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Impacts of electrification on the welfare of rural households in Ethiopia: A gendered perspective

TIRUWORK AREGA¹, DAWIT MEKONNEN¹, CLAUDIA RINGLER²

¹*International Food Policy Research Institute (IFPRI), Ethiopia*

²*International Food Policy Research Institute (IFPRI), United States*

Abstract

The aim of this paper is to examine the gendered benefit streams of household-and village-level electrification rural households in Ethiopia. Using three rounds of panel data, we provide insights into the gendered impacts of electricity infrastructure on school children, non-farm income, and women empowerment. The results of our study indicated that the benefit streams of electricity are clearly gendered, affecting women and men differently. The scale of electrification shows a correlation with years of schooling completed by boys' and girls'. School-age girls benefit from electricity infrastructure when the household they live in has access to electricity whilst village electrification has a greater spillover effect on boys' years of schooling completed. We found a positive and strong association between women-headed household off-farm income and village electrification; suggesting women's level of commitment to operating non-farm business and a robust ability to translate village-level electricity into economic opportunities. Moreover, adult women living in electrified households appear to have improved decision-making agency and more autonomous control of key business equipment. The result highlights that girls level of education and women decision-making power are enhanced by household-level electrification. Notably, neither girls' school attendance nor adult women's decision-making authority correlate positively with village-level electrification; thus, even in electrified villages, improving girls' and women's welfare requires tailored and complementary investments in both on- and off-grid options at household level. Our findings further suggest the importance of considering the gendered needs and different energy requirements of females and males during the planning and implementation of rural electricity infrastructures.

Keywords: Electrification, Ethiopia, gender, non-farm income, schooling, women's empowerment