

COMPREHENSIVE WATER QUALITY ANALYSIS AND KNOWLEDGE, ATTITUDE AND PRACTICE (KAP) SURVEY IN SOMALIA (2012)



IOM International Organization for Migration

SOMALIA

THE OBJECTIVE WAS TO ESTABLISH INFORMATION THAT CONTRIBUTES TOWARDS DEVELOPING AN EVIDENCE-INFORMED RESPONSE TO WATER, SANITATION AND HYGIENE (WASH) CHALLENGES AMONG VULNERABLE POPULATIONS SUCH AS INTERNALLY DISPLACED PERSONS (IDPs).

BACKGROUND

Somalia lacks comprehensive information in regards to the situation of water quality and hygiene condition, which are the main causes of mortality of children under 5 years in Somalia. With no thorough Water, Sanitation and Hygiene (WASH) data being collected for the past two decades, IOM and partners conducted a Knowledge, Attitude and Practice (KAP) survey in 2012, along with a comprehensive water quality testing (chemical, physical and biological) and analysis.

OBJECTIVES

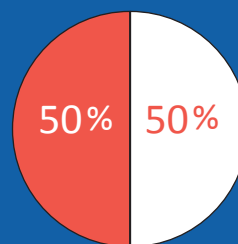
- **Provide** baseline data on the current water quality and quantity;
- **Identify** inappropriate behaviors among target communities as the basis for developing appropriate behavioral change communication (BCC) strategies;
- **Investigate** linkage between water quality and inappropriate health and hygiene behaviours.

METHODS

Data was collected through 175 sanitation assessment surveys, 175 water quality tests, 1,237 household KAP surveys, 12 focus group discussions and 15 key informant interviews to provide baseline data against current water quality, quantity, and hygiene behavior, and to investigate linkage between water quality and risky hygiene practices. Stratified random sampling technique was used to conduct household survey while snow-balling technique was applied in the key informant interview.

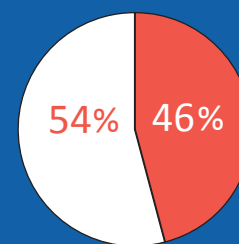
MAJOR FINDINGS FROM KAP SURVEY

BURCO, Somaliland



More than 50% of the studied IDP communities in **Burco, Somaliland** do not have access to basic sanitation facilities.

GAROWE, Puntland

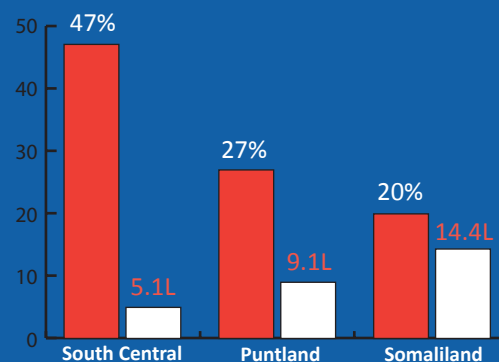
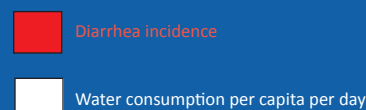


More than 46% of the studied IDP communities in **Garowe, Puntland** do not have access to basic sanitation facilities.



At least 77% of the population did not wash their hands at critical times.

Only 33% of the respondents reported to wash hands 'after defecating'. Also, only 33% reported washing hands 'before eating.'



- **Diarrhea is the most frequent disease.** Insufficient water and poor environmental conditions and hygiene practices show **significant statistically correlated incidents** of diarrhea cases in the studied communities.

MAJOR FINDINGS FROM WATER QUALITY ANALYSIS

- Risk of faecal contamination increased from water source to point of use due to unhygienic practices such as use of dirty transportation and storage containers and lack of knowledge;
- All sampled water was hard. The range of hardness in the samples was 151 – 789 mg/l, which shows water is high in dissolved minerals, both calcium and magnesium. Water with hardness greater than 200 mg/l is considered poor, while water with an excess of 500 mg/l is unacceptable for most domestic purposes;

- **75%** of water samples in Puntland and shallow wells in South Central have fluoride excess of 1.5mg/l. Excessive consumption of fluoride over a lifetime may lead to increased likelihood of bone fractures in adults, and may result in effects on bone leading to pain, deformity and tenderness.

Salinity was a big problem in all sampled water sources except water from rivers. This study found **total dissolved solid (TDS) range of ground water was 637 to 2,070 mg/l.**

According to the World Health Organization, water with TDS higher than 500mg/l is considered unsafe for human consumption.

93% of sampled waters collected in Puntland

were bacteriologically contaminated with faecal coliforms (*E. coli*), indicating the water can be harmful for human consumption. According to the World Health Organization, drinking water should have zero *Escherichia coli* (thermotolerant coliform bacteria) in any 100ml sampled.

CONCLUSION

Water supply

1. Amount of water access is lower than 7.5 L/p/d and very limited in Garowe (9.1) and Mogadishu (5.1);
2. Limited number of water sources results in long queues at available water source;
3. Inadequate amount of water especially after defecation increases risk of diarrhea;
4. Salinity was a major problem in all groundwater sampled from the different locations.

Sanitation

1. Limited number of sanitation facilities is main issue at IDP settlements in Burao and Garowe;
2. The existing latrines in Mogadishu are in poor hygienic condition.

Hygiene

1. Risk of diarrheal infections due to lack of knowledge of critical times at which hands should be washed;
2. Open defecation and livestock accessing same water points that humans use increase health vulnerabilities.

RECOMMENDATIONS

1. Establish water testing laboratory with capacitated staff inside of Somalia;
2. Conduct comprehensive water surveillance for main urban areas (e.g. Mogadishu, Garowe, Hargeisa etc.);
3. Introduce software component (Open Defecation Free [ODF], Community Led Total Sanitation [CLTS]) and Ecological Sanitation [EcoSan];
4. Improve access to safe water using innovative technology (Poly-Glu [flocculants], desalination, and renewable energy power).



Water sampling in Mogadishu.
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KAP survey in Mogadishu.
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HEALTHY MIGRANTS IN HEALTHY COMMUNITIES

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