



Water, sanitation and hygiene in Wukro, Tigray

Baseline survey factsheet

In November 2014, a baseline survey for the One WASH Plus programme was undertaken in Wukro town, Tigray Region and some of the surrounding satellite villages (the survey included Maytewaro, Dengolo, Korir, and Tsehalala). This factsheet presents a summary of the key findings relating to water supply, sanitation and hygiene infrastructure and the services received by households and available at public institutions.

Key findings

Coverage of the town water supply system is high. The majority of users access the piped system through household connections, rather than through public standposts.

However, reliability of water supplies is poor and most town residents use less than 20 lpcd.

Household coverage with improved sanitation facilities is also reasonably high.

In the town public standposts are under demand and queues are long, while poor functionality of water points is a concern in the satellite villages.

The majority of public institutions have improved sanitation facilities.

Wukro is a town in Wukro Woreda in Tigray Region of Ethiopia with a population of 42,925 people (CSA population projections to July 2014).

The most common livelihood in the town according to survey responses was formal or informal trade and business representing 39% of those surveyed. Some 60% of urban households have a monthly income of more than 1,000 Birr, while 14% were found to have an income below the poverty line of 500 Birr/month.

In the satellite villages, the most common livelihood is farming (76% of households). The proportion of households with a monthly income below the poverty line was lower in the rural areas than in the town (12%), but so was the proportion of households with a monthly income more than 1,000 Birr (48%).

There are nine schools, five health facilities, and a prison in Wukro town. Furthermore there are three public latrines. In the surrounding areas, 11 schools and two health facilities can be found.

None of the households in Wukro town and only 2% of households in the rural areas indicated that at least one household member had suffered from diarrhoeal disease over the last two weeks.

Water services

The vast majority of households (99%) in Wukro town take their water in the dry season from the piped system, mainly through household or yard connections (95%). In the rural areas around the town the majority of households (76%) make use of handpumps.

	Total	Rural	Urban
Piped water into dwelling	24%	0%	36%
Piped water to yard/plot	39%	0%	59%
Public tap or standpipe (public fountain)	3%	0%	4%
Communal protected dug well / tubewell or borehole with handpump	26%	76%	0%
Protected spring	3%	8%	0%
Unprotected spring	3%	8%	0%
Surface water	3%	8%	1%

Water Infrastructure

Wukro has a piped water supply system managed by the Wukro Water Utility Service. The system is supplied by six boreholes and supplies water to a large number of household and commercial connections and only four public standposts.

Number of sources	7
Number of reservoirs	6
Total storage capacity (m3)	900
Number of household connections	5147
Number of public standpipes	4
Number of commercial connections	761
Institutional connections: schools (9), Health (5), Other public connections (100), Industrial connections (5), Other connections (13)	

In addition to the public standposts linked to the piped water scheme, one non-functional handpump can be found in Wukro town. In the satellite villages, there are a variety of different water points including 34 handpumps.

Borehole with handpump	28
Hand dug well with handpump	6
Protected on-the-spot spring	2
Unprotected shallow well	1

Functionality of infrastructure and service levels

Five of the six boreholes supplying the piped system function optimally, with only one functioning sub-optimally because of technical problems. One of the four public standpipes was not functioning as water was not reaching the water point. The water quality of the three functioning standpipes was low risk at the time of survey, with E. coli counts of less than 10MPN/100ml i.e. but queues at these water points were generally long, consisting of more than 50 people.

In the satellite villages around Wukro town, just over half of the rural water points were functional at the time of the survey. One of the five rural water points sampled for water quality analysis was found to have an E. coli count exceeding 10MPN/100ml, which indicates unsafe water.

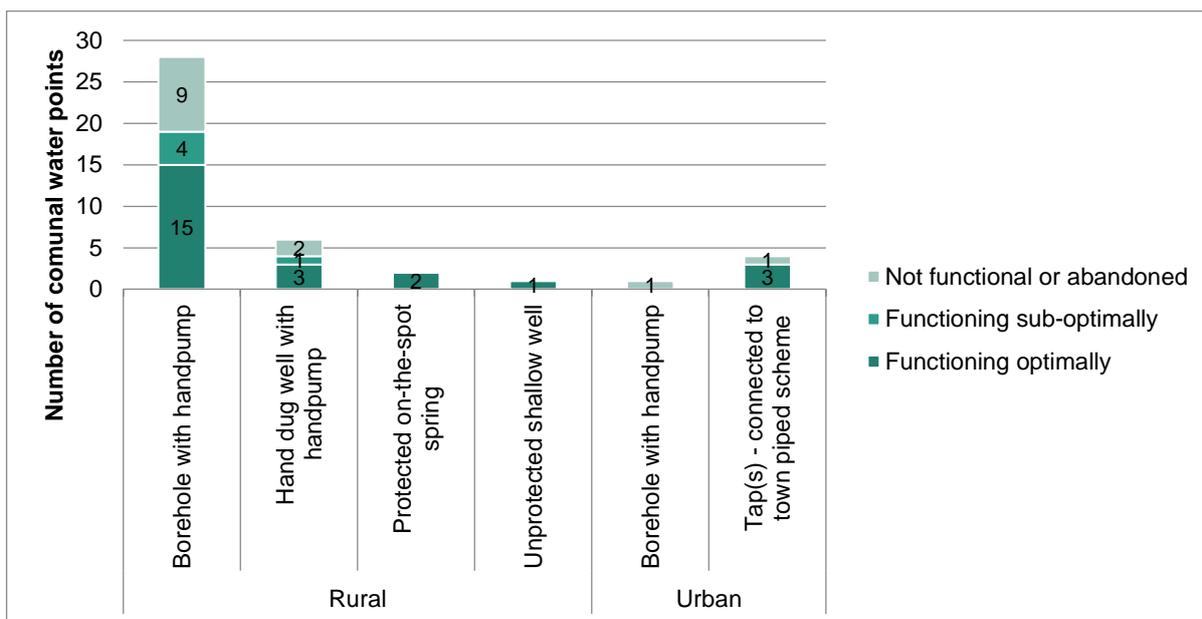


Photo: IRC

Reliability of water services received by households is low. Water use was found to be low as well, with less than half of households in Wukro town using at least 20 litres per capita per day (lpcd) and only 30% of households in the rural areas using at least 15 lpcd. Accessibility to water services was more of an issue in the rural areas than in town.

	Rural	Urban
Average % days per year that the water point is functional	88%	99%
Average % households using water point living within 500m	95%	94%
Proportion of water points without queues of less than 10 people	95%	0%
Proportion of water points with perceived acceptable quality	92%	100%
Water points with low microbial contam. (E.coli <10 MPN/100 ml)	80%	100%
Average sanitary inspection score	68%	n.a.

	Rural	Urban
Reliability (source available year-round and breakdowns < 3 days)	30%	47%
Spend less than 30 minutes on a round trip to fetch water	95%	100%
Queues for 30 minutes or less	64%	100%
Odour, colour, taste perceived acceptable	82%	93%
At least 15 litres per person in rural areas and 20 in urban areas	30%	48%

	Rural	Urban
Satisfied with reliability	78%	70%
Satisfied with distance	74%	95%
Satisfied with time	66%	95%
Satisfied with quality	84%	97%
Satisfied with quantity	84%	86%

Sanitation and hygiene

In Wukro town, the majority of households (70%) make use of improved sanitation facilities, while the opposite is true in satellite villages where only 19% have improved facilities. The proportion of households that practice open defecation is much higher in the rural areas (50%) than in town (4%).

Table 7 Household access to sanitation	Total	Rural	Urban
Flush toilet to piped sewer system	1%	0%	1%
Ventilated improved pit latrine	4%	0%	6%
Pit latrine with slab	46%	12%	60%
Composting toilet	4%	7%	3%
Public latrine	1%	0%	1%
Other unimproved sanitation facility	1%	2%	0%
Pit latrine without slab	25%	29%	24%
Bush/ open defecation	18%	50%	4%

Level of service provided and user satisfaction

Although 70% of households use improved sanitation facilities in Wukro town, only 49% of households use latrines which have walls and a door which provide privacy. Only 3% of households stated that their latrines have ever been emptied.

Table 8 Sanitation service level accessed by households	Rural	Urban
Latrine with wall and door	4%	49%
Latrine is clean without many flies	20%	64%
Latrine separates user from faeces	8%	69%
Human waste is collected	0%	3.2%

Table 9 User satisfaction with sanitation services	Rural	Urban
Satisfied with privacy	40%	75%
Satisfied with cleanliness	40%	85%
Satisfied with comfort	42%	78%
Satisfied with safety	40%	75%

The proportion of households which were satisfied with their sanitation services was considerably lower in rural areas than in Wukro town.

Handwashing practices

32% of households reported that they practice handwashing at all six critical moments (before eating, after defecation, before preparing food, before feeding a baby, after cleaning a baby, after touching something dirty). In urban areas, the proportion is 39% and, in rural areas, it is 18%.

44% of interviewees washed their hands with water and soap or ash when asked to show how they do it. In urban areas, the proportion was 57% and in rural areas, 18%.

Liquid waste management

The municipality is responsible for liquid waste management. There is no liquid waste collection, transportation or treatment facility in Wukro.

Solid waste management

In the town, waste from 75% of households is collected and taken away on regular basis, while most of households in the rural areas dumped their solid waste in the garden or compost heap (50%) or in a pit or garbage pile (36%).

There is one micro enterprise in solid waste management. This enterprise has 24 staff and collects from some 7330 households. Waste is collected and composted. The enterprise was established with the support of the municipality and reported positive annual revenue to expenditure balance over the last year.

Institutional WASH

All but two institutions in Wukro town are connected to the piped system. In the rural area, one school depends on surface water and one health facility on water vendors with carts. The remaining public institutions all have access to improved water sources.

Table 10 Institutional sanitation

	Rural		Urban			
	Health facility	Schools	Health facility	Prison	Public latrine facility	Schools / TVET/ college)
Number of institutions	2	11	5	1	2	12
with latrines with walls and doors	2	8	5	1	2	8
with latrines that are clean	1	7	3	1	0	3
with latrines separating faeces from user	2	11	4	1	2	12
where human waste is collected	0	0	0	0	2	2
with ALL of the above	0	0	0	0	0	1
with menstrual disposal	1	3	4	0	0	3
with separate facilities for males and females	0	9	2	1	1	10
with all males reported to use the facilities	1	7	4	1	0	4
with all females reported to use the facilities	1	7	4	1	0	4

All public institutions in Wukro and its surroundings have improved sanitation facilities, with the exception of End Mariam crèche, which does not have sanitation facilities.

However, many institutional sanitation facilities were not clean and human waste was only collected from few institutions.

Conclusions

- Coverage of the town water supply system is high but services fall short on reliability;
- Only 47% urban households use at least 20 lpcd water and 30% of rural households use at least 15 lpcd;
- Sanitation coverage, though still relatively high, was lower than the water coverage. However, there is room for improvement in the quality of the sanitation services, especially related to the safe collection, transport and disposal of human waste;
- There is a well-functioning solid waste collection micro enterprise, which provides

solid waste collection service to 75% of the urban households.



Planned One WASH Plus interventions in Wukro

The approach being developed under the One WASH Plus project includes an integrated package of improvements to water, sanitation and hygiene infrastructure and services.

As well as improved water supplies, a sanitation master plan will be developed for the town with facilities and use to be improved at households and public institutions (schools, health centres, prison), and new solutions for solid and liquid waste disposal.

Integrated promotion of sanitation and better hygiene practices and improvements in solid waste management are expected to lead to better living conditions and health improvements.

About One WASH Plus

Further information on baseline study findings from Wukro and other towns are discussed in the main baseline report. This report is available from UNICEF.

This factsheet was produced by the IRC/HOAREC consortium providing independent monitoring and knowledge management services to the One WASH Plus programme. The One WASH Plus programme is jointly implemented by the Government of Ethiopia and UNICEF to support the One WASH National Programme. Funding is provided by UK Department for International Development.