

Advances in Entrepreneurship, Sustainable Energy and National Development

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Abstract

Advances in entrepreneurship and provision of sustainable energy has been described as crucial for national development. The relationship between unemployment and entrepreneurship has been shrouded with ambiguity. Literature from scholars and authors claims that higher levels of entrepreneurship reduce unemployment. Akanwa and Akpanabia. (2016) This paper therefore examined the need for promoting entrepreneurship and provision of required sustainable energy to power the operations of enterprises. Analysis of unemployment rate due to lack of youth entrepreneurial skills and sustainable energy were discussed. Entrepreneurship Development Agencies and their development initiatives in Nigeria were identified. Roles of entrepreneurship in nation building and development were explained. The paper therefore, concludes that whatever the expertise an entrepreneur puts into his or her enterprise, appropriate and regular supply of energy is crucial for the profitability and sustainability of the venture. Thus continuous efforts should be put in place for research and development of entrepreneurship and sustainable energy.

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Background to the Study

Entrepreneurship is the acquisition of skills and ideas for the sake of creating employment for oneself and also, for others. It also includes the development based on creativity. Entrepreneurship leads to the development of small, medium and sometimes, large scale businesses based on creativity and innovation. The success of this business in turn helps in developing the nation. Entrepreneurship plays important roles in the creation and growth of businesses as well as growth and prosperity of nations, according to Hisrich, R. D., Peters M. P. and Shepherd D. A. (2013). They also opined that sustainable development is perhaps the most important issue of our time and entrepreneurship can have a positive impact on this issue. That is entrepreneurial action can help to sustain and develop. Sustainable entrepreneurship is therefore focused on preserving nature, life support and community in the pursuit of perceived opportunities to bring future product and services into existence for the economic gain of individuals and the society.

However, entrepreneurship initiatives cannot be sustained without adequate and regular supply of energy. Individual entrepreneurs and corporate organisations, in Nigeria endeavor to generate power to run their enterprises. These efforts at producing required energy for their operations cannot be sustained due to high cost diesel and plant maintenance. It should have been expected that government would provide adequate and regular supply of energy, which would positively facilitate successful running of businesses. Contrarily, according to Ottih (2011) the actions of government constitute the most critical barrier to entrepreneurship in an economy. The nature of political and legal institutions and the social pay-off structure towards productive entrepreneurship determine the extent to which people embrace entrepreneurship.

Types of Energy

Energy is the ability of matter to do work due to its motion, mass or charge. It may be kinetic or potential. Just like there are different forms of electricity, there are different types of energy too. The two main types of energy are Kinetic Energy and Potential Energy.

Kinetic Energy

Kinetic Energy is energy that is in motion. Moving water and wind are good examples of kinetic energy. Electricity is also kinetic energy because even though you can't see it happen, electricity involves electrons moving in *conductors*.

Potential Energy

Energy is measured in the amount of "work" it does. Potential Energy is stored energy. Examples of potential energy are oil sitting in a barrel, or water in a lake in the mountains. This energy is referred to as potential energy, because if it were released, it would do a lot of work.

Energy can change from one form to another. A good example is a Roller Coaster. When it is on its way up, it is using kinetic energy since the energy is in motion. When it reaches the top it has potential (or stored) energy. When it goes down the hill it is using kinetic energy again.

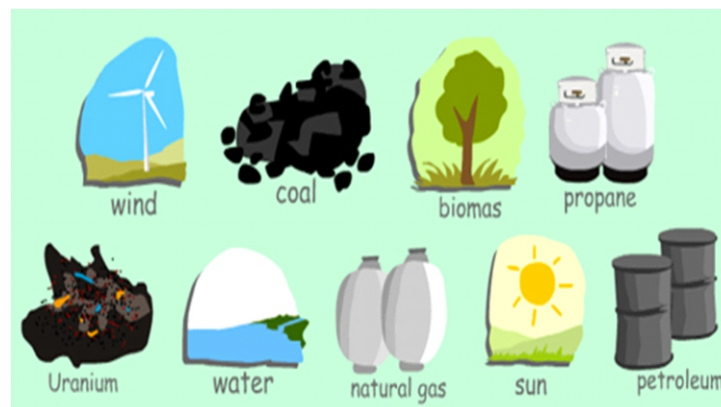
Other Types of Energy

There are other types of energy as well:

1. Mechanical Energy is the energy of motion that does the work. An example of mechanical energy is the wind as it turns a windmill.
2. Heat energy is energy that is pushed into motion by using heat. An example is a fire in your fireplace.
3. Chemical Energy is energy caused by chemical reactions. A good example of chemical energy is food when it is cooked.
4. Electrical Energy is when electricity creates motion, light or heat. An example of electrical energy is the electric coils on your stove.
5. Gravitational Energy is motion that is caused by gravity. An example of gravitational energy is water flowing down a waterfall.

What is renewable energy?

Energy exists freely in nature. Some of them exist infinitely (never run out, called RENEWABLE), the rest have finite amounts (they took millions of years to form, and will run out one day, called NON-RENEWABLE)



You will notice that water, wind, sun and biomass (vegetation) are all available naturally and were not formed. The others do not exist by themselves, they were formed. Renewable energy resources are always available to be tapped, and will not run out. This is why some people call it Green Energy.

Approximately 20% of electricity produced globally in 2009 came from renewable sources. Out of this, hydro-power accounted for about 16%. In 2012, 9% of the energy consumed in the USA came from renewable sources. This means the USA depends a lot on non-renewable sources. 30% of the energy from renewable sources came from hydropower, while biomass, biofuels and wood, together accounted for about 49%.

Source: USEIA, Monthly Energy Review, April

2013 http://www2.needham.k12.ma.us/eliot/technology/lessons/energy/6_forms.html

When can energy be called 'Renewable'?

- When its source cannot run out (like the sun) or can easily be replaced (like wood, as we can plant trees to use for energy)
- When their sources are carbon neutral. This means they do not produce Carbon compounds (such as other greenhouse gases).
- When they do not pollute the environment (air, land or water)

Renewable energy includes Biomass, Wind, Hydro-power, Geothermal and Solar sources. Renewable energy can be converted to electricity, which is stored and transported to our homes for use. In this lesson, we shall take a closer look at how renewable energy is converted into electricity.

Deficiency of Sustainable Technology in the Nigerian School system

Education is perceived to be a tool for transforming people into productive members of the society, thereby making the populace self-reliant. Hornby (2010) described education as a process of training and instruction of people in schools and colleges, which is designed to give knowledge and develop skills. Various developed countries of the world design their educational philosophy and policies towards sustainability and self-reliance of its citizens.

Fundamentally, Nigerian government promotes entrepreneurial culture through initiatives that builds business confidence, positive attitude, pride in success, support and encouragement of new ideas, social responsibility, providing technological supports, encouraging inter-firm linkages and promotion of R&D. Others are cheap financial resources, free access to market, prompt registration/advisory service to businesses, promotion of entrepreneurial skills acquisition through education and manpower development, production of infrastructure, export incentives, stable macro-economic environment, security of investment and stable political climate. NnamdiEbo (2013).

Sustainability or self-reliance according to Igweh (2008) leads to national development. He emphasized that when somebody acquires skills in any occupation, such a person is self-reliant because he can establish his or her own business and even employ others. Bassey (2009) described self-reliance as that which pre-supposes the attainment and autonomy without unnecessarily resorting to begging or borrowing. He emphasized that, "a self-reliant individual is one that achieves steady supply of his needs, one that diversifies his resources to reduce dependency on others for assistance".

Most of the primary and secondary school graduates who are expected to proceed to technical training institutions seek admission to become graduates in disciplines that are irrelevant to socio-economic and services demand in the society. Fanim and Oyebade (2012) emphasized that with a high population and numerous universities in Nigeria turning out thousands of graduates every year, there may be no ready market willing to employ the graduates.

According to Ayeni (2014) the problem of unemployment has become a noticeable pressing issue in Nigeria because to be a graduate of a recognized tertiary institution, implies that such individual is well read or certificated in his or her area of specialization. Adebisi (2011) observed that entrepreneurial vocational education covers both organized (conscious

vocational education) and unorganized (apprenticeship training) methods of securing occupational confidence and experience whereby someone learns proficiency. In the organized mode, entrepreneurial vocational education is more concerned with proposition knowledge, acquisition of knowing what and whys of concepts, generalizations, principles, theories and procedures required for application in one type of job or another. Adebisi (2011) concluded that acquisition of vocational skills enable recipients of technical training to function effectively in the productive and manufacturing sectors of the economy. This is because they will be able to function on their own in as much as they will understand fully the technicalities involved in the modern production and manufacturing techniques.

Ayeni (2003) commented that the neglect of scientific and technical aspects of education have greatly affected the production of both the middle and high level manpower vis-à-vis the industrial development of Nigeria. He opined that there exist wide range of economic and industrial activities that require also a wide range of training requirements. Though resources are limited and access to training restricted, vocational training is still very important for the development of human resources and invariably, the working place, whether private, public or self-employment sector.

Entrepreneurship Development Initiatives in Nigeria

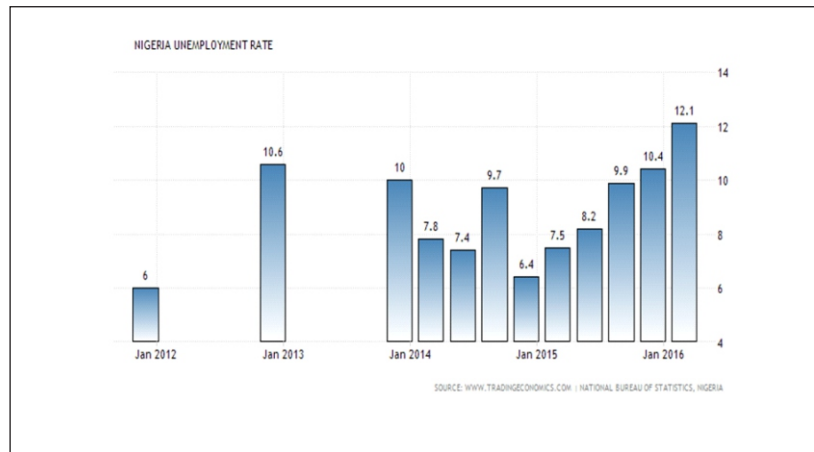
Nigeria has been encouraging entrepreneurship development through various initiatives since the era of structural adjustment programme. A number of institutional mechanisms have been set up in the past to encourage entrepreneurship among the people. The Babangida government, which came to power in August 1985 at a time of depressed oil prices, undertook its structural adjustment program between 1986 and 1988. In September 1986, the government introduced a second-tier foreign exchange market (SFEM), sold on auction for a near equilibrium price and used for export earnings and import trade requirements. Under SFEM, the naira depreciated 66 percent to N1=US\$0.64 (N1.56=US\$1), and declined further in value through July 1987, when the first and second tiers were merged. When adopting the SFEM, Nigeria abolished the ex-factory price controls set by the Prices, Productivity, and Incomes Board, as well as the 30 percent import surcharge and import licensing system. It reduced its import prohibition list substantially and promoted exports through fiscal and credit incentives and by allowing those selling abroad to retain foreign currency.

Meanwhile, the naira continued depreciating, especially after the relaxation of fiscal policy early in 1988. The effect of the SFEM in breaking bottlenecks, together with the slowing of food price increases, dampened inflation in 1986, but the easing of domestic restrictions in 1988 reignited it. Structural adjustment was accompanied by falling real wages, the redistribution of income from urban to rural areas, and reduced health, education, and social spending. Despite dramatically reduced labor costs, domestic industrial firms undertook little investment or technological improvements as the experience is in Nigeria up to present time.

(http://www.photius.com/countries/nigeria/economy/nigeria_economy_structural_adjustmen~10018.html)

The above led to unprecedented rate of unemployment confronting the teeming youths in Nigeria.

Fig. 2 : Nigeria Unemployment Rate : 2012 – 2016



Nigeria unemployment rate was recorded at 12.1 percent in March quarter of 2016, up from 10.4 percent in the fourth quarter of 2015, reaching the highest since December of 2009. The number of unemployed persons rose by 18 percent to 9.485 million, employment grew a meager 0.12 percent to 69 million and labour force went up 2 percent to 78.4 million. Meanwhile, youth unemployment increased to 21.5 percent from 19 percent. Unemployment Rate in Nigeria averaged 9.04 percent from 2006 until 2016, reaching an all time high of 19.70 percent in the fourth quarter of 2009 and a record low of 5.10 percent in the fourth quarter of 2010. Unemployment Rate in Nigeria is reported by the National Bureau of Statistics, Nigeria. In order to abate the trend of unemployment, entrepreneurship advancement has been confirmed as the only panacea. Furthermore various entrepreneurial training policies are being put in place to encourage youth employment generation and its sustainability.

Sustainability and Entrepreneurial Training

Entrepreneurial training is an education programme that prepares participants for sustainability in occupations requiring technical skills in such fields as Agriculture, Business Education, Home Economics, Painting, Decorating and others, organized to secure confidence and experience by the individual students. It is also designed to develop skills, abilities, understanding, attitudes, work habits and appreciation encompassing knowledge and information needed by a worker to enter and make progress in employment on a useful and productive basis. Technical Education on the other hand, is designed to prepare the learner to enter an understanding of the laws of science and technology, as applied to modern design and production. It also stresses the engineering aspects of vocational education, such as electrical/electronic, mechanical and automobile trades.

As part of the transformation agenda in the country, the federal government says it would develop skills acquisition and developmental programmes for the Nigerian youths, through

the establishment of vocational training institutions in Nigeria. As a result of its efforts, in the year 2012, the government approved 86 Innovation and Vocational Enterprising Institutions to award National Innovative Diploma (NID) and National Vocational Diploma (NVD) to its participants.

Rufai (2012) commented that the vocational institutions approved by the government are more than the conventional polytechnics in the country which are just 75 in number. She added that the approval is in compliance with the present administration's quest to meet the Millennium Development Goals (MDGs) in the country and as well re-engineer the education sector.

According to Rufai (2012), the technical education syllabus has been reviewed by the Federal Government in collaboration with the United Nations Educational Scientific and Cultural Organisation (UNESCO) with the mindset that those who cannot acquire knowledge formally can have access to vocational training.

Entrepreneurship Development Agencies in Nigeria

There are series of Entrepreneurship Development Agencies in Nigeria, which engage in rendering support services through training and consultancy services. Some of these organisations are listed below.

- a. Manufacturers Association of Nigeria (MAN)
- b. National Association of Small And Medium Enterprises (NASME)
- c. Nigerian Association of Chambers Of Commerce, Industry, Mines and Agriculture (NACCIMA)
- d. Small and Medium Enterprises Development Agency of Nigeria (SMEDAN)
- e. National Poverty Eradication Programme (NAPEP)
- f. Youth Empowerment Scheme (YES)
- g. National Association of Woman Entrepreneurs (NAWE)
- h. Small and Medium Industries Equity Investment Scheme (SMIEIS)
- i. Financial Institutions Training Centre (FITC)
- j. Leventis Foundation (Agricultural Training School)
- k. Nigeria Integrated Rural Accelerated Development Organisation (NIRADO)
- l. Nigeria Employers' Consultative Association (NECA).
- m. Federal Institute for Industrial Research Oshodi (FIIRO)
- n. Nigeria Opportunities Industrialisation Centres (NOIC)
- o. National Directorate of Employment (NDE)

All the above entrepreneurship development agencies play significant roles in the production of goods and services which are beneficial to the society.

Conclusion

Advances in entrepreneurship and sustainable energy are like both sides of a coin. Both of them depend on one another for proper functioning. Whatever the expertise an entrepreneur puts into his or her enterprise, appropriate and regular supply of energy is crucial for the profitability and sustainability of the venture. This underscores the need and

call for research and development of sustainable production of energy if entrepreneurship is to advance in our country.

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