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TOWARDS UNLEASHING SUB-SAHARA AFRICAN
RESOURCES FOR SUSTAINABLE DEVELOPMENT:
MULTIDISCIPLINARY APPROACH

ANALYSIS OF COOKING ENERGY POVERTY IN RURAL HOUSEHOLDS OF BATAGARAWA LOCAL GOVERNMENT AREA OF KATSINA STATE.

Muhammad Salihu Aliyu

Department of Urban and Regional Planning,
Federal University of Technology, Minna,
Niger State, Nigeria

Martins, Valda I.

Department of Urban and Regional Planning,
Federal University of Technology, Minna,
Niger State, Nigeria

Abstract

Cooking energy poverty among rural women is a significant issue with implications for environment, economy, and social equity. This study analyzes the extent and drivers of cooking energy poverty among rural women in Batagarawa Local Government Area, Katsina State, Nigeria. The primary objective was to analyze cooking energy poverty status among rural women using expenditure metrics and determine key drivers of energy choice. A survey was conducted among 382 rural women selected through multi-stage sampling. Data on energy expenditure and socioeconomics were gathered and analyzed using FGT approach and logit regression model. Findings reveal widespread cooking energy poverty, with 73% of sampled households spending below the defined energy poverty line. Key drivers are access to energy sources and convenience, while income, education, & safety are not statistically significant. The study makes an original contribution by providing localized insights on extent, metrics, and drivers of cooking energy poverty. Results can inform targeted policies and interventions to alleviate cooking energy poverty among rural women in the region.

Keyword: Energy Poverty, Environment, Sustainable Energy, Women.

INTRODUCTION

Cooking energy poverty in rural households refers to deprivation to modern, clean and efficient cooking technologies as a result of economic ill being and perception of rural dwellers towards using sustainable technologies. Poverty is often defined by one dimensional measure, usually based on income, but no single indicator can capture the multiple dimensions of poverty (Alkire 2015). Three quarters of people considered as cooking energy poor are also multidimensionally poor. When food is adequate poverty is gone, this study takes the challenge a little further by introducing ways which this food will be cooked using different energy sources. Many do not understand the implications of lack of cooking energy sources or its inadequacy results to multidimensional poverty. Further, energy use from industrial down to residential when available, affordable and sustainable, will exponentially have positive impact on the economy. Poverty is a condition in which people are exposed to multiple disadvantages actual and potential (Ophi 2015).

Energy poverty is a cluster of deprivations in one or more energy sources, this form of poverty is interlinked to income, education, exposure and acceptance of a particular form of energy for use in households (Alkire, Kanagaratnam, and Vollmer 2021). The sustainable development goals in their

report captured two goals which are of interest to this research the first is goal seven which states to end poverty in all its forms. Availability of sustainable and access to clean cooking energy is the live wire of any economy. When people have access to clean cooking energy you would have solved a large proportion of their problems (Franco et al. 2019). Not only is cooking energy needed for domestic consumption, its availability creates an enabling environment for small-scale businesses that uses cooking energy to thrive. For the purpose of household health and environmental sustainability having access to a modern cooking fuel is also important. Improved low-cost cooking stoves reduce the amount of fuel used this translates into direct cash savings. Also, they reduce respiratory health problems that are associated with smoke emission from traditional biomass stoves and offer a cleaner air, a better home and working environment. Other benefits from low-cost cooking stoves include the reduction of the burden placed on women and children in fuel collection, creating more time for women to engage in other activities, including income-generating one (Adkins, Oppelstrup, and Modi 2012).

Energy Poverty

Energy poverty is commonly defined as the lack of access to contemporary energy sources, the minimum physical level of basic energy demands, and the largest amount of energy expenditure in comparison to total disposable income. (González-Eguino 2015) has identified three types of energy services based on household demand. However, one of the greatest roadblocks to global economic progress has been energy. As indicated by (Nduka 2021), Nigeria is the largest country in Africa which is not technologically disrupted due to energy poverty as opposed to Countries like South Africa, Tunisia, Tanzania among others which has seen significant development due to citizens enjoying fair access and affordability to sustainable energy sources. There is no way to eliminate poverty without addressing the issue of energy. It has been noted in several research conclusions. As examined by (Sanusi and Owoyele 2016), a high level of poverty in developing nations is reflected in energy poverty, and energy poverty is an indicator of poverty because part of what is required for a good living is lacking. Energy and poverty are inextricably linked; modern economies can't function without modern energy sources (Barnes et al. 2011)

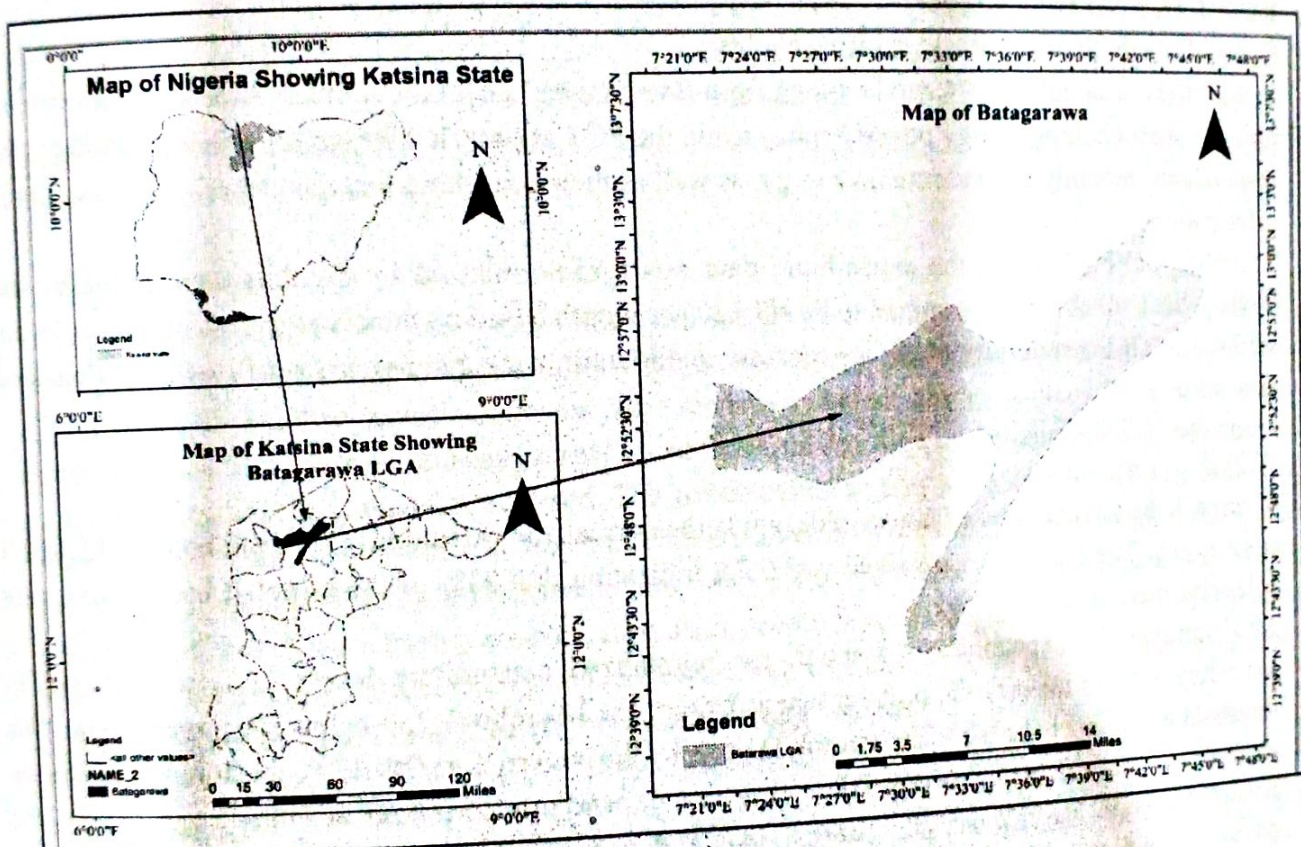
Cooking Energy Poverty

The instability of the global energy price of Compressed Natural Gas, Premium Motor Spirit, Diesel and Electricity has made households using this cooking energy to reduce their expenditure on cooking energy use. There has been increase in the number of households using charcoal, firewood and sawdust as source of cooking in Minna. This results to changes in methods for using alternate cheaper sources of cooking energy. Deprivation in cooking using advanced cooking energy sources be related to climate change, low income, environment, access and education. which makes households' energy poor. (Abd'razack et al 2012) (Ohadugha, Sanusi, Morenikeji 2018) observed while analyzing Household domestic cooking energy preference in Minna that household's energy usage and accessibility to different sources of cooking energy are determined by rapid state of physical, social and economic development. This has exponentially disrupted the energy sector, this leads to acute shortages and price fluctuations because many poor urban households will be lacking access to modern energy carriers. Cooking energy poverty is a set back to urban and rural households in sub Saharan Africa, although there is a fair access to electricity, its limited use by households is seen in the energy for cooking where the majority of the households depend on unclean energy and thereby affecting the overall energy wellbeing (Sanusi and Owoyele 2016).

Single indicator cannot capture the multiple aspects that constitute poverty, wellbeing or empowerment. And for policy analysis, it is essential to track the multiple and interconnected disadvantages poor people experience. (Alkire 2015).

STUDY AREA

Batagarawa local government was created in 1991, it shares borders with the Local Government Areas of Katsina, Jibia, Kurfi, Rimi and Kaita. Located in the region of Katsina. Katsina's capital, Its approximately 9.4 km away from Batagarawa as crow flies. The distance from Batagarawa to Nigeria's capital Abuja, it's approximately 427 km as crow flies. With a total area of 433 square kilometers and has an average temperature of 35C, wind speed in the area is estimated at 5km/h while humidity level is pegged at 11 percent. The LGA is among the three tiers of the Nigerian government with the Chairman as the head and have elected Councilors as his subordinates. This local government area primary purpose is to help in economic and social development of the communities or areas in their jurisdiction.



Map of the Study Area (Batagarawa, Katsina State)

Source: Geography Remote Sensing Lab, FUT Minna (2022)

METHODOLOGY

- The data required for the purpose of this survey include socioeconomic data, demographic data, data on choice of cooking fuel, and data on reasons for using particular cooking fuel activities. The required data information was collected from the women Batagarawa households through observation and questionnaire administration. The projected population of women Batagarawa from 2006 census data population to 2022 population figure of 157,927, with Morgan and Krejci sampling calculator establishing the sample size to be 378. A