



Full Length Research Paper

Impact of Power Sector Reforms on Small Scale Businesses in Cross River State, Nigeria

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This paper gives an overview of the Nigerian power sector and particularly focused on the impact of the power sector reform on small scale businesses in Cross River State. The data generated through the use of structured questionnaire was subjected to descriptive analysis using simple percentages. Thus, it was found that the major challenge confronting small scale businesses in Cross River State is inadequate supply of electricity affecting their business operation and profit. It was also discovered that electricity supply has been relatively good compared to what it was before the reform. However, more improvement is required as most of these small scale businesses still depend on generators to augment their electricity requirement. Conclusively, it was recommended that Cross River State government should take the issue of electricity very serious by constructing more dams and thermal stations to boost the existing supply and above all establish a monitoring team to check the excesses of this distribution company to avoid unnecessary exploitation of the consumers, while recommending education of power users to avoid wastage that may also eat deep into their profits.

Keywords: Small Scale Businesses, National grid, Nigerian power sector, Cross River State, power reform, NIPP, Power Supply.

INTRODUCTION

Economic development thrive more on the availability and reliability of power supply. Since the 17th century, efforts have been made by the successive Nigerian government to promoting economic growth vis-à-vis economic development by focusing on small and medium scale industries (SMIS). The role of small scale businesses in the growth of productive sector of an economy in particular and the economy at large cannot be overemphasized. Hence, adequate generation and supply of electricity form a fundamental economic development concern. Besides serving as an important

element for creating wealth in Nigeria, it is also the nub of operation and thus the stimulator of growth in other sectors of the economy (Wara et al, 2009). In recognizing the important link between the power sector and other sectors, electricity generation and utilization therefore have great impact on a lot of economic activities, and thus the standard of living of people in the country. The preceding assertions therefore explains the most disturbing and frustrating economic development issues affecting small scale businesses in Nigeria particularly since the 1970s, is that of inadequacy of power generation, transmission and distribution in the face of abundant primary sources of energy like tide, natural gas, geothermal, solar, coal, tide, biogas and biomass. This day newspaper (Oct. 27, 2015) opined that before the

privatization of PHCN under the federal government's power sector privatization programme, the sector had experienced many years of neglect resulting from poor management and under-funding. In the same vein, the Nigerian power sector under government control was characterized by lack of sustained investment, infrastructural decay, government's monopoly, poor funding, corruption and insufficient competent workforce due to poor technical depth.

According to the Cross River State Electrification Agency (2014), since 1999, the government has embarked on an aggressive agenda aimed at electrifying all communities in the state. So far, about 80 per cent coverage has been achieved. Presently, the state government is embarking on power generation and distribution expansion program aimed at increasing power generating capacity and availability of power to consumers in the state to complement the Federal Government efforts. This will go a long way in boosting small and medium scale businesses in the state and as well as attract more foreign investors.

Cross River State, one of the 36 states (including federal capital territory, Abuja) which lie between longitudes 7° 50' and 9° 28' east and latitudes 4° 28' and 6° 55' north of the Greenwich Meridian within the West Africa tropical rain forest belt. The State has boundaries with Akwa-Ibom State to the South West, Benue State to the North, Ebonyi and Abia States to the West, Cameroon to the East, and Atlantic Ocean South of the state. The state is located in the Cross River basin with a total land mass of 53,855km² from which 9750km² lies in Cameroon and 44,105km² in Nigeria. Cross River is characterized by low lying undulating topography with quite a large area of extensive flood plains along the coast of Cross River and its tributaries. The state has a total land mass of 23,074km², with a population of 3.2million people (2006, population census) and an estimated population density of twenty (20) persons per km². The State capital of Cross River State is Calabar and has an estimated population of 473,000million people (2006, population census). The state is made up of 193wards and 18 Local Government councils (Cross River State Investment Promotion Bureau, 2015, 2009). In spite of all these efforts, there is no research paper that captures the impact of this power sector reform on small scale businesses in Cross River State. The objective of this paper therefore is to give an overview of the Nigerian power sector and its reform generally and specifically examine the impact of the Cross River State Power Sector Reform on small scale businesses in this state. The other part of the paper is structured as follows: section two represents the literature and the methodology to be used in the conduct of the study. Data analysis is done in section three while section four represents the concluding parts of the study.

Conceptual Framework

Pre-liberalization Framework

The Nigerian power sector has a long history, spanning over 12 decades since 1896 when a 20MW capacity power generator was installed by the British colonial government in Ijora area of Lagos under the Public Works Department (PWD) (This day live October 4, 2012). In 1929 Europeans established the Nigeria Electricity Supply Company (NESCO) as a power utility company leading to the construction of a hydro-electric power station at Kuru, near Jos. Thus, the British colonial administration later installed more generators in Ibadan, Kano, Kaduna and Enugu still under the PWD. Unfortunately, electricity supply during this period was limited to government quarters and homes of prominent people alone.

The establishment of Electricity Corporation of Nigeria (ECN) in 1950 saw to the supply of electric power to all Nigerians who could afford electricity bills. This was followed by the construction of the premier 132KV transmission line from Ijora in Lagos to Ibadan (this day live Oct. 4, 2012). After the Nigerian independence in 1960 and the growing demand for electricity in the country, the Niger Dams Authority (NDA) was formed in 1962 to manage the development and management of Hydro-Power stations given the vast water resource of the nation. The electricity generated by the NDA was franchised to Electricity Corporation of Nigeria (ECN) for distribution and sales at utility voltages. Other bodies like the Nigerian Electricity Supply Company (NESCO) and Native Authorities had the license to generate electricity in few parts of the Nigeria. In 1968, Kainji Hydroelectric Power Station was commissioned. The dam which is one of the longest in the world was commissioned by Gen Yakubu Gowon in February, 1969 and has been supplying power to Nigerians since then. The operations of ECN and NDA were fused in an entirely new company called the NEPA ('National Electric Power Authority') in 1972. This was a complete vertically integrated monopolistic utility company to be responsible for generating, transmitting and distributing power in Nigeria.

First Phase of Power Reform: In 1980, the Nigerian power sector witnessed a major change with the introduction of the privatization and commercialization decree No.25. The main objective was to privatize and commercialize state owned entities. The decree created the Technical Committee on Privatization and Commercialization (TCPC) as secretariat for the implementation of the privatization reform. Its functions included, inter alia, review of the activities of state-owned entities including NEPA. After some deliberation, the TCPC discovered that the failures of these entities was a result of misuse of monopoly powers, mismanagement,

and corruption, and therefore recommended the commercialization of NEPA. The Act mandated the creation of a commercial and self-accounting authority of NEPA with the responsibility of developing and maintaining an efficient, coordinated and reasonably priced system of electric power generation, transmission, distribution and supply in Nigeria. The Bureau of Public Enterprises (BPE) was created to replace TCPC after the promulgation of the Public Enterprises Act of 1999. In 1999, the Act comprising Privatization and the Commercialization granted the Bureau authority to move emphasis away from commercialization to privatization in order to stimulate private-domestic investors, and attract FDI (foreign direct investment) in the program.

Liberalization of the Nigerian Power Sector

Despite the reforms discussed in the preceding sections of this paper, the Nigerian electric power sector still continues to face inadequate electric power supply. The vandalization and stealing of power equipments by hoodlums has always been a big challenge, but mindful of the necessity of power supply to economic growth, the Nigerian Government in 1999 embarked on a study on how to transform the power sector. In March, 2001 the study gave birth to the adoption of National Electric Power Policy (NEPP). The policy objectives of NEPP are: to make sure that power sector attract more private investment from within and abroad, to draft a new electricity law to serve as a legal framework for implementing the reform agenda, to develop an wholesale electricity market, to establish an independent regulatory agency, to establish a Rural Electrification Agency (REA) that will manage the Rural Electrification Fund, and to establish a consumer assistance fund that will ensure an efficient and target use of subsidies to the less privilege Nigerians (National Council on Power, 2014).

The 2005 Nigeria Power Sector Reform Act

Recognizing the need for a complete overhaul of the electricity power sector and in pursuant of NEPP agenda, an all-inclusive Electricity Bill was enacted in 2005, replacing all the existing Acts governing the country's power sector. The enactment of the Nigeria's Electric Power Sector Reform Act in August 8, 2005 (EPSR) created an entirely new regulatory and legal framework for the power sector. The major provisions of the Act are as the follows: to establish Power Holding Company of Nigeria (PHCN) to take over the staff, assets and the liabilities of NEPA, To Unbundle PHCN into successor companies and also ensure high operational independence, to develop the electricity market, to

privatize successor companies and therefore empowers the Bureau of Private Enterprise to take up this responsibility, to Create Nigeria Electricity Regulatory Commission (NERC), to establish the Rural Electrification Agency and Fund that will provide access to electricity to the rural areas as well as fund rural electrification projects, respectively, and to Setup Power Consumer Assistance Fund to narrow the funding gap for those who could not afford electricity bills especially the low income earners.

The EPSR provides for an investment-friendly atmosphere for prospective investors in the electric power sector by transforming the integrated structure of the sector into vertically unbundled segments: Generation, Transmission and Distribution. The legislation envisioned a phase shift in the reform process, and providing the necessary basis for future reforms in the country. As part of the process, a wider mandate for power market regulation was also established (Electric Power Sector Reform Act, 2005).

Regulatory Framework

The Nigerian Electricity Regulatory Commission (NERC) is the only regulatory body in-charge of Nigeria's power sector. This body was established as an independent and self-funding regulator to carry out both the economic and technical regulation of the country's power sector. The commission is made up of a chairperson and vice chairperson selected from among seven (7) commissioners. Some of the functions and powers of NERC include: promote competition and private sector participation, ensure efficient, safe and adequate production of electricity, protect consumers and the public interest, ensure orderly development of competitive power market, evolve stable and equitable rates that is cost reflective and reasonable profit margin, ensure expansion of access to rural and urban dwellers, Evolve standards and codes that measure with international best practice, settle disputes amongst industry participants, and establish and administer the Consumer Assistance Fund for subsidizing less privileged consumer. The commission's price regulation is structured in pursuant to the Multi-Year Tariff Order ("MYTO"). This is a 15 year tariff path for the Nigerian power sector with minimal reviews annually according to prescribed criterion such as exchange rate, inflation and gas prices. The NERC regulation also mandates significant reviews after five (5) years meant to put into consideration important inputs from all stakeholders particularly the investors.

Nigerian Electricity Power Sector Capacity Output

Electricity power is crucial to economic growth, and the

Table 1 hydro Power Stations In Nigeria

S/N	NAME OF COMPANY	GENERATION	YEAR COMMISSIONED	PLACE LOCATED	INSTALLED CAPACITY(MW)	AVAILABLE CAPACITY(MW)
1	Kainji/Jebba Plc-Jebba Power Station	Hydroelectric	1985	Jebba, Niger State	540	450
2	Kainji/Jebba Plc-Kainji Power Station	Hydroelectric	1968	Kainji, Niger State	760	480
3	Shiroro Hydroelectric Plc		1989	Shiroro, Niger State	600	450
				Total	1900	1380

Source: Bureau of Public Enterprise, 2009

Table 2 Thermal Power Station in Nigeria

S/N	NAME OF COMPANY	GENERATION	YEAR COMMISSIONED	PLACE LOCATED	INSTALLED CAPACITY (MW)	AVAILABLE CAPACITY(MW)
1	Afam (IV-V) Power Plc		1963	Afam, Rivers State	726	60
2	Calabar Thermal Power Station		1934	Calabar, Cross River State	6.6	562
3	Delta Power Plc		1966	Ughelli, Delta State	900	300
4	Egbin Power Plc		1986	Egbin, Lagos State	1320	1100
5	Geregu Power Plc		2007	Geregu, Kogi State	414	276
6	Oji River Power Station		1956	Oji River, Achi-Enugu State	30	10
7	Olorunsogo Power Plc		2008	Olorunsogo, Ogun State	304	76
8	Omosho Power Plc		2007	Omosho, Ondo State	304	76
9	Sapele Power Plc		1978	Sapele, Delta State	1020	90
				Total	50024.6	1988

Source Bureau of Public Enterprise, 2009

expansion of the Nigerian economy will rely heavily on the availability of quality infrastructural facilities, including electricity. In 2008, Nigeria's electric power generation was 7,011.6 MW, out of which 72.9 was thermal and 27.1 per cent hydro power. The PHCN was responsible for 85.3 per cent of total power generation while Independent Power Projects (IPPs) generated the remaining 14.7 per cent. The total electric power consumption capacity of Nigeria was 2,108MW per hour (Electric Power Sector Reform Act, 2005). Estimated capacity available from Nigeria's national grid is approximately 3,200MW and could only meet approximately one third of the estimated current demand for electric power from the grid (BPE, 2009). In 2009, the demand for electric power supply in Nigeria was projected to more than twice in the next ten years and even larger supply gap will be experienced in the nearest future if the government does not intervene in the electricity market and important reform carried out in

the power sector (BPE, 2009). Nigeria's current electricity generation is from hydro and gas-fired power plants. Most of these power facilities are owned by state governments, although some private individuals have been able to establish Independent Power Projects (IPPs) due to the recent power reform. The tables above show Nigeria's current electric power generation facilities.

According to the Bureau of Public Enterprises (BPE, 2009), Nigeria has installed electricity generating capacity of 8644MW from which 6905MW is owned by government. However, the population of Nigeria has risen to over 150 million people in the last two decades, with GDP growth rate of 6.65 per cent. During this period, Nigeria's power generating capacity stagnated. The aforementioned factors in addition to inadequate maintenance of existing electric power facilities especially the stations, gave rise to serious power generation shortage. Also, due to legislation, states who have been

Table 3 Independent Power Stations

S/N	NAME OF POWER PLANT	POWER	PLACE LOCATED	INSTALLED CAPACITY(MW)	AVAILABLE CAPACITY(MW)
1	AES Power Station		Egbin, Lagos State	224	224
2	AGIP-Okpai Station	Power	Okpai, Delta State	480	480
3	ASG-Ibom Station	Power	Uyo, Akwa-Ibom State	155	76
4	RSG-Omoku Station	Power	Omoku, Rivers State	150	30
5	RSG-Trans Power Station	Amadi	Port-Harcourt, Rivers State	100	24
6	Shell-Afam VI Station	Power	Afam, Rivers State	650	650
			Total	1759	1484

Source Bureau of Public Enterprise, 2009

able to build independent power plants cannot supply electricity to consumers as the constitution only empowers them to generate alone.

An Overview of Power Generation in Nigeria

Nigeria's electric power sector is divided into the following categories (Roadmap for Power Sector Reform, 2010).

Federal Government of Nigeria power generating outlets

These include hydro and thermal power stations owned and funded by the FGN.

Independent Power Projects

These are non federal government funded power investment in Nigeria.

The National Integrated Power Projects (NIPP)

These are jointly owned and funded by the Federal, State, and Local Governments. Some of these amenities are still under construction and will be operated by contracts (maintenance and operation contract to private individuals).

Table 1 shows the hydro power stations in Nigeria, their locations, installed capacity and the available capacity. The total installed capacity is 1900MW and the available capacity is 1380MW. This means that there is a shortage of 520MW.

Table 2 shows all the Federal Government thermal power stations, where they are located, installed and

available capacity. It is shown that Nigeria has a total of 50024.6MW capacity of thermal power generation which is far higher than the available capacity of 1988MW. This implies a shortage of 48036.6MW of electricity.

Table 3 shows the non federal government funded power generating facilities in Nigeria and their various capacities. It is also evidence that these facilities are generating electricity below capacity. Their total capacity is 1759MW while their available capacity is 1484MW which connote a deviation from the actual.

Table 4 shows the distribution of the National Integrated Power Projects in Nigeria, their locations, designed capacity and current capacity. Thus, it is seen that only 3 of all the power projects proposed under the NIPPs arrangement has started operation with a combine current capacity of 2464.5MW which is far less than the intended capacity of 5003MW.

Cross River State Experience

Ndem et al (2013) in his study on the "Overview of Electricity Power Development Gaps in Cross River State, Nigeria" opined that the increasing power gap between availability and the demand for power from the National grid to the state has encouraged extensive private generation of electric power by businesses and households. They also believed that the power situation in the state is the worst because it solely depends on neighboring states for electricity supply which is not adequately supplied because of ill-maintained electricity distribution facilities. The only government owned electricity generating facility in the state is the Calabar Thermal Power Station which has an installed capacity of 6.5MW but only generating 4.4MW of electric power to the national grid (Ndem et al, 2013). Cross River State Electrification Agency in August, 2014 wrote a

Table 4 National Integrated Power Projects (Nipp)

S/N	NAME OF POWER PLANT	PLACE LOCATED	DESIGNED CAPACITY(MW)	CURRENT CAPACITY(MW)
1	Alaoji Power Project	Alaoji, Abia State	1074	250
2	Calabar Power Project	Calabar-Cross River State	632	250
3	Egbema Power Project	Egbema, Imo State	338	0
4	Gbarain Power Project	Gbarain, Bayelsa State	225	0
5	Geregu-phase-2 Project	Geregu, Kogi State	434	290
6	Ihovbor Power Project	Ihovbor, Edo State	450	337.5
7	Olorunsogo-phase-2 Project	Olorunsogo, Ogun State	750	625
8	Omoku Power Project	Omoku, Rivers State	150	0
9	Omotosho-phase-2 Project	Omotosho, Ondo State	500	375
10	Sapele Power Project	Sapele, Delta State	450	337
		Total	5003	2464.5

Source The scoop (2013) and Bureau of Public Enterprise, 2009

memorandum to the Ministry of Power presented at the 1st National Council on Power (NACOP) on Renewable Energy and Rural Electrification stating that the government is embarking on massive electrification of communities in the state. That the mode for electrification of these communities is largely by grid extension of existing Public Power Distribution Networks with little in-road made in the deployment of solar and biogas electrification systems in public institutions such as health facilities, schools and a few communities with difficult terrains.

The state government in collaboration with other sister states in the zone initiated major institutional power reforms aimed at improving electric power supply to the state. These include: Developing a partnership with the private sector to participate in the privatization of Port-Harcourt Power Distribution Company, establishing an SPV-Paradise Power Limited to develop a captive 26MW power plant and associated distribution network to supply electricity to the new development cluster in Calabar, providing support to the private sector in the development of 4MW solar plant in the Ranch Communities of Obudu as well as establishment of 10-15MW solar farm in the central and northern senatorial districts of the state for which discussions are ongoing, and investing in demand side energy management wherein the state government through the State Electrification Agency has embarked on the replacement of incandescent light bulbs with LED lighting systems.

Presently, the government is embarking on power generation and distribution expansion program aimed at increasing power generating capacity and availability of power to consumers in the state to complement the Federal Government's effort. While the state government is leveraging on the advantage of availability of the East Horizon gas pipeline to Calabar to generate power, it is also exploring the development of its vast renewable sources at its waterfalls in Agbokim, Obanliku and Kwa falls for additional power generation. The feasibility

studies for solar, wind and small Hydro-power Energy have been undertaken at the various sites chosen.

Empirical Literature

Small scale business started gaining eminence in Nigeria in the 1970s when several individual enterprises started springing up (Osotimehin et al, 2012). The Central Bank of Nigeria in 1989 gave a guideline to financial institutions as to what a small and medium scale business should look like for the purpose of granting them credit, though commercial banks still find it difficult to grant credit facilities to the small businesses CBN opined that SMEs are those enterprises with an annual turnover that is between ₦100,000 to ₦150,000 with employees not more than 50, and asset base (excluding real estate) of not less than ₦1 million. Small scale businesses are small in nature either in terms of the number of employees which are not more than 10 persons at most (Lawal, 1995) as cited in Iduu, (2012). Examples of small scale businesses in Nigeria may include: barbing and hair salon; electronic repair shops; business centers; welding outlet; food vendors and the likes. According to George and Oseni (2012) as cited by Barros, Ibiwoye and Managi, (2011) opined that statistics has shown that small scale businesses including large scale businesses are the biggest employers of labor in Nigeria. They are of the view that one of the most important factors militating against SMEs in the Nigerian business environment is the cost of generating electricity from personal generators because of the insufficient supply of electricity from the national grid. This has increased the cost of operation and as well as impact on the prices of goods and services they render. Thus, this has led to excessive reliance on foreign goods to meet the increasing domestic demand.

World Bank research (1993) as cited by Iduu (2012), estimated the adoptive cost of electric outage on the

Table 5 Data Presentation Question and Response of the Respondents

S/N	QUESTION	RESPONSE 1	RESPONSE 2	RESPONSE 3	Total
1	Line of business	Manufacturing 26 (30.23%)	Service 45(52.35%)	Trade 15 (17.44%)	100%
2	Number of employees	Less than 10 59(68.61%)	10-50 27(31.39%)	Above 50 Nil	100%
3	Capital Invested	Less than N50,000 61(70.93%)	N50,000-N100,000 20(23.26%)	Above N100,00 15(17.44%)	100%
4	Monthly Turnover	Less than N100,000 50(58.14%)	N100,000- N500,000 31(36.05%)	Above N500.000 5(5.81%)	100%
5	Duration of business	Less than 5 years 47(54.65%)	5-10 years 39(45.35%)	Above 10 years Nil	100%
6	Electricity Needs	Low 6(6.98%)	Medium 41(47.67%)	High 39(45.35%)	100%
7	Experience with power outage	Less frequent 4(4.65%)	Frequent 56(65.12%)	Most frequent 26(30.23%)	100%
8	Cost of generator as % of total investment	5% 25(29.07%)	6-10% 43(50%)	Above 10% 18(20.93)	100%
9	Cost of generator as proportion of investment in equipment	20-29% 61(70.93%)	30-50% 25(29.07%)	Above 50% Nil	100%
10	Length of managerial experience	Less than 5 years 22(25.58%)	6-10 years 49(56.98%)	Above 10 years 15(17.44%)	100%
11	Monthly electricity bill	Less than N1000 19(22.09%)	N1000-N5000 54(62.79%)	Above N5000 13(15.12%)	100%
12	Monthly expenditure on fuelling and maintaining generator	Less than N5000 15(17.44%)	N5000-N10,000 60(69.77%)	Above N10,000 11(12.79%)	100%
13	Number of days without power in a month	5-10 days 30(34.88%)	11-15days 49(56.98%)	Above 16days 7(8.14%)	100%
14	How can you rate the current electricity supply	Bad 63(73.26%)	Fairly Good 23(26.74%)	Good Nil	100%

Source: Researchers Survey (2016) as adopted by Ahmed and Mallo, 2015.

Nigerian economy to be as high as 310 million US dollars divided between consumers backup capacity (25 million US dollars), operating and maintenance cost on diesel powered generators (90 million US dollars), fuel and lubrication (50 million US dollars). Consequently, the impact of the unreliable power supply in the Nigerian economy is enormous. The factors affecting electricity supply in Nigeria are weather, water level, social texture and fire coal of current, vandalization of electricity installations and improper maintenance culture (Udhedu, 1993) as cited by Iduu, (2012).

From the literature reviewed, it is evidence that they all concentrated on the impact of inadequate power supply on small scale businesses in Nigeria without looking at the impact of the recent power sector reform on power supply and its multiplier effect on small scale businesses in Nigeria and in Cross River State to be specific.

METHODOLOGY AND DATA ANALYSIS

The research survey on the existing small scale businesses in Cross River State falls into the following categories: manufacturing; service provision and trading. The research survey attempts to ask these small scale business operators of their experiences with the inadequate power supply and its impact on their business operation. From the population of small scale businesses in Cross River State, sample was drawn using the simple random sampling technique. The research generates primary data through the use of structured questionnaire personally distributed to the respondents by the researchers. This research technique was used because of its suitability in describing the present predicament of small scale business operators.

The questionnaire contains questions on the general

information of the business (such as the number of employees of the business, turnover, sectoral classification among others), respondent's experience with power failures, and respondent's satisfaction with the current power supply. Other important items captured on the questionnaires include the estimate of the costs of power supply deficiency on the respondents' business operation and the pattern adopted to augment the inadequacy as employed by Adenikinju (2005), Lee and Anas (1998), Rennika and Svensen (2002) and cited by Ahmed and Mallo, (2015). The primary data collected was subjected to descriptive analysis using simple percentages because of its simplicity in describing the current predicament of small scale business operators in Cross River State. A total of 100 questions were administered to small scale businesses in Calabar Metropolis out of which 86 were retrieved.

The table above represents descriptive data about the sampled small scale businesses surveyed. It was observed that out of the total questionnaires retrieved; about 30.23% of the businesses are engaged in manufacturing activities like sachet Water Company, ice block making, bread and confectionaries among others. 52.33% of the small scale businesses are engaged in service delivery like barbing, and hair dressing, computer centers and café, restaurants among others. The remaining 17.44% are engaged in trade. In terms of employment, none of the sampled business employed workers above 50. More than half of the businesses have less than 10 employees. In terms of capital invested, about 70.93% of the businesses invested less than ₦50,000, 23.26% invested between ₦50,000-₦100,000 and 17.44% invested above ₦100,000. On monthly turnover, 58.14% of the businesses reported to having turnover of less than ₦100,000 per month, 36.05% has turnover between ₦100,000-₦500,000 and just 5.81% of the sampled respondents enjoys a turnover of above ₦500,000. On the duration of business, 54.65% of the businesses are less than 5years, 45.35% are between 5-10years and non is above 10years. The businesses were asked to rate their electricity needs, about 6.98% indicated low, 47.67% indicated medium while 45.35% indicated high. This means that a lot of these businesses requires constant electricity supply and are steadily affected by the persistent power outage.

On the respondents experience with power outage, 4.65% of the businesses experienced electricity outage less frequently, 65.12% experienced outage frequently while 30.23% experienced power outage most frequently. This implies that majority of the sampled respondents experienced power outage frequently. On the cost of generator as percentage of total investment, 29.07% of the respondents invested about 5%, 50% of the businesses invested between 6-10% while 20.93% invested above 10% to augment the inadequate power

supply. The respondents were also asked to give an estimate of the cost of generator as a proportion of investment in equipment. It was observed that 70.93% of the sampled respondents invested between 20-29%, 29.07% invested between 30-50% while none of them invested above 50%. Length of managerial experience is found to influence the mitigation decision of firms faced with inadequate electricity supply (Oseni and Pollit, 2013) as cited by Ahmed and Mallo, (2015). Thus, 25.58% of the respondents has less than 5years managerial experience, 56.98% is between 6-10years while 17.44% was above 10years.

In order to know how willing they were to pay for improved electricity supply, the respondents were asked to give an estimate of their electricity bill, about 22.09% of the sampled businesses pays less than ₦1,000, 62.79% pays between ₦1,000-₦5,000 and 15.12% pays above ₦5,000. On monthly expenditure on fuelling and maintaining backup generator, 17.44% spends less than ₦5,000, 69.77% spends between ₦5,000-₦10,000 while 12.79% spends above ₦10,000. Similarly, sampled respondents were asked to state the number of days without power in a month. 34.88% of the respondents reported 5-10days, 56.98% said it is between 11-15days while just 8.14% of them said it is above 16days. Finally, the sampled businesses were also asked to rate the current electricity supply. 73.26% of the sampled respondents are of the view that it is bad, 26.74% said it is fairly good while none of the respondents said it is good. This implies that electricity supply within Calabar metropolis is still inadequate to meet the increasing demand of small scale businesses in Cross River State but however, there is a significant improvement from what it was.

Major Findings

The data gathered and analyzed above revealed that small scale businesses in Cross River State still suffers from inadequate and unreliable power supply despite the state government's concerted effort to electrifying the state.

Most of the small scale business operators invest on alternative source of energy to markup the deficiency in electricity supply in the state. These small scale businesses are forced to invest part of their small capital on electricity generating facilities (like generator, inverters, solar panels among others) because the publicly distributed electricity is unreliable and most times might be too low to meet their needs. Thus, the fraction of their capital expended on generator would have been used to expand and grow their businesses if government supply is adequate. In addition, all the sampled businesses require electricity supply though their need

differs.

It is also revealed that the power generating facilities in the state are inadequate to meet the increasing demand for power by business operators and households.

These findings is in consonant with the studies done by Lee and Anus (1991), Rennieka and Svensson (2002), Adenikinju (2005), Oseni and Pollit, (2013) as cited by Ahmed and Mallo, (2015) who observed that the major challenge confronting small scale businesses in Nigeria and other part of Africa is inadequate and unreliable electric power supply from the government grid. Consequently, this inadequacy build-up to high cost of business operation in Cross River State and Nigeria at large and therefore affects their performance.

RECOMMENDATION

Based on the findings, the following recommendations were made.

The government should be serious on the ban on the importation of generators, this will send a clear signal to the cabal in the power sector that it is not business as usual.

Government should also place stiff penalties on those who destroy and steal power installations, those caught should be prosecuted to serve as a deterrent to others.

Finally, the power sector should be liberalized further for more investors to enter so as to make power more accessible to the consumers and the business operators.

CONCLUSION

In conclusion, small scale businesses in Nigeria and Cross River State in particular suffer high overhead cost due to the deficient electricity supply from the national grid. The government at all level needs to take the issue of electricity supply very serious by encouraging both public and private investment in the power sector. This can be done by constructing more dams to complement the existing ones since Cross River State is a riverine state. Similarly, a monitory team should be setup by the government to monitor the activities of the private power distribution companies so as to avoid exploitation of the consumers of electricity by this capitalist. When this is done, it will go a long way in boosting small scale businesses in the state and thus leads to rapid growth in the economy of Cross River State and Nigeria. It is very

evident that the power reform has to some extent improved the power sector; the consumers should be educated on usage to avoid wastages. If one goes to many business enterprises in Nigeria you find out bulbs and other appliances put on even when they are not in use. This adds to their operational cost because they have to pay bills to the power authorities.

REFERENCES

- Ahmed A, Mallo MJ (2015). Impact of deficient electricity supply on the operations of small scale businesses in North East Nigeria. *International J. of Bus. and Econs. Dev.* vol. 3(1). Retrieved from <http://www.ijbed.org/admin/content/pdf/>.
- Barros CP, Ibiwoye A, Managi S (2011). Nigeria' Power Sector: Analysis of productivity. *Working Paper No. WP 10/2011/DE/UECE*, School of Economics and Management, Technical University of Lisbon. Retrieved from http://www.repository.utl.pt/bitstream/10400.5/3052/1/WP_DE_CESA_2011.pdf.
- Bureau of Public Enterprises (2009). Power generation (status and outlook). Presentation at the electric power Investors, Forum. Retrieved from http://www.bpeng.org/Electric_Power/Pages/default.aspx.
- Cross River State Electrification Agency, (2014). Renewable energy and rural electrification: Cross River State memorandum presented at the 1st National Council on Power (NACOP) held in Abuja. Retrieved from <http://www.power.gov.ng>.
- Cross River State Investment Promotion Bureau: Accessed 21 June 2015 from: [http:// www.InvestInCrossRiver.crs.gov.ng](http://www.InvestInCrossRiver.crs.gov.ng).
- Electric Power Sector Reform (EPSR) Act (2005). Federal Republic of Nigeria Official Gazette No 77 Lagos- 8th August, 2005 Vol. 92. Retrieved from <http://www.power.gov.ng>.
- Iduu G (2012). Power supply and the performance of small and medium scale industries in Nigeria from (1986 – 2010) .*Caritas University, Amorji-Nike Enugu*: Undergraduate project published. Retrieved from <http://www.pubs.caritasuni.edu.ng>.
- National Council on Power (2014). Renewable energy and rural electrification: Cross-River experience. Memorandum by: Cross River State government. Retrieved from <http://www.power.gov.ng>.
- Ndem A, Uwem E, Peter Ubi (2013). Overview of electric power development gaps in Cross River State, Nigeria. *International J. of Management and Bus. Studies.* vol. 3(7). Retrieved from <http://www.internationalscholarsjournals.org>.
- Osoimehin KO, Jegede CA, Akinlabi BH (2012). An evaluation of the challenges and prospects of micro and small scale enterprises development in Nigeria. *American International Journal of Contemporary Research.* vol.2 (4). Retrieved from <http://www.aijcrnet.com>.
- Presidency (2010). Federal Republic of Nigeria Report, "Roadmap for Power Sector Reform, August, 2010. Retrieved from <http://www.nigeriapowerreform.org>.
- This day live (2012). 52 years of irregular power. This Day Live. Retrieved from <http://www.thisdaylive.com>.
- Wara S (Kindly provide the names of other authors) (2009). An impact assessment of the Nigeria power sector reforms. *Advanced materials research*, vols. 62-64. Retrieved from <http://www.scientific.net>.