

# MODERN ENERGY ACCESS, CREATIVITY AND ENTERPRISING AMONG NIGERIAN YOUTH

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## ABSTRACT

*This study investigates the impact of access to modern energy on youth creativity and enterprising in Edo West Senatorial District. It is designed as a descriptive survey where a questionnaire is administered to the youth to elicit the necessary information. Data collected were analyzed using descriptive statistics. Charts and simple percentage were the main descriptive statistics used. The findings of the study show that 66.0% of the youth households have less 12 hours of electricity per day and 71.0% of youth households make use of traditional fuels. These findings show that 72.5% of the youth spend more than two hours in searching for firewood and also cooking with firewood. The implication of this findings is time to involve in creative and enterprising activities may have been used up in the process of searching for firewood and cooking with firewood. It can be concluded that youth in the area under study has little time for activities that can enhance their entrepreneurship. The study therefore recommends that the supply of electricity and clean cooking facilities should be subsidized to ensure that youth have access to modern energy.*

**Keyword:** Modern Energy Nigerian Youth Creativity Innovation Entrepreneurship

## 1. Introduction

Entrepreneurship is a key factor in economic development and it is a means to poverty reduction in a country and provides the avenue by which income is generated and redistributed from the rich to the poor. This necessitates the federal government's commitment to the promotion of entrepreneurship in the country and this has been rigorously pursued but a critical examination of the development so far indicated that the investment committed has not yielded any significant gestation.

This makes this study to have interest in examining whether access to modern energy such as electricity and modern cooking facilities contributes to creativity and innovation in the country. Studies have shown that over 75% of the population does

not have access to electricity (Kuchi, 2013) and the same rate depends on traditional method of cooking (OECD/IEA, 2013). In what ways, can real creativity and innovation take place in the country with these statistics? This study will examine this problem in relation to Nigerian youth. The focus of the study will be to investigate how access to electricity and modern cooking facilities affect their ability to generate creativity and innovation. The study is expected to show that creativity and innovation can be enhanced when youth have access to modern energy system.

Two questions are raised to guide the study. The questions are derived from the problems of the study which focuses mainly on access to electricity and clean

cooking facilities. The questions are:

- i. How many hours of electricity per day do your household have?
- ii. What is the main source of cooking fuel in youth households?

The overall objective of the study is to examine the impact of lack of access to modern energy on creativity and enterprising spirit of Nigerian youth. The specific objectives are to:

- i. ascertain duration of power supply (electricity) in a day in households of Nigerian youth;
- ii. identify the sources of cooking fuel available to youth in their communities.

## **2. Review of Related Literature**

### **2.1 Conceptual Review**

The growth of an economy depends on the quality of its youth and their ability to increase the wealth of the nation that will generate the needed potentiality to establish a strong economy. This is quite doubtful in a country where large number of her youth is unemployed. Youth unemployed statistics stands at 64 million in 2012 (Onwubiko and Oknokwo, 2012) and the trend should have risen upward in the sense that all macroeconomic indicators in the country performed poorly in 2013. These people are mainly youth who have completed at least one level of education.

The universities and polytechnics are churning over 150,000 graduates yearly with no prospect of securing employment in the formal sector. This is apart from those who are leaving other levels of education. The secondary school graduates constitute the largest numbers of this unemployed and with many of them living in rural areas. The hope of the secondary school graduates ending up in universities and other tertiary institutions is dashed by the fact that less than 20% of these youth find places in them (Shu'ara, 2010). The remnants constitute the semi-skilled labour vulnerable to all various vices in the country because the formal sector of the economy does not have any substantive

facilities for these people.

The incessant insecurity in the country has further widened the power of the economy to create jobs for the youth. Insecurity has made the investors to think twice before ploughing their resources in an unsafe environment. The redundancy of the youth make them useful instrument in the hands of perpetrators of evil in the country (Akubor, 2011). This redundancy also makes them to be the main recruited for movements such as Odua People's Congress (OPC), the Anambra Vigilance Service (Bakassi Boys), Egbesu Boys of Africa, Arewa People Congress (APC), Operation Zaki-Zaki, and Movement for the Actualization of Sovereign State of Biafra (MASSOB) and *Al Sunnal Wal Jamma* popularly known as Boko Haran (Akubor, 2011).

The growth in youth unemployment begins gradually and this can be traced to early 1980s when the world economy glut led to high unemployment rate in the country (Nwaka, 2005). The economic crises made Nigeria to adopt Austerity measures which made the government to constraint her spending and significantly reduce the size of her workforce. This reduction affects every sector of the economy which led to sharp decline in their performance during the period and macroeconomic indicators rose very high. Unemployment became the major sufferer of the macroeconomic variables. Unskilled labour and semi-skilled labour segment were most affected as the economy could not provide the means of sustenance for them. Since that period, unemployment has risen so high that in every household there will be at least a person who is unemployed, underemployed or disadvantaged worker.

In an economy that is highly need of entrepreneurs and job creators, it is saddened that jobs are not created and people are not innovative and creative to stimulate the growth of small and medium businesses. The youth are unable to

generate any returns for the economy because the needed skill is not created in them and the facilities that will necessitate this skill are not available in the economy. The youth do not have access to basic amenities that will stimulate their desire to participate in the growing the economy. The Nigerian youth can be described as the most impoverished in the world.

Rote learning is the main means of knowledge acquisitions in schools and the tendency to acquire certificates by all means has further reduced the power of the students to do in- depth reading of their texts. The education infrastructure provided by the government is inadequate, obsolete, old, outdated or dilapidated. The youth are unable to learn effectively because the facilities available in schools all over Nigeria are over- stretched, over-crowded, uncompleted, unventilated, and impoverished. The youth become discourage with learning as there is nothing that stimulate them to academic excellence.

The educational institutions that have the primary purpose of helping the country to achieve the aim of self- reliance nation through youth empowerment for entrepreneurship and economic growth have become the centres of destroying their will- power to be creative and enterprising. The failure of educational institutions is further enhanced by the lack of modern energy in households of the youth. This becomes major impediment to youth's ability to think reasonably. Economic growth is associated with access to modern energy.

Modern energy has enabled the growth of social interaction which culminates into identifying information that enhanced youth understanding of the progress so far made in the world of innovation and creativity. In the contemporary times, social networks such as facebook, twitter, youtube and skype open youth access to the world of information and education. Youth are able to have contact with

varieties of opportunities that can be of growth exploring tendencies in them especially creativity and innovation. The key growth in the economy in the twenty first century can be attributed to availability to modern energy (Chikwendu, 2011 and Chiejina, 2012).

This is more of optimism in developed countries than in developing countries. The sub- Saharan Africa has millions of her people living without electricity: as much as 40% of the people in this region do not have access to modern energy with 90% of the people in rural areas where large numbers of youth are concentrated (TWAS, 2008). This increases to 68% in 2011 and 52% of Nigerian population falls into this category (OECD/ IEA, 2013). This is different from over 56% of the sub- Saharan Africa that make use of traditional forms of energy with its great effect on their health (World Health Organisation, 2009).

Access to modern energy is abysmal in Nigeria because less than 25% of the total population of over 160 million have to electricity and more than 72% depends on wood for fuel (Kuchi, 2013 and OECD/ IEA, 2013). The 25% is a part of 45% households that are connected to national grid in which only 30% of the electricity needed by the households are met daily. In terms of regular supply, it is only 35% of the 25% households that have up to 50% of their daily electricity consumption (Ayara, Essia and Ubi, 2013). Onyejeose (2013) affirms that 85% of the rural dwellers in Nigeria never have electricity. This falls in the category of poor households with no basic household facilities that are of electrical apparatus.

Modern energy provides incentive for growth. The availability of modern energy in a household can provide certain benefits. Firstly, it reduces exposure to health hazards bring by emission of smoke from traditional fuel. Weydahl (2013) reveals that nearly 3.5 million people die annually from such smoke. Secondly, it reduces the time expended in searching for wood which can

be used for other productive activities. In this, Weydahl (2013) also reports that in Himachal Pradesh, Indian, rural women spend an average of 40 hours every month working more than 6 kilometres per trip. This time can be spent judiciously on other activities that can improve the well-being of the community.

Households with electricity are able to overcome some constraints which add to poverty level of households in rural areas. Electricity provides the means to save time in every domestic activity. Many domestic activities such as cooking with firewood, fetching water from the streams or rivers and lighting increase the daily work loads of households. In some rural areas, youth and women go out in search of where to obtain lighter. Youth and women spend much time outside than at homes because everything that relates to modern energy has to be searched for.

All these activities culminate together in decreasing the viability of rural youth to have quality time to think of how to create ideas and businesses. The lack of access to modern energy weakens their physical well-being and productivity. They are already exhausted when they end the daily activities characterised by long hours of searching and making preparation for cooking.

## **2.2 Empirical Review**

Ram, Shrestha, Kumar, Arjun (2008) examined the energy use pattern of slum-dwellers in two cities of Thailand, Bangkok and Khon Kaen. They investigated the energy expenditures, and the key factors for the high access to electricity and other modern forms of energy. They found all the households were connected to electricity grid and further found out that more than 80% use LPG for cooking with almost 16% of monthly income of Bangkok and 26% of Khon Kaen spent on energy. They found out that factor such as successful electrification program, price subsidies and the low monthly electricity service

charge for the poor households, and reliable supply and ready availability of LPG promote the use of modern energy in Thailand.

Watson et al (2012) applied structured systematic review of academic and grey literature to examine the barriers to increased use of modern energy services among the world's poorest people. They reviewed studies that related to modern energy services, modern energy technologies, barriers, interventions, and effectiveness measures, and further used semi-structured interviews. They discovered that there was no high quality research on modern energy. They found out that there were strong evidences in literature on economic and technical barriers to energy access.

Using two modelling frameworks, Pachauri (2013) analysed investments and consequences of achieving total rural electrification and universal access to clean-combusting cooking fuels and stoves by 2030. Their findings showed that total rural electrification and universal access to clean-combusting cooking fuels and stoves can be achieved with additional investment of US\$65- 86 billion per year until 2030. They concluded with investigation of the impact of the investment on wellbeing.

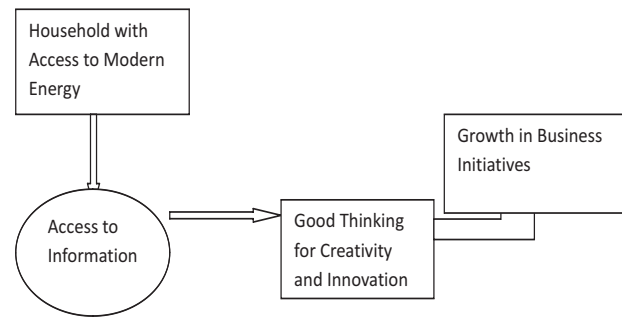
Bonan, Pareglio and Tavoni (2014) also reviewed the literature on existing impact evaluation of access to electricity and modern cooking facilities. They considered the impact of access to electricity on labour markets, time allocation, household welfare (consumption, income, schooling and health) and business. They further examined the impact of improved cookstoves on household welfare. Their findings from existing literature confirmed that access to electricity exerted significant impact on metrics of wellbeing but mixed evidences regarding clean cookstove. Lastly, their findings revealed barriers and drivers of access to modern energy services in the reviewed literature.

In another study, Bonan et al (2016) examined the demand side and household perspective of access to energy on development outcomes. They focus on electricity connection and improved cooking stoves and they examined how these variables affect time allocation, labour market outcomes and welfare. Their findings showed that electrification had impact on wellbeing but there was mixed evidence for cooking stoves.

### 2.3 Conceptual Framework

The study asserts that there is a link between access to modern energy and creativity and enterprising of the youth. This link is provided by the fact that access to facilities such as constant electricity and clean cooking facilities can stimulate good thinking. Youth that have access to these facilities will have sufficient time to do critical thinking and this is enhanced by access to information and communication facilities powered by electricity. Figure 1 reveals that households with access to modern energy can have youth having access to information. This is possible in the sense that such youth do not spend much time in searching for wood, cooking with wood or reading with smoke lantern.

These labouring activities reduce the strength of the youth to have time for in depth study. The youth that have access to modern energy have access to information since they are able to have time to view television or surf the net. This gives them the opportunity of being exposed to world of new innovations and ideas which sharpen their thinking. Good thinking creates creativity and innovation. As Japanese adage says, "Good thinking, good product", when youth have facilities to enhance optimum thinking they will create good product in terms of developing business initiatives.



**Figure 1: The Conceptual Framework**

The rapid growth of youth entrepreneurs in United States of America can be traced to constant access to modern energy. The youth have access to information and they are able to practise what they have learnt in schools. In Nigeria, youth are idle after schools because facilities are not available in terms of constant electricity to enhance their creativity and innovation. The 100 kW/ year that an African youth is expected to use in a year by an American youth, this shows low level of energy access in Africa. A Nigerian youth will use this in 245 days which indicates abysmal availability of energy in Nigeria (World Bank, 2011).

### 3. Methodology

This study is descriptive in nature as a simple questionnaire is designed to elicit information from the respondents. 500 youth were selected using multi- sampling method in Edo West Senatorial District, Edo State. The researchers selected the youth from different backgrounds in order to reflect the impact of access to modern energy on their creativity and innovation. The questionnaires were administered for period of three weeks. The results obtained were analysed using descriptive statistics. Charts and simple percentage were used to analyse the information received from the respondents.

### 4. Results and discussions

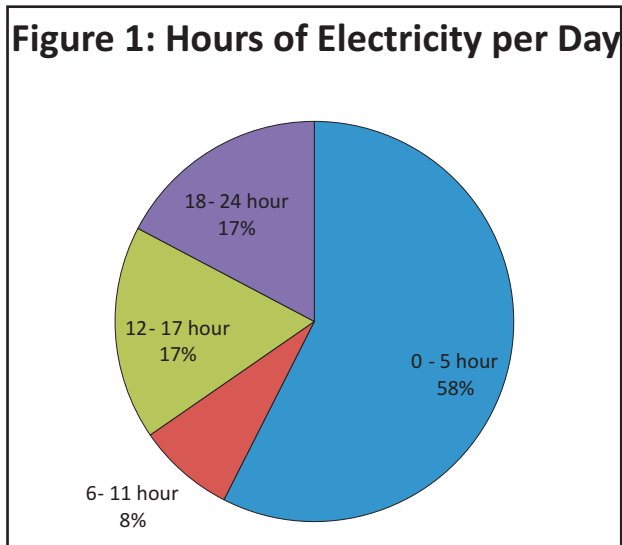
The finding reveals that 34.0% of the youth have access to at least 12hours of electricity per day while more than 66.0% of

the youth have less than 12 hours per day (See Figure 1). The study reveals that there are some areas where the hours of electricity per day are very. Consider the majority percentage, it can be seen that large number of the youth does not have access to more than 5 hours of electricity per day. And there is high possibility that this falls at time day are at work or at schools when they have no necessity to use for activities that enhance their creativity and entrepreneurship.

**Table 4.1: Hours of Electricity per Day**

Duration	Frequency	%
0 - 5 hour	287	57.5
6- 11 hour	39	7.9
12- 17 hour	87	17.3
18- 24 hour	87	17.3
	<b>500</b>	<b>100.0</b>

Source: Authors' computation



In some of the areas where the study is conducted such as Ogwa, Ebelle, Igueben, Ujiogba and Ekpon, there is no availability of electricity in the night and incessant power outage is common that lasts for days. In areas such as this youth may find it difficult to do intensive use of facilities such as internet and mass media i.e watching documentary on television that can enhance their creativity and enterprising.

The researchers include in this question the main facilities in youth households that

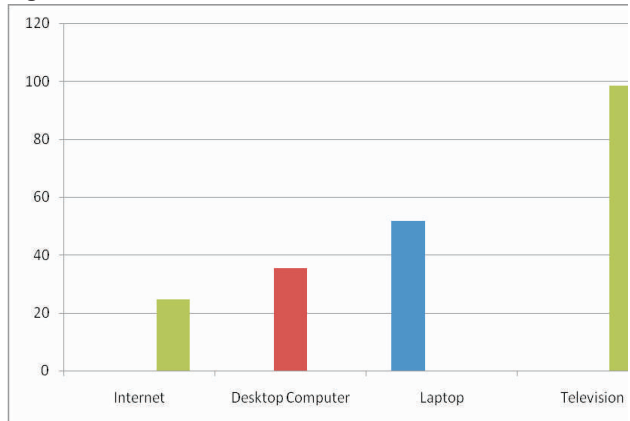
use electricity and are essentials for improving youth knowledge of entrepreneurship. The youth can have access to usage of these facilities when electricity is constant. This study considers four of such facilities- internet, television, desktop computers and laptops. Nearly every household has a television sets and this is about 98.9% of the respondents. Though the percentage of the youth that have access to internet is very low and it is 24.5% of the respondents (See Figure 2).

**Table 4.2: Households with Electronic Facilities**

Electronic Facilities	Frequency	%
Internet	123	24.5
Desktop computers	177	35.3
Laptop	259	51.8
Television	493	98.5

Source: Authors' computation

**Figure 2: Households with Electronic Facilities**



This finding shows that the youth are able to develop entrepreneurial spirit through access to these electronic facilities, but this opportunity can be weakened as a result of low access to modern energy. All these facilities make use of electricity. Television which is the commonest cannot be of use without electricity. Youth cannot access programmes such as business news, fashion shows, talent shows, documentaries and other entrepreneurship promotion programmes.

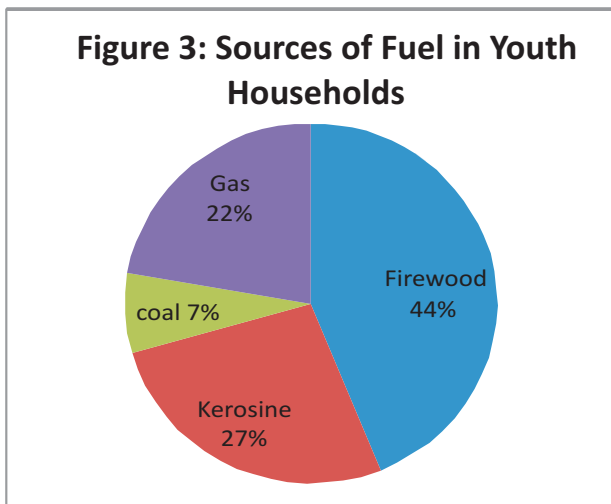
The researchers consider the four commonest sources of fuel in youth household- firewood, kerosene, gas and

charcoal. There are two main components of modern energy- electricity and clean cooking facilities. The use of firewood is rampant in youth households (See Figure 3). The use of coal has reduced and this can be traced to the fact that gas is less expensive in the market and kerosene is available everywhere. There are large numbers of retailers hawking this commodity. The investigation shows that in households that indicate the use of kerosene make use of firewood. The kerosene is mainly used as a means of lighting. The people need kerosene to ignite firewood. This is known from result obtained on the amount of time spent in search of firewood.

**Table 4.2: Sources of Fueling**

Source	Frequency	%
Firewood	220	43.9
Kerosene	134	26.7
charcoal	35	7.1
Gas	111	22.3
	<b>500</b>	<b>100.0</b>

Source: Authors' computation



The youth are asked to indicate the amount of time spent in searching for firewood and in cooking with firewood. This is done to identify the amount of time that is lost to searching for firewood and cooking with firewood. This has two implications on the ability of the youth to think creatively. One, consumption of smoke can affect the health of the youth and make to suffocate.

They lose enormous energy in the process. Two, the heavy loads of the wood cum the long distance and the dangers of being injured in the process can weaken the moral of the youth and make them incapacitated after performing these duties to do any productivity activities.

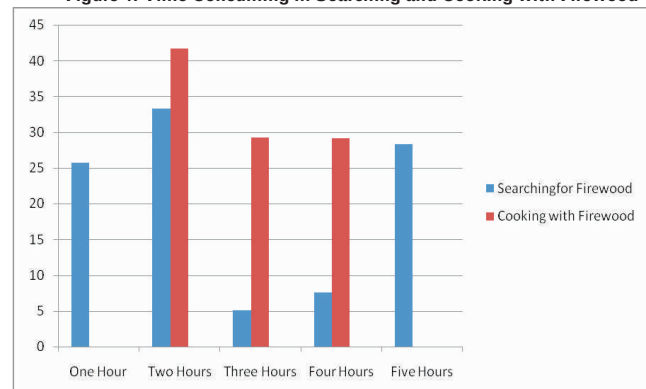
More than two hours in searching for firewood and cooking with firewood dominate the response of the youth. These two have 33.3% and 47.1% respectively. Cooking more than three or four hours also dominate and they have 29.2% and 29.1% respectively (See Figure 4). Many of the youth are responsible for participating in activities such as 'garri' frying, semi-processing for 'akpu' and in palm oil extracting. All these activities take many hours to carry out. These activities make some of the youth to travel long distance in search of firewood. Therefore, this may take up to five hours.

**Table 4.4: Time Consuming in Searching and Cooking with Firewood**

Duration	Searching for Firewood		Cooking with Firewood	
	Frequency	%	Frequency	%
One Hour	128.5	25.7	0	0
Two Hours	166.5	33.3	208.5	41.7
Three Hours	25.5	5.1	146	29.2
Four Hours	38	7.6	145.5	29.1
Five Hours	141.5	28.3	0	0
	<b>500</b>	<b>100</b>	<b>500</b>	<b>100</b>

Source: Authors' computation

**Figure 4: Time Consuming in Searching and Cooking with Firewood**



Implications to be drawn from these findings are that searching for firewood and cooking with firewood add to amount of time that the youth have to spend on activities that do not give them time for creativity. The youth need to judiciously spend their time on activities that can

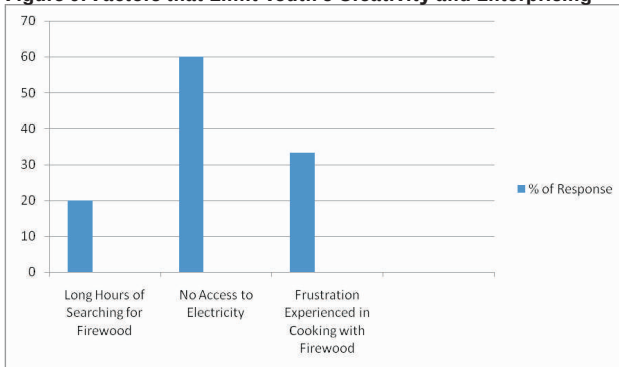
promote entrepreneurship such as searching the internet; viewing documentary on business initiative; participating on online business programme; and sharing business ideas with others on social network. In areas where these opportunities are abound the incessant power outage and use of traditional fuel may not permit this efficiency.

This makes the researchers to consider the factors that limit youth's creativity and enterprising. The factors considered are those related to modern energy (See Figure 5). 60.0% of the youth indicate lack of access to electricity as the main factor that reduces their entrepreneurship initiatives. Long hours of searching for firewood and frustration experienced in cooking with firewood are also indicated by the youth. These have 20.0% and 33.3% respectively. These two factors are mainly indicated by the youth in the rural areas.

**Table 4.5: Factors that Limit Youth's Creativity and Enterprising**

Factors	Frequency	%
Long Hours of Searching for Firewood	100	20.0
No Access to Electricity	300	60.0
Frustration Experienced in Cooking with Firewood	167	33.3

**Figure 5: Factors that Limit Youth's Creativity and Enterprising**



**Conclusion and way forward**

Entrepreneurship is at the heart of economic development and it can be inculcated by education. Education is achieved not only in the classroom but also at home. The youth have the opportunity of learning in the contemporary times from various means as a result of significant development in the field of information

technology. It also provides opportunities for youth to identify new development in ideas and businesses that assist them in becoming entrepreneurs. Access to this is very minimal in the country because of inability of the people to have access to modern energy.

This study has shown that the youth in Nigeria are constrained by lack of access to modern energy in entrepreneurship initiatives. Countries that have youth promoting entrepreneurship are those with stable electricity and clean cooking facilities. The youth in such countries are able to pioneer new businesses because they have access to modern energy. For instance, USA has high numbers of youth entrepreneurs which include Black Ross, Andrew Mason, Dustin Moskovitz, Mark Zuckkerbergi and Gurbakish Chakal. All these are less than 30 and they have been able to establish companies that worth billionaire of dollars such as Facebook, Google, Naveen, Wallet Inc., Mozilla Firefox, Automatic and Groupon (Gangemi and MacMillan, 2014).

The step to promote young entrepreneurs begins with provision of electricity to every house at affordable cost and this is quite doubtable today as a result of privatisation of PHCN. Government can step in creating an enabling environment for every household to have access to modern energy through subsidy. Government can also set up youth centres in every community in Nigeria where youth can have opportunity to uninterrupted power supply. These centres will have internet facilities with computers and inverters. This should go along with incentives for creativity and innovation. The youth can be given target by the government.

This can come in the form of grant assistants and any other forms. It should be noted that irrespective of any government initiatives on entrepreneurship without constant access to electricity it is not possible. There are many vocational and skill acquisition centres and entrepreneurship centres in many universities where incessant power outage have rendered them unproductive. This



study therefore concludes that provides the youth electricity with high subsidized rate and sees what development will come from their initiative and creativity.

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