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Ethnically diverse but equal societies are less energy poor

Energy poverty

Major concern on the public policy agenda across the globe entails the need to ensure affordable, reliable and modern access to energy. This has further underscored the need to understand key determinants of energy poverty and investigate how ethnic fractionalization may induce changes in energy-related expenditures in settings characterized by

ethnic divisions. Energy poverty refers to the “absence of sufficient choice in accessing adequate, affordable, reliable, high-quality, safe, and environmentally benign energy services to support economic and human development”. Access to clean, reasonably priced, steady and modern energy sources enhances socioeconomic development and has been linked to the attainment of the Sustainable

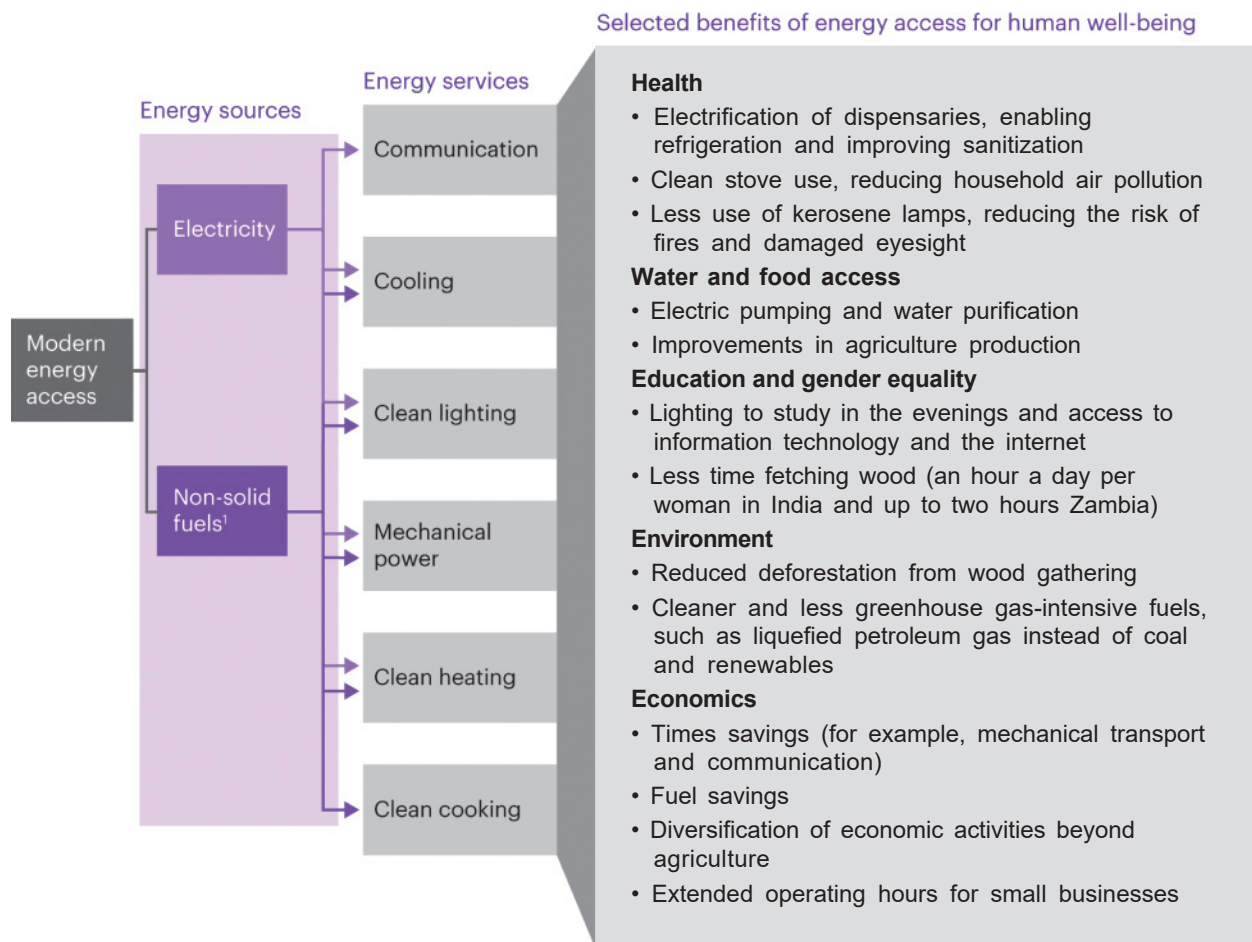


Fig.1 Benefits of modern energy access for human well-being

Development Goals (SDGs), particularly the SDGs on no poverty, zero hunger, good health and well-being, gender equality, climate action, and life on land.

These benefits notwithstanding, the expensive nature of modern and clean fuels, coupled with the low purchasing power in developing countries, have hindered the efforts of governments and development agencies in expediting households' transition from the use of traditional to modern fuels for lighting and cooking.

Financial inclusion

Financial inclusion (FI) improves household income and has inequality- and poverty-reducing effects because it enables households to engage in futuristic investments, maintain consumption levels over time and withstand economic shocks. Using different empirical approaches, these studies have largely shown that increases in FI leads to a rise in income for low-income households. A decline in rural poverty in India took place due to an increase in bank branches in rural areas. Increase in FI is correlated with a decrease in a household's probability of poverty and inhibits a household's risk of future poverty. Various approaches to measure both FI found that an increase in multi-dimensional FI, reflecting access to bank account, access to credit and access to insurance, relates to a decrease in poverty.

Populations at risk

Nearly 2.5 billion people globally depend on traditional biomass for cooking meals. About 120 million people use kerosene while 170 million people use coal. In sub-Saharan Africa (SSA), about 905 million people are without clean cooking fuels while 578 million people are without electricity. These account for the high energy poverty levels in many SSA countries. Available data for countries such as Malawi

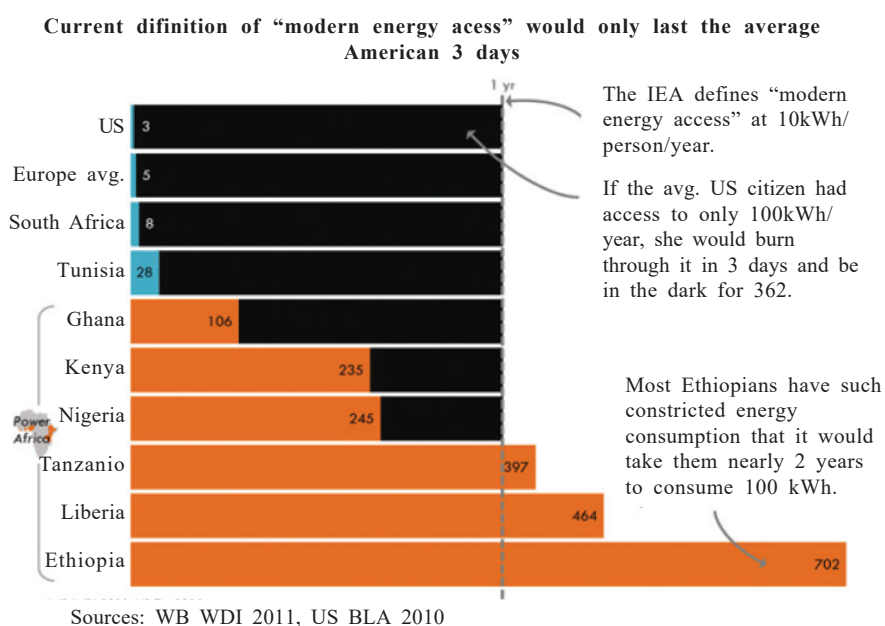
and Madagascar indicate that energy poverty is as high as 98% and 97% respectively. The high incidence of energy poverty has severe socioeconomic implications on the health, livelihoods and social wellbeing of the population. Particularly, with respect to health and wellbeing, the World Health Organization (2016a) indicates that exposure to household air pollution from solid fuel used for cooking causes 4.3 million premature deaths annually, out of which 60% occur in women and children. Exposure to household air pollution poses the single greatest health risk for children and women in SSA. Also, the collection of firewood as well as cooking by women and girls using inefficient stoves have substantial burdens on their time use, resulting in the perpetuation of gender-related disparities in labour market and education outcomes. Poverty is defined as the absence of choices and opportunities required to lead a life of dignity. Among these opportunities is clean and modern energy. The United Nations Development Programme (UNDP) defines 'energy poverty' as the absence of modern cooking fuel, and of electric light to carry out basic activities after sundown.

Reflecting this trend, recent studies on energy poverty in low-income countries have underlined the importance of going beyond electricity connections, and more focus is being placed on reliability and affordability.

Case in India

By this definition, India is energy impoverished, with an estimated 580 million people continuing to be dependent on traditional biomass for cooking even in 2030. As of 2011, 86 per cent of rural households, and 20 per cent of urban, relied on biomass for cooking. A family of eight in the rural regions, on average, burns 70–80 kg of fuel wood each week. It is most often the women who walk some two km twice a week to fetch the wood. It is estimated that one of every four (25 per cent)

of the annual 4.3 million global premature deaths caused by Household Air Pollution (HAP) occur in India. Some 400 million people in India, of whom 90 per cent are women, rely on solid biomass and are exposed to detrimental health conditions that manifest as respiratory and pulmonary diseases, or other disorders like blurred vision. On a global scale, around 3 billion people do not have access to improved cooking technologies. A household which has access to improved cooking technologies is exposed to indoor air pollution measured at 25-50 micrograms per cubic meter per day, as opposed to an exposure of 400-500 micrograms per cubic meter per day for a household that does not use improved cooking



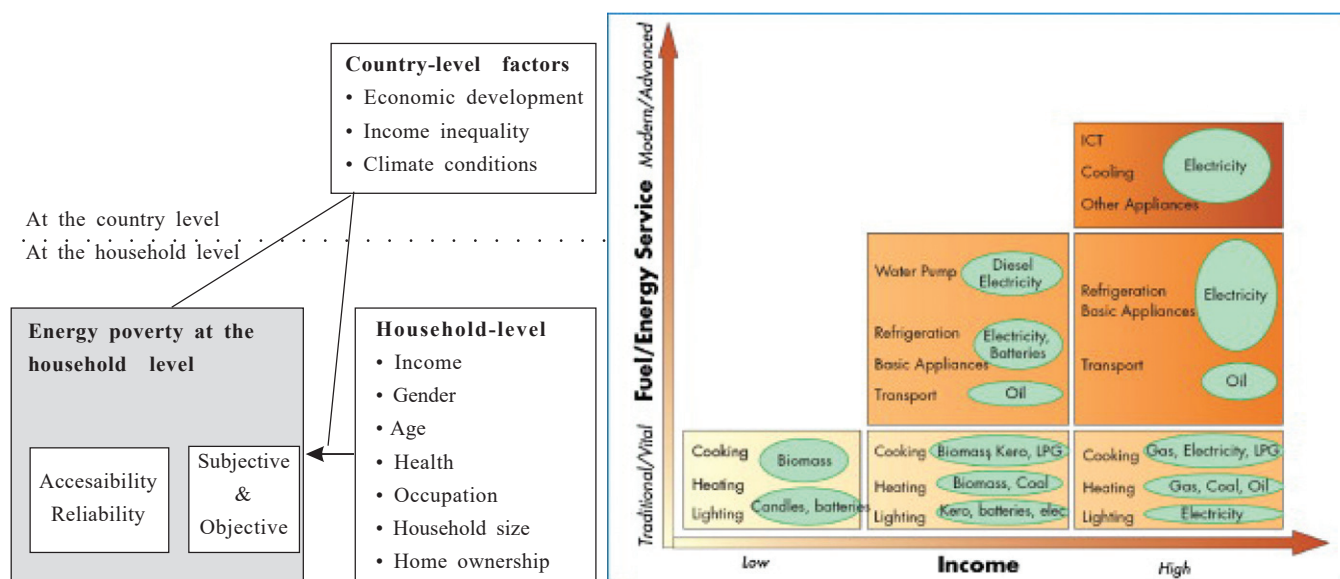


Fig.3: Factors affecting energy poverty

fuel and technologies. Rural Indian women, on average, spend five to eight hours every day on cooking-related activities; 20 per cent of this time is used in securing fuel wood alone. The heavy workload takes a toll on the health of these women who are often, to begin with, undernourished. Poor nutrition, compounded by the workload, including travelling by foot a minimum of 2.5 km at least twice a week, lugging 40 kg of heavy wood, and then cooking in ill-lit conditions and using inefficient biomass stoves that cause indoor air pollution—altogether increase their susceptibility to anaemia and respiratory diseases, and in turn raising their risk to pre-natal mortality and post-natal complications. For India’s women, energy poverty ultimately accrues in time poverty. It holds them back from engaging in income-generating activities, availing opportunities to enhance their skills set, getting education, and adapting to and mitigating the impacts of climate change.



The goal next

Seen through the lens of energy justice, securing affordable energy has universal value, and there is an urgent need to

recognize who is marginalized in energy systems on a global scale. To this point, whether indicators for energy poverty can reflect live experience is key to obtaining a deeper understanding of the plight of the energy poor.

Higher energy poverty in terms of accessibility means that households own few electric appliances and are dissatisfied with the electricity supply conditions. However, the results show that this situation does not translate into worse affordability for electricity services. Although low-income countries have the lowest level of access to electricity, the probability that households feel their electricity costs to be “very expensive” is lower than in middle income countries. This implies that households in the initial stage of expansion of the electricity infrastructure do not expect the level of electricity services represented by the global standard. The second explanation is that low energy efficiency in middle-income countries exacerbates unaffordability. Better energy efficiency enables consumers to access more energy services with the same budget. Several studies show that residential energy efficiency is low in countries where this study finds energy poverty in terms of affordability to be high. Eastern and Southern European countries suffer lower levels of energy efficiency than Northern and Western European countries. International Energy Agency shows that the energy efficiency in the transportation sector is worse in South American countries than in countries such as Japan, the U.S., China, and Canada due to less use of electrified vehicles. The third reason is that policies specific to energy poverty might have mitigated energy poverty. Policies addressing energy poverty have been most discussed in EU member states and are stipulated among the targets in the EU policy framework more than anywhere else.

Human Rights Perspective

There are close to three billion people living with little or no access to modern energy sources for household and productive uses. Recognizing the importance and magnitude of this problem, the UN General Assembly designated 2012 as the International Year of Sustainable Energy for All, and the UN Secretary-General has launched a global initiative on Sustainable Energy for All by 2030.

Is lack of adequate energy a human rights issue? Although the Universal Declaration of Human Rights includes the right to a standard of living that is adequate for health and well-being, energy is not specifically mentioned. Some level of energy access seems to be essential for basic subsistence, including fuel for cooking food and keeping warm. But is there a right to “modern” energy services, such as power for water pumping, agricultural production, food processing, lighting and communications? In 1986, the UN member states expanded the list of human rights to include a right to development “by virtue of which every human person and all peoples are entitled to participate in, contribute to, and enjoy economic, social, cultural and political development” (United Nations General Assembly 1986). Possibly a right to energy would fall within this category, as a necessity for people’s economic and social development.

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