



# Economic impacts of access to water and sanitation in Ethiopia: Evidence from the Welfare Monitoring Surveys

This summary is based on RiPPLE Working Paper 3: **Economic impacts of access to water and sanitation in Ethiopia: Evidence from the Welfare Monitoring Surveys** available for download from [www.rippleethiopia.org](http://www.rippleethiopia.org)

**Research-inspired Policy and Practice Learning in Ethiopia and the Nile region (RiPPLE)** is a DFID-funded Research Programme Consortium led by the Overseas Development Institute (ODI) in partnership with IRC, Addis Ababa University, WaterAid Ethiopia and Harerghe Catholic Secretariat

The aim of this study is to explore the potential linkages between access to water and sanitation and growth-related indicators in Ethiopia. The analysis is based on data from the 1999/2000 and 2004/2005 Welfare Monitoring Surveys carried out by the Ethiopian Central Statistics Agency. Our analysis provides some evidence of significant economic benefits to improvements in access to drinking water and sanitation. In particular there is a statistically significant relationship between improvements in households' sources of drinking water and improvements in households' self-reported food situations.

These surveys contain information on the different types or sources of drinking water and sanitation to which households have access, including their distance (in kilometres) from their source of drinking water. The surveys also contain information on a range of growth-related welfare indicators, including work status (e.g. whether productively employed or not), health status (e.g. whether ill recently), school enrolment (whether registered to attend school), and indicators of whether households' food and/or overall living standards have improved or deteriorated over the past year. Econometric analysis is used to examine the relationship between these two sets of variables, while controlling for other possible influences on growth and welfare.

The study examines three hypotheses:

1. Lower distances to sources of drinking water have a positive impact in the short-run on household income levels.
2. Lower distance to the nearest water source has a positive impact in the short-run on enrolment of children in school.
3. An improvement in the quality of water and sanitation sources reduces illness among children and adults, which also in turn tends to raise productive employment and enrolment of children in school.



Our hypotheses relate mainly to the short-term benefits of investing in water and sanitation. There may well be additional benefits in the long-term, as well as in the short-term. Further, our hypotheses relate to the impacts of improved access to drinking water, as opposed to water for agricultural purposes. These are both because the necessary data to analyse potential long-run effects and the productive impacts of water for agricultural uses, is unavailable.

Firstly, in the 2004/05 survey, there is a positive and statistically significant relationship between improvements in households' sources of drinking water, and improvements in households' (self-reported) food situations. In other words, households experiencing an improvement in their source of drinking water were more likely to report an improvement in their food situation.

Secondly, there was no statistically significant relationship between improvements in households' sources of drinking water, and changes in their (self-reported) overall welfare situations. In other words, households experiencing an improvement in their source of drinking water were no more likely to report an improvement in their overall welfare situation, in comparison with other households. One possible explanation for this finding is that a household's overall welfare situation is affected by a much wider range of factors, which obscures the contribution of improvements in sources of drinking water.

Thirdly, we also do not find any statistically significant relationships between changes in households' sources of sanitation, and changes in households' (self-reported) food or overall welfare situations.

Fourthly, when carrying out the analysis at the zonal-level, although the effect of distance to drinking water on productive employment and school enrolment is found to be negative, the results are not statistically significant (at the 1%, 5% or 10% level). Distance variables which were found to have a statistically significant, negative effect are distance from primary school, distance from food market and distance from all weather roads.

Overall, our analysis provides some limited evidence of significant economic benefits to improvements in access to drinking water and sanitation. It is worth stressing that the limited evidence of economic benefits is as likely to be as a result of gaps in data and in the analysis of survey data. The most serious issues with data are:

- households (or districts) cannot be tracked over time;
- data on income are not available in both surveys; and
- data on the time allocated by household members to different activities (e.g. water collection, productive employment, education) are not available in both surveys.

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