

# Water Supply in Rural Ghana: Do Women Benefit?

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**Women's income poverty** in developing countries is usually associated with time poverty. The time that women spend on domestic chores represents significant forgone income. Infrastructure provision potentially reduces women's time burden. The saving includes time spent on collecting, loading and purifying water. That saving would enable women to engage in remunerated activities, dedicate more time to pursuing education, or have a little leisure. In this One Pager, we investigate the impact of water provision on women's time allocation in rural Ghana.

Thus far the literature has presented little empirical evidence on the subject. One example is Ilahee and Grimard (2000), who show that poor access to water in rural Pakistan reduces the time that women devote to market-oriented activities and increases women's total work burden. Coulombe and Wodon (2008) found that access to infrastructure does not significantly affect the total number of hours women work in Ghana. But they suggest that the time saved from domestic work as a result of infrastructure provision might be used for remunerated activities. To contribute to this debate, we use data from the Ghana Living Standards Survey, Round Four (1998–1999). We analyse a sample of 2,858 women between 25 and 59 years old living in 190 rural communities. Four models are estimated to identify the determinants of the time women allocate to fetching water, domestic work, market work and total work.

We observe both a gender-based division of labour and a heavier time burden on women. Unpaid activities (collecting water and domestic chores) are intensive in women's work time, while paid activities are intensive in men's. About 82.8 per cent of men do not fetch water at all, and only 14.5 per cent of them spend between 0 and 5 hours a week on that task. In contrast, 66 per cent of women fetch water, and most of them spend up to 15 hours a week doing so. The total work time (domestic plus market work) is much higher for women. For instance, 19.3 per cent of women work more than 112 hours a week, while for men a proportion 10 times smaller does the same.

This division of labour and specialisation may imply efficiency gains for the household and, therefore, optimal household behaviour. Nevertheless, women as individuals have less control over the household assets (less economic autonomy) and a higher workload. Moreover, we also find that lower educational attainments and having children increase women's time burden. Small children constrain women from engaging in market-oriented activities.

## Impact of Infrastructure Provision on Women's Time Allocation

	Domestic work	Market work	Total work
Having community water provision	Decreases	Probability of participation: decreases	Decreases
Shorter community distance from the water source	Decreases	Probability of participation: not significant Working hours: decreases	Decreases

How does water provision change women's time use? According to our empirical results, as expected, community per capita income has a negative effect on the time spent fetching water. This means that living in a richer neighbourhood increases the probability of having piped water. If a woman's household has no access to the network, living in a community where more than half of her neighbours are connected to the utility means that there is a lower probability of fetching water from afar (it is likely that other households would resell water from their taps or simply let her fetch it from there). Because of this outcome, one would expect increases in labour market participation. But we find that living in a community with access to water does not increase the probability of women entering the labour market. This does imply, however, longer working hours for those women who are already engaged in income-generating activities.

Assessing the overall hours worked, water infrastructure seems to be associated with a lesser work burden for women (see Table). Women's total working hours are fewer in communities provided with water, and fewer for those living closer to the water source. Hence, having access to water infrastructure can reduce the time burden on women. It is not implicit, however, that the time women save on water collection would be devoted to paid activities. Additional public policies are needed to achieve that goal, especially policies related to building human capital and providing childcare facilities.

### References:

- Coulombe, H. and Q. Wodon (2008). 'Time Use and Time Poverty in Ghana from 1991 to 2006'. Mimeographed document.
- Ilahee, N. and F. Grimard (2000). 'Public Infrastructure and Private Costs: Water Supply and Time Allocation of Women in Rural Pakistan', *Economic Development and Cultural Change* 49 (1), 45–75.
- Note: 1. A similar version of this article was published by the International Policy Centre for Inclusive Growth (IPC-IG) in *Poverty in Focus* 18 (2009). For a detailed discussion see the accompanying paper by J. Costa et al. (2009). 'The Implication of Water and Electricity Supply in Ghana for the Time Allocation of Women', *IPC-IG Working Paper 59*. Brasilia, International Policy Centre for Inclusive Growth.

