

TERMS OF REFERENCE FOR INDIVIDUAL CONSULTANTS

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| <p>Title:</p> <p>Sanitation Technical Consultant</p> | <p>Duty Station:</p> <p><i>Consultant should be home-based and will not have assigned desk or office space.</i></p> |
| <p>Purpose of Activity/Assignment:</p> <p>The objective of this assignment is to provide technical support to the Government of Indonesia to better understand and address the sanitation situation by identifying affordable sanitation solutions for challenging areas in Indonesia for both on-site and off-site (sewerage) sanitation systems. The consultant will work under the direct supervision of the WASH Specialist and the overall guidance of the Chief of WASH. The Consultant will also work closely with the UNICEF field offices, development partners and relevant line ministries, particularly the Ministry of Public Works and Housing.</p> <p>The activity is directly linked with activity in AWP No.2.1.3 Evidence Generation & Knowledge Management: strengthening innovations, developing business model for private sector engagement, preparing one-stop-shop ecosystem and platform, documenting and sharing lesson learned and No. 2.4.1 Advocacy & partnership: Support to national and subnational government to conduct advocacy for WASH climate resilience system strengthening, mainstreaming WASH climate resilience, mobilizing climate fund for WASH climate resilience system.</p> | |
| <p>Background:</p> <p>Poor access to safe sanitation leads to adverse health impact on children in Indonesia through widespread fecal contamination of drinking water and the environment. Despite high coverage of households with access to improved sanitation (80.92%), only one in ten households (10.16%) have access to safely managed sanitation services. This is largely due to common use of unsafe (non-water sealed) septic tanks and lack of regular desludging, resulting in unsafe discharge of fecal waste into the environment. A recent UNICEF supported national water quality survey (<i>Studi Kualitas Air Minum Rumah Tangga, SKAM-RT</i>) led by the Ministry of Health reaffirms widespread fecal contamination of drinking water sources (70%). As a result, diarrhea remains one of the leading causes of under-5 child morbidity and mortality in Indonesia.</p> <p>Inequalities in access to safe sanitation remain significant within districts/cities and between provinces in Indonesia despite the country progressing as an upper middle-income country. The 2021 National Survey showed safely managed sanitation coverage in rural areas are less than half compared to urban areas (3.03% vs 11.25%). Several data sources also confirm poorer households are less likely to even have access to improved sanitation. Additionally, standardized safely managed sanitation technology solutions for households in challenging areas such as islands, flood prone areas, etc. are not widely available. These evidence highlights greater attention and tailored support are needed for the poor, while there is an urgent need for innovative and affordable safely managed sanitation options for rural and challenging areas.</p> <p>Low performance of septage treatment plants, including lack of adaptive capacity to climate hazard, negatively impacts acceleration of safely managed sanitation services in Indonesia. Climate change is another challenge for local governments in ensuring sustainable sanitation service during climate hazards. Based on Ministry of Public Works data, the utilization rate of existing septage treatment plants (158) is just 35%. To inform sector-wide corrective measures, better understanding of factors associated with sub-optimal treatment performances and designing/adapting appropriate technology options that are climate resilient is necessary. With substantial investments needed to achieve Safely managed sanitation targets, there is an opportunity to contribute to the Government’s NDC commitments through appropriate choice of investments.</p> | |

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This Terms of Reference is made for a Sanitation Consultant who will be assigned to support the development of technology compendium which serve as a guidance for stakeholders, particularly local governments, CSOs, projects, etc in ensuring climate resilient sanitation access for all.

Scope of Work:

Under overall guidance of Chief of section and day-to-day supervision of WASH Specialist, the consultant will deliver the following:

- **Understand the sanitation landscape (along the sanitation service chain – containment, collection, treatment & disposal)**, especially in the challenging areas (such as: areas with prone to flooding, coastal areas, swampy areas, and/or categorized as 3T areas: *terdepan*/areas near to borderlines, *terluar*/outermost, *tertinggal*/left behind), covering the following:
 - Mapping of areas / location with particular sanitation challenges
 - Identification of sanitation technology options currently in use in the above challenging areas, including assessment of their climate resilience
 - Socio-cultural and behavioural aspects related to the use of current sanitation technology
 - Operational & Maintenance (O&M) procedures, staffing, budget, etc.
 - Review the governments' policies/regulation/standards/guidelines with regards to sanitation services in the challenging areas
- Based on (A), **determine the issues and gaps in addressing the sanitation situation in challenging areas**. This should include:
 - Review the appropriateness of current O&M arrangement in challenging areas
 - Review the appropriateness of the current sanitation technology options in challenging areas including socio-cultural and behavioural aspects
 - Identify policies/regulations/standards needed to address the sanitation in challenging areas
- **Explore appropriate sanitation solutions (technical options) for the challenging areas duly considering climate resilience**. This should include:
 - Appropriate technology for containment at household level
 - Appropriate technology for collection and conveyance, for both sewerage system and faecal sludge management
 - Appropriate technology for treatment, including potential on recycling domestic wastewater and/or fecal sludge
 - Estimate capital/O&M costs for the technical options including with climate resilience. This could be presented in certain interval (range) to accommodate price differences amongst different settings.
- **Develop a draft Technology Compendium** for sanitation access in challenging areas including:
 - Types of technology options for different contexts, their capital cost, land requirement, O&M requirements including energy requirement, staff considerations, etc.
 - Compile technical specifications/design criteria on the choice of each technology
 - Prepare clear algorithm (in excel format) to select sanitation system along sanitation service chain considering various variables, such as population density, water availability, urban, rural, etc. This algorithm will lead to various suitable technology options for challenging areas
- **Finalize Technology Compendium**.
 - Present the draft and address inputs received from the consultation process to finalize the compendium
 - Share the finalized version of the compendium in a proper format including forewords and executive summary

Consultations and field visits:

- During the course of the assignment, the consultant will engage with a variety of stakeholders in consultation with the WASH Specialist. She/he will conduct desk reviews and interviews of various stakeholders (government ministries, local governments, sanitation service providers, development partners, local NGOs, etc). She/he will

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- develop needed tools for the various assessments as well as the outline of the deliverable in consultation with UNICEF WASH Specialist.
- The consultant will conduct formal and informal consultation and meetings with range of stakeholders, particularly governments (including the Ministry of Public Works and Ministry of Health), development partners, NGOs, and others.
 - Desk reviews will include review of existing guidance documents, policies/regulations, reports, online research related with sanitation technology options for challenging areas. The consultant will also draw from global/international experiences suitable for the Indonesian context.
 - Support the conduct of a workshop including drafting the agenda, developing powerpoint presentations and preparing summary of the discussions.
 - This assignment will also include field visits to select locations, the cost of which will be covered by UNICEF. The location will include 4 districts in Aceh, DKI Jakarta (including Kepulauan Seribu) Central Java, and NTT provinces.

Consultant shall submit the indicative workplan and implementation approach with regards to scope of works and deliverable list.

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| Supervisor: | Start Date: | End Date: |
| Urban Development Specialist, Jakarta | 1 July June 2023 | 30 March 2024 (150 working days over 9 months contract duration) |

| Work Assignment Overview | | |
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| Tasks/Milestone | Deliverables/Outputs | Timeline |
| Inception Phase | Inception report covering: <ul style="list-style-type: none"> • Budget and work plan for developing technical compendium finalized • Assessment tools to conduct landscape analysis | 15 July 2023 |
| Landscape analysis which includes: <ul style="list-style-type: none"> • Mapping of areas / location with particular sanitation challenges • Identification of sanitation technology options currently in use in the above challenging areas, including assessment of their climate resilience • Understanding the socio-cultural and behavioural aspect on the utilization of current sanitation technology • Understanding the O&M aspect with reference to the sanitation options in above challenging area • Review the governments’ policies/regulation/standards/guidelines with regards to sanitation services in above challenging areas | Note on comprehensive landscape of sanitation options in challenging areas , which include: <ul style="list-style-type: none"> • Mapping of areas/locations with particular sanitation challenges • Matrix to map sanitation technology options available in the current challenging area • Current policies/regulations/standards with regards to sanitation options for challenging areas • Matrix to map the identification of socio-cultural and O&M aspects with regards to sanitation options for challenging areas | 15 September 2023 |

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| <p>Gap analysis</p> <ul style="list-style-type: none"> Review/suitability of current O&M arrangement in challenging areas Review/suitability of the current technology in challenging areas Identify policies/regulations/standards needed to address the sanitation in challenging areas | <p>Gap assessment report, which includes:</p> <ul style="list-style-type: none"> Suitability of O&M arrangement for challenging areas Appropriateness of current / available technology options Need for Policies/regulations/ standards update | <p>15 November 2023</p> |
| <p>Explore suitable sanitation systems</p> <ul style="list-style-type: none"> Appropriate technology for containments at household level Appropriate technology for collection and conveyance, for both sewerage system and fecal sludge management Appropriate technology for treatment, including potential on recycling domestic wastewater and/or fecal sludge Estimate capital/O&M costs for the technical options including with climate resilience. This could be presented in certain interval (range) to accommodate price differences amongst different settings. | <p>Detailed matrix, which include:</p> <ul style="list-style-type: none"> List of various sanitation systems for different contexts Estimated costs for both capital and O&M Staffing considerations | <p>15 January 2024</p> |
| <p>Develop technical compendium</p> <ul style="list-style-type: none"> Compile technical specifications on the choice of each technology Prepare technological algorithm/ modelling for safely managed sanitation system along service chain | <p>Draft technical compendium, which includes:</p> <ul style="list-style-type: none"> Technology options for different contexts, their capital cost, land requirement, O&M requirements including energy requirement, staff considerations, etc. Technical specifications/ design criteria, etc. Algorithm in excel for technology selection | <p>28 Feb 2024</p> |
| <p>Finalize technical compendium</p> <ul style="list-style-type: none"> Present the draft and address inputs from consultation process to finalize the compendium | <p>Final Technical compendium, which include</p> <ul style="list-style-type: none"> Final version of technical compendium (in English/Bahasa) | <p>15 Mar 2024</p> |
| <p>Coordination meetings and event(s).</p> <ul style="list-style-type: none"> Conduct at least 5 coordination meetings and 1 consultative workshop during the period of assignment. | <p>A final meeting/event report</p> | <p>15 Mar 2024</p> |

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| <p>Minimum Qualifications required: <input checked="" type="checkbox"/> Bachelors <input type="checkbox"/> Masters <input type="checkbox"/> PhD <input type="checkbox"/> Other</p> <p>Disciplines: Bachelor degree in civil engineering, environmental engineering, or related fields relevant to the assignment. Master degree is preferable.</p> | <p>Knowledge/Expertise/Skills required:</p> <ul style="list-style-type: none"> • She/he should have a minimum 10 years of relevant professional experience since graduation, and have necessary professional qualification in the sanitation sector. • Experience in the planning, design and assessment of sanitation systems, including centralized and decentralized wastewater systems, on-site sanitation and fecal sludge management. • Proven ability in conduct data collecting - including primary data collection-, data analysis, research, dialogue and prepare synthesis of complex information in strategic reports. • Previous work experience with UNICEF or other international agency in a similar capacity. |
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