



Linkages between water supply and sanitation and food security: Four case studies from Oromia, Ethiopia

This summary is based on RiPPLE Working Paper 6: **Linkages between Water Supply and Sanitation and Food Security: A case study in four villages of East Hararghe zone, Oromia region** available for download from 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 Hararghe Catholic Secretariat

Background

A significant proportion of people in almost all woredas (districts) in East Hararghe zone (EHZ) live with chronic food insecurity. Access to safe drinking water reduces exposure to disease, health expenses and time spent by women hauling water, thereby increasing productivity and status. The purpose of this case study is to assess the linkages between water supply and sanitation (WSS) and food security at a micro level by taking a sample of villages with and without water schemes in EHZ.

Four pertinent issues are embedded in food security: sufficiency of food, access to food, security and time. For Ethiopia, food security implies a household whose livelihood activities allow it to meet its food and other requirements, through either own production or the opportunity to conduct non-farm activities or to work elsewhere. Food insecurity occurs when a household is not capable of sufficiently feeding its members from either own production or market purchase.

Access to sufficient and safe water on a sustainable basis will help in the various dimensions of food security: reducing vulnerability to shocks; increasing food availability and access; and enhancing utilisation by improving health and sanitation. These, in turn, enhance the wellbeing and food security status of people.

Access to water supply and implications for sanitation and health

Access to water supply:

Households in Gaja fetch water all year round from a developed spring. No tap has been fixed: the water flows through a pipe. Interviewees aired concerns regarding water safeness. Households in



Methodology and study area

This case study considers two kebeles (wards) in two woredas: Goro Gutu and Ido Jalela in Goro Gutu woreda and Ifa and Shek Abdi in Babile woreda. We selected one village from each kebele with a water scheme (Gaja in Ido Jalela and Sirba in Ifa) and one village from each with no water scheme (Burakssa in Goro Gutu and Keyrata in Shek Abdi). The household survey covered 32 households in each village, a total of 128 households (87.5% male headed and 12.5% female headed). In each community, two focus group discussions (FGDs) were held, one with a male group and one with a female group. Interviews and observations were carried out of two households in each community. Community elders, development agents, health extension workers and non-governmental organisation (NGO) representatives were key informants.

EHZ is characterised by plateaus, mountains, gorges and plains. The population is 87% rural and 13% urban. Babile and Goro Gutu are two of 18 woredas in the zone. Babile has a population of 88,158 and Goro Gutu 136,119. Babile is predominantly lowland; Goro Gutu has a mix of highlands, midlands and lowlands. Mixed farming is practised in both: sorghum and maize are the major staple food crops. Babile also produces groundnuts. Burakssa and Gaja villages in Goro Gutu produce barley, wheat, pulses and tomatoes. Chat is produced in almost all villages.

Most household heads (78%) were 21-50 years old. The number of males sampled was 361 and females 379. Around 78.9% were married and had one or more children. Most (all in Babile) were Oromo Muslims (the remainder Amhara or Orthodox Christian). About 60% were illiterate.

Sirba fetch water from protected hand pump wells. Informants agreed the water was clean and safe, but complained that the quantity was inadequate for the growing population. In Keyrata, Bonki River has almost dried up and a hand-dug well is no longer functional. Villagers share water with livestock from an unprotected well, or share water from schemes in neighbouring areas. In Burakssa, things are worse: villagers still rely on a natural and unprotected spring, which they share with livestock and wild animals. Women have to travel long distances across steep slopes to fetch water and there are no other options in neighbouring areas.

Impacts of lack of access to safe water

Sanitation and health problems: The survey revealed a prevalence of poor hygiene and sanitation. Most respondents attributed this to scarcity of water for uses other than drinking. Other factors included lack of hygiene and sanitation practices and long distances to fetch water. The major human diseases identified included diarrhoea, stomach cramp, amoebas, vomiting and intestinal worms. Their prevalence shows how problems related to water and sanitation cause ill health and, by implication, deter active participation by the population in productive activities.

In Gaja, livestock and humans share protected water from a developed spring. In the other villages, there is a serious problem of access. During the rainy season, flood water and

seasonal gullies serve as major sources for watering livestock; in the dry season, sources are inaccessible, dirty and unsafe. As a result, livestock are susceptible to water-related disease.

Time and labour spent fetching water: In Keyrata and Burakssa, villagers complain that the average one-way walking time between homesteads and water points during the dry season is 71 and 31 minutes, respectively. This impacts production and productivity. Women are solely responsible for collecting water.

Inability to irrigate: In Gaja and Sirba, no case study villagers have started to use irrigation (water schemes have been developed solely for household consumption), although they express an interest in this method of supporting their livelihoods. In Keyrata and Burakssa, people consider irrigation to be a 'luxury'. However, this does not demonstrate a lower demand for irrigation.



Food security situations and its determinants

Food security status: Household food security was assessed through self-reporting. Households were asked whether they could meet food and other basic needs all year round from own production and could afford to purchase from the market by deploying own assets. Three-quarters felt they were food insecure (the remainder said they were food secure or their food supply situation varied from one year to the next). Of the food secure households, 66.7% depend on own production (the remainder can bridge food gaps by purchasing on the market). More households in Gaja are food secure (40.6%); in Keyrata, only one household reported being food secure. Extreme situations were depicted within the same woreda. Some 15.6% of respondents in Gaja and 9.4% of those in Burakssa noted variations and instability of food security from season to season.

Causes of food insecurity: The reasons for food shortage at household level are concurrent with existing ideas on food security. A combination of factors adversely affecting crop production, livestock raising, earnings from non-farm activities and food utilisation explain why households' are food insecure.

In crop production, the survey identifies a number of constraints: small land holdings; inadequate rain; shortage of seed supply; problems of water supply; shortage of organic fertilisers; and lack of money to purchase inorganic fertilisers. In livestock raising, respondents identified: scarcity of grazing land; lack of forage for livestock; shortage of money; scarcity

of water; and lack of improved livestock hybrids. Although about four out of 10 households reported non-farm activities, income drawn from such ventures is not sufficient. Reasons for this are: shortage of start-up capital; relatively low income from such work; lack of work skills and knowledge; and low level of awareness on non-farm activities. Resources and food wastage also contribute to food insecurity, owing to: expenses for festivals and ceremonies; lack of knowledge to properly utilise resources; lack of a saving culture; traditional malpractices; and shortage of appropriate storage.

Linkage between access to water supply and food security

Although the degree varies, there are food insecure households in all the villages. Seasonal shortages in food items are evident in June, July and August. Inter-village variations in seasonal food shortages between those that have water schemes (64%) and those without (86%) are considerable. Some villagers in Keyrata face shortages for half a year.

The role of water in food security is subsumed in others, such as agricultural production and livestock raising, as we have seen. Both beneficiaries and non-beneficiaries of water schemes believe that water is pivotal to their livelihoods and their food security. About 88% of beneficiary households asserted that their food security status and livelihoods had improved following water supply interventions, most particularly in terms of household health and income diversification. It was agreed that water was vital also for health and sanitation.

Conclusions and suggestions for action

Clear disparity exists between communities with water schemes and those without with respect to food security. The food security situation at the two beneficiary sites is relatively better than in the communities without access to developed schemes.

Given such a relationship, additional water schemes should be built in Sirba and the spring in Gaja should be improved in terms of quality and quantity of supply. Water development interventions should go beyond household consumption to cover livestock watering, sanitation and irrigation. In Keyrata and Burakssa, improving sanitation, health and food security calls for development intervention in various areas, including: (i) development of multipurpose water schemes; and (ii) implementation of integrated rural development programmes and schemes such as the Productive Safety Net Programme (PSNP).

Researchers

Degefa Tolossa, Associate Dean for Research and External Affairs, College of Development Studies, Addis Ababa University, Ethiopia. Email: degefat@idr.aau.et

Tesfaye Tafesse, Associate Professor of Geography and Development Studies, College of Development Studies, Addis Ababa, Ethiopia. Email: tesfayeidr@yahoo.com