Towards Climate Resilience Rural Water and Sanitation services in Indonesia

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BACKGROUND

Table 1. Output Achievements of Pamsimas Phase 1, 2, and 3 (acced from MIS)

Programme Focus	Pamsimas I (2008-2012)	Pamsimas II (2013-2015)	Pamsimas III (2016-2022)	TOTAL
Water (people)	6,275,338	8,355,477	10,065,432	24,686,247
Sanitation (people)	8,515,881	8,667,502	8,841,881	26,025,264
Open Defecation Free (% of 35,438 villages)	86%	82%	79%	81%
Sanitation facilities & Hygiene Programme (schools)	93%	96%	98%	97%

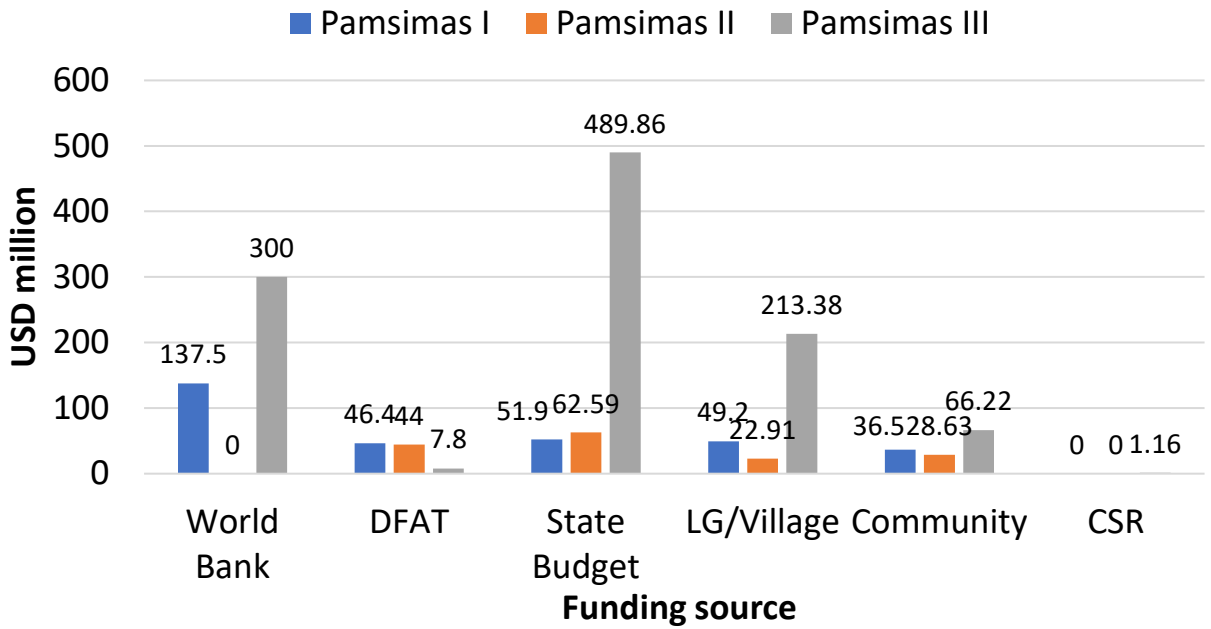


Figure 1. Funding Amount of Pamsimas Phase 1,2, and 3

Source: Pamsimas Evaluation, DFAT, 2022

PAMSIMAS is a national **Government of Indonesia (GOI)** programme supported by the **World Bank (WB)** and **Department of Foreign Affairs and Trade (DFAT).** It was initiated in 2008 and has been implemented in 35.928 villages out of 74.960 villages in Indonesia.

Table 2. Pamsimas Evolution

PAMSIMAS I	PAMSIMAS II	PAMSIMAS III
To access **improved** drinking water and sanitation, practice clean and healthy living behaviors	To access improved **sustainable** drinking water and sanitation	To access improved **sustainable** drinking water and sanitation, increase the application of clean and healthy living values and behaviors
Assets belong to the community	Assets belong to the community	Assets belong to the village

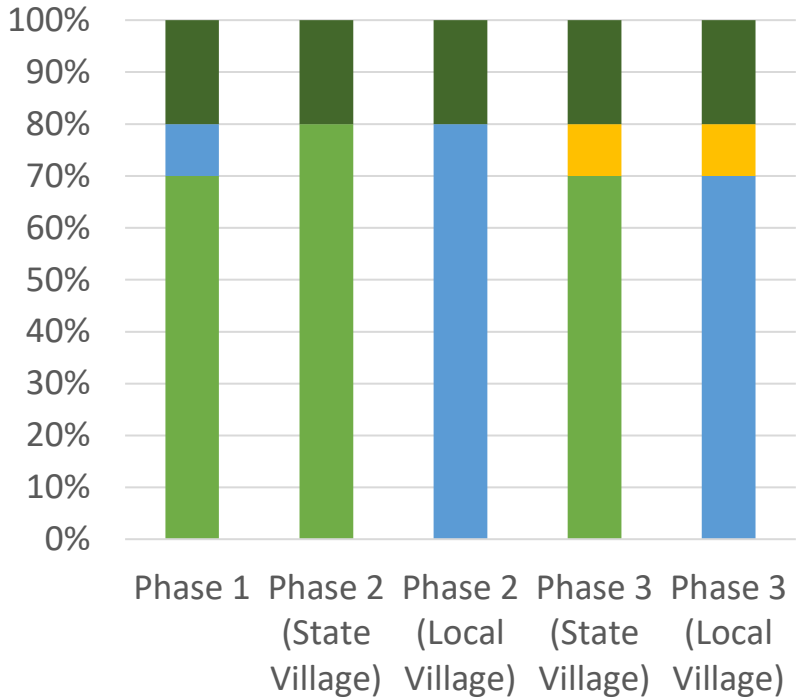


Figure 2. The proportion of funding for Pamsimas I, II and III

Table 3. People with Access to Improved Sanitation by Village and Phase

Programme Focus	Pamsimas 1	Pamsimas 2	Pamsimas 3	Total
People with access to improved sanitation	8,515,881	8,667,502	8,841,881	26,025,264
Number of years in phase	5	3	6	14
Number of Villages targeted	6,831	9,940	18,329	35,100

Source: Pamsimas Evaluation, DFAT, 2022

LESSON LEARNED

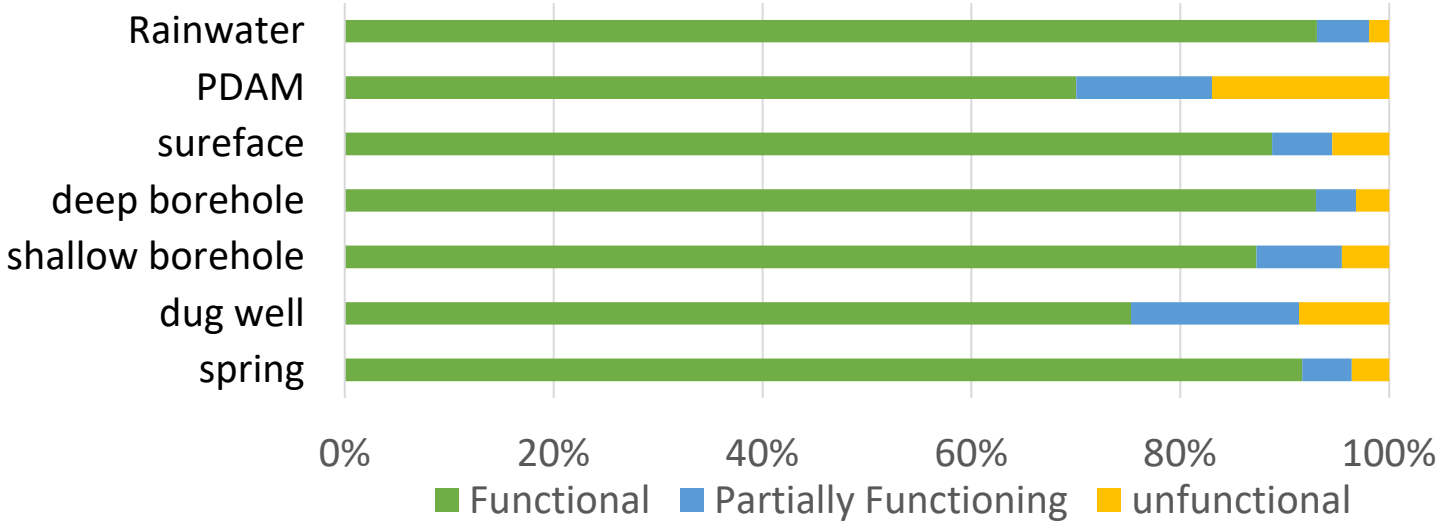


Figure 3. The functioning of facilities at each water source
Source: Pamsimas Evaluation, DFAT, 2022

- **The source of water contributes to the functioning of the facility.**
- The current condition of the facility shows that **dug water sources and shallow drilled wells have a low percentage of facility functioning**.
- Need to **safeguard water sources and adaptation strategies to climate change** need to be carried out for sustainable facilities.

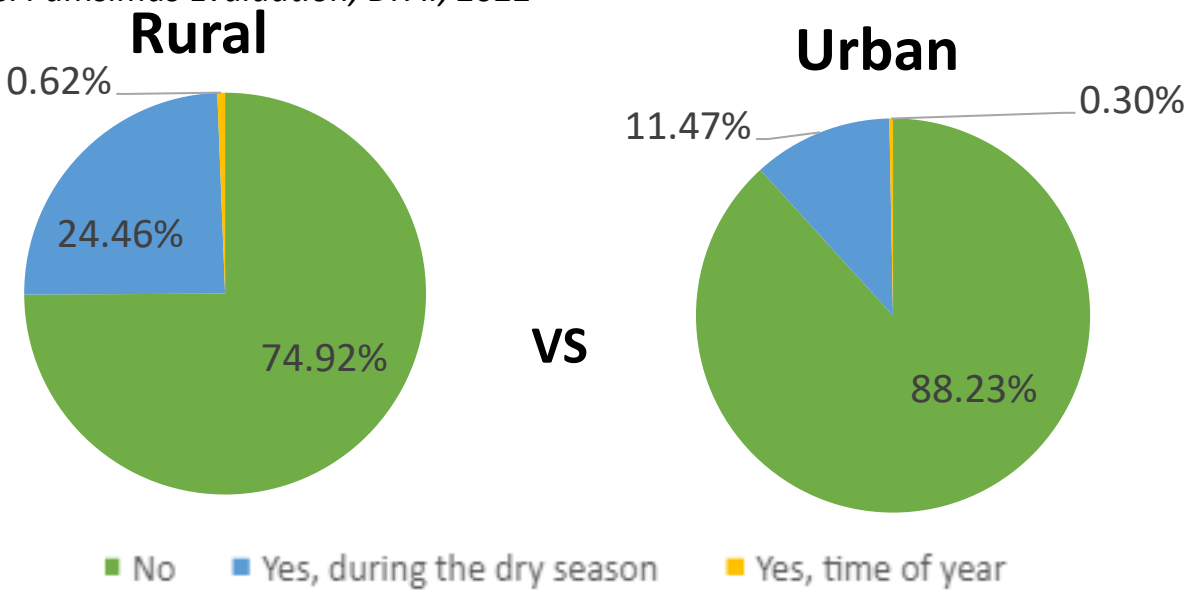


Figure 4. Households experiencing water scarcity

"Rural areas have a higher vulnerability to scarcity of water sources compared to urban areas"

Central Java, South Kalimantan, and East Nusa Tenggara Province

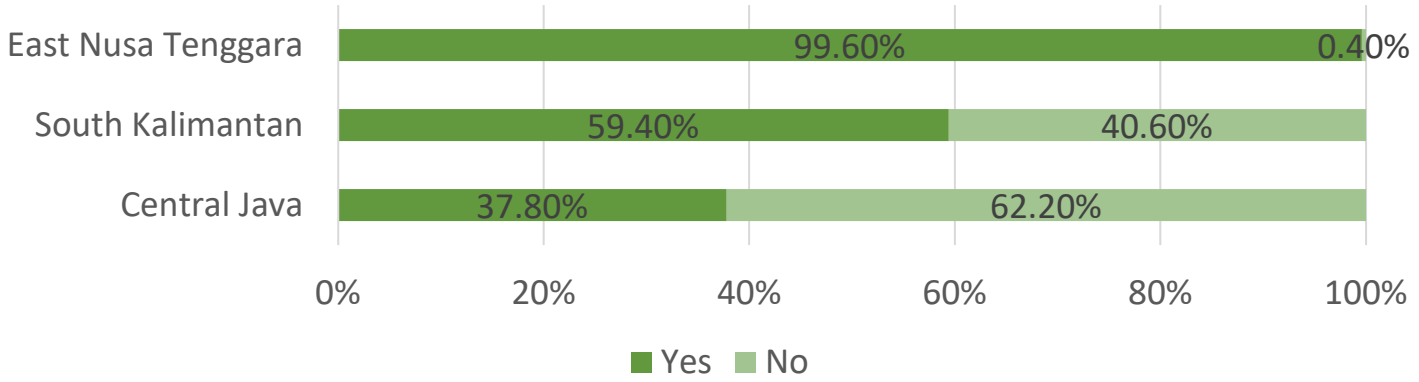


Figure 5. Respondents that used PAMSIMAS Water for Drinking
Source: Pamsimas Evaluation, DFAT, 2022

There appears to be a strong relationship between the **availability and affordability of alternative resources drinking water** and the proportion of households that **drink PAMSIMAS water**.

Bumi Harjo Village, Central Java

1. **Excellent coordination** between community groups, local government, associations, and village government
2. **Responsive** in overcoming technical problems
3. Able to seek **various other funding source** options
4. Has **routinely tested the quality** of drinking water
5. Able to **plan projected funding needs and operational costs**
6. Access to drinking water covers the entire village and **has potential to expand to outside the village**

Figure 6. Reservoir in Bumiharjo, Central Java

Durian Village, Kubu Raya, West Kalimantan

Rural Domestic Wastewater Conditions

Source: Bappenas-KIAT

1. Open defecation still exist in the village
2. Greywater and blackwater are not managed properly
3. Kubu Raya doesn't have Fecal Sludge Treatment Plan (FSTP) or communal Wastewater Treatment Plan (WWTP)
4. The various geographical conditions make it difficult for the emptying truck

Rural Solid Waste Conditions

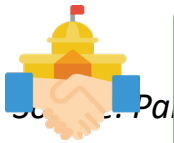
Source: Bappenas-KIAT Pamsimas Team

1. Disposal is still found in open land and riverbanks
2. Rural communities currently only familiar with collecting garbage and burning it
3. Communities do not have information about value of solid waste

Key evaluation of the Pamsimas I, II, and III implementation:

Triggering has not yet fully implemented targeting the community, local government and villages

Future planning should not only focus on infrastructure development but also optimal **community empowerment and climate resiliency**

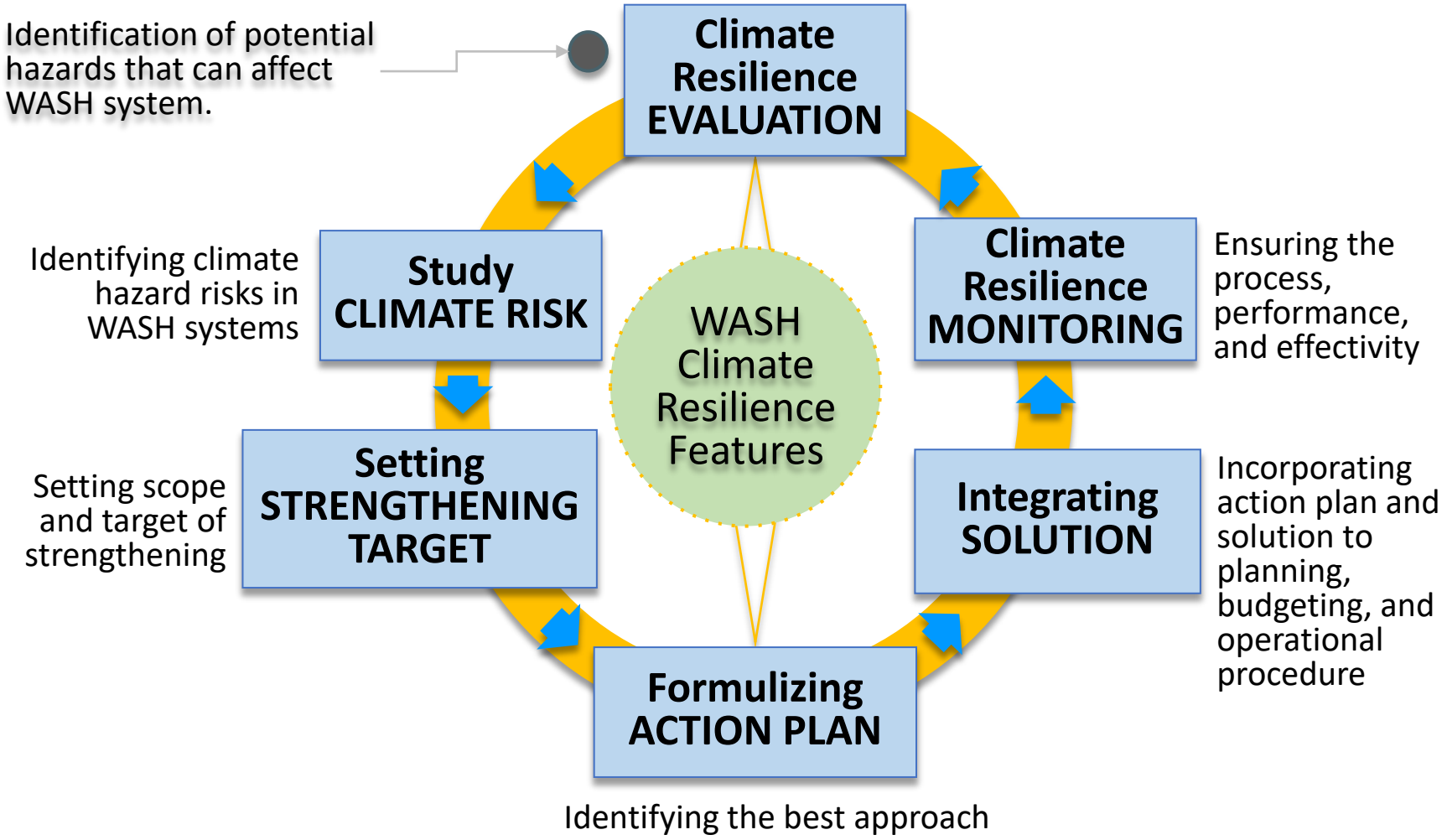


The provision of drinking water and sanitation is **the responsibility of the local government (including village government)**, and should not be left entirely to the community

Source: Pa

WASH-CLIMATE RESILIENCY FRAMEWORK IN INDONESIA

General Framework for Strengthening WASH Climate Resilience is used to create **community-based** rural water and sanitation systems that have the capacity to anticipate, prepare for, respond to, recover from, and thrive **from the impacts of risks and vulnerabilities due to climate change.**



Note:

This framework is an early concept that was recently introduced in Indonesia. The framework was created to help WASH stakeholders ***understand the principles and find ways to mainstream climate into WASH planning, service operations and financing, including for the rural context***

10 Features of a Climate-Resilient Water and Sanitation System

Able to assess climate risk

Aligned with climate and disaster initiatives

Have access to climate technology

Involving human resources with climate literacy

Located in a safe location from climate hazards

Using a strong and secure structure

Conserve resources

Have the emergency services plan

Have access to responsive funding

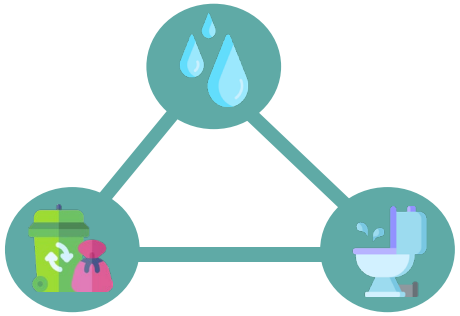
Have the alternative supply of resources

Figure 7. Example of climate resilient infrastructure: wall and cover to dug well

KEY CHANGES IN PAMSIMAS NEXT GENERATION

1. Focusing on three sectors at once: **drinking water, domestic wastewater, and solid waste** as three interrelated sectors, and mainstream climate resiliency

2. Target change **from ODF and improved** drinking water and sanitation access **to safely managed** drinking water and sanitation in rural areas and solid-waste management.



Safely managed drinking water:

- Physical development of drinking water facilities interventions (e.g chlorination)
- Water quality surveillance
- Develop and implement Drinking Water Safety Plan

Safely managed sanitation:

- Behavior change and health awareness promotion
- Physical development of sanitation facilities **interventions:**

Community involved in: building their own toilets

Government involved in: black & grey water management

***Gap:** Need to find appropriate technology for on-site treatment (grey and black water)*

The intervention of safely managed drinking water and sanitation have **to adopt and implement 10 Features of a Climate-Resilient Water and Sanitation System**

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KEY CHANGES IN PAMSIMAS NEXT GENERATION

3 Component of PAMSIMAS program:

5 PAMSIMAS components:

(1) Community empowerment, development of community based water operators

(2) Improving clean and healthy living behavior and services through Sanitasi Total Berbasis Masyarakat (ODF triggering)

(3) Provision of drinking water and sanitation facilities

(4) Incentive grants

(5) Program implementation and management support

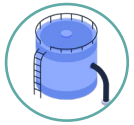
8 PAMSIMAS Next Generation components:

(1) Promotion of behavior change and health awareness

(2) Formulation of plans and strategies at local, village, and operator level

(3) Strengthening WASH governance and institutions

(4) Regulations at central, provincial, district, and village levels



(5) Infrastructure development/ expansion/improvement

(6) Asset management

(7) Operational and management

(8) Funding and financing for development

KEY CHANGES IN PAMSIMAS NEXT GENERATION

4 **Asset management** involving the community, village and local government

5 **Development of school sanitation infrastructure** and education of clean and healthy living behaviour

6 Utilization of **regional and village government funding**

WASH is already the authority of local and village governments. Priority of budget should come from their own budget.

*"**Regional Government** Administrators **prioritize** the implementation of Mandatory Government Affairs **relating to Basic Services**"*
(Article 18, Law 23/2014)

Source: Pamsimas NextGen team documentation, 2022

CONCLUSION

1. **Pamsimas 1-3** have laid a good foundation for community based WASH development in Indonesia
2. **Safely-managed WASH,** integration between **WASH and solid-waste management** as well as **climate resiliency** are important factors to be carried out in the next-phase of Pamsimas
3. **The involvement of all tiers/levels of government** needs to be carried out from the start **of planning to monitoring and evaluation** and to **asset management.**

Thank You

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