Mercy Corps Indonesia

Scope of Work

Consultancy Preliminary Study on the Operationalization of Alternative Clean Water Supply Sources to Support the Usage Strategy of the Petanglong Regional Water Supply System in the Pekalongan Area

(Follow-up to the 2022 Pre-FS of the Petanglong Regional Water Supply System)

Project/Consultancy Title : Preliminary Study on the Operationalization of Alternative Clean Water Supply Sources to Support the Usage Strategy of the Petanglong Regional Water Suplpy in the Pekalongan Area

Project Location(s) : Central Java, Indonesia

Finance Department Code : 8500-601-20123-01

BACKGROUND:

Mercy Corps Indonesia is part of Mercy Corps, a global organization dedicated to helping communities build resilience in the face of crises, including disasters and climate change. One of its key initiatives is through the **Zurich Climate Resilience Alliance (ZCRA)**, formerly known as the Zurich Flood Resilience Alliance (ZFRA), a cross-sector collaboration involving Zurich Insurance Group, NGOs, and academic institutions. The Alliance aims to strengthen community resilience to climate risks, particularly through an **evidence-based approach** and interventions that include community collaboration, research, and policy advocacy.

Pekalongan Raya is one of the regions facing highly complex climate-related dynamics and pressures. Sea level rise, land subsidence, permanent coastal inundation, flooding, and disruptions to water availability and quality are increasingly affecting the region. In addition to natural factors, various human activities have further exacerbated these challenges. For instance, land subsidence is believed to be intensified by the excessive extraction of groundwater, which in turn increases the risk of flooding, permanent coastal inundation, and other climate-related impacts. These interconnected challenges require collective attention and coordinated action from all relevant stakeholders.

According to the findings of the Preliminary Water Resources Assessment Focus Group Discussion (FGD) conducted in the Pekalongan Region in 2026, both the Regional Water Utility Companies (Perusahaan Daerah Air Minum/PDAM) and the Community-Based Water Supply and Sanitation Program (Program Penyediaan Air Minum dan Sanitasi Berbasis Masyarakat/PAMSIMAS) in Pekalongan Regency and Pekalongan City continue to rely on groundwater as a source of clean water, in addition to surface water and springs. This dependence is largely due to the limited availability of spring and surface water sources, many of which are no longer sufficient or suitable to meet the growing demand for clean water.

Based on the Pekalongan City Regional Long-Term Development Plan (RPJPD) 2025–2045, the city's clean water supply sourced from springs and surface water is obtained primarily from Batang Regency and Pekalongan Regency. Meanwhile, water sources originating within Pekalongan City itself are predominantly derived from groundwater due to the absence of viable local spring and surface water sources. To address this issue, Pekalongan City has implemented a moratorium on groundwater extraction permits to prevent the development of new groundwater wells.

A similar situation exists in Pekalongan Regency. Although the regency possesses water resources from springs and surface water sources, groundwater extraction remains necessary to meet community water demand. This is primarily due to the limited capacity of available surface water and spring sources, which are not yet sufficient to satisfy overall clean water needs.

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In 2022, Mercy Corps Indonesia prepared a Pre-Feasibility Study and Reservoir Site Selection Analysis to support the operationalization of the Petanglong Regional Water Supply System for service provision across the Pekalongan Raya area. This study was a follow-up to Mercy Corps Indonesia's advocacy efforts based on the findings of the 2019 Climate Risk and Impact Assessment. The assessment identified an increasing future risk of both coastal and pluvial flooding, which is expected to result in greater flood-related damages and losses within the Kupang Watershed. The increasing severity of these impacts is driven by more intense wet-weather extremes, changes in coastal physical characteristics, and significant land subsidence. One of the factors believed to contribute to this land subsidence is excessive groundwater extraction resulting from limited piped water services provided by the government. Consequently, water resource management has emerged as a critical issue closely linked to flood risks within the Kupang Watershed.

In response, Mercy Corps Indonesia, in collaboration with local governments, initiated the preparation of the Pre-Feasibility Study and Reservoir Site Selection Analysis. The study identified a preferred catchment area and produced analyses covering reservoir development plans, service coverage areas, hydrological assessments, structural designs, hydraulic analyses, and other technical considerations. These outputs were subsequently followed up by the Provincial Public Works, Water Resources, and Spatial Planning Agency of Central Java through the preparation of a Feasibility Study (FS) and Detailed Engineering Design (DED), which were then submitted to the national government for consideration. However, prevailing national policy priorities and budget allocation constraints have thus far prevented the proposed project from moving forward to implementation.

Based on these considerations, there is a need to identify alternative strategies that can be implemented to address the water resource crisis in Greater Pekalongan while the Petanglong Reservoir has yet to be realized. These strategies are particularly important to reduce the rate of land subsidence and other environmental impacts by reducing dependence on groundwater. However, efforts to secure water supply through various alternatives continue to face their respective challenges and limitations. For instance, the utilization of surface water is constrained by water quality issues caused by pollution, while the development of new clean water sources is limited by their availability and the feasibility of their utilization. Meanwhile, water resource conservation efforts in upstream areas require a relatively long period to generate impacts on water availability, whereas system efficiency measures, such as reducing Non-Revenue Water (NRW), require substantial investment. The optimization of currently underutilized capacity also does not directly address the need to reduce dependence on groundwater.

These conditions indicate the need for a study that goes beyond merely identifying various water supply alternatives, but also assesses each alternative based on technical, economic, environmental, institutional, and implementation time considerations. The study is expected to determine the most feasible strategic alternatives for implementation, either independently or through a combination of several alternatives, as part of a gradual effort to reduce dependence on groundwater.

CONSULTANT OBJECTIVES:

The objectives of this consultancy, covering Pekalongan City and Pekalongan Regency, are to:

1) Identify various alternative clean water supply strategies that have the potential to reduce dependence on groundwater in the Pekalongan Area;
2) Assess the potential applicability of each alternative based on technical, economic, environmental, institutional, and implementation time considerations;
3) Determine priority strategic alternatives based on their feasibility of implementation and potential contribution to reducing groundwater use;
4) Formulate an implementation plan for the priority strategic alternatives; and
5) Develop a Strategic Transition of Priority Clean Water Supply Strategies under the Petanglong Reservoir Development Scenario

CONSULTANT ACTIVITIES:

Activities to be taken by the consultant team under this works including:

1) Identification of Alternative Clean Water Supply Strategies
   a. Review the existing clean water supply conditions, water demand, available water sources, and existing, planned or required water supply infrastructure in the Pekalongan Area;
   b. Identify various alternative clean water supply strategies.
2) Assessment of Alternatives Based on Technical, Economic, Environmental, Climate Change, Institutional, and Implementation Time Considerations
   a. Develop criteria and parameters for assessing the alternatives;
   b. Assess the potential applicability of each alternative, including preliminary order-of-magnitude estimates of Capital Expenditure, Operating Expenditure, and indicative tariffs, where applicable.
3) Determination of Priority Strategic Alternatives
   a. Determine priority strategic alternatives based on the assessment results and their potential contribution to reducing groundwater use;
   b. Identify potential combinations of multiple alternatives.
4) Formulation of an Implementation Plan for Priority Strategic Alternatives
   a. Develop implementation schemes and phasing for the priority strategic alternatives, covering the overall aspects of water resource security.
   b. Develop an implementation roadmap and recommendations.
5) Develop a Strategic Transition of Priority Clean Water Supply Strategies under the Petanglong Reservoir Development Scenario
   a. Review the development plan and utilization plan for the Petanglong Reservoir;
   b. Assess the implications of the future realization of the Petanglong Reservoir for the priority clean water supply strategies identified under the non-reservoir scenario;
   c. Develop strategic transition pathways for the priority clean water supply strategies over the short, medium, and long term periods;
   d. Recommendations for the transition and integration of the priority clean water supply strategies under the Petanglong Reservoir development scenario.

Consultant Deliverables:

The expected deliverables from the consultant are:

1) Alternative Clean Water Supply Strategy Identification Report
   a. Findings from the review of clean water supply conditions, water demand, and existing and planned water sources and supply infrastructure in the Pekalongan Area;
   b. Identification of various alternative clean water supply strategies.
2) Alternative Assessment Report
   a. Findings from the assessment of alternatives based on technical, economic, environmental, institutional, and implementation time considerations;
   b. Determination of priority strategic alternatives.
3) Implementation Plan Report
   a. Formulation of an implementation plan for the priority strategic alternatives;
   b. Formulation of a clean water supply implementation plan under the Petanglong Reservoir development scenario.

TIMEFRAME / SCHEDULE

The consultancy work is expected to be completed in **maximum 5 (Five) month period,** starting from 3rd Week of October 2026 to 3rd Week of Maret 2027. Detailed workplan will be submitted by the consultant early in preparation stage, after initial meeting is held with the ZCRA Indonesia team.

The Consultant will report to:

- ZCRA Indonesia Program Manager
- ZCRA Local Lead and Governance Specialist

The Consultant will work closely with:

- ZCRA Local Lead and Governance Specialist
- ZCRA Advocacy Government and Relation Officer
- ZCRA Knowledge Management Officer

REQUIRED EXPERIENCE & SKILLS

- Extensive expertise and a minimum of 10 years of professional experience in water resources and water security issues;
- Strong knowledge of water supply systems, hydrology, and clean water supply strategies;
- Good understanding of climate change, environmental sustainability, flooding, and land subsidence issues;
- Good understanding of national and local policies and regulations related to water resources and water supply.
- Familiarity with national and local policies, regulations, and institutional frameworks relevant to water resources management, climate resilience, and sustainable development
- Ability to work collaboratively with the ZCRA team and other stakeholders, including providing regular updates, seeking input, and incorporating feedback into the process.

How to Apply

Interested candidates may submit their CV and proposal by email to procurement@id.mercycorps.org by 1 October 2026 at the latest. Only shortlisted candidates will be contacted.

Diversity, Equity & Inclusion
Achieving our mission begins with how we build our team and work together. Through our commitment to enriching our organization with people of different origins, beliefs, backgrounds, and ways of thinking, we are better able to leverage the collective power of our teams and solve the world's most complex challenges. We strive for a culture of trust and respect, where everyone contributes their perspectives and authentic selves, reaches their potential as individuals and teams, and collaborates to do the best work of their lives.

We recognize that diversity and inclusion is a journey, and we are committed to learning, listening and evolving to become more diverse, equitable and inclusive than we are today.

Equal Employment Opportunity
We are committed to providing an environment of respect and psychological safety where equal employment opportunities are available to all. We do not engage in or tolerate discrimination on the basis of race, color, gender identity, gender expression, religion, age, sexual orientation, national or ethnic origin, disability (including HIV/AIDS status), marital status, military veteran status or any other protected group in the locations where we work.

Safeguarding & Ethics
Mercy Corps team members are expected to support all efforts toward accountability, specifically to our stakeholders and to international standards guiding international relief and development work, while actively engaging communities as equal partners in the design, monitoring and evaluation of our field projects. Team members are expected to conduct themselves in a professional manner and respect local laws, customs and MC's policies, procedures, and values at all times and in all in-country venues.