DOI https://doi.org/10.5281/zenodo.10049652#192

TWIST, 2024, Vol. 19, Issue 2, pp. 576-582

TWIST

Journal homepage: www.twistjournal.net

Gender and the Energy Crisis: Unveiling the Burden of Energy Crisis on Rural African Women in Lagos, Nigeria

Victor Ojakorotu
Department of Political Studies & International Relations, North West University, Mafikeng, South Africa

Gbenusola Akinwale*
Department of Political Studies & International Relations, North West University, Mafikeng, South Africa
[**Corresponding author*]

Abstract
Lack of access to reliable energy supply poses a significant constraint to human and economic development, creating a persistent hurdle for sustainable clean energy for development in Africa. Unfortunately, Nigeria bears the brunt of this energy crisis, particularly in its rural communities, where many households still cook with charcoal and firewood. In this context, achieving Sustainable Development Goal 7 in Nigeria remains a distant aspiration. This study examines the unique challenges experienced by women in rural communities of Lagos State regarding the lack and inadequacy of energy supply. Specifically, it seeks to (a) shed light on the profound impact of the energy crisis on their daily stress levels, (b) examine its detrimental effects on their economic growth, and (c) investigate how the energy crisis has undermined their general well-being. The study will employ a semi-structured interview method to gather responses from a sample of 30 women purposively selected across three senatorial districts of Lagos. The analysis of the collected data will use content analysis and descriptive statistics. The findings suggest means through which, Africa can optimize energy in ways that aid strategic efforts at improving socio-economic and psychological development of African rural women.

Keywords
Energy crisis, Rural women, General wellbeing, Gender

BACKGROUND TO THE STUDY

Sustainable Development Goal (SDG) 7 emphasize on access to affordable, reliable, sustainable and modern energy for all (SDGs, 2015). Access to SDG 7 plays a significant role in advancing good health SDG 3. Energy is crucial for achieving other SDGs like eradication of poverty SDG 4, achieving gender equality SDG 5, access to clean water and sanitation SDG 6. Job security which is SDG 8 and climate change SDG 13. Access to clean modern energy is a big challenge facing Africa because access to energy is a necessity for the achievement of socioeconomic development and a pathway for poverty reduction. There is no doubt that the present energy crisis in Nigeria is making SDG 7 on clean energy far from several Nigerians because several communities are still living in total Blackouts while some urban communities are on regular loadsheding of about 8 hours or more daily. Uninterrupted energy supply is the bedrock of growth for all serious nations that are interested in improving the living condition of her citizens. The standard of living of every nation can be directly linked to the per capita energy consumption. Previous government have put mechanism in place to cushion the effect of power outage on Nigerians but no obvious improvement has been seen. The desire to achieve stable power in Nigeria has been a fruitless effort because the situation is getting worse on yearly basis.

Energy crisis with its related issues like social, economic, and political consequences are major challenges facing Africa and Nigeria in particular. It has hampered the economic growth and technological advancement of the country. It is sad to note that third world countries still largely depend on biomass (that is firewood, charcoal, palm kernel residues among others). Several efforts and resources have been put into energy sectors in Nigeria to improve the supply of energy, despite the efforts, several communities are still affected and it is worse with rural communities.

Nigeria is located on the west coast of Africa. It is the continent's most populated country in Africa, with over 150 million people. According to the Nigerian Energy Policy report from 2003, it is estimated that the population connected to the grid system is short of power supply over 60% of the time. Additionally, less than 40% of the population is even connected to the grid. On a fundamental level, there is simply not enough electricity generated to support the entire population.

Most countries in sub-Sahara Africa have established their rural energy agency committed with the mandate of rural electrification. Promotion, support and provision to rural access electrification are within the mandate of Rural Electricity Agency (REA) in Nigeria but several rural communities are still without light.

Due to the lack of reliable electricity, many people and companies supplement the electricity provided by the grid system with their own generators. In fact, almost everyone who can afford a generator owns one in Nigeria, as most companies relies solely on it for running their businesses with well over 90% businesses have generators. The electricity from private generators is more expensive than that from the national power grid, thus raising the price of domestic goods. In rural areas, much of the energy production is from the burning of firewood. This practice has a host of associated problems.

The emissions given off from this process are toxic, especially if done in doors, which is often the case. The scarcity of wood as a result of deforestation makes the process of cooking with firewood even more unsustainable. The average time it takes one person (usually women) to collect enough wood for the day's meals (2.28 on average) is 4-6 hours.

Basic home appliances that are supposed to relieve the daily stress of women seems unavailable in most rural communities in Nigeria. Microwave oven that is meant to be used for warming and heating of food require modern energy to work. Blending/ grinding machines need electricity to work in other to make life and cooking easier for the women cannot also be accessed because of poor or lack of energy supply in Nigeria rural communities. Women still uses stones to grind their food and spices. It is heartsick to note that several quality hours are been wasted on all these activities that the presence of energy supply could have achieved in minutes.

Women in rural communities in Nigeria still uses firewood and charcoal to cook every day, besides the environmental implications of exposing to toxic flames from direct smoke, it has implications for their general well-being and stress level. Cooking with firewood and charcoal is not only stressful but also time consuming. Women will have to spend a reasonable amount of time in the bush cutting down trees and fetching firewood to bring to their homes. Consequently, the stress and dangers associated with carrying firewood on bare head is not a surmountable pain for women in Nigeria.

Food preservation than is supposed to be achieved by refrigerator and freezers are still not easily achievable among women in rural communities because of lack/ inadequate energy supply in Nigeria. The implication of this wastage is tantamount to economic waste thereby increasing their stress level. Many women in rural communities cook every day because they do not have means to preserve their food and condiments thereby adding to their economic burden.

SDGs goal 6 on clean water and sanitation for all is a critical to the survival of people. This goal cannot be achieved if there is energy crisis in the community. Furthermore, access to pipe borne water requires constant energy supply to pump water from the borehole (provided there is any) in the communities. Water is needed to maintain their toilet and bathroom, the present realities in the rural communities is that they still travel far from their homes to fetch water from streams and wells, the time spent on getting water is enough to be used in economic development and growth for rural dwellers. The sanitary system is nothing to write home about, putting all of these together are constituting major stress for women in rural communities. Several young girls that are supposed to be in school could not because of poor or lack of good sanitary system required especially during their menstruation period.

Conversely, a lack of inadequate access to energy impedes the growth of the nation and also contributing to poverty and economic decline. Energy and poverty reduction are directly linked such that socioeconomic development, which includes productivity, income growth, education, and health becomes sacrosanct.

ENERGY SITUATION IN NIGERIA

The energy problems in Nigeria are both serious and widespread. Lack or inadequate access to modern and clean energy affects as much as 90% of the population in the country with several of them living in rural communities. About 180 million people in Nigeria are sleeping and living without decent energy. A large chunk of this people depend on charcoal, animal dung, crop residues, firewood to cook their daily meals. Without efficient, clean energy, people are undermined in their efforts to engage effectively in productive activities or to improve their quality of life. These people spend so much time on daily basis in searching farther and farther in the fields to gather diminishing fire wood to cook, if not much of their income would be used to buy paraffins and candles to light their homes or petrol/diesel for their generators to augments for inefficient power. The local and global environments are continually threatened by the emissions of pollutants in the air and greenhouse gases from inefficient energy production. Consequently, the welfare of women and children is considered to be endangered by the long-term exposure to highly concentrated smoke produced by the traditional stoves. Additionally, kerosene lanterns do not provide sufficient light to the homes.

Rao et al. (2018) noted that energy systems are "not just another commodity, but the precondition of all commodities, the author equated it with basic needs of life like water and air. The author stated further that on a larger -

historical scale, energy is recognized as a prerequisite to prosperity and human flourishing (Rao et al (2018), Stern, (2011), Mazur, A., & Rosa, E. (1974). The seventh goal of the sustainable development goals (SDG) is to provide affordable, reliable, and modern energy to everyone by 2030 (Kalt et al. 2019).

Despite the availability of energy resources in Nigeria, the irony of the abundant proportions is that there is still no light in the country and the rural communities are at the receiving end. Interestingly, Nigeria possesses the world's sixth largest reserve of crude oil. It is estimated that her oil reserve worth 36.2 billion barrels which ordinarily should be converted and used to improve clean energy.

The household consumption is important in dominating the energy need in Nigeria, the lack of energy supply has continued to be a household problem among Nigerians, kerosene (paraffin) that can also serve as alternative in relieving the women is also not affordable thus making life difficult for women in Nigeria.

There is supply and demand gap as a result of the inadequate development and inefficient management of the energy sector in Nigeria hence why the supply of modern energy does not reach most urban and rural communities. Fuel wood is used by over 70% of Nigerians living in the rural areas.

PURPOSE AND RESEARCH QUESTION

The main purpose of the study is to examines the unique challenges experienced by women in rural communities of Lagos State regarding the lack and inadequacy of energy supply. Lack or inadequate energy supply has been a problem for several households in Nigeria with people relying on alternative power supply like Solar, Inverter Batteries and petrol or diesel generators. Alternative source of energy is far from people in rural communities because of the cost implications. The rural dwellers are mostly living in total blackout, thus making life difficult for many of them. This study delved into the major challenges of rural women in Lagos Nigeria with emphasis on three rural communities. The specific objectives are to:

(a) shed light on the profound impact of the energy crisis on their daily stress levels, this will explore how lack of energy makes women use manual blender, fetch water, cook with charcoal among other challenges.

(b) examine its detrimental effects on their economic growth and how their economy has been impacted by spending quality time on household chores instead of using it for financial empowerment. This objective will further explore how energy crisis has impede their economic growth and increase their poverty level.

(c) investigate how the energy crisis has undermined their general well-being. The energy crisis currently blighting the lives of so many people in rural communities, it fundamentally affect the general health of the vulnerable groups particularly the elderly and the children. There is little or no decent food for their children. Some children are currently out of school and some of these may be indirectly associated with the energy crisis. Some are going through health challenges that may require warm environment but they could not access modern energy hence resulting into charcoal and firewood which may cause further ham to the body. Energy and health are inextricably connected with energy crisis affecting health, gender equality, clean water and environmental sanitation.

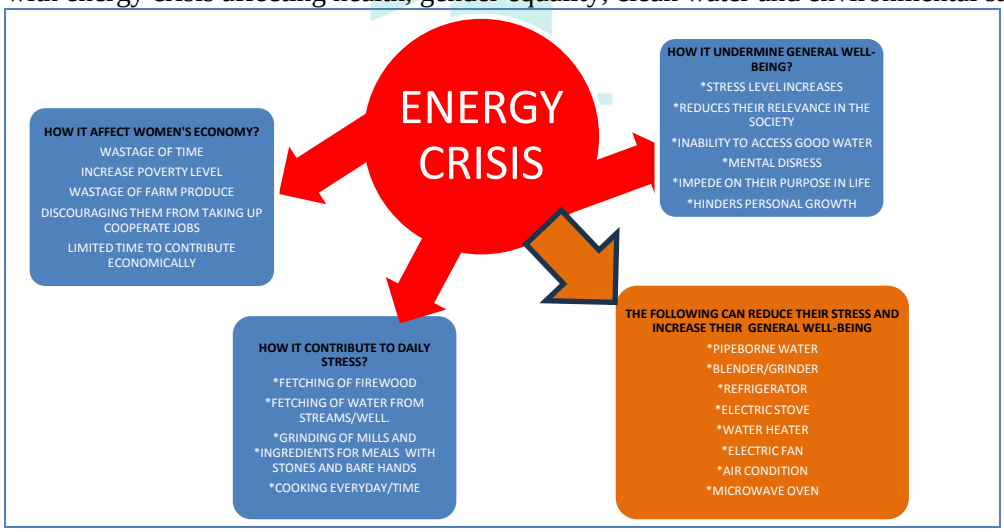

Fig. 1 The burden of energy crisis

METHOD

The study used a mixed method of social research to elicit responses from the respondents. The study used interview and questionnaire to explore the research objectives. Each of the method played a distinctive role in the study to examine the social reality of women in this society, it further expands the understanding of gender differences in social problems and issues.

Thirty women from 3 rural communities in Lagos were purposely selected to participate in the study. The study adopted a semi structure interview with a section on quantitative method. The questionnaire was used to elicit responses on the general wellbeing of the participants. The

RESULTS

This chapter presents the demographic characteristics and the analysis of the study conducted, followed by interpretation of the same. In this study, a total of Thirty (30) interviews was conducted as well as questionnaires, which was analyzed for the purpose of this study.

Table 1 Data Presentation on Demographic Characteristics of Respondents

Socio Demographic variables	F (%)
Gender	
Female	30 (100.0)
Marital Status	
Married	17 (56.7)
Single	13 (43.3)
Age	
18-25 years	5 (16.7)
26-40 years	12 (40.0)
41 and above	13(43.3)
Ethnicity	
Yoruba	18 (60.0)
Igbo	8 (26.7)
Hausa	4 (13.3)

Source: fieldwork 2023

From the above table showing the socio demographic characteristics of participants that were used for the study. Gender of participants all our participants were Female 30 (100.0%). Marital status of participants we had participants who are Married 17 (56.7%) and Single 13 (43.3%). Ethnicity of participants we had participants who belong to the Yoruba 18 (60.0%), Igbo 8 (26.7%) and Hausa 4 (13.3%).

Table 2 How has lack of electricity added to your daily stress?

Response	Frequency	Percentage
To a large extent	14	46.7
To some extent	10	33.3
To a very little extent	4	13.3
Not at all	2	6.6

Source: Authors Field Survey, 2023

Table 2 revealed that14 (46.7%) of the participants indicated that the lack of electricity in their area has added to their daily stress level to a large extent, while 10 (33.3%) of the participants indicated that the lack of electricity in their area has added to their daily stress level to some extent, also 4 (13.3%) of the participants indicated that the lack of electricity in their area has added to their daily stress level to a very little extent, Lastly, 2 (6.6%) of the participants indicated that the lack of electricity in their area have no significant influence on their daily stress level.

Table 3 How has lack of electricity affected you economically?

Response	Frequency	Percentage
To a large extent	19	63.3
To some extent	6	20.0
To a very little extent	3	10.0
Not at all	2	6.6

Source: Authors Field Survey, 2023

Table 3 revealed that 19 (63.3%) of the participants indicated that the lack of electricity in their area has affected them economically to a large extent, while 6 (20.0%) of the participants indicated that the lack of electricity in their area has affected them economically to some extent, also 3 (10.0 %) of the participants indicated that the lack of electricity in their area has affected them economically to a very little extent, Lastly, 2 (6.6%) of the participants indicated that the lack of electricity in their area have no significant influence on them economically.

Table 4 Does the lack of electricity affect you financially i.e., makes you spend more money than expected when it comes to basic amenities (cooking)?

Response	Frequency	Percentage
To a large extent	20	66.6
To some extent	6	20.0
To a very little extent	3	10.0
Not at all	1	3.3

Source: Authors Field Survey, 2023

Table 4 revealed that 20 (66.6%) of the participants indicated that the lack of electricity in their area has affected them financially to a large extent because they tend to spend more money than expected on basis amenities, while 6 (20.0%) of the participants indicated that the lack of electricity in their area has affected them financially to some extent because they tend to spend more money than expected on basis amenities, also 3 (10.0%) of the participants indicated that the lack of electricity in their area has affected them financially to a very little extent because it does not really affect their spending on basis amenities, Lastly, 1 (3.3%) of the participants indicated that the lack of electricity in their area have no significant influence on them financially because it does not affect their spending on basis amenities in any way.

Table 5 Does the lack of electricity affect you economically i.e., makes you spend more energy than expected when it comes to basic amenities (fetching water, fetching firewood)?

Response	Frequency	Percentage
To a large extent	19	63.0
To some extent	10	33.3
To a very little extent	1	3.0
Not at all	0	0

Source: Authors Field Survey, 2023

Table 5 revealed that 19 (63%) of the participants indicated that the lack of electricity in their area has affected them economically to a large extent because they tend to spend more energy accomplishing their daily tasks than expected, while 10 (33.3%) of the participants indicated that the lack of electricity in their area has affected them economically to some extent because they tend to spend some energy accomplishing their daily tasks than expected, also 1 (30%) of the participants indicated that the lack of electricity in their area has affected them economically to a very little extent because it does not really affect their day-to-day activities, Lastly, none of the participants indicated that the lack of electricity in their area have no significant influence on them economically because they don't spend more time accomplishing their daily task than expected.

Table 6 How has lack of electricity affected your general well-being?

Response	Frequency	Percentage
To a large extent	23	76.6
To some extent	5	16.7
To a very little extent	1	3.3
Not at all	1	3.3

Source: Authors Field Survey, 2023

Table 6 revealed that 23 (76.6%) of the participants indicated that the lack of electricity in their area has affected them in terms of general wellbeing to a large extent, while 5 (16.7%) of the participants indicated that the lack of electricity in their area has affected them in terms of general wellbeing to some extent, also 1 (3.3%) of the participants indicated that the lack of electricity in their area has affected them in terms of general wellbeing to a very little extent, Lastly, 1 (3.3%) of the participants indicated that the lack of electricity in their area have no significant influence on them in terms of general wellbeing.

SECTION C

Table 7 Which of these appliances do you have in your possession

Response	Frequency	Percentage
Microwave	6	20.0
Electric Kettle	4	13.3
Boiling Ring	7	23.0
Borehole Water	5	16.6
Hot Plate Cooker	4	13.36
Fridge/Freezer	7	23.3
Air Condition (A/C)	0	
Standing/Celling Fan	13	43.3

Source: Authors Field Survey, 2023

Table 7 revealed that
6 (20.0%) of the participants indicated having "Microwave" in their possession, while 4 (13.3%) of the participants indicated having "Electric Kettle" in their possession, 7 (23.0%) of the participants indicated having "Boiling Ring" in their possession, 5 (16.6%) of the participants indicated having access to "Borehole Water" ,, also 5 (16.6%) of the participants indicated having "Hot Plate Cooker/electric stove" in their possession, while 4 (13.3%) of the participants indicated having "Fridge / Freezer" in their possession, none of the participants indicated having "Air Conditioning (A/C)" in their possession, Lastly, 13 (43.3%) of the participants indicated having "Standing / Celling Fan" in their possession.

Table 8 Does the unavailability of light affect the usage of these appliances?

Response	Frequency	Percentage
Yes	30	100.0
No	0	0.0

Source: Authors Field Survey, 2023

Table 8 revealed that all the participants 30 (100%) agreed that the unavailability of light affect the usage of these appliances in their possession.

Table 9 How often do you use these appliances?

Response	Frequency	Percentage
Not so frequent	24	80.0
Somewhat Frequent	4	13.36
Frequently	1	3.3
Very Frequent	1	3.3

Source: Authors Field Survey, 2023

Table 9 revealed that 24 (80%) of the participants indicated that they do "not so often" use these appliances, while 4 (13.3%) of the participants indicated that their usage of these appliances is "not often", also 1 (3.3%) of the participants indicated that they "frequently" use these appliances, lastly, 1 (3.3%) of the participants indicated that their usage of these appliances is "very frequent".

Table 10 Simple Linear regression results for lack of electricity on psychological wellbeing

Variable	β	Beta	T	Sig	R	R2	Fcal	Pv
(Constant)	64.193		12.897	<.001	.121	.015	.417	<.05
Lack of electricity	.276	.121	.646					

a. Dependent Variable: Psychological Wellbeing

it was revealed that lack of electricity serves as a significant predictor of psychological wellbeing given the Beta and P value scores to be (β = -.121, P<.05). Furthermore, lack of electricity is responsible for 1.5% variance in psychological wellbeing of participants (R square = .015) which implies that lack of electricity explained 1.5% psychological wellbeing of the participants.

DISCUSSION

The study explored the specific burdens of lack of clean and modern energy on rural women in Lagos State Nigeria. The main aim of the study is to unveil the burdens of electricity crises on women in rural communities. The demographic variables indicated that 16.7% of the participants are emerging adults, while 40% of them are young adults and 43% of the participants are above 40 years, this simply means that the burdens that comes with lack of access to clean and modern energy is not age specific, everyone seems to suffer from it the same way. The participants comprises of single ladies and married women.

As predicted, the lack of clean and modern energy significantly contributed to daily stress, majority of the respondents affirm to the fact that lack of energy contributes to their stress as a reasonable amount to time is spent on attending to cooking and meal preparation. One of the respondents said

"I am looking forward to a period when I will have water running from tap and refrigerator to keep my food"

The extract is to further confirm that women in rural communities are facing a lot of stress that relates to fetching water from streams/wells, fetching firewood and charcoal for cooking. It is disheartening to note that despite all the resources that the government claimed they have spent on rural electrification projects, we still have several people in the villages without clean and modern energy to relief the stress faced daily in caring for the family. The participant claimed that energy crises has generally added to their economic burden to a very large extent as lack of energy has made them to continue in poverty, one of the respondents extract is stated below,

"lack of electricity brings about wastage to the perishable products in my farm, after selling the little I can in the market, the remaining products are mostly given out to neighbours because there is no modern way of preserving it, I always count losses after spending money and time on my farm"

Additionally, majority of the respondents said lack of clean and modern energy makes them spend more physical energy on cooking as they spend time in fetching firewood and water for cooking, one of them said

"my children sometimes do not go to school because they get tired after they return in the evening after travelling a long distance to fetch drinkable water and sometimes they go late to school because of the food I am cooking"

The respondents said they do not have most of the modern appliances that was listed in our tick boxes like Microwave, refrigerator, Air Conditioning, electric stove, pipe borne water, electric kettle etc., some of them admitted to having some of the modern appliances but that the lack of clean energy and modern energy does not make them to use it most of the times. Below is an extract from one of participants,

"I have fridge but I have not used it in the last six month,
my sister gave it to me but there is no light to power it"

The extract and findings of the study has thus unveil the burden of electricity crisis on women in rural communities in Lagos State.

The last objective predicted if lack of energy crisis will undermine their general wellbeing, the result is significant thus revealing that the impact of energy crises can actually predict the general well-being of an individual, the provision of electricity is a precondition for other SDGs like education for all, poverty reduction, access to health. Regular power outage weakens and sometimes makes people unhappy and brings a lot of discouragement to different aspects of life pursuits. The findings of the study has further corroborated the findings of Rao, et al (2018) who noted that energy systems are "not just another commodity, but the precondition of all commodities, the author equated it with basic needs of life like water and air. An evidence from sub-Saharan African indicates that power outages longer than 2 hours can increase the mortality rate of impatient by up to 43%. Tsagkaris, et al (2023) stated that inconsistent energy supply can threaten the life and well-being of inpatients and disrupts the continuum of in-hospital care, and the capacity of outpatient and emergency departments. Also, Irregular voltage can pose a major danger to facilities like biomedical equipment and sometimes affect the thermosensitive supplies such as vaccines, insulin, blood transfusion, among other products. The position of this author further justifies why energy supply is a necessity and a precondition for general well-being.

On a different note, energy crisis has a lot to do with access to modern healthcare, as there are no biomedical facilities that does not require clean and modern energy. The operating theaters , the emergency rooms, delivery room all require modern facilities. The healthcare providers in the rural communities must be provided with clean and modern energy in other to cater for the needs of the people. The healthcare providers are equivocally susceptible to psychological distress when the condition in which they work lack clean and modern energy.

CONCLUSION

Overall, the energy crisis is a global challenge that most developing nations fully bow to with African recording the continent with the poorest growth in energy infrastructure. The study concludes that energy crisis is a serious menace to the growth and development of all nations. No meaningful development can be achieve unless there is concerted efforts geared towards the improvement of infrastructures. Clean and modern energy is a critical infrastructure that must be given serious attention. Several life needs are tied to access to basic energy. The study unveiled the burden of energy crisis among women in rural communities of Lagos State, as predicted, all the objectives of the study pointed towards identifying the challenges that comes with lack of access to basic and clean energy. As seen in this study, clean and modern energy is not a luxury for city dwellers or the rich alone, but a necessity for every individual irrespective of age, status and educational background. Similarly, government should endeavour to take the electrification projects in rural communities serious in other to increase food supply.

RECOMMENDATIONS

The study recommends that future researchers should explore other areas in which energy criss has seriously affected in Nigeria particularly economy, education, manufacturing, health etc. It is important that the government must be committed towards using alternatives to the present grid to generate electricity for people in rural communities. Step should be taken towards provision of modern energy for all because this study did not explore how energy crisis has increased mortality rates especially after the major pandemic that hit most countries in the world. Reserachers should explore how energy crisis affrect the productivity and efficiencies of health workers especially in rural communities where the health workers predominantly rely on kerosene lanterns in the night. Action is important to safeguard the population health (physical and psychological) and provide amenities that will help reduce the problems of energy crisis in Nigeria.

REFERENCES

1. Apenteng, B.A., Opoku, S.T., Ansong D, Akowuah EA, Afriyie-Gyawu E.(2018). The effect of power outages on in-facility mortality in healthcare facilities: Evidence from Ghana. Global Public Health.;13(5):545-555. 10.1080/17441692.2016.1217031 [PubMed] [CrossRef] [Google Scholar]
2. Mazur, A., & Rosa, E. (1974). Energy and life-style. Science, 186(4164), 607–610.
3. Rao, N. D., & Min, J. (2018). Decent living standards: material prerequisites for human wellbeing. Social indicators research, 138(1), 225–244.
4. Stern, D. (2011). Energy and Economic Growth: The Stylized Facts. Retrieved 7/23/2019 from https://asiaandthepacificpolicystudies.crawford.anu.edu.au/pdf/seminars/2011/20111101_presentation_stern.pdf
5. Tsagkaris, C., Laubsher, L., Matiashova, L., Lin, L.C, & Isayeva, A. (2023). The impact of energy shortages on health and healthcare in Europe. Health Sci Rep. 2023 Jan 26;6(2):e1075. doi: 10.1002/hsr2.1075. PMID: 36721397; PMCID: PMC9880148.