

Can energy equality improve India's human development index?

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Amartya Sen's famous 1979 Tanner Lecture delivered at Stanford University, California (USA), was titled 'Equality of What?'. In this lecture, Sen introduced the 'Capabilities Approach' for the first time. He first offered a compelling critique of existing utilitarian approaches to evaluation of a society. Then, he advocated for evaluation metrics developed on the ability or capacity to do basic things. Over the years, this approach formed a strong foundation for human development paradigm. This shifts the focus from economic growth towards a measured progress of a society based on people's capabilities. It emphasises on the various factors needed to realise their full potential as human beings.

Access to modern clean energy, under Sen's framework, is a capability. It enables development for households in many ways. First and foremost, it removes drudgery and allows one to efficiently cook, commute, communicate, and condition room temperature. Clean cooking ensures minimal indoor air pollution hence preventing from potential respiratory diseases and/or eye-irritation. Lighting extends study and working hours for a household, thus benefiting educational and income generating activities, respectively. Water pumps supply drinking water, irrigates fields, and treats wastewater. Cold storage increases life of food and medicines. Using electrical appliances improves productivity. Mobility and communication builds connections with the outside world. In short, affordable and sustainable energy services have a multiplier effect on other sectors—health, education, agriculture, industry, and services.

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Globally, universal energy access has been extremely low in priority until recently. Despite this recognised multiplier effect, it failed to figure amongst the Millennium Development Goals (MDGs), formulated in 2000. The realization that energy was critical to achieving all the MDGs came later. Since then, there have been some recent amendments. The UN General Assembly has unanimously declared the period of 2014-2024 as the decade for universal sustainable energy. Energy was included among Sustainable Development Goals (SDGs), which replaced the MDGs. Goal 7 of SDGs reads: "Ensure access to affordable, reliable, sustainable, and modern energy for all."

Rural Electrification: A grim picture

In India, urban-rural divide in energy access is an important case in point. It is no secret that India's electrification plan did not prioritize providing electricity connection to rural households. Prior to October 1997, a village in India was deemed to be electrified if electricity had reached its boundary even if no household in the village got a connection. The definition was then revised to restrict the boundary to inhabited locality, without any conditionality on household electrification. It was revised in February 2004 to the current definition which terms a village as electrified even if 90% of the households do not have any electricity connection.

The latest census indicates only 55% households in rural areas use electricity as their prime source of lighting as opposed to 93% in urban areas.

Rural areas also face severe load shedding. The electricity consumption gap between urban and rural areas has

increased more than three times between 1987 and 2011. In terms of cooking energy, rural-urban divide is more staggering. The latest NSS data shows that four out of five households in rural area use traditional, polluting, and inefficient biomass fuels. In urban areas, such households are one in seven.



The electricity consumption gap between urban and rural areas has increased more than three times between 1987 and 2011. | Photo Courtesy: Smart City

Prioritizing last mile supply

The question remains. How can India achieve 'energy equality', i.e., universal access to basic energy services? Constitutionally, energy equality can be brought among fundamental rights under the larger ambit of Right to Life. This will give more emphasis on equitable distribution of energy among citizens. It is time we redefine village electrification to include the condition that more than half of the households must have an electricity connection. This would shift the focus to household electrification and last-mile electricity supply.

Given the UID and financial inclusion drive in the country, along with the encouraging results from direct cash transfers in LPG subsidy, such methods must be explored for all forms of energy subsidies including electricity tariff subsidy in agriculture. This will not only minimise the leakage in the system, but also, incentivise the farmers to economise on their water usage thereby improving the groundwater situation. The energy star ratings need to be extended to as many goods and services as possible to encourage consumer demand to be more energy efficient.

Comprehensive evaluation

Between urban and rural area, the strategy should be, 'common but differential responsibility'.

On the supply front, the performance of distribution companies needs to be judged not only from the profit they

generate, but also from the amount of renewable supply they are able to tap and the number of unserved households to which they are able to provide access. Renewable energy promotion needs to be designed with energy equality in mind. Between urban and rural area, the strategy should be, 'common but differential responsibility'. This, for instance, would lead to a greater share of solar PV in urban areas, and the saved conventional electricity can be supplied to rural areas to offset some of the load shedding.



Renewable energy promotion needs to be designed with energy equality in mind. | Photo Courtesy: Inhabitat

To relieve the households from the uncertainties of the renewable, the approach should be, 'institutions first, households later'. For instance, the uncertainties associated with operation and maintenance of biogas-based power can be better managed at an institutional level than at a household level. Also, wherever possible, for greater sustainability, energy projects must be innovatively linked to livelihoods opportunities. Solar-powered sewing machine is one such example.

Use of technology

Technology can act as the equaliser in energy. It has demonstratively done so in the case of telecommunication. Falling prices of renewable energy technologies coupled with application of advanced information and communication technology can do the trick. The policies and programmes of renewable energy technologies need to be pursued with a long term focus and on a large scale in order to have greater scope for innovation and learning process, thus leading to greater economic scale of production, wider distribution networks, and stronger interconnectedness in human skills and other technologies.

Energy equality alone is not sufficient to achieve the goal of an equitable society. Provision of equal education, health care, and other basic services, and social modernisation are also essential. Nevertheless, energy equality remains a

necessary condition for enabling people to lead a life, as Sen remarked, they have reason to value.

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