

Energy in Slums - Barriers to access to electricity

Research Brief

Key words: Slums, Utilities Private Sector, Metering, Informal Communities, Energy Conservation

One of the greatest problems facing the poor is a lack of availability of legal electricity connections, especially in illegal settlements. In order to reach these households, utilities need to be encouraged to serve illegal communities - but this requires political commitment. The private sector has demonstrated that it can work with low income communities, and even unstable communities.

To achieve the MDG of reducing the proportion of people living in extreme poverty by half, commensurate decreases in the number of people without access to electricity and clean cooking fuels are required.

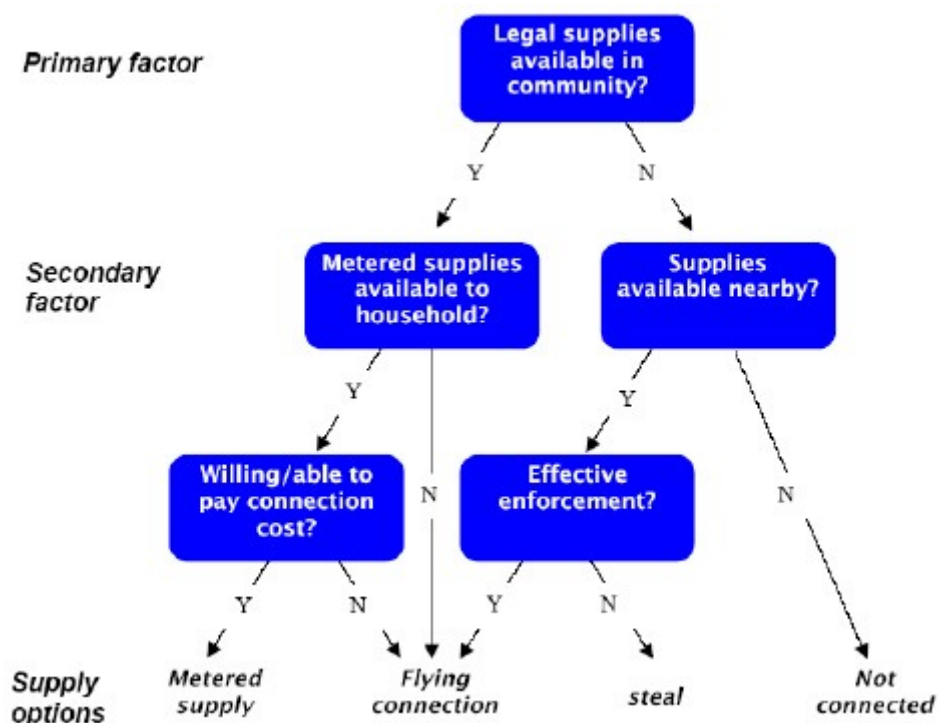
A Framework for Action on Energy. UN WEHAB Working Group, 2002.

The conventional view is that the high cost of connecting to infrastructure services presents the most significant barrier to access for the poor. This research confirms that connection costs do indeed present a barrier, but it shows that the lack of availability of formal connections is much more important (see Figure 1, based on survey locations). Where households were entitled to metered supplies, almost all were connected. Households can be denied legal access for a number of reasons, mostly related to the illegal nature of settlements. In order to extend the benefits of urban electrification to the poorest in society it will, therefore, be necessary to find ways of supplying illegal settlements. Commercial solutions can be found, but they will only be possible where political will exists.

This research sought to identify barriers preventing low income urban households from accessing electricity, and preventing them making formal connection in particular. The project has gathered data from both households (demand) through field surveys, and from local supply utilities (supply), which had developed some innovative practices. The aim of the project was to gather data on the use of electricity amongst the urban poor in order to inform future policy decisions on power sector reform; the Purpose statement was 'to promote a pro-poor policy in private sector participation (PSP) to improve the access and affordability of electricity services to the urban poor'.

Methodology

This project involved two phases. *Phase 1* was designed to prove the concept of the research. It involved a Review of electricity industries and pro-poor policy instruments, drawing on other utilities and key players in partner countries. A workshop in India and the first country survey also in India and key stakeholder interviews and household



surveys gathering data on barriers to access. A preliminary analysis then led into *Phase 2*, where the country surveys, interviews and household surveys were conducted in the Philippines and South Africa. Finally a set of policy reports tailored to each of major stakeholder groups were produced.

Research Highlights

Conventional wisdom suggests that people in informal (illegal) settlements cannot be supplied electricity without conveying a certain legitimacy to their settlement. With privatisation and the growth of innovative utility provision, there are options that allow for provision of electricity untied from implicit endorsement of settlements. The household surveys show a strong willingness to pay for metered supplies, among all groups including those in informal settlements. Their use of flying connections and other forms of theft are predominantly due to an inability to access metered supplies (due to current regulations and required documentation). **The research indicates that if innovative "official" solutions are put in place for electricity provision to informal settlements, the poor will respond.**

Conventional wisdom also states that the high cost of connection acts as a significant barrier to the poor getting access to energy. Whilst evidence from the research supports this view, it seems to suggest that, within the urban context, this is not the major barrier (see diagram on previous page).

The research shows that there is a universal willingness to pay for metered supplies, and that households are prepared to pay for a good quality supply.

Recommendations

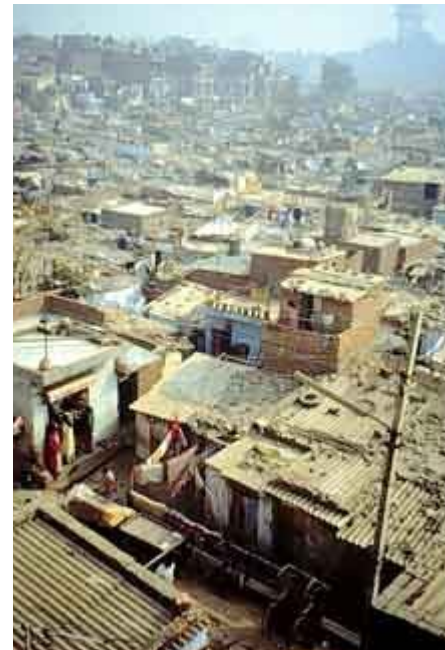
- **Relaxing the requirements** for metered connections will reduce barriers
- Lack of availability of legal supplies is the main barrier to access. The poorest can only gain access to electricity if the **political will** to provide services exist, and appropriate instruments are implemented.
- **Electricity offers advantages in terms of safety and health** – reduced risk of fire, and elimination of hazardous products of combustion (compared with kerosene). It also offers additional improvements in quality of life, principally in terms of lighting and entertainment. On these grounds, the electrification of low income communities should be pursued as a development goal. In terms of environmental policy, there are, however, negative implications of substituting local combustion of fuels with conversion to electricity in centralised generating plant.
- Where households steal electricity, electrification is a means of **converting non-technical losses** to revenue. There is a general willingness to pay for metered electricity amongst those without electricity and those with illegal supplies.
- **Regularising the status of informal communities** can permit the introduction of metered connections; this can be done either formally or informally (e.g. through tacit recognition of community).
- The electrification of informal settlements should be stimulated through statutory requirements on utilities. However, it is important that these requirements contain a mechanism for achieving shallow connection charges. The cost of investment could be recovered through **tariffs**, or could underwritten by **guarantees** from government or donors.
- Relaxing the requirements for entitlement to metered connections.
- Initiate **public awareness campaigns** aimed at informing consumers on the relative costs and safety implications of fuels, and on raising 'legal awareness' when entering into contracts.
- **Energy conservation measures e.g.** a campaign to disseminate low energy lamps in particular would have the greatest proportional impact on low income households.
- Establishing a **local utility presence** (through decentralized companies) has been effective in devising local solutions to address local conditions.

The full report is available to read at:

www.gamos.org.uk/urbanenergy/

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