

PH1B: Establish water quality regulatory compliance monitoring and reporting protocols

REGULATORY FUNCTION: PUBLIC HEALTH		PH1B
OBJECTIVE PH1 There are rules ensuring public health standards for safe drinking water and sanitation	ACTION CARD PH1B <h2 style="margin: 0;">ESTABLISH WATER QUALITY REGULATORY COMPLIANCE MONITORING AND REPORTING PROTOCOLS</h2>	
COST: Low FREQUENCY: One time TARGET GROUPS: Regulators, ministries of health, service operators		
DESCRIPTION <p>Regulators perform this action primarily by supporting ministries of health (or other relevant authorities) in regulating drinking water quality, by monitoring compliance to defined standards on their behalf. In accordance, regulators convert their legislative guidance and directives into compliance monitoring and reporting protocols. These must specify transparent procedures for conducting, approving, and reporting various inspection activities related to drinking water, and protocols must clearly outline operators' obligations during auditing procedures. In addition to internal monitoring processes, ministries of health or other governmental institutions may also perform external inspections, for which different protocols are established.</p>		
EXPECTED OUTCOMES <ul style="list-style-type: none"> • National regulators transpose clearly mandated public health norms and standards into the WASH sector. • Service operators have clear protocols for water quality control. • Consumers health is adequately protected. 		
EXAMPLE 1: KENYA <p>In Kenya, in light of the Water Act 2016, the Water and Sanitation Regulatory Board (WASREB) established guidelines on water quality and effluent monitoring, which state that water quality is one of the main indicators of the quality of service provided to consumers. Water quality has an impact on both public health and the aesthetic value of water as a consumable product. Section 47 of the Water Act 2002 requires WASREB to determine standards for the provision of water services to consumers. and to monitor compliance with established standards for the design, construction, operation, and maintenance of facilities for water services. For effective monitoring of water quality, both internal self-monitoring by water service providers and an independent monitoring by Water Service Boards (WSBs) and WASREB is necessary. For example, a principle in the WHO guidelines on water quality standards is that by service providers and an independent regulating body have separate monitoring roles. Independent monitoring can also be undertaken by the Ministry of Water and Irrigation (MW&I), Kenya Bureau of Standards (KEBS), Ministry of Health (MoH) and the National Environment Management Authority (NEMA). In this regard, water service providers are required to undertake their own monitoring of water quality as part of their quality assurance programmes and process control. Experience however, has shown that without clear instructions through guidelines, some providers tend to carry out an insufficient number of tests. Therefore, the purpose of the guidelines is as follows.</p> <ul style="list-style-type: none"> • Promote transparency in the methods of water quality monitoring employed by the water service providers, and thus build public confidence in service provision. • Ensure through regular monitoring that the quality of water provided meets standards set by the Kenya Bureau of Standards. • Create awareness among Water Services Boards and water service providers on water quality monitoring requirements. 		

- Ensure that all Water Services Boards and water service providers follow a systematic way of water quality monitoring to ensure uniformity.
- Ensure a minimum standard of water quality monitoring at acceptable costs, and create awareness among consumers that information regarding water quality will be made available by water service providers.

EXAMPLE 2: SINGAPORE

In **Singapore**, the Food Agency developed the Code of Practice on Drinking Water Sampling and Safety Plans in 2019. This outlines that sample(s) shall be collected at each entry point to the distribution system, or from such locations where drinking water is representative of its quality after treatment. The default frequency of sampling shall be at least once a year, except for certain parameters that should be monitored more frequently, based on relevant factors. Examples of parameters that may be monitored more frequently include boron for desalination membrane treatment plants, disinfection by-products for water supply systems with extensive distribution networks, heavy metals and pesticides if raw water for traditional water treatment systems is obtained from a source that is likely to be polluted by industrial or agricultural discharge, etc.

Depending upon raw water quality, water treatment programmes, and the type of distribution network used by providers, it is expected that certain parameters or contaminants are unlikely to be present in drinking water, or will be present only at concentrations much lower than prescribed standards for quality drinking water. Hence, water providers may propose sampling frequencies for certain parameters that are lower than the default frequency, or may propose not to sample drinking water for specific parameters or contaminants that are not of concern.

EXAMPLE 3: HONDURAS

In Honduras, the Drinking Water Technical Standard approved by Agreement No. 084 of July 31, 1995 sets forth measures for public health promotion, illness prevention, recovery and rehabilitation that establish adequate or maximum permissible levels for water components or characteristics that could pose a risk to health. It also establishes Water Quality Monitoring in four stages (basic, normal, advanced and special situations), with an incremental number of assessable parameters in each stage, in addition to the minimum sample collection frequency for collecting agencies pursuant to the affected population, and adopts the analysis methods described in the Water and Wastewater Analysis Manual of the American Water Works Association (AWWA).

EXAMPLE 4: GUATEMALA

In Guatemala, the Regulation of Sanitary Standards for the Administration, Construction, Operation and Maintenance of Water Distribution Services for Human Consumption (Government Agreement No. 113-2009) stipulates that sanitary supervision of water distribution services for human consumption should be carried out through the National Program for the Supervision of the Quality of Water for Human Consumption. The program aims to establish and execute the most appropriate technical mechanisms for developing the sanitary supervision of water that is distributed to the population through public or private distribution systems, while providing the information needed to ensure that the water supplied is of drinking water quality on a continuous basis, and ensuring the availability of updated information on the quality of the water supplied and the service provided, organizing and correcting the information in an agile and reliable manner. In this framework, the sanitary monitoring of water distribution services corresponds to service providers, which must cover a mandatory minimum of three distributed water quality monitoring points that are representative of the distribution network, and are obliged to comply with maximum permissible and acceptable limits for physical, chemical and microbiological water characteristics, and minimum frequencies and methods for sampling and analysis pursuant to the specifications in the Guatemalan Mandatory Standard COGUANOR NGO 29001, 1st Revision. The results of this sanitary supervision must be reported to the Department of Health and Environmental Program Regulation, which must implement a database containing accessible information.

LINKS

Kenya: WASREB Water Quality Guidelines: https://wasreb.go.ke/downloads/Water_Quality_&_Effluent_Monitoring_Guidelines.pdf

Singapore: <https://www.sfa.gov.sg/docs/default-source/food-retailing/practices-and-guidelines/code-of-practice-on-drinking-water-sampling-and-safety-plans-sfa-apr-2019.pdf>

Honduras: National Technical Standard for Drinking Water Quality
<https://faolex.fao.org/docs/pdf/hon175672.pdf>

Guatemala: Regulation of Sanitary Standards for the Administration, Construction, Operation and Maintenance of Water Distribution Services for Human Consumption
<http://faolex.fao.org/docs/pdf/gua196717.pdf>

INTERNAL CAPACITIES NEEDED AND THE ROLE OF PARTNERS

Developing compliance and reporting protocols for safe water supply requires technical and administrative capacities to understand the implications of non-compliance, in order to set the frequency of monitoring, and at what critical control points in the water supply process to monitor and for what parameters, including proxy (e.g. turbidity) and early warning indicators. It is also important to understand the resources required for monitoring and reporting, including the administrative capacity to receive and analyse large volumes of reports, to establish realistic protocols. Development partners and ministries of health could support regulators by organizing participatory workshops that set the scope of parameters, thresholds, and inspection protocols, based on desk reviews of the situation, and drawing on positive examples from similar contexts.