Getting reliable energy to the urban poor

PROVIDING PEOPLE IN SLUMS WITH A RELIABLE ELECTRICITY SUPPLY IS NOT AS GREAT A PROBLEM FOR GOVERNMENTS AND LOCAL AUTHORITIES AS IT WOULD SEEM, ARGUES *VIJAY MODI*, PROFESSOR AND CHAIR OF THE DEPARTMENT OF MECHANICAL ENGINEERING AT COLUMBIA UNIVERSITY IN NEW YORK. HE ALSO SERVES ON THE MILLENNIUM PROJECT HEADED BY JEFFREY SACHS.

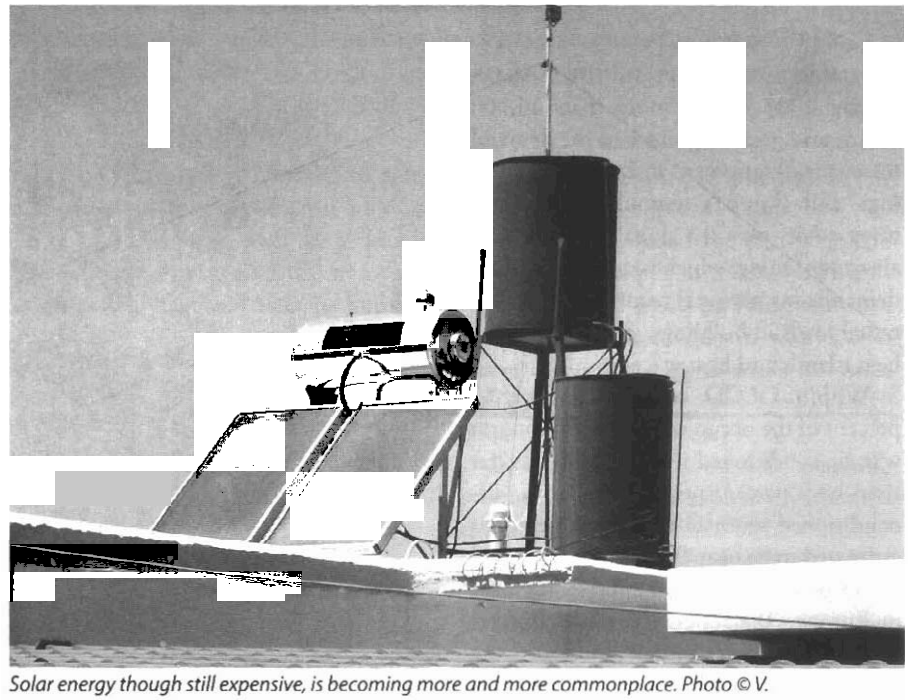
PEOPLE LIVING IN INFORMAL SETTLEMENTS often get their electricity from private intermediaries who have acquired a utility connection and then resell it to their neighbors, generally at fixed monthly costs based on the number and type of appliances that are used.

These intermediaries cater to a real need and understand their clients – who often cannot afford the upfront cost of a legal connection to the grid and can only afford to pay in small sums, sometimes erratically. This leads to a situation where the urban poor frequently end up paying far more per unit of electricity in the process, with a provider-client relationship that is essentially monopolistic but not regulated.

They cannot avail themselves of lifeline rates either, a mechanism that allows the poor to obtain a basic initial block of service at a low cost, a service provision that governments frequently use to meet the needs of the poor.

Utilities services, however, have much to learn from the intermediaries in informal settlements. First, there is a real demand for the service and an ability to pay for it, provided the initial costs are kept minimum. Secondly, it is critical to keep billing and collection costs to a minimum. It is well within reach to achieve these goals since the high densities allow low connection costs. With modern prepaid card technology it is possible to virtually eliminate the need for meter reading, billing, collection and enforcement.

Informal urban settlements have very high population densities and while high densities can make services that rely on the natural environment increasingly difficult to manage, such as water and sanitation, high densities offer a unique opportunity when it comes to electricity. The Kenyan capital, Nairobi, for example, has over 100 slum communities that are home to 2 million people. Getting a legal, metered electricity connection to this entire group, can cost as little as 200 million US dollars in initial investment – a cost lower on a per connection basis, than what it would take to bring electricity to the rural poor living in dispersed settlements. It would enable electricity to be delivered to a household for as little as 100 Kenya shillings (about US $1.25) per month.



Solar energy though still expensive, is becoming more and more commonplace. Photo © V. Kitio/UN-HABITAT

A more challenging problem is that of clean cooking-fuels in informal settlements. Energy in the form of cooking fuel is generally the dominant energy need of the urban and rural poor alike. The cost of charcoal in many large cities of Africa is only marginally lower than the cost of domestic cooking gas (LPG). If the initial cost of LPG stoves and cylinders was subsidized, and LPG could be sold in smaller containers with a means to the target the poorest of the urban poor, perhaps with vouchers, the substitution of charcoal or firewood with LPG would have many positive health and environment benefits. Not least it would give women who spend many hours of their time collecting wood or charcoal more free time. But LPG programmes have to address the problems of heavy down payments for initial access.

"City-ward migrants are in many cases the most highly skilled, highly educated, and highly motivated members of rural society. They are 'pushed' towards the greater opportunities afforded by the city for themselves and their children, and they go to heroic lengths to get there and start anew," said Ms. Janice Perlman, in her paper, *Misconceptions about the Urban Poor and the Dynamics of Housing Policy Evolution*. Such people, she said, have "the aspirations of the bourgeoisie, the perseverance of pioneers, and the values of patriots.

What they do not have is an opportunity to fulfill their aspirations." With their skills and education, this group is most likely to take advantage of opportunities afforded by electricity.

Access to electricity and modern cooking fuel can complement the broader social and economic needs of the urban poor.

These are training for better skills, effective social institutions for delivery of health, education, day-care and community centers, and clean water. Income generation could be facilitated by making it possible to legally operate small businesses with access along main roads that can cater to a wider city population that can rely on the informal settlements as a resource for repair, services and crafts. Reliable electricity is vital for these small businesses to be able attract the urban middle class.

Urban areas can be engine of growth and the residents of informal settlements are an important driver of this engine. Affordable, reliable energy services are vital to meeting the aspirations of the urban poor as well as the Millennium Development Goals.