

Lack of access to electricity to cost Pak economy \$5.8bn p.a: WB

Page NO.19 Col No.05

TAHIR

AMIN

ISLAMABAD: Lack of reliable access to electricity in Pakistan is conservatively estimated to cost the economy \$5.8 billion, 2.6 percent of GDP, a year, maintained the World Bank in its latest policy research working paper titled "Electrification and Household Welfare."

The research paper further states that reducing power shortages in Pakistan require adopting energy sector reforms to address inefficiencies in the allocation and distribution of natural gas, increasing fuel efficiency in electricity generation, reducing losses in the transmission and distribution of electricity, and correcting pricing problems in the electricity market.

The study uses a two-stage propensity score - weighted fixed effects model to control for unobserved village and individual specific effects that may simultaneously affect electrification status and the welfare outcomes of interest. The results show that electrification is associated with a broad range of social and economic benefits in Pakistan, including income and expenditure, better health outcomes for children, improved school enrollment and school completion for boys (but not girls), and increased women's labor force participation and decision-making power.

The report further states that all these benefits from expanding and improving electricity supply are important, although not all of them can be quantified in monetary terms. The potential gains in income growth alone are substantial.

According to the 2014 Household Integrated Economic Survey, the average rural household in Pakistan earned Rs 26,452 (\$253) a month in fiscal 2014. With an estimated average income gain of 37 percent a year, the increase in monthly household income would be about Rs 9,787 (\$93). Assuming the marginal cost associated with electricity generation and transmission is about Rs 12.2 (\$0.12) per kWh, annual average per capita electricity consumption is 471 kWh, and the average household includes 6.7 people, the net per capita gain from gaining access to electricity is estimated at Rs 11,782 (\$113) a year.

The report states that there is no consensus on the access rate of electricity in Pakistan. The official estimate based on household surveys suggests that about 5 million people remained off-grid in 2016.

Data from the 2017 census and utility connections lead to an estimate that is almost 10 times as high: almost 50 million people (36 percent of the population). Based on the more conservative figure of 5 million, connecting the entire off-grid population would raise income by \$565 million a year. Based on the higher figure, the annual income gain could reach \$5.7 billion. Improving the reliability of electricity supply would add to these gains.

Anecdotal evidence suggests that power cuts have been reduced over the past few years, due to additions of generation capacity and low global oil prices.

Lacking official estimates of loadshedding hours, the analysis assumes that average load shedding was reduced to six hours a day in fiscal 2015. With an estimated income loss of 1.6 percent associated with every hour of daily outage, rural households would reap another \$3.9 billion in annual income gains if electricity were provided 24/7.

The net income loss from the lack of reliable access to electricity for households in Pakistan is therefore conservatively estimated at \$4.5 billion (about 1.7 percent of GDP) a year.

This estimate is likely to grossly understate the actual loss, because it does not capture the impact of lack of reliable access to electricity on health and education outcomes and because access rates could be much lower than the officially reported 97.5 percent.

These results suggest that increasing reliable access to electricity would yield huge gains. Pakistan could do so by both continuing to expand the electric grid and by developing alternatives to grid electricity, especially given that Pakistan has large potential for renewable energy from wind, solar, and hydro power.

The actual access rate to electricity in Pakistan is very much up to debate, however, and by any measure, a large share of the population continues to live without electricity 24/7. Pakistan's latest official household survey reported that 97.5 percent of the population had access to electricity in 2016 (99.7 percent in urban areas and 95.6 percent in rural areas).

Estimates based on census data and the number of connections reported by utilities suggest that access to grid electricity was only about 74 percent in 2016 (90 percent in urban areas and 63 percent in rural areas in 2016).

The household survey sponsored by the IFC suggests that 35 percent of Pakistan's population lacked access to electricity in 2014 and that the access rate in parts of the country was still alarmingly low (almost half of the population in Sindh lived off-grid, for example).