TERMS OF REFERENCE FOR INDIVIDUAL CONSULTANTS AND CONTRACTORS

Title	**Duty Station:**
National Consultant for the development of the Community-based Total Sanitation (STBM) e-monev	**Jakarta**

Purpose of Activity/Assignment:

The assignment aims to support the Ministry of Health (MoH) in improving the STBM e-monev by reviewing the current indicators across the five pillars and integrating the indicators of safely managed sanitation at the household level. This also includes designing data structure, interface & database management system, field trial, and finalization.

Background

The national mid-term plan (RPJMN) 2020-2024 has adopted 17 Sustainable Development Goals (SDGs) goals. The SDG target indicators are integrated into Indonesia's 7 development agendas. One of the targets is "ensuring the availability of sustainable and safe drinking water, sanitation, and hygiene", i.e., 90% access to improved drinking water, 90% access to sanitation, including 15% to safely managed sanitation, and 0% open defecation. To meet sanitation target, particularly access to safe sanitation services, multi-sectoral coordination, partnership, and community participation are critical.

The Ministry of Health (MoH) has led the scaling up of the Community-Based Total Sanitation (STBM) approach that aims to facilitate the sanitation and hygiene behavior change in the community, using the triggering method. The STBM consists of 5 pillars, including *1). Stop open defecation (ODF), 2). Handwashing with soap (CTPS), 3). Drinking water and food treatment, 4). Solid waste management, and 5). Wastewater management*. These five sanitation and hygiene behaviors are known as the 5 Pillars of STBM. This approach has proved effective in accelerating access to adequate sanitation in Indonesia and facilitating the community to achieve ODF.

MoH launched the STBM-SMART application nationally in July 2016. The application was used by sanitarians, district, and provincial health officers, relevant ministries and the public to monitor and report the progress of access to sanitation at the community level. This system adopted the MDG with indicators with 4 types of access: *1). Permanent & Hygienic toilet, 2). Semi-permanent & Hygienic toilet, 3). Shared toilet, and 4). Open defecation.* However, since the government has adopted safely managed sanitation and scaled up the implementation of other pillars of STBM, the application needs to be adapted to meet the requirement to track the sanitation progress. The government realized that having limited data on access to safely managed sanitation and hygiene behaviors created challenges in designing, implementing, and funding these STBM and safe sanitation interventions.

In line with the national development agenda, within the UNICEF Country Program Action Plan 2021-2025, UNICEF will support the MoH in developing a new monitoring system that could provide more detailed information on the quality of on-site sanitation according to the national sanitation indicators and other hygiene practices such as hand washing and drinking water treatment practice at household and solid and wastewater management.

Purpose

UNICEF Indonesia is seeking a dedicated consultant to support the MoH in improving the STBM e-monev by reviewing the current indicators across the five pillars and integrating the indicator of safely managed sanitation at the household level. This includes designing data structure, interface &, database management system, field trial, and finalization.

The Consultant will work closely with the Ministry of Health under the guidance and supervision of WASH Specialist and Data Center Officer of UNICEF in Jakarta.

Scope of Work:

Activities and Tasks:

Key tasks include, but are not limited to:

1. Conduct regular consultation meetings with MoH and UNICEF to discuss the work progress, methodology and approach to address issues and related programmatic aspects.
2. Review the existing STBM Monitoring systems, data infrastructure, database management systems, business operations workflows, user data requirements, user/user views, and design visualizations.
3. Design data structures, including new data modules, recommend types of software and hardware infrastructure, including user views, input, process, output, programming/coding, entity relationship tables (ERT), entity relationship design (ERD), and data diagrams flow (DFD).
4. Design user interfaces to improve user data input experience while using.
5. Design a queuing system and save mode that allows data to be stored in the browser cache until it is uploaded (even if the user is offline and the computer is off).
6. Design a database management system for all data parameters and indicators.
7. Design in-system data analytics for key data parameters and indicators.
8. Design interactive information visualization dashboards.
9. Ensure system compatibility with many internet browsers (at least with Safari, Chrome, Firefox, and Microsoft Edge), including mobile browsers.
10. Define the minimum computer specification requirements for the system.
11. Conduct field trials in 3 provinces: DKI Jakarta, Banten, and West Java, involving a technical team (1 Ministry of Health, 1 UNICEF, 1 Provincial Health Office, and 1 District Health Office officer as facilitators). The onsite trial aims to observe the system's acceptance in IT infrastructure, facilities, and human resources and identify various challenges to determine troubleshooting and improvement options. Field locations must represent rural and urban locations with the following details:
    - One field visit with a maximum of 3 days (including travel time) covering a minimum of one Puskesmas in each province
    - DKI Jakarta: South Jakarta (urban)
    - Banten: Pandeglang District (rural)
    - West Java: Bandung District (rural)
12. Prepare user guides (editable electronic documents and full HD videos).
13. In collaboration with the Directorate of Environmental Health, the consultant is also expected to facilitate a series of consultation meetings and workshops with the national and subnational stakeholders to review the new STBM e-monev design and to run a trial of the STBM e-monev system upgrade with selected users.

Supervisor:	**Start Date:**	**End Date:**	**Number of Days (working)**
WASH Specialist	***1 September 2022***	***31 December 2022***	80 days

***Work Assignment Overview (SMART)**			
Tasks/Milestone:	Deliverables/Outputs:	Timeline	Estimate Budget
Designing data structures and migrating the existing data: • Reviewing the existing STBM Monitoring systems, data infrastructure, database management systems, business operations	- Migration from the old Operational Definition to the new Operational Definition for the 5 STBM pillars - Incorporating a database management system and structural functions, including	16 days (Sep 2022)	20%

workflows, user data requirements, user/user views, and design visualizations. • Designing data structures, including new data modules, recommend types of software and hardware infrastructure, including user views, input, process, output, programming/coding, entity relationship tables (ERT), entity relationship design (ERD), and data diagrams flow (DFD).	enabling data manipulation, filtering, aggregation, export, and reporting, a bridging system that allows the system to retrieve data from other information systems, data verification by the District/City Health Office, and user management by the Provincial Health Office, which may be integrated with the Environmental Health dashboard that uses Single Sign On (SSO) data for users		
Designing user interfaces and database management system • Designing user interfaces to improve user data input experience while using. • Designing a queuing system and save mode that allows data to be stored in the browser cache until it is uploaded (even if the user is offline and the computer is off). • Designing a database management system for all data parameters and indicators. • Designing in-system data analytics for key data parameters and indicators. • Designing interactive information visualization dashboards. • Ensuring system compatibility with many internet browsers (at least with Safari, Chrome, Firefox, and Microsoft Edge), including mobile browsers. • Defining the minimum computer specification requirements for the system	- SMART Sanitarian, SMART Kader, SMART Public versions of application developed - Completed the previous team's work to include the new categorization of the five STBM pillars - Improved the appearance of the user / user to enter and facilitate the input of data into the system.	24 days (Sep/Oct 2022)	30%
Field trial and finalization: • Conducting field trials in 3 provinces: DKI Jakarta, Banten, and West Java, involving a technical team (1 Ministry of Health, 1 UNICEF, 1 Provincial Health Office, and 1 District Health Office officer as facilitators). The onsite	- Report on field trial results and coordination with relevant stakeholders. - Revised e-monev STBM combined with the Ministry of Health monitoring system with baseline data management enables users to enter, analyze,	24 days (Nov/Dec 2022)	30%

trial aims to observe the system's acceptance in IT infrastructure, facilities, and human resources and identify various challenges to determine troubleshooting and improvement options. Field locations must represent rural and urban locations with the following details: - One field visit with a maximum of 3 days (including travel time) covering a minimum of one Puskesmas in each province - DKI Jakarta: South Jakarta (urban) - Banten: Pandeglang District (rural) - West Java: Bandung District (rural)	and combine data from other systems and combine queue/save mode systems more easily. This includes: 1). a dashboard that can present the main information visualization and allows the user to download other information data as needed, 2). Information on user database (SSO), administrative area database, and others as required in the system, 3). compatibility for browsers and computer systems that are flexible and scalable.		
• Prepare user guides (editable electronic documents and full HD videos). • In collaboration with the Directorate of Environmental Health, the consultant is also expected to facilitate a series of consultation meetings and workshops with the national and subnational stakeholders to review the upgraded STBM e-monev design and run a trial with selected users.	- User guides (electronic document) and full HD tutorial video - SMART Sanitarian, SMART Kader, SMRAT Public endorsed and launched by MoH	16 days (Dec 2022)	20%

☒ Bachelors ☐ Masters ☐ PhD ☐ Other Enter Disciplines	• *Have a bachelor's or higher degree in IT/computer science/information management or a related field* • *Familiar with public and environmental health issues, especially STBM* • *Have relevant experience in information management systems, preferably public health systems* • *Professional with respect to time, cost and deadlines, strong mathematical and problem-solving skills, excellent IT and programming skills, time and job management skills.* • *At least have 2-5 years experiences in web-based database development as developer/programmer* • *Have experience in designing dashboards, visual data and business intelligence* • *Have experience in PHP, MySQL database management, front-end coding using HTML, CSS, JS/AJAX.jQuery, and Bootstrap, entity relation table/ERT, entity relation design/ERD, data flow diagram/DFD, content*

	management system/CMS, database management system / DBMS, and dashboards. • *Have artistic design skills, creative thinking skills, accuracy and attention to every detail of work, relevant skills in health information including coding-HTML, CSS, JavaScript, jQuery, Dreamweaver Programming - .net, XML/XSLT, ASP, PHP, Python, Django; Design and graphics - InDesign, Illustrator, Photoshop, Flash; Content management systems (CMS) - WordPress, Adobe Business Catalyst, Drupal, Joomla, Ektron, Zope*