users whether household or business premises should be given their metres to stop the estimated billing system mostly used in the study area today; there is a need to embrace technology by the company in detecting faults, interconnections, monitoring their

transformers and prevent sabotage and customers should pay their bills promptly.

References

Adesanmi, A. (2018). Is FG doing enough to revive textile industry? The Punch Newspaper, March 2. www.punchng.com.

Adewuyi, A.O. and Emmanuel, Z. (2018). *Electricity Outages and Firm Performance Across the Six Geo-Political Zones in Nigeria: The Role of Corruption*. University of Ibadan, Oyo State and Federal University, Wukari, Taraba State, ,Nigeria. Munich Personal RePec archive (MPRA). <https://mpra.ub.uni-muenchen.de/92089>.

Adeyemi, A.I., Folorunsho, J.O. and Musa, I.J. (2017). *Analysis of Public Electricity Demand and Supply in Kaduna South Local Government Area, Kaduna State*. International Journal of Social Sciences. Vol.11, No.2, April-June. PP.168-175.

Anierobi, P. O. and Ananti, J. E. (2017). *Electricity Fault in Power Transmission Line in Nigeria: A Case Study of Enugu-New heaven 132kv transmission Line*. Department of Electrical/Electronic Engineering, Federal Polytechnic, Oko, Anambra State. International Conference on African Political Economy & Development Strategies. www.internationalpolicybrief.org.

Anosike, P. (October 6, 2010). *Ohanaeze task Federal Government on security*. Daily Sun Newspaper, p.8.

Aremu, J.O. (2019). *Epileptic Electric Power Generation and Supply in Nigeria: Causes, Impact and Solution*. Journal of Contemporary Research in Social Sciences, ISSN: 2641-0249, Vol.1, 73-81. Learning Gate Publishers.

Bezerra, B.S.P., Callegari, C.L., Ribas, A., Pereira, P.J., Koberce, A., Szklo, A. and Schaeffer, R. (2017). *The power of light: socio-economic and environmental implications of a rural electrification programme in Brazil*.

- Environmental Research Letters, 12095004.
www.researchgate.net.
- Brookings Institution (2016). *Introduction: An Energy Revolution* (PDF).<https://www.brookings.edu>.
- Daily Trust, Saturday, 17th November (2011). Editorial: *Review of ban on textiles and other goods*.
- David, A.J. (2015). A Dissertation on the Evaluation of the Implementation of Universal Primary Education (UBE) Programme in Primary Schools in Nsukka Educational Zone, Enugu State, pp.58-59.
- Durkheim. E. (1917). *Perspective on Society*.www.courses.lumenlearning.com.
- Durkheim. E. (1997). *Division of Labour in Society*. New York Free Press.
- Egwu, C. and Chinwe, C.N. (2016). *Effects of unemployment in Nigeria: A Way Forward*. Journal of Development Country Studies. ISSN2224-607X. Vol.6, No.6.
- Europa (2020). More electricity in the European Union comes from renewable than from fossil fuels.www.ec.europa.eu.
- Ezra, V.L., Blamah, V.N. and Ezemokwe, L. (2016). *Socio-Economic Impact of the Kaduna Refining and Petrochemical Company (KRPC) on the Rido Area of Kaduna Metropolis*. Journal of Environmental management and safety.www.cepajournal.com.
- Gasana, J.K. (2015). *The Impact of Privatisation and Commercialisation in Public Enterprises in Nigeria: A Study of Kaduna Electricity Distribution Company*. A Research Project at Faculty of Management Sciences, Usmanu Danfodio University, Sokoto for the Award of Masters' Degree in Public Administration (MPA).
- George, E. O. & Oseni, J. E. (2012). The relationship between electricity power and unemployment rates in Nigeria. Australian Journal of Business and Management Research, Vol.2 No.02 [10-19].
- Hamza, K., Esegwu, G.N. and Sani, B. (2020). Interrogating the State, Public Policy and the Electricity Power Sector in Nigeria (1999-2019). Kampala International University Journal of Social Sciences. ISSN:2413-9580:6(2):55-62.
- Hassan, I. (2017). *The Role of Women in Countering Violent Extremism: The Nigerian experience with Boko Haram*. Centre for Democracy in Nigeria. www.accord.za.
- Hassan, J. (2020). Socio-Economic Effects of Moribond Textile Industry on Kaduna South Local Government Area of Kaduna State (2011-2017).
- Ibirogba, E. (2018). *Africa: Solving Nigeria's Electricity Crisis through Alternative Energy Sources*.www.allafrica.com.
- Kaduna Electric Pulse Magazine (2018). Muhammad, "Bills payment: who to blame and who not to", p.22.
- Kaduna State Government (2013). *Kaduna State Development Plan 2014-2018 Summary*.www.sparc-nigeria.com.
- Kaduna State Government (2016). *Kaduna State Water and Sanitation Sector Implementation*
- Merton, R.K. (1968). *Social Theory and Social Structure*.www.faculty.rsu.edu.
- Merton, R.K. (1968). *Social Theory and Social Structure*.www.faculty.rsu.edu.
- Muhammad, G. (2015). *Why Electricity Supply Is Poor in Sokoto, Kebbi and others-* Kaduna Distribution Company. Premium Times, February 16.
- Nyatumba, K. (2019). *Political Stability, Economic Growth, Reliable Power Supply Must be at the top of the winning party's agenda*. Premium Press.www.seifa.co.za.
- Odedokun, D. (2015). *Why Nigeria's Textile Industry Collapse*. DailyTimes Newspaper, 16th March.www.dailytimes.org.
- Olajide, B. (2008). *Power Sector Hiccups: IMF throws hat into the ring*. The Guardian, September 3.
- Olurode, L., Ishola, W. and Adebisi, D. (2018). *Urbanisation and Energy Crisis: The Case of Lagos State*. Department of Sociology and Economics, Faculty of Social Sciences, University of Lagos.
www.hrpub.org.
- Oshodi, L. (2019). *International Development, Urban Infrastructure and Governance*.www.oshlookman.wordpress.com.
- Parsons, T. (1951). *The Social System*. New York, Free Press. P.8.
- Radcliff-Brown, R. A. (1952). *Structure and Function in Primitive Society: Essays and Addresses*. London: Cohen & West.
- Suleiman, M. (2017). *Problems and Prospects of Small and Medium Scale Industries in Kakuri, Kaduna South L.G. A, Kaduna State*. Department of Geography, Faculty of Arts, Management and Social Science, Federal University Gashua, Yobe State. International Conference on African Political Economy & Development Strategies.

- www.internationalpolicybrief.org. Accessed on 19th March, 2020.7:15am.
- Yehia, A. (2018). *Political Aspects of International Electricity Grid Interconnections*. www.sustainabledevelopment.un.org.
- Zaku, S. G., Kabir, A., Tukur, A.A. and Jimento, I. G. (2013). *Wood Fuel Consumption in Nigeria and the Energy ladder: A Review of Fuel Wood Use in Kaduna State*. *Journal of Petroleum Technology and Alternative Fuels*. www.academicjournals.org/JPTF. d
- Zenn, J. (2017). *Demystifying al-Qaida in Nigeria: Cases from Boko Haram's Founding, Launch of Jihad and Suicide Bombings*. www.terrorismanalysist.com.

APPENDIX I



TARIFF REVIEW

NERC Approved Service Based Tariff

From Tuesday, 1st September, 2020, the new Service Reflective Tariff will take effect.

TARIFF BAND	TARIFF CLASS	HOURS OF SUPPLY	TARIFF COST (Per kWh)
Life-line (R1)			N4.00
BAND A	NON-MD	20 hours & above	N56.31
	MD-1	20 hours & above	N61.54
	MD-2	20 hours & above	N66.42
BAND B	NON-MD	16 hours & above	N54.11
	MD-1	16 hours & above	N58.92
	MD-2	16 hours & above	N61.48
BAND C	NON-MD	12 hours & above	N50.10
	MD-1	12 hours & above	N51.25
	MD-2	12 hours & above	N53.81
BAND D*	NON-MD	8 hours & above	N38.47
	MD-1	8 hours & above	N42.90
	MD-2	8 hours & above	N45.28
BAND E*	NON-MD	4 hours & above	N33.80
	MD-1	4 hours & above	N42.90
	MD-2	4 hours & above	N45.28

*Band D and E temporarily frozen

NOTE: The above tariff is from September to December, 2020