POWER FOR ALL RESEARCH SUMMARY

Effectiveness of Electricity Subsidies for Low-Income Households in Sub-Saharan Africa and India

POWER FOR ALL

70x

INCREASE IN NET HOUSEHOLD SUBSIDY COSTS IN INDIA 2005-2015

13%

PERCENTAGE OF RESIDENTIAL ELECTRICITY SUBSIDIES THAT FLOW TO HOUSEHOLDS BELOW THE POVERTY LINE IN INDIA

10%

PERCENTAGE OF RESIDENTIAL ELECTRICITY SUBSIDIES THAT FLOW TO TWO LOWEST INCOME QUINTILES IN SUB-SAHARAN AFRICA

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Recent World Bank reports on India and sub-Saharan Africa (SSA) reveal that electricity tariff subsidies are both hugely inefficient and regressive. Tariff reform and DRE solutions can help target low-income households.

Residential subsidies disbursed in the form of low tariff levels represent a significant public cost-burden that often do not reach low income households.

» Total residential subsidy is equivalent to 0.4% of Indian annual GDP. However, only 13% of all subsidy payments flow to households below the poverty-line (BPL).[1]

» Between 2005 and 2015, the net cost of household electricity subsidy in India grew by 70-times, from approximately USD 29 million to USD 2 billion. Keeping tariffs artificially low while expanding grid-access has led to ballooning subsidy costs as well as increased subsidy leakage to above poverty-line (APL) households.[2]

» In SSA, subsidizing residential tariffs accounts for 40% of utility deficits and is the single largest source of these deficits.[3] Utility deficits can represent up to 2% of total GDP in some countries (e.g. Madagascar).[4]

» Only 10% of electricity subsidies in SSA flow to two lowest quintile groups in terms household income.[5]

Due to limited electricity access and specific tariff structures, residential tariff subsidies end up benefiting higher income households than lower income ones.

» In 2010 over 70% of residential tariff subsidies in India flowed to households in the three richest quintiles, while the bottom two quintiles received less than 30%.[6]

» Tariffs often fail to cover high fixed or minimum costs, making them more regressive. In Rajasthan state, a household consuming 25 kWh per month effectively pays Rs. 5.95/kWh while a household consuming 300 kWh pays Rs. 3.60/kWh.[7]

» High initial connection costs are another factor in electricity subsidization. In Kenya, for example, average connection fees are estimated at USD 400 per household, a significant cost in a country of annual per capita income of USD 1,300.[8]

» To avoid this, it is common practice in SSA for multiple households to connect to a single meter. However, this aggregates a household's electricity demand at a higher level, preventing those households from taking advantage of subsidized tariff rates provided on the basis of total electricity consumption (called lifeline tariffs).[9]

While direct cash-transfers for below poverty-line (BPL) households is ideal, accurately identifying BPL households can be difficult in many cases, requiring subsidy reform.

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By the Numbers:

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» Various subsidy reforms can be introduced in the short- to medium-term, taking into account the specific nature of each electricity market. India, with differing subsidy and tariff structures state by state, offers a great comparison.

» Punjab has a tariff schedule that targets and provides BPL households with free electricity, while charging higher consumption units to offset much of the costs. As a result, Punjab has the lowest percentage of subsidized residential electricity consumption of any Indian state, with 50% of state-level subsidies flowing to two lowest income quintiles.[10]

» Sikkim subsidizes all households 50 kWh per month. All consumption above that level is charged a higher tariff, effectively subsidizing BPL households with lower consumption levels. Known for its efficient and fiscally responsible model, Sikkim is the only Indian state that makes a net revenue on its state-level electricity supply.[11]

When compared to DRE solutions, residential tariff subsidies represent a highly inefficient path to energy access. This is particularly the case in rural communities.

» Many rural Indian households can be adequately served by a solar home system with a retail cost of around USD 100.[12] Current net annual residential electricity subsidies could therefore be used to directly power almost 20 million households.

» Transmission projects for rural grid expansion in parts of SSA are costly and time intensive, as shown in the example of the USD 153 million Kawanda-Masaka Transmission project in Ghana which took more than 7 years to complete.[13]

Share the Message

Electricity tariff and subsidy reform is needed to cut overall costs and better serve low-income households. Join Power for All to share these messages:

» Poorly targeted subsidies can burden utilities and governments.

» Low-income households often do not reap most of the subsidy benefits meant for them.

» Subsidy reform should be geared towards direct cash-transfers in the long-term. In the short- to medium-term, structural reform can help reduce inefficiencies and regressive tariffs.

Sources:
1.) Elite Capture, p. ix. 2.) Elite Capture, p. 11 3.) World Bank (2016) *Making Power Affordable for Africa and Viable for Its Utilities,* p. 11. p. 7. 4.) *Making Power Affordable*, p. 19. 5.) International Monetary Fund, *Energy Subsidy Reform in Sub-Saharan Africa:* Experiences and Lessons (2013), p. 15
6.) Elite Capture, p. 31 7.) Elite Capture, p. 22. 8.) Sybil Lewis, "Electrification for "Under Grid" Households in Rural Kenya: Five Questions for Ken Lee", UC Berkeley Development Impact Lab 9.) Making Power Affordable, p. 21 10.) Elite Capture, p. 54; p. 71, 76. 11.) Elite Capture, p. 54; p. 79 12.) IISD, Building a Market for Off-Grid Solar Lighting, 2017 13.) The World Bank Group, "Electricity Sector Development Project" (2011).