Millennium Water Alliance

My water, my business: monitoring Self-supply in rural Ethiopia

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Self-supply relies upon households making their own investments in new and improved water supply facilities. Commonly, Self-supply involves digging traditional hand-dug wells to access shallow groundwater and a wide range of associated lifting devices, but it may also involve rainwater harvesting, and household water treatment and storage to improve water quality. Self-supply acceleration involves public (and development partner) investment in a set of activities that are intended to help trigger these household investments.

In most of the country, Self-supply by households is unsupported with little or no planning, technical support, monitoring or regulation. While serving many households, its performance has been shown to be mixed with poor water quality a particular concern (Sutton et al., 2012). Ethiopia has relatively recently recognised Self-supply as one of four rural water service delivery models in its national policy and seeks to improve the scale and performance of Self-supply. A key new policy - the second Growth and Transformation Plan (2016-20) – also proposes higher rural water service levels including on-plot access and higher volumes of supply. Self-supply's role is expected to further evolve.

The Millennium Water Alliance-Ethiopia Programme (MWA-EP) is supporting local (woreda) governments through its member INGOs to better plan for, promote and monitor Self-supply as part of mainstream water sector activities. This includes an integrated programme looking at both supply and demand of relevant products and services, and featuring activities intended to introduce new technology, build up local private sector capacity and supply chains and improve access to finance amongst others. By assessing the success factors and barriers to Self-supply acceleration the initiative is intended to help government strengthen systems for encouraging and monitoring the adoption of Self-supply.

As part of initial activities, a baseline survey of household level water supply activities was initiated in 2014. This survey had multiple objectives including:

1. to provide a baseline for monitoring subsequent changes e.g. construction of new or upgrading of wells
2. to provide information for planning Self-supply acceleration interventions and
3. to engage local government staff in taking the lead in Self-supply acceleration.

The surveys were implemented using mobile-based data collection tools and were conducted by Woreda Water, Health, and Agriculture officials, seeking to promote buy-in (and joint planning) at the local level.

This poster presents some results of the baseline survey in Omo Nada woreda, Oromia Region. Activities by MWA-EP in this woreda are supported by World Vision. Aqua for All are also supporting activities promoting local private sector development. In four kebeles (a sub-woreda administrative unit) all family wells that could be identified were visited. A total of 280 household-level facility surveys were completed.

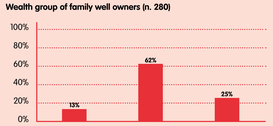
Other surveys focused on local enterprises and financial institutions. The facility survey included a modified sanitary surveillance assessment to accommodate the non-standard design of wells, and microbial water quality testing of a sub-sample of sources using the compartment bag test.

Some of the key findings in this woreda were that: Self-supply was much more prevalent than had been expected; most wells are unprotected and microbial water quality poor; and almost all families buy some inputs or services to develop their supplies but only from the local informal private sector. Findings from the surveys are being used to help plan interventions to trigger Self-supply investments and to design monitoring of such NGO-supported programmes. Further work is also focused on how Self-supply might be practically monitored at national scale as part of the One WaSH National Program.

Who owns wells in Omo-Nada?

- Families in all wealth categories have wells (see figure below).
- Very few families with wells were female-headed (only 2.5%).
- 70% well owners have mobile phones.

Wealth group of family well owners (n. 280)



Phone numbers were collected during the survey so that owners can be sent promotional messages or contacted with follow-up questions.

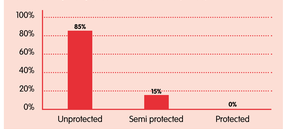
What are family wells in Omo-Nada like?

- Most wells are unlined (71%) but some wells are lined at the top, bottom or fully, most usually using bricks.
- Most wells have a half-drum or wooden logs at the well mouth, with only 13% having an adequately protective and impermeable wall at the well mouth.
- The most common type of apron around the well is made of compacted soil (44%) but many wells have no apron (35%).
- There is rarely any drainage away from the well (87% wells have no drainage channel).

How are family wells developed in Omo-Nada?

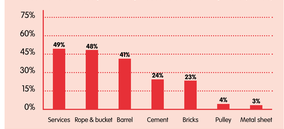
- 92% of families use a rope and bucket (most commonly the bucket is made from an old car inner tube) to lift water, with the rest using a pulley which is easier and safer.
- The large majority of families (82%) were keeping the rope safely stored at home or hung on a pole or in the wells to prevent contamination.

Level of family well protection in Omo Nada (n. 280)



Sanitary protection of family wells is very poor and 85% are classified as unprotected. Improvements could be readily made to make using the wells and their water safer.

Products and services paid for by households for family wells (n. 280)



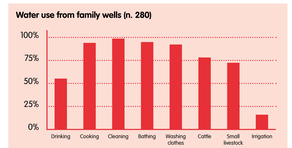
- Nearly all households (94%) paid for some products or services to develop their well.
- About half of the families (49%) used local artisans to help dig or line their wells or to construct headworks.
- These products and services were nearly always bought from informal providers (76%).

There is a local market for products and services related to family wells. Local service providers are present but receive little attention or support from professionals and agencies.

How are family wells used in Omo-Nada?

- Almost all families use their wells for hygiene and sanitation purposes i.e. cleaning, bathing and washing clothes. Nearly all (95%) also use water for cooking.
- Just over half the families (56%) use water from their wells for drinking. Of all the well owning families, 74% use an alternative communal water supply as their main source of drinking water. Self-supply is the main source for 26% of these families.
- Most families (87%) share the water from their wells, on average with 7 neighbouring households.
- Large numbers (75%) families use the water for their livestock to drink.
- A minority (17%) use their wells for irrigation including coffee, fruit trees and vegetables.

Water use from family wells (n. 280)

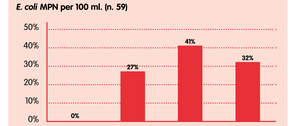


Most wells are used for multiple purposes including productive and domestic uses. The most common uses of water are related to hygiene and sanitation.

How safe is the water from wells in Omo-Nada?

- Water from 59 wells (21%) was sampled and analysed for E.coli using the Compartment Bag Test.
- None of the samples were very low health risk (zero levels *E. coli*).
- Only 27% wells were low risk (less than 10 MPN/ 100 ml). This is consistent with surveys in other parts of Ethiopia.
- Most families (76%) do not practise household water treatment. Popular methods among families that do are chlorination, and straining through a cloth.

***E. coli* MPN per 100 ml. (n. 59)**

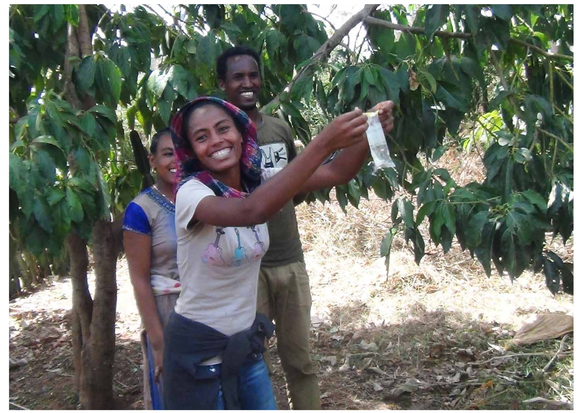


Water quality is poor, consistent with low levels of protection of family wells. Only 27% provide low risk supplies and there is great scope for improvement.

How can we estimate the numbers of family wells in other kebeles in Omo-Nada?

- There were 280 family wells in these 4 kebeles amongst the 6053 recorded households (i.e. at least 4.6% households have their own well).
- There were many more wells in these kebeles than predicted by the water or agriculture offices at woreda level. Water offices tend to think about wells used for drinking, and agriculture offices consider wells used for irrigation.
- Kebele administrators provided the best estimate compared to the actual numbers of identified family wells.

The number of wells that were identified surprised local (woreda) officials.



References

Sutton, S., Butterworth, J. and Mekonta, L. 2012. *A hidden resource: household-led rural water supply in Ethiopia.* IRC International Water and Sanitation Centre, The Netherlands.

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More information: www.ircwash.org/selfsupply