

Future proofing a basic social service: climate resilient rural water supply

Policy brief attachment 2

Recommendations on Bappenas framework for climate resilience in water and sanitation

This document provides specific recommendations based on the research project “*Future proofing a basic social service: climate-resilient community-based rural water supply*” (2023-2024), led by University of Technology Sydney, Center for Regulation, Policy and Governance, Universitas Indonesia and Universitas Gadjah Mada. This research comprised: (i) a country profile of climate risks for rural water supply; (ii) piloting of a Rural Water Supply Climate Resilience Monitoring and Assessment Tool (RWS-CRMT) in 34 locations in 7 provinces (complemented by qualitative risk and resilience assessments in 14 locations) as well as 56 further locations online; and (iii) an institutional analysis involving policy and regulatory review and an in-depth case study.

For the monitoring tool, we adopted the Bappenas Climate resilient WASH framework as the starting point, and as such we gained useful learning on which aspects of the framework worked, and how each could most usefully be interpreted in the context of rural water supply. The intended audience for this document is Bappenas and other development agencies.

Before going into details of specific parts of the framework, we would like to make two important points about limitations of the framework:

1. The framework is useful for application at the WASH provider level but does not provide a broader national policy framework to guide improvements in climate resilience in the rural water sector, for which targets are required, and roles and responsibilities of different institutions articulated, given the cross-cutting nature of climate resilience.
2. Due to the focus on the ‘WASH system’, in the case of rural water supply, the framework inadvertently places responsibility on the *community management groups* as the main and central entity to be responsible for climate resilience of these services. Whilst these community-based groups can play an important role, it may be more important to provide a framework for climate resilient rural water supply at the *regency level*. This is because the legal mandate for services lies at regency level, and there are many aspects of climate resilience that require action at regency level (e.g. risk and vulnerability planning, coordination with spatial planning, responsive budget support for disasters, emergency back-up planning etc.). At present we are concerned that in the context of rural water supply, the framework perpetuates a paradigm of solely community management rather than co-management with government.

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Our analysis is in the form of comments and suggestions on the features of a climate resilient WASH system as described in Bappenas 2023 climate resilience framework (see Table 1). We acknowledge the more updated framework in the UNICEF-led “*Framework for Strengthening WASH Climate Resilience*” developed in partnership with Bappenas, which further evolves these features, and refer to this evolution in our comments below.

Table 1: Koneksi research comments and suggestions for each feature of the Climate Resilient WASH system framework (Bappenas, 2023)

Feature	Operational Description	KONEKSI project comments and suggestions
1 Able to assess climate risk	This feature demonstrates the capacity of the WASH system to anticipate climate hazard risks and their impact on WASH system components. WASH system managers are able to access weather and climate information from authorized institutions. WASH system managers are able to use appropriate climate risk assessment methods to identify system components most at risk of exposure to extreme climate impacts.	<ul style="list-style-type: none"> Valuable feature as a component to understanding climate resilience, and it remains included in the updated UNICEF-Bappenas framework under a broader feature of ‘climate awareness’ In the case of PAMSIMAS, the capacity of both KPSPAMs to assess risk, as well as and regency governments (across all systems) is important. Clarifying a specific risk assessment methodology (for each of KPSPAMs and regency) would be beneficial. Integrate of indigenous knowledge into risk assessments Recognise that risk is dynamic, so risk assessment should not be a one-off exercise but be iterative Risk assessments should include adjacent land-use risks that may exacerbate climate hazards
2 Aligns with other climate initiatives	This feature demonstrates the capacity of the WASH system to coordinate and collaborate efforts to strengthen its climate resilience with other climate initiatives, both regional and sectoral initiatives. Strengthening the WASH system, through this feature, will contribute to strengthening the climate resilience of the region and other sectors. In addition to climate initiatives, strengthening the WASH system is also aligned with disaster risk reduction initiatives at the regional level.	<ul style="list-style-type: none"> Valuable feature as a component to understanding climate resilience, though ‘coordinate’ may be a better word than ‘align’. This feature has been removed from subsequent UNICEF-Bappenas framework, however, could promote important actions towards climate resilience Ensuring rural water supply is part of Regency climate plans and wider spatial plans (e.g. mining and agriculture) is critical, as the research found rural water supply to be absent from these plans Integrated planning with existing initiatives at village is beneficial (e.g. Climate Village (Kampung Iklim) or Destana (Desa Tangguh Bencana – Disaster Resilient Village) Clarifying which regency agency or other party is responsible to lead coordination would be beneficial, or bringing additional actors into Pokja-AMPL/PPAS

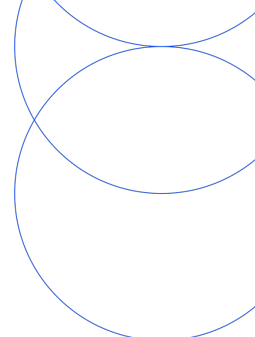
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<p>3 Have access to climate expertise, products and services</p>	<p>This feature demonstrates the capacity of WASH system managers and users to obtain information from parties who can provide expert advice and provide products and services that may be needed to strengthen the WASH system's climate resilience. When needed, the WASH system manager already knows the requirements and procedures for accessing those providers of expertise, products and services.</p>	<ul style="list-style-type: none"> • This element has been removed from subsequent UNICEF-Bappenas framework, though there is a new general category of 'access to external support' • We found this dimension to not be so useful, since KPSPAMs require broader external support to achieve climate resilient, not just climate-related expertise • As indicators, we included questions on access to technical expertise (to fix damaged system after climate events) and ability to access spare parts quickly. Both of these are important and should remain included in any further evolved framework to support climate resilience.
<p>4 Have access to responsive funding</p>	<p>This feature shows the characteristics of managers and users of the WASH system who have reserves or external funding sources that can be used at any time to finance the strengthening of the components of the WASH system. Access to funding also belongs to the WASH system to finance disaster response actions to make WASH services available in the emergency response and post-disaster phases.</p>	<ul style="list-style-type: none"> • This feature is critical and remains included in UNICEF-Bappenas updated framework • The key issue with this dimension, is that it ideally should be part of a policy framework to support climate resilience that covers national, regency or village level, and includes clear criteria and streamlined processes. • Our research found very few community management groups to have access to responsive funding, and limited use of 'unexpected events (BTT) funding but this was not always available • Responsive funding is not needed just for disaster response, but also for anticipatory action, such as stockpiles and events that are not considered as disasters.
<p>5 Engage climate literate personnel</p>	<p>This feature demonstrates the characteristics of a WASH system that has personnel who understand climate risk and the vulnerabilities of the system they manage, in addition to having the knowledge and skills to take actions to strengthen the components of the WASH system to make it more climate resilient. The WASH system also has service recipients or users who understand the climate risks and vulnerabilities of the services they use.</p>	<ul style="list-style-type: none"> • This feature was considered important, and in the UNICEF-Bappenas updated framework is broadened to include 'climate-literate stakeholders', which is supported by our research, since it is not only community-based management groups that must be climate-literate, but also village government, community members and higher levels of government • This feature pointed to the major gaps in training of personnel, which does not currently cover climate resilience

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<p>6 Located in an area safe from climate hazards</p>	<p>This feature shows the characteristics of WASH system assets and infrastructure that function from a safe location and position, not affected by the impact of climate events. The WASH system is able to reduce the risk of exposure to the effects of climate events on its physical components, both through proper placement and through the application of safe procedures.</p>	<ul style="list-style-type: none"> • This feature is valuable, however, since a water system has many parts and components (each in different locations), it makes sense that the updated framework includes this aspect as part of a feature called ‘climate proof’ in which the proportion of assets or infrastructure in unsafe places is considered, and where climate resilient design is also considered alongside location • Our research similarly found that some parts of a system may be safely located, whereas others were not, and in some cases could not. Hence focusing on risk reduction through protection, robustness and redundancy was found to be as important as choice of location. • In our use of the framework, rather than focusing on ‘safe location’ (since for an existing system, the system is already located), we included aspects on monitoring water sources, distribution system and anticipatory action to strengthen resilience of the infrastructure to climate events • The framework in current form simplistically assumes risk-free locations exist and are accessible. Instead of this, a holistic source-to-tap risk reduction approach is needed, including a focus on actions such as monitoring the system and increasing infrastructure resilience
<p>7 Using a strong and protective structure</p>	<p>This feature shows the characteristics of WASH system assets and infrastructure that are designed to be able to minimize exposure to the impacts of climate events, in addition to using construction materials that make them strong and resistant to the impacts of climate events. WASH system assets and infrastructure are also equipped with protective buildings that are able to divert or withstand the impacts of climate events.</p>	<ul style="list-style-type: none"> • This feature is useful in considering climate resilience; however, it is critical to note that completely ‘climate proofing’ of infrastructure is likely to be impossible and cost-prohibitive, and hence the importance of back-up services and quick response (captured in the updated UNICEF-Bappenas framework under ‘climate adaptable’). • In practice, compliance with design standards, supervision, procurement, and workmanship not always maintained, either due to logistical problems or other resource constraints, and hence beyond design improvements, quality assurance of the implementation of robust, flexible and easily repaired infrastructure is important. It is therefore it is not only use, but also maintenance, preventive action and backups that are important

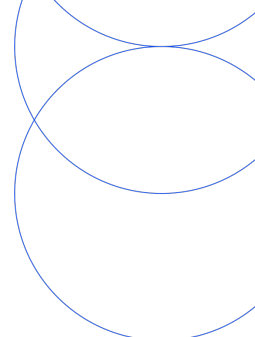
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<p>8 Have resource reserves</p>	<p>This feature shows the characteristics of the WASH system which has fuel reserves, energy sources, water, equipment and personnel that can be deployed at any time needed. The WASH system also has diverse energy and water sources to deal with the varying impacts of climate events, such as floods and droughts.</p>	<ul style="list-style-type: none"> • This feature is valuable, and for this feature we focused on back-up water services during disruptions, and access to alternative water sources for the overall water scheme as the measures of climate resilience. This element is considered important, and whilst ‘resource reserves’ is no longer included in the updated UNICEF-Bappenas framework, the idea of back-up services is covered in ‘climate adaptable’ category. • An important point is that alternative water resource for the PAMSIMAS system is not a responsibility for the community-based management group- diversified supply needs to be part of initial planning by government, and addressed by regency governments for existing systems, particularly since it links to catchment planning, well beyond the reach of a specific community. • Often community members returned to unsafe water sources during disruptions, and hence safe alternative supplies should be planned during disaster (e.g. packaged water, mobile treatment units etc.)
<p>9 Resource conservation</p>	<p>This feature demonstrates the capacity of the WASH system to use technologies that consume less fuel, electricity, energy and chemicals, and are able to utilize renewable energy. The WASH system also needs to have the capacity to produce reusable energy, solids or clean water.</p>	<ul style="list-style-type: none"> • This feature was found to be valuable, and has been preserved in the updated UNICEF-Bappenas framework • Our application focused on water efficiency socialisation with community, monitoring water quality and quantity as well as actions to protect water sources and catchment areas, however we agree that wider resources such as energy and materials area also part of the broader picture of resilience
<p>10 Have an emergency services plan</p>	<p>This feature shows the characteristics of the WASH system to provide emergency services when normal operations are disrupted. When operations are completely stopped, the WASH system has the ability to access WASH services provided by other parties so that the community will still receive WASH services.</p>	<ul style="list-style-type: none"> • This feature is valuable; however, it was difficult to be specific about what constitutes an actual emergency services plan. In the updated framework, this area is categorised more broadly as ‘emergency and disaster readiness’ • Based on our research, plans should address all phases- preparation, response and recovery. Effective emergency management capability requires participatory planning, clear roles and

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		<p>standard operating procedures, stockpiles of equipment, mobilization systems and communications protocols.</p> <ul style="list-style-type: none">• The specific entities involved also need to be defined, particularly linkages with district emergency authorities and services, the role of villages and regency government.
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This document is an output from research funded by Department of Foreign Affairs and Trade (DFAT) through the Australia-Indonesia Knowledge Partnership Platform KONEKSI. The views and opinions expressed in this document are those of the authors and do not necessarily reflect the views of DFAT or the Australian Government.

