

# Roadmap for Financing Water, Sanitation and Hygiene in Melawi Regency

Pokja PKP Melawi Regency



**Wahana Visi**  
INDONESIA



## Foreword

First, we thank Allah SWT, because the Malawi Regency Water and Sanitation Financing Roadmap Document could be resolved by His grace and blessing.

The Drinking Water and Sanitation Financing Roadmap document is a guide that provides information on financing needs, funding gap, and other funding information in Malawi Regency for 3 sectors, namely community, educational facilities, and health facilities which can be used to cover the existing gap. We prepared this roadmap document together with related parties who have the common goal of realizing universal access to drinking water and sanitation in Malawi Regency. We express our highest thanks and appreciation to the parties who have been involved, supported, and collaborated in the process of preparing this roadmap.

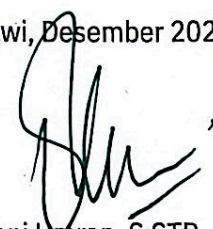
The hope is that this document can become a guide for all parties in planning water, sanitation, and hygiene (WASH) programs in government planning and budget documents. We also hope that this document will become a reference document for parties outside the government such as NGOs/NGOs, the private sector, and others in supporting the government in its goal of achieving Universal Access in Malawi Regency.

Hopefully, all parties can continue to collaborate in realizing togetherness so that Malawi Regency's goal of achieving 100% access to drinking water and sanitation can be achieved where everyone without exception has access to safe drinking water and sanitation.

Let's continue the spirit of supporting each other for the welfare of Indonesian children.



Melawi, Desember 2023

  
Silvani Umran, S.STP, MM.  
Ketua Pokja PKP Melawi

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## List of Abbreviations

Abbreviations	Definitions
AMS	: Air Minum Sanitasi
APBD	: Anggaran Pendapatan, dan Belanja Daerah
APBN	: Anggaran Pendapatan, dan Belanja Negara
BABS	: Buang Air Besar Sembarangan
CTPS	: Cuci Tangan Pakai Sabun
DAK	: Dana Alokasi Khusus
FINWASH4UC	: <i>Financing WASH for Universal Coverage</i>
LSM	: Lembaga Swadaya Masyarakat
MKM	: Manajemen Kebersihan Menstruasi
ODF	: <i>Open Defecation Free</i>
PAMSIMAS	: Penyediaan Air Minum dan Sanitasi Berbasis Masyarakat
PDAM	: Perusahaan Daerah Air Minum
Perbup	: Peraturan Bupati
Perpres	: Peraturan Presiden
PHBS	: Perilaku Hidup Bersih dan Sehat
POKJA PKP	: Kelompok Kerja Perumahan dan Kawasan Permukiman
RAPBS	: Rencana Anggaran Pendapatan dan Belanja Sekolah
RISPAM	: Rencana Induk Sistem Penyediaan Air Minum
RPJMN	: Rencana Pembangunan Jangka Menengah Nasional
SDG'S	: <i>Sustainable Development Goals</i>
SLB	: Sekolah Luar Biasa
SPAM	: Sistem Penyediaan Air Minum
SPM	: Standar Pelayanan Minimum

## List of Abbreviations

Abbreviations	Definitions
UC	: <i>Universal Coverage</i>
Unicef	: <i>United Nations Children's Fund</i>
WHO	: <i>World Health Organization</i>
WVI	: <i>Wahana Visi Indonesia</i>

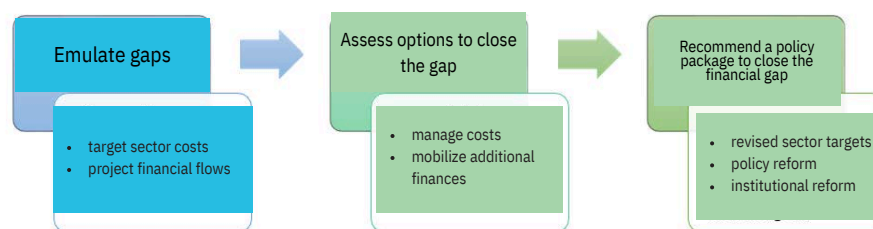
# Background

Sustainable Development Goal 6 impacts a wide range of sustainable development challenges, including food security, health, energy, sustainable cities, sustainable consumption and production, and marine and terrestrial ecosystems. The challenges (in numbers):

- 2.1 billion people do not have access to safely managed drinking water services (WHO-UNICEF, 2017)
- 4.5 billion people do not have access to sanitation compatible with SDG goal 6 (WHO- UNICEF, 2017)
- Annual economic losses are associated with global water insecurity such as inadequate water supply and sanitation (USD 260 billion), flood damage to urban properties (USD 120 billion), and water insecurity of existing irrigation systems (USD 94 billion) (Sadoff et al, 2015)
- Projected global financing needs for water infrastructure in 2030: USD 6.7 trillion; in 2050: USD 22.6 trillion (Winpenny, 2015)
- Annual investment requirements to meet water, sanitation, and hygiene needs in 2030: USD 114 billion (Hutton and Varughese, 2016).

To support the achievement of Universal Coverage (UC) in Melawi Regency, Wahana Visi Indonesia collaborated with POKJA PKP Melawi Regency to develop a roadmap for the WASH - Universal Coverage financing model at the district level. This model focuses on providing information about infrastructure needs, operations, maintenance, and sustainable funding operations to achieve Open Defecation Free (ODF) and WASH Universal Coverage. This model will also focus on how the components mentioned above can be planned and monitored as a roadmap to achieve UC by 2030. This model will refer to and be integrated with existing policies at both the National and local (district) levels such as the District Sanitation Strategy Document (SSK) and Drinking Water Supply System Master Plan (RISPAM).

The WASH Financing Model is a strategic document that helps guide WASH sector decisions to ensure the sector's financial sustainability. The WASH financial model assesses the financial gap of the WASH sector over a long planning period, identifies options for closing the financial gap (by mobilizing more financial resources and by finding ways to reduce the costs of achieving WASH sector targets), and recommends a combination of policy measures that will close the financial gap (UNICEF, 2022).



Source: UNICEF 2022

The fundamental reason for supporting the development of a WASH financing strategy is to accelerate progress in achieving national WASH targets by increasing the equity, effectiveness and efficiency of WASH spending, and attracting alternative financial resources and to ensure operational and maintenance financing to support the sustainability of WASH infrastructure and behavior. WASH financing models estimate the gap between funding targets and available financial resources and guide how this financial gap will be closed to achieve universal access by 2030. While financial strategies look at sector expenditure and sector income sides, they typically provide less detail than investment plans (for example, regarding projects) and resource mobilization strategies (for example, regarding financing mechanisms).

# Scope of Sustainable Development Goals



SDGs is a global and national commitment to improve society, including 17 global goals and targets for 2030 which were declared by both developed and developing countries at the UN General Assembly in September 2015. These 17 goals are:

(1) No Poverty; (2) Zero Hunger; (3) Good Health and Well-Being; (4) Quality Education; (5) Gender Equality; (6) Clean Water and Sanitation; (7) Affordable and Clean Energy; (8) Decent Work and Economic Growth; (9) Industry, Innovation and Infrastructure; (10) Reduced Inequalities; (11) Sustainable Cities and Communities; (12) Responsible Consumption and Production; (13) Climate Action; (14) Life Below Water; (15) Life on Land; (16) Peace, Justice and Strong Institutions; (17) Partnership for the Goals.

This document supports the planning and financing of SDG targets 4 and 6, in particular the following indicators:



## Sustainable Development Goals 4

**Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all**

Every child has the right to quality education, including access to drinking water, sanitation and hygiene (WASH) services while at school. Children spend most of their time at school, as WASH services can impact students' learning, health and dignity, especially for girls. The inclusion of WASH in schools in the Sustainable Development Goals (targets 4.a, 6.1, 6.2) shows increasing recognition of the importance of WASH as a key component of 'safe, non-violent, inclusive and effective learning environments' and as part of 'WASH access universal, which emphasizes the need for WASH outside the home.'



## Sustainable Development Goals 6

**Ensure availability and sustainable management of water and sanitation for all**

### 6.1 Safe and affordable drinking water

By 2030, achieve universal and equitable access to safe and affordable drinking water for all.

### 6.2 End open defecation and provide access to sanitation and hygiene

By 2030, achieve access to adequate and equitable sanitation and hygiene for all, and end the practice of open defecation in the open, paying special attention to the needs of women and vulnerable groups.



## Objectives

The objectives of this Roadmap are:

- To provide information on funding for Drinking Water and Sanitation towards Universal Access 2030 for 3 services, namely Community, Education, and Health in Melawi Regency.
- Seeing the funding gap towards Universal Access to Drinking Water and Sanitation until 2030 by SDGs 4 (schools) and SDGs 6.
- Provide information on other funding sources including alternative funding that can be accessed by Regional Governments to support the achievement of Universal Access by 2030.

## Overview of Melawi Regency

– Geographical location of Melawi Regency

Melawi Regency is located in West Kalimantan Province or between 0°07' South Latitude to 1°21' South Latitude and 111°07' East Longitude to 112°27' East Longitude with the capital being Nanga Pinoh. Administratively, the territorial boundaries of Melawi Regency are:

- North: Sintang Regency
- South: Central Kalimantan Province
- West: Sintang Regency and Ketapang Regency
- East: Sintang Regency

– Administration

Melawi Regency has an administrative area of 10,643.80 km<sup>2</sup>, around 82.85% (8,818.70 km<sup>2</sup>) of the total area is hills. The percentage of area compared to West Kalimantan province is 7.25%. This district consists of 11 sub-districts and 169 villages and 603 hamlets.



Source: RISPAM Kab.Melawi 2022

Table 1 Population, number of villages and area per sub-district in 2021

No	Subdistrict	# of villages/subdistricts		Built-up Area (ha)	Total Population		Number of Households		Density in built-up area (people/ha)
		Villages	Subdistricts		Villages	Subdistricts	Villages	Subdistricts	
1.	Sokan	18	0	18.686,4	18.436	0	4615	0	0,99
2.	Tanah Pinoh	12	0	8.614,8	16.887	0	4226	0	1,96
3.	Tanah Pinoh Barat	10	0	10.136,4	14.084	0	3524	0	1,39
4.	Sayan	18	0	14.779,8	19.158	0	4796	0	1,30
5.	Belimbing	17	0	12.325,2	23.174	0	5799	0	1,88
6.	Belimbing Hulu	8	0	5.787,48	10.355	0	2591	0	1,79
7.	Nanga Pinoh	11	6	8.191,08	17.896	32.406	4478	8104	6,14
8.	Pinoh Selatan	12	0	11.155,08	11.231	0	2813	0	1,01
9.	Pinoh Utara	19	0	7.270,92	15.183	0	3804	0	2,09
10.	Ella Hilir	18	1	14.579,96	17.096	1680	4280	420	1,29
11.	Menukung	19	0	12.756	19.827	0	4962	0	1,55
	<b>Total</b>	<b>162</b>	<b>7</b>	<b>124.283,12</b>	<b>183.327</b>	<b>34086</b>	<b>45888</b>	<b>8524</b>	<b>21,38010784</b>

Sumber: Instrumen Inventaris Kab. Melawi 2022.

Table 2 Projection of Population

No	Subdistrict	Population for the Projected Year				
		2022	2027	2032	2037	2042
1	<b>Sokan</b>	18.710	23.099	27.301	32.266	38.134
2	<b>Tanah Pinoh</b>	18.657	10.611	12.541	14.822	17.518
3	<b>Tanah Pinoh Barat</b>	14.867	19.707	23.291	27.527	32.534
4	<b>Sayan</b>	19.311	25.376	29.991	35.446	41.893
5	<b>Belimbing</b>	24.386	32.316	38.194	45.140	53.350
6	<b>Belimbing Hulu</b>	10.818	16.312	19.279	22.785	26.930
7	<b>Nanga Pinoh</b>	54.424	65.634	77.571	91.680	108.354
8	<b>Pinoh Selatan</b>	12.028	17.279	20.421	24.136	28.525
9	<b>Pinoh Utara</b>	15.230	20.373	24.078	28.458	33.634
10	<b>Ella Hilir</b>	18.848	24.537	28.999	34.273	40.507
11	<b>Menukung</b>	22.094	27.344	32.317	38.194	45.141
	<b>Total</b>	<b>229.373</b>	<b>282.588</b>	<b>333.984</b>	<b>394.728</b>	<b>466.520</b>

Source: RISPAM Kab.Melawi 2022



# Drinking Water and Sanitation Policy



Access to Safe Drinking Water and Sanitation as **National Priority**

"So that every country strengthens its global joint commitment to increase community access to sanitation and safe drinking water and make it a development priority because a strong commitment will encourage the mobilization of the necessary resources" - Vice President of the Republic of Indonesia at SMM 2022

## National Policy



**PP no. 2 of 2018 concerning Minimum Service Standards**

**Article 7 Paragraph 2**

The basic types of services in Public Works SPM consist of meeting drinking water needs and domestic wastewater treatment services

**Presidential Decree No. 18 of 2020 concerning RPJMN 2020-2024**

**Providing Access to Adequate and Safe Drinking Water and Sanitation Targets/Indicators (household units):**

**90% feasible (including 15% safe)** access to adequate and safe sanitation

**0% defecating in the open**



**100% viable (including 15% safe)** access to adequate and safe drinking water

**30% access to piped drinking water**



**Presidential Decree no. 56 of 2017 concerning Implementation of SDGs Achievement**

**GOAL 6: Ensure the availability and sustainable management of drinking water and sanitation for all**



**Presidential Decree no. 56 of 2017 concerning Implementation of SDGs Achievement**

Drinking water and sanitation are basic community needs that must be met to increase the level of community welfare

## Regional Policy

**Regency Regulation 14/2019**

Melawi Regency Policies and Strategies in Managing Household Waste and Similar Types of Household Waste

**Regency Regulation 39/2021**

Guidelines for Implementing Waste/Cleaning Service Retributions

**Regency Regulation 80/2022**

Community Based Total Sanitation



**Regional Regulation 13/2017**  
Waste management

**Regional Regulation 6/2018**  
Waste/Cleaning Service Levy

**Regional Regulation 80/2021**  
Position of Organizational Structure, Main Duties and Functions of the Environmental Service Work Unit

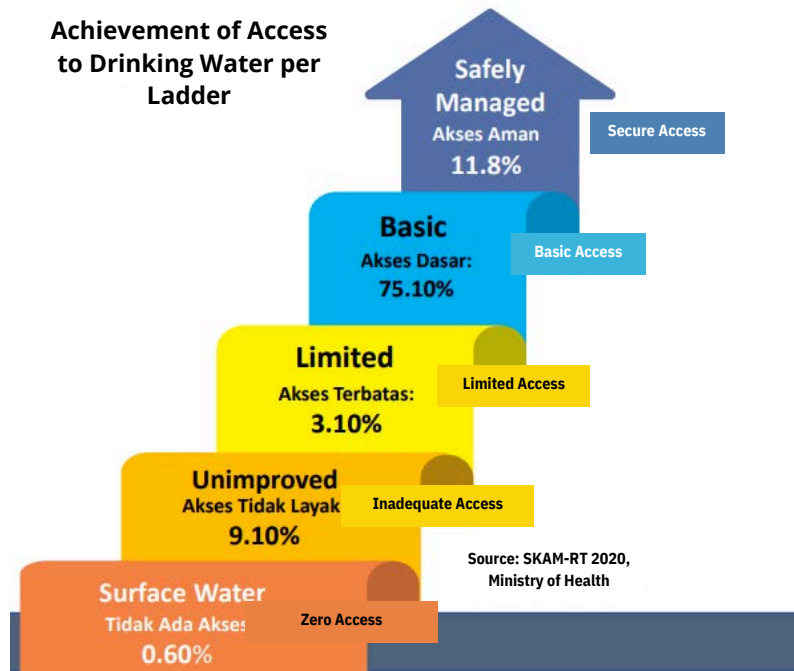


## Melawi Regency 2022-2026 Sanitation Policy Package

Mutual Cooperation in Increasing Access to Safe and Sustainable Sanitation Services "Boh Menyadik Begenah" Wisely Processing and Sorting Waste, Comfortable, Safe in Sustainable Sanitation, Melawi is Clean, Fresh and Beautiful.

# Drinking Water and Sanitation in the Community

## Definisi dan Konsep Air Minum



Drinking Water is Household Drinking Water that has gone through processing or without processing that meets health requirements and can be drunk directly. The basic need for daily drinking water is water to fulfill daily living needs which is used for drinking, cooking, bathing, washing, walking and worship. (PP 122/2015)

LEVEL		Definitions Used in Indonesia
Global	National	Ladder SDGs according to the SDG mandate and attachment to Presidential Decree 59/17
<i>Safely Managed</i>	Safe Access	<p><b>Access to drinking water that meets 4 proxies:</b></p> <ol style="list-style-type: none"> <li>1) <b>Decent Drinking Water Source</b></li> <li>2) <b>The location of the drinking water source is inside or in the yard of the house/on-premises</b> (apart from branded bottled drinking water and refill water)</li> <li>3) <b>Households can access drinking water when needed</b> (do not experience 24-hour water supply difficulties)</li> <li>4) <b>The quality of drinking water</b> is free from faecal bacterial and chemical contamination as determined in accordance with national drinking water quality standards</li> </ol>
<i>Basic Access</i>	Basic Decent Access	<p><b>Drinking water sources</b> come from pipes, public taps, drilled wells/pumps, protected springs and rainwater and the <b>travel time for collecting water</b> from home to drinking water sources (including queuing) is <b>approximately or equal to 30 minutes</b></p> <p>*Bottled and refilled drinking water needs to be checked again as the source of bathing/washing water</p>
<i>Limited Access</i>	Limited Adequate Access	<p><b>Drinking water sources</b> come from pipes, public taps, drilled wells/pumps, protected springs and rainwater and the <b>travel time for collecting water</b> from home to drinking water sources is <b>more than 30 minutes</b>.</p> <p>*Packaged and refillable drinking water requires checking the source of bathing/washing water again</p>
<i>Unimproved Water</i>	Inadequate Access	<p><b>Sources of drinking water</b> originating from unprotected water sources (i) <b>unprotected</b> wells; (ii) springs are not protected</p> <p>*Not protected: No rings (wells) or no protective tub (springs)</p>
<i>Surface Water</i>	No Access	<p><b>Direct water sources originating from surface water</b> (rivers, lakes, reservoirs, ponds, irrigation)</p>

## Existing Conditions of the Melawi Regency Drinking Water Supply System (SPAM).

Drinking water services in the Melawi Regency area are managed by several institutions, namely PDAM and non-PDAM institutions. Data on the existing condition of drinking water services in Melawi Regency can be seen in the table below:

### Drinking Water Supply System by PDAM

PDAM Melawi is a business entity owned by the Melawi Regency Government which operates in the field of providing clean water. The history of the company's founding began with the enactment of Melawi Regency Regional Regulation Number 20 of 2007 dated 3 October 2007 as amended into Melawi Regency Regional Regulation Number 7 of 2011 dated 3 May 2011 concerning the Establishment of the Melawi Regency Regional Drinking Water Company. Before 2005, the operational area of Melawi Regency, which covered 5 (five) areas, namely Nanga Pinoh, Sayan, Ella Hilir, Kota Baru and Soka, was a branch of PDAM Sintang Regency. As of January 13 2005, in accordance with the Minutes of Handover of Work Units, Personnel, Equipment, Financing, Documents/archives from the Sintang Regency Government to the Melawi Regency Government Number 100/0066/TAPEM-A dated January 13 2005, operations for the area were handed over to Melawi Regency Government.



Source: RISPAM Kab. Melawi, 2022

Table 3 Service Conditions by PDAM Melawi Regency

No.	Lokasi IKK	Village - Subdistrict	Description		
			Water Sources	Debit	Number of customers
1	Serunding	Nanga Pinoh	Sungai Pinoh	30	6689 Pelanggan
2	Pancur Aji Ds. Poring	Desa Poring - Nanga Pinoh	Mata Air	50	
3	Tanjung Lay	Tanjung Lay - Nanga Pinoh	Sungai Pinoh	20	
4	Tanjung Lay	Tanjung Lay - Nanga Pinoh	Sungai Pinoh	40	
5	Pemuar	Pemuar - Belimbing	Sungai Belimbing	5 lt/d	201 Pelanggan
6	Batu Badak	Batu Badak - Menukung	Sungai Melawi	5 lt/d	502 Pelanggan
7	Sandong Permai	Ella Hilir - Ella Hilir	Sungai Melawi	5 lt/d	0 Pelanggan
8	Sandong Permai	Ella Hilir - Ella Hilir	Sungai Melawi	10 lt/d	548 Pelanggan
9	Lingkar Indah	Nanga Sayan - Sayan	Sungai Pinoh	10 lt/d	492 Pelanggan
10	Bukit Hitam	Lingkar Indah - Sayan	Bukit Hitam	15 lt/d	
11	Loka Jaya	Loka Jaya - Tanah Pinoh	Sungai Pinoh	10 lt/d	455 Pelanggan
12	Sengilang Kanan - Sengilang Kiri	Madong - Tanah Pinoh	Sungai Sengilang	5 lt/d	0 Pelanggan
13	Bukit Tempalai	Nanga Sokan - Sokan	Bukit Tempalai	5 lt/d	40 Pelanggan
14	Bukit Tempalai	Nanga Sokan - Sokan	Sungai Pinoh	5 lt/d	

Source: RISPAM Kab. Melawi, 2022

## Drinking Water Supply System by Non PDAM

The drinking water supply system in Melawi Regency is not only managed by PDAM, but some have been built by the PAMSIMAS program and Clean Water Supply is sourced from APBD/DAK/DAU which will later be managed by the community. The PAMSIMAS program started in 2014 until now. The total number of villages receiving SPAM facilities and infrastructure from PAMSIMAS is 116, while the number of villages receiving the Drinking Water supply program through APBD/DAK/DAU from 2021-2023 is 34 villages with the following details:

### PAMSIMAS 2014 Program

Nanga Pintas, Kompas Raya, Sungai Pinang, Tengkejau, Gelata, Nyanggai, Belaban Ella, Mawang Mentatai.

### PAMSIMAS 2015 Program

Batu Buil, Labang, Beloyang, Tanjung Paoh, Tanjung Sari, Tanjung Tenggara, Nanga Raku, Ulak Muid, Tanjung Arak (APBD), Pelinggang (APBD), Sepantonak (APBD), Piawas (APBD)

### PAMSIMAS 2017 Program

Nusa Pandau, Suka Damai, Penyuguk, Nanga Kempangai, Popai, Kebebu, Kayu Bunga, Tebing Karangan, Semadin Lengkong, Tiong Keranjik, Nanga Entebah, Nanga Raya, Landau Garong, Melamut, Senibung (APBD, Langan (APBD)

### PAMSIMAS 2018 Program

Laja, Bata Luar, Keluas Hulu, Bukit Raya, Nanga Tikan, Oyah, Nanga Melona, Nanga Siyai, Nanga Keruap, Nusa Kenyikap, Teluk Pongkal, Nanga Nyuruh, Sungai Mentoba, Nanga Pau, Batu Ampar, Nanga Libas, Merah Arrai (APBD), Nanga Man (APBD)

### PAMSIMAS 2019 Program

Natai Compa, Perembang Nyuruh, Bina Jaya, Kec. Tanah Pinoh, Maris Permai, Bayur Raya, Balai Agas, Keranjik, Bina Jaya, Kec. Pinoh Selatan, Sepakat, Upit, Nanga Mancur, Nanga Keberak, Pelempai Jaya, Tanjung Mahung, Berobai Permai, Kerangan Purun, Lihai (APBD), Penyengkuang (APBD), Belonsat (APBD), Telaga Raya (APBD), Kayan Semampau (APBD), Met Bersatu (APBD)

### PAMSIMAS 2020 Program

Mekar Pelita, Batu Onap, Nanga Tangkit, Nanga Ora

### PAMSIMAS 2021 Program

Langan, Suka Damai, Laja, Nanga Tikan, Oyah, Teluk Pongkai, Melamut Bersatu, Senibung, Batu Ampar, Labang, Tanjung Tenggara, Penyuguk, Bukit Raya, Melona, Sungai Pinang

### PAMSIMAS 2022 Program

Poring, Nusa Poring, Batas Nangka, Bemban Permai, Ganjang, Durian Jaya, Tekaban, Nyangau, Landau Leban, Sungai Raya, Manding, Ulak Muid, Sungai Mentoba, Nanga Tangkit, Mawang Mentatai

### PAMSIMAS 2023 Program

Batu Nanta, Piawas, Ella Hulu, Suka Damai, Melana, Ulak Muid

## Drinking Water Supply System Management and Development Program

NO	ACTIVITIES	YEAR OF IMPLEMENTATION	REGIONS
1	Clean water development	2021	Manding Village, Sungai Sampuk Village, Semadin Lengkong Village, Bemban Permai Village, Landau Leban Village, Betangai Village, Keluing Taja Village, Oyah Village, Sungai Pinang Village, Tiong Keranjik Village, Sepan Tonak Village.
2	Development of SPAM Pipeline Network Expansion (Regular DAK)	Tahun 2022	Kelakik Village, Baru Village, Pelempai Jaya Village, Semading Lengkong Village, Sidomulyo Village, Suka Maju Village, Tanjung Lay Village, Tanjung Tenggara Village, Tiong Keranjik Village.
3	Clean water development	Tahun 2022	Sungai Sampak Village, Laman Mumbung Village, Ella Hulu Village, Piawas Village, Nanga Raku Village, Manding Village, Durian Jaya Village, Bina Jaya Village.
4	Construction of Water Treatment Plants(IPA)/Broncapturing/Protected Deep Wells	Tahun 2023	Domet Permai Village, Batas Nangka Village, Bora Village, Laja Village, Landau Leban Village, Ulak Muid Village.

Source: Melawi Public Housing, Settlement Areas and Land Department, 2023

# Raw Water Sources Potential

## 1. Surface Raw Water Potential



Surface water in Melawi Regency is generally in the form of rivers that flow throughout the year. Melawi Regency has a main river, namely the Melawi River, whose catchment area is located throughout the Melawi Regency area. Apart from the Melawi River which has raw water potential, tributaries of the Melawi River can also have raw water potential. The tributaries of the Melawi River which have raw water potential are the Pinoh River, Belimbing River, Ella River.

## 2. Groundwater Potential



Ground water contains salts and minerals that dissolve as the water passes through the layers of soil, and is free from pollutants. However, it does not rule out the possibility that groundwater is polluted by substances that are detrimental to health, such as Fe, Mn, hardness, and so on. In Melawi Regency there has been no research regarding the status of groundwater availability or the quality of groundwater content. So further research is needed for plans to develop groundwater as a source of raw water in Melawi Regency

## 3. Other sources of raw water



Basics for Selection of Raw Water Sources The Selection of raw water sources is determined based on identification of sources that will be utilized to meet needs according to the planning time horizon with consideration of the following:

- The effect caused by taking water sources is that there are the lowest users of other sources
- Investments for exploitation costs as well as operation and maintenance costs are made to be the lowest.
- The environmental impact that arises is tried to be as small as possible.

Table 4 Projected Water Needs

No	Subdistricts	Tahun 2022								
		Households (m3/day)	Industry/Commercial x (5-10%) (m3/day)	Social Facility x (15%) (m3/day)	Sub Total (m <sup>3</sup> /hari)	Leakage (10-20%) x D1	Total (m <sup>3</sup> /hari)	Average need (Liter/sec)	Maximum daily water requirement G1 x (1.2) (l/d)	Peak hour water demand G1 x (1.5) (l/dt)
		A1	B1	C1	D1	E1	F1	G1	H1	I1
1	Sokan	886,57	53,19	132,99	1.072,75	107,28	1.180,03	13,66	16,39	20,49
2	Tanah Pinoh	884,06	53,04	132,61	1.069,71	106,97	1.176,69	13,62	16,34	20,43
3	Tanah Pinoh Barat	704,47	42,27	105,67	852,41	85,24	937,65	10,85	13,02	16,28
4	Sayan	915,05	54,90	137,26	1.107,21	110,72	1.217,93	14,10	16,92	21,14
5	Belimbing	1.155,53	69,33	173,33	1.398,19	139,82	1.538,01	17,80	21,36	26,70
6	Belimbing Hulu	512,61	30,76	76,89	620,26	62,03	682,29	7,90	9,48	11,85
7	Nanga Pinoh	2.578,88	154,73	386,83	3.120,45	312,04	3.432,49	39,73	47,67	59,59
8	Pinoh Selatan	569,95	34,20	85,49	689,64	68,96	758,60	8,78	10,54	13,17
9	Pinoh Utara	721,67	43,30	108,25	873,22	87,32	960,55	11,12	13,34	16,68
10	Ella Hilir	893,11	53,59	133,97	1.080,67	108,07	1.188,73	13,76	16,51	20,64
11	Menukuna	1.046,92	62,82	157,04	1.266,78	126,68	1.393,46	16,13	19,35	24,19
	<b>Total</b>	<b>10.868,84</b>	<b>652,13</b>	<b>1.630,33</b>	<b>13.151,30</b>	<b>1.315,13</b>	<b>14.466,43</b>	<b>167,44</b>	<b>200,92</b>	<b>251,15</b>

No	Subdistricts	Tahun 2027								
		Households (m3/day)	Industry/Commercial x (5-10%) (m3/day)	Social Facility x (15%) (m3/day)	Sub Total (m <sup>3</sup> /hari)	Leakage (10-20%) x D1	Total (m <sup>3</sup> /hari)	Average need (Liter/sec)	Maximum daily water requirement G1 x (1.2) (l/d)	Peak hour water demand G1 x (1.5) (l/dt)
		A5	B5	C5	D5	E5	F5	G5	H5	I5
1	Sokan	1.361,71	95,32	204,26	1.661,28	199,35	1.860,64	21,54	25,84	32,30
2	Tanah Pinoh	625,54	43,79	93,83	763,16	91,58	854,73	9,89	11,87	14,84
3	Tanah Pinoh Barat	1.161,73	81,32	174,26	1.417,31	170,08	1.587,38	18,37	22,05	27,56
4	Sayan	1.495,92	104,71	224,39	1.825,02	219,00	2.044,02	23,66	28,39	35,49
5	Belimbing	1.905,03	133,35	285,75	2.324,14	278,90	2.603,03	30,13	36,15	45,19
6	Belimbing Hulu	961,60	67,31	144,24	1.173,15	140,78	1.313,93	15,21	18,25	22,81
7	Nanga Pinoh	3.869,12	270,84	580,37	4.720,32	566,44	5.286,76	61,19	73,43	91,78
8	Pinoh Selatan	1.018,58	71,30	152,79	1.242,67	149,12	1.391,79	16,11	19,33	24,16
9	Pinoh Utara	1.200,99	84,07	180,15	1.465,21	175,82	1.641,03	18,99	22,79	28,49
10	Ella Hilir	1.446,43	101,25	216,96	1.764,64	211,76	1.976,40	22,87	27,45	34,31
11	Menukuna	1.611,90	112,83	241,79	1.966,52	235,98	2.202,50	25,49	30,59	38,24
	<b>Total</b>	<b>16.658,54</b>	<b>1.166,10</b>	<b>2.498,78</b>	<b>20.323,42</b>	<b>2.438,81</b>	<b>22.762,23</b>	<b>263,45</b>	<b>316,14</b>	<b>395,18</b>

No	Subdistricts	Tahun 2032								
		Households (m3/day)	Industry/Commercial x (5-10%) (m3/day)	Social Facility x (15%) (m3/day)	Sub Total (m <sup>3</sup> /hari)	Leakage (10-20%) x D1	Total (m <sup>3</sup> /hari)	Average need (Liter/sec)	Maximum daily water requirement G1 x (1.2) (l/d)	Peak hour water demand G1 x (1.5) (l/dt)
		A10	B10	C10	D10	E10	F10	G10	H10	I10
1	Sokan	2.006,60	160,53	300,99	2.468,11	370,22	2.838,33	32,85	39,42	49,28
2	Tanah Pinoh	921,78	73,74	138,27	1.133,79	170,07	1.303,86	15,09	18,11	22,64
3	Tanah Pinoh Barat	1.711,91	136,95	256,79	2.105,65	315,85	2.421,49	28,03	33,63	42,04
4	Sayan	2.204,37	176,35	330,66	2.711,37	406,71	3.118,08	36,09	43,31	54,13
5	Belimbing	2.807,23	224,58	421,08	3.452,89	517,93	3.970,83	45,96	55,15	68,94
6	Belimbing Hulu	1.417,00	113,36	212,55	1.742,91	261,44	2.004,35	23,20	27,84	34,80
7	Nanga Pinoh	5.701,48	456,12	855,22	7.012,82	1.051,92	8.064,75	93,34	112,01	140,01
8	Pinoh Selatan	1.500,97	120,08	225,15	1.846,20	276,93	2.123,13	24,57	29,49	36,86
9	Pinoh Utara	1.769,76	141,58	265,46	2.176,81	326,52	2.503,33	28,97	34,77	43,46
10	Ella Hilir	2.131,44	170,51	319,72	2.621,67	393,25	3.014,92	34,89	41,87	52,34
11	Menukuna	2.375,28	190,02	356,29	2.921,59	438,24	3.359,83	38,89	46,66	58,33
	<b>Total</b>	<b>24.547,82</b>	<b>1.963,83</b>	<b>3.682,17</b>	<b>30.193,82</b>	<b>4.529,07</b>	<b>34.722,89</b>	<b>401,89</b>	<b>482,26</b>	<b>602,83</b>

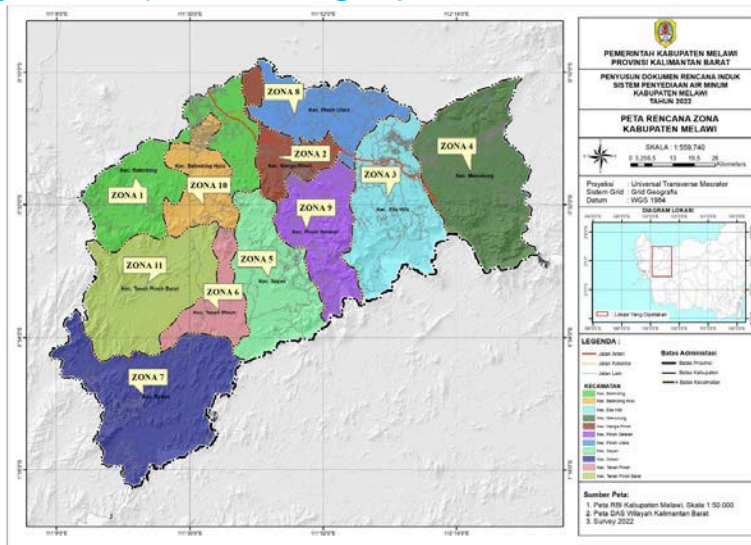
Source: RISPAM Melawi Regency, 2022

# Melawi Regency SPAM Development Plan 2023 - 2030

The Melawi Regency SPAM development area is divided into 11 service zones. The division of the region into 11 zones is based on the sub-districts in the district Melawi. The division by regional zoning aims to facilitate network maintenance and control leaks. The volume of water that reaches the distribution network for distribution and services can be monitored through water meters installed in each regional zoning. Based on the Neighborhood Unit/Community Unit of the district Melawi, system is divided into 2 models, namely the SPAM system and the desalination system. The following is the SPAM development scheme in each Zone:

1. SPAM handled by PDAM is prioritized in the Regency Capital and all sub-district capitals in Melawi Regency
2. NON PDAM SPAM can be in the form of rural areas that are not served by PDAM, can be managed by PEMDA (OPD related to SPAM), BUMDES or the private sector.
3. In areas that are not covered by a pipe system, development is directed towards using a SPAM system rather than a protected pipe network, such as PAH, drilled wells and other reservoirs.

Figure 3.1 Map of Melawi Regency SPAM Service Zone Distribution



Source: RISPAM Kab. Melawi, 2022

## ZONE 7 SUB-DISTRICT SOKAN

- Rehabilitation of IPA Buildings
- Addition of Pipeline Networks for PDAM Service Areas
- Making Rural SPAM
- Addition of Rural Pipeline Networks
- Maintenance of SPAM buildings and networks

## ZONE 8 SUB-DISTRICT NORTH PINOH

- Addition of IPA 10 l/d
- Addition of Pipeline Networks for PDAM Service Areas
- Making Rural SPAM
- Addition of Rural Pipeline Networks
- Maintenance of SPAM buildings and networks

## ZONE 9 SUB-DISTRICT SOUTH PINOH

- Addition of IPA 10 l/d
- Addition of Pipeline Networks for PDAM Service Areas
- Making Rural SPAM
- Addition of Rural Pipeline Networks
- Maintenance of SPAM buildings and networks

## ZONE 1 SUB-DISTRICT BELIMBING

- Addition of IPA 10 l/d
- Addition of Pipeline Networks for PDAM Service Areas
- Making Rural SPAM
- Addition of Rural Pipeline Networks
- Maintenance of SPAM buildings and networks

## ZONE 2 SUB-DISTRICT NANGA PINOH

- Construction of a 50 l/d IPA in Nanga Pinoh
- Construction of a 40 l/d IPA in Sidomulyo
- Addition of Pipeline Networks for PDAM Service Areas
- Making Rural SPAM
- Addition of Rural Pipeline Networks
- Maintenance of SPAM buildings and networks

## ZONE 3 SUB-DISTRICT ELLA HILIR

- Addition of Pipeline Networks for PDAM Service Areas
- Making Rural SPAM
- Addition of Rural Pipeline Networks
- Maintenance of SPAM buildings and networks

## ZONE 4 SUB-DISTRICT MENUKUNG

- Construction of IPA 10 l/d
- Addition of Pipeline Networks for PDAM Service Areas
- Making Rural SPAM
- Addition of Rural Pipeline Networks
- Maintenance of SPAM buildings and networks

## ZONE 5 SUB-DISTRICT SAYAN

- Addition of Pipeline Networks for PDAM Service Areas
- Making Rural SPAM
- Addition of Rural Pipeline Networks
- Maintenance of SPAM buildings and networks

## ZONE 6 SUB-DISTRICT TANAH PINOH

- Penambahan Jaringan Perpipaan untuk daerah Pelayanan PDAM
- Pembuatan SPAM Pedesaan
- Penambahan Jaringan pipa Perdesaan
- Pemeliharaan bangunan dan jaringan SPAM

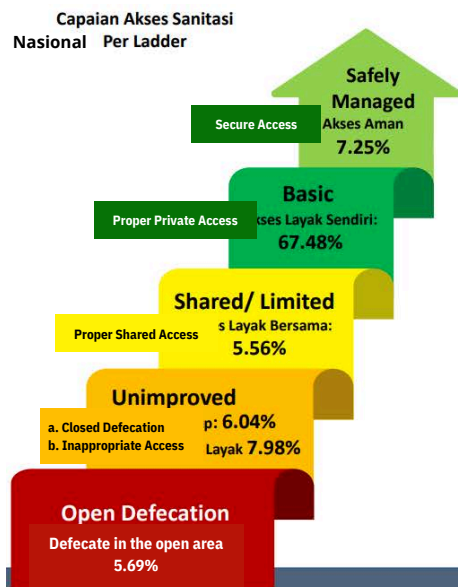
## ZONE 10 SUB-DISTRICT BELIMBING HULU

- Addition of IPA 10 l/d
- Addition of Pipeline Networks for PDAM Service Areas
- Making Rural SPAM
- Addition of Rural Pipeline Networks
- Maintenance of SPAM buildings and networks

## ZONE 11 SUB-DISTRICT WEST TANAH PINOH

- Addition of IPA 10 l/d
- Addition of Pipeline Networks for PDAM Service Areas
- Making Rural SPAM
- Addition of Rural Pipeline Networks
- Maintenance of SPAM buildings and networks

# Definition and Concept of Access to Sanitation



Global	No	Indonesian Adaptation	Definitions Used in Indonesia
<b>Safely Managed</b>	5	<b>Secure Access</b>	Own toilet connected to an IPALD or using a septic tank that is sucked once every 3-5 years
<b>Basic</b>	4	<b>Proper Private Access</b>	Toilet with goose neck toilet <b>used alone</b> (not with other households): (1) septic tank that is not suctioned, or (2) earth pit/cubluk (rural only)
<b>Shared/ Limited</b>	3	<b>Proper Shared Access</b>	Toilets with gooseneck toilets are <b>used by certain households</b> that: (1) are connected to an IPALD; (2) using a septic tank; (3) dirt pit/cubluk (rural only)
<b>Unimproved</b>	2a	<b>Closed Defecation/ Direct Discharge</b>	Toilets where the final disposal of feces goes directly into rivers/fields/gardens/sea/etc
	2b	<b>Access is not yet feasible</b>	Households use toilets with: (1) non-goose neck toilets; (2) goose neck toilets with earthen holes in urban areas, or (3) toilets in public facilities (markets/mosques/schools/etc.)
<b>Open Defecation</b>	1	<b>Defecate in the open area</b>	Don't have toilet; or do not utilize it



Source: Kementerian PPN/Bappenas, 2022

## Melawi Regency Sanitation Profile

Table 5 Achievements of Domestic Wastewater Access

No.	System	Existing Service Coverage (%)
<b>Urban Area</b>		8.524 Head of Households
A	Safe Access	0,23%
B	Proper Access (Excluding Secure Access) an)	
	Individual Proper Access (Excluding Secure) man)	0,00%
	Shared Access ersama	0,10%
C	Access Not Yet Feasible*	14,50%
D	Closed Defecation	
	Defecate in the open area	0,90%
<b>Rural Area</b>		45.888 Head of Households
A	Safe Access	3,52%
B	Proper Access (Excluding Secure Access) an)	
	Individual Proper Access (Excluding Secure) man)	0,00%
	Shared Access ersama	3,70%
	Rural Decent Access (Leher Angsa - Cubluk) igs - Cubluk)	35,00%
C	Access Not Yet Feasible*	0,00%
D	Closed Defecation	
	Defecate in the open area	42%
<b>Total</b>		<b>100,00%</b>

Source: Melawi Regency Implementation SSK Instrument, 2022

Table 6 SPALD-Local Transport Sub-System

No	DESCRIPTION	UNIT	TOTAL
<b>1. Local Government</b>			
2.	Number of waste trucks	Unit	0
3.	Asset status	Belum Serah terima	
4.	Capacity of waste trucks/motorbikes/kedoteng	m3	3
5.	Volume of Fecal Truck discharged to IPLT .T	m3/hari	0
6.	Number of Fecal Trucks Dumping Fecal Sludge to IPLT PLT	truk/hari	0
<b>Average of households served with fecal sludge removal</b>		<b>Household/day</b>	<b>0</b>
<b>1. Private</b>			
2.	Number of waste trucks	Unit	0
3.	Capacity of stool trucks/motorbikes/kedoteng	m3	0
4.	Volume of Fecal Truck discharged to IPLT T	m3/hari	0
5.	Number of Fecal Trucks Dumping Fecal Sludge to IPLT PLT	truk/hari	0
<b>Average of households served with fecal sludge removal</b>		<b>Household/day</b>	<b>0</b>

Source: Melawi Regency Implementation SSK Instrument, 2022

# Melawi Regency Sanitation Achievements and Targets

RPJMN 2020 - 2024



Road to SDGs



## Melawi's Achievements in 2020



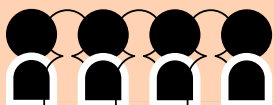
### Domestic Wastewater :

42.6% Access to Decent Sanitation  
(including 7.25% managed safely)



### Waste :

6.1% Urban waste management and 0% Urban  
Waste Reduction



### Open defecation practices:

42% of households

## Melawi Regency Target 2024



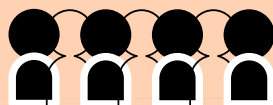
### Domestic Wastewater :

80% Access to Adequate Sanitation  
(Including 7% Access to Safe Sanitation)



### Waste :

71% urban waste management and 29%  
urban waste reduction



### Open defecation practices:

0% of households

## SDG's 2030

### Global Target :

100% Access to Proper Sanitation and  
50% reduction in untreated wastewater

### National Target Indication:

100% Access to Proper Sanitation  
(30% Access to Safe Sanitation)

### Indication of 2024 RPJMN Target:

90% Access to Proper Sanitation  
(15% Access to Safe Sanitation)

# Hygiene/Access to Hand Washing Facilities with Soap

Sustainable Development Goals (SDGs) were accepted as the world's global commitment at the 70th United Nations (UN) General Assembly in September 2015. One of the seventeen SDGs goals is to ensure that all humans have access to sanitation and hygiene facilities while ending the practice of defecation, with emphasis on the needs of women, girls, and vulnerable groups (Goal 6.2). Global indicator 6.2.1 states that universal access to handwashing facilities with water and soap (or Handwashing with Soap – CTPS) needs to be achieved, using the presence of handwashing facilities as an approach indicator (proxy) for measuring handwashing behavior.

## CTPS Policy

1. The 1945 Constitution "Everyone has the right to live in physical and spiritual prosperity, to have a place to live, and to have a good and healthy living environment and the right to obtain health services" is stated in the highest legal norm in Indonesia, the 1945 Constitution, fourth amendment, Article 28H paragraph First.
2. Law Number 36 of 2009 concerning Health
3. Law Number 23 of 2014 concerning Regional Government
4. Presidential Instruction Number 1 of 2017 concerning the Healthy Living Community Movement (GERMAS)
5. Regulation of the Minister of Health of the Republic of Indonesia Number 2269/MENKES/PER/XI/2011 concerning Guidelines for Fostering Clean and Healthy Living Behavior (PHBS)
6. Regulation of the Minister of Health of the Republic of Indonesia Number 1018/MENKES/PER/V/2011 concerning Health Sector Adaptation Strategy to the Impact of Climate Change
7. Regulation of the Minister of Health of the Republic of Indonesia Number 035 of 2012 concerning Guidelines for Identification of Health Risk Factors Due to Climate Change
8. Regulation of the Minister of Health of the Republic of Indonesia Number 3 of 2014 concerning Community-Based Total Sanitation (STBM)
9. Regulation of the Minister of Health of the Republic of Indonesia Number 9 of 2020 concerning Guidelines for Large-Scale Social Restrictions in the Context of Accelerating Handling of the 2019 Corona Virus Disease (State Gazette of the Republic of Indonesia of 2020 Number 326)

## CTPS Target

The following table provides the CTPS achievement targets which are divided into two RPJMN periods, namely the 2020-2024 and 2025-2030 periods. Targets are set for the four settings, but with separate targets for schools and Madrasas, due to differences in the ministries responsible for the two settings.

Table 7 National CTPS targets for various settings

Unit	Access Target (%)		
	Basic Service	Limited Service	No Service
<b>Household</b>			
Baseline: 2020	78.3%	0%	0%
2020 – 2024	90%	2.5%	7.5%
2025 – 2030	100%	0%	0%
<b>School</b>			
Baseline: 2020	40.7%	31.1%	28.2%
2020 – 2024	100%	0%	0%
2025 – 2030	100%	0%	0%
<b>Madrasa</b>			
Baseline: 2020	55.7%	5.2%	39.1%
2020 – 2024	100%	0%	0%
2025 – 2030	100%	0%	0%
<b>Health Facility</b>			
Baseline: 2019	n/a	99.3%	0.7%
2020 – 2024	100%	0%	0%
2025 – 2030	100%	0%	0%
<b>Public Facility</b>			
Baseline: 2021	n/a	n/a	n/a
2020 – 2024	100%	0%	0%
2025 – 2030	100%	0%	0%

Source: The Ministry of National Development Planning (Bappenas), 2022

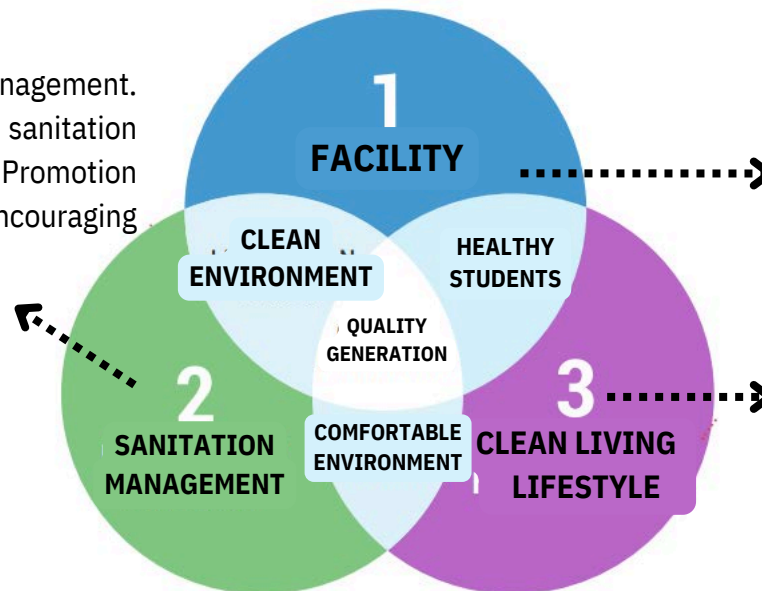


Why is School Sanitation important? Based on several studies that have been conducted in various countries, including Indonesia, the availability of adequate water, sanitation and hygiene facilities in schools will have a tremendous impact.

What is meant by School Sanitation? A school can be said to implement good school sanitation if the school can fulfill three aspects that are interrelated with each other. First, schools ensure the availability of sanitation facilities and infrastructure, especially access to clean water facilities that are safe from pollution, sanitation facilities (latrines) that are functional and separate for male and female students, as well as hand washing facilities with soap. Second, schools carry out school Clean and Healthy Living Habits (PHBS) activities, such as washing hands with soap (CTPS) regularly and ensuring consistent implementation of Menstrual Hygiene Management (MKM). Third, there is support from school management to allocate operational and maintenance costs for sanitation facilities and costs for PHBS activities.

## School Sanitation Concept

School Based Sanitation Management. Operational costs for school sanitation and Clean and Healthy Living Promotion activities in the RAPBS, and encouraging community participation



The school has complete sanitation facilities, including separate latrines for men and women with clean water available all the time, hand washing facilities with running water and available soap, rubbish bins and sewage channels.

Wash your hands with soap regularly, defecate in the toilet, dispose of rubbish properly, drink water that is suitable for consumption

Source: Sanitation Profile 2020

## School Sanitation Indicators



At the global level, school sanitation is a development priority included in SDGs (Sustainable Development Goals) Goal 4.a and Goals 6.1 & 6.2.

Goal 4.a targets “Building and improving educational facilities that are child-friendly, sensitive to the needs of gender and people with disabilities, and provide a safe, non-violent, inclusive and effective learning environment for all”.

INDEX	DRINKING WATER	SANITATION	HYGIENE
<b>No Services</b> The school has no water, sanitation and hygiene services	<b>No Service</b> Schools with inadequate water sources or no water sources in the school environment	<b>No Service</b> Schools don't have toilets, or the toilets are inadequate	<b>No Service</b> Schools without hand washing facilities
<b>Limited Services</b> Schools that have basic access to one or a maximum of two indicators	<b>Limited Services</b> Schools with adequate but inadequate water sources (not available all the time)	<b>Limited Services</b> The school has proper toilets but they are not separate and are in serious disrepair	<b>Limited Services</b> The school has proper toilets but they are not separate and are in serious disrepair
<b>Basic Services</b> Schools with a combination of three basic accesses, namely drinking water, sanitation and cleanliness	<b>Basic Services</b> Schools with adequate water sources. Available on school premises and sufficient (available all the time)	<b>Basic Services</b> The school has proper, separate toilets that are in good condition with minor damage	<b>Basic Services</b> Schools with hand washing facilities but no soap or running water

Source: Sanitation Profile 2020

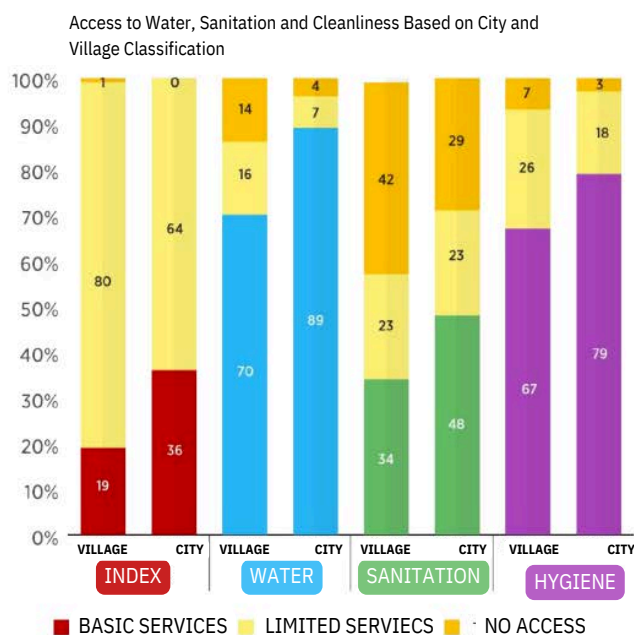
In Indonesia, students with disabilities can attend special schools (SLB) and public schools that accept children with disabilities (inclusive schools). Even though existing policies require schools to accept children with disabilities, unfortunately not all schools are ready with adequate facilities and resource capacity. In the 2020 School Sanitation profile, it can be seen that only 60% of SLBs are able to meet the need for providing access to water, sanitation and hygiene that is safe, inclusive and easily accessible for people with disabilities. Meanwhile, the national average is only 17%, with details at PAUD level 15%, elementary school 17%, middle school 19%, high school 17%, and vocational school 20% which have inclusive sanitation facilities. Providing school sanitation facilities that are accessible to all children needs to take into account universal design principles:

1. Can be used by everyone, including children
2. Flexibility in use
3. Simple design and easy to use
4. Provide adequate information

5. Be tolerant of mistakes
6. Requires low physical effort
7. Provide adequate size and space for use.

## Overview of National SDGs School Sanitation Indicators

### SDGs School Sanitation Indicators: All Levels Based on Regional Classification



ACCESS TYPE	COVERAGE OF STUDENTS WITHOUT BASIC ACCESS		SCHOOL COVERAGE WITHOUT BASIC ACCESS	
	VILLAGE	CITY	VILLAGE	CITY
Water	4,5 millions	3,5 millions	51.917	26.131
Sanitation	7 millions	9,4 millions	112.306	123.869
Hygiene	4,7 millions	7,5 millions	55.814	51.238
Water, Sanitation, Hygiene	10, 5 millions	16,4 millions	139.183	153.903

### Analysis of Capital and Operational Costs for School Sanitation

An analysis of capital financing and school sanitation operations is required to achieve the SDGs targets. Capital cost analysis is carried out to obtain information on the amount of funds needed to finance new construction or rehabilitation of water, sanitation and hygiene facilities in schools that do not yet have adequate facilities. One of the easiest methods to determine capital or investment costs is by multiplying the number of unserved schools and assuming different unit costs for providing water facilities, providing sanitation facilities and providing hand washing facilities. Unit costs can be calculated using various approaches, one of which is taking cost examples from programs that have already been implemented. For example, the Special Allocation Fund (DAK) for Education. Below are the unit cost assumptions used for capital cost analysis.

With this method, the total investment costs for all levels throughout Indonesia are around 43.7 trillion Rupiah. To fulfill school sanitation access, local governments can plan priority activities, especially related to CTPS facilities which must be available in the school environment if the school will be face-to-face. For the school sanitation budget, regional governments can allocate it from the Regional Revenue and Expenditure Budget (APBD), in collaboration with the private sector or development partners. Cross-agency and cross-sector collaboration from various policymakers regarding school sanitation is highly expected so that all schools in Indonesia can have access to water, sanitation, and hygiene (CTPS).

## Analysis of School Sanitation Capital Costs



The unit cost of providing drinking water facilities is estimated to be between 5 and 25 million rupiah per education unit. For example, for digging wells or connecting to PDAM systems.



The unit cost of providing sanitation facilities is estimated to be between 100 and 150 million rupiah per education unit. This estimate is based on the average Special Allocation Fund (DAK) for the construction of new sanitation facilities.



The unit cost of providing hygiene facilities or washing hands with soap is estimated at between 10 and 20 million rupiah per education unit. These estimates are based on the CTPS Facility Options Handbook.

## Analysis of School Sanitation Capital Costs

Operational costs are costs that must be paid periodically to carry out basic activities, such as when using, cleaning, repairing and maintaining facilities. Furthermore, operational costs also include promotional activities for washing hands with soap, cleaning toilets, buying soap and so on.

### Components of Operational and Maintenance Costs for School Sanitation Facilities

Cost Component	Cost (IDR)
Operation and Maintenance of Water Facilities	4,569
Water Purchase	3,175
Operational and Maintenance of Hand Washing Facilities with Soap (CTPS)	1,276
Purchase of CTPS goods, for example soap	5,125
Toilet cleaning	21,250
Purchase of toilet cleaning materials	625
Clean and Healthy Living Behavior Change (PHBS) habituation activities	4,125
<b>Total</b>	<b>40,145</b>

### Components of Costs for Repairing School Sanitation Facilities

Cost Component	Cost (IDR)
Water system improvements	750
Repair of Toilet/latrine	152
Repair of hand washing facilities	3,250
<b>Total</b>	<b>4,152</b>

Source: Sanitation Profile 2020

Table 8 Melawi Regency School Data

No	Subdistricts	Total School	TK	KB	TPA	SPS	PKBM	SKB	SD	SMP	SMA	SMK	SLB
			Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total
1	Kec. Sokan	47	2	10	0	0	0	0	22	11	1	1	0
2	Kec. Tanah Pinoh Barat	38	3	8	0	0	0	0	18	8	1	0	0
3	Kec. Belimbing	66	8	14	0	0	1	0	27	13	2	1	0
4	Kec. Belimbing Hulu	27	3	6	0	0	0	0	12	4	1	1	0
5	Kec. Sayan	45	0	11	0	0	0	0	21	11	1	1	0
6	Kec. Nanga Pinoh	117	13	22	1	1	6	1	35	21	10	6	1
7	Kec. Ella Hilir	57	2	16	0	0	0	0	30	7	1	1	0
8	Kec. Menukung	57	1	11	0	0	0	0	30	14	1	0	0
9	Kec. Pinoh Utara	55	1	18	0	0	1	0	25	9	1	0	0
10	Kec. Tanah Pinoh	41	7	8	0	0	0	0	15	9	1	1	0
11	Kec. Pinoh Selatan	51	4	15	0	0	1	0	21	7	3	0	0
	<b>Total</b>	<b>601</b>	<b>44</b>	<b>139</b>	<b>1</b>	<b>1</b>	<b>9</b>	<b>1</b>	<b>256</b>	<b>114</b>	<b>23</b>	<b>12</b>	<b>1</b>

Source: Melawi Regency Education Service, 2023

## Analysis of School Sanitation Targets

### Development and Improvement of Water and Sanitation Facilities and Infrastructure

Every year there are 9 constructions of toilets and sanitation facilities which are planned by the Education Department through the Physical DAK. Each development will adapt to the type of damage from or construction of new schools in Melawi Regency. (Education Department Analysis, 2023)

### Operation and Maintenance

601 schools in Melawi Regency

# Water and Sanitation in Health Services



WASH practices in healthcare settings are critical to providing healthcare services to patients and protecting patients, employees and medical personnel from the risk of infectious diseases. Some of the activities below are very important, such as:

- Manage human waste (feces and urine) safely, including ensuring that no one comes into contact with the feces/waste and ensuring that the waste is disposed of safely;
- Ensure hand hygiene using appropriate techniques and as often as possible;
- Implement regular cleaning and disinfection; and
- Manage hospital waste safely.

Other important measures, such as ensuring the availability of safe and sufficient drinking water for employees, medical staff and patients; ensuring personal hygiene can always be maintained including hand hygiene for patients, employees and medical staff; wash bed linen and patient clothes regularly; ensure that there is access to and sufficient number of toilets and carry out safe sorting and disposal of hospital waste. For details of these recommendations, it is hoped that you can refer to environmental health standards in health services.

Table 9 Data on *Sub-Puskesmas, Poskesdes and Posyandu* in the *Puskesmas Working Area*

NO	PUSKESMAS	DESA	JLH PUSTU		JLH POSKESDES		JLH POLINDES		JLH POSYANDU	
			ADA	TDK ADA	ADA	TDK ADA	ADA	TDK ADA	ADA	TDK ADA
<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i>	<i>f</i>	<i>g</i>	<i>h</i>	<i>i</i>	<i>j</i>	<i>k</i>
1	MANGGALA	12	5	0	2	0	10	0	27	0
2	SOKAN	18	5	0	14	0	4	0	29	0
3	NANGA PINOH	17	3	0	0	0	17	0	27	0
4	KOTA BARU	12	2	0	0	0	12	0	15	0
5	ULAK MUID	10	6	0	0	0	6	0	19	0
6	PEMUAR	17	10	0	15	0	3	0	25	0
7	TIONG KERANJIK	8	3	0	0	0	8	0	12	0
8	SAYAN	18	7	0	0	0	13	0	27	0
9	MENUKUNG	19	8	11	4	15	7	12	19	
10	NANGA ELLA	19	6	0	0	0	13	0	39	0
11	PINOH UTARA	19	7	0	6	0	18	0	20	
<b>JUMLAH TOTAL</b>		<b>169</b>	<b>62</b>	<b>11</b>	<b>41</b>	<b>15</b>	<b>111</b>	<b>12</b>	<b>259</b>	<b>0</b>

Source: Melawi Regency Health Service, 2023

## Sanitation indicators in health services

Indicators to Monitor WASH Conditions in Health Service Facilities based on the Joint Monitoring Program (JMP)

Water	Sanitation	Hand Hygiene	Medical Waster	Environmental Hygiene
Plenary Services fulfill existing regulations	Plenary Services fulfill existing regulations	Plenary Services fulfill existing regulations	Plenary Services fulfill existing regulations	Plenary Services fulfill existing regulations
<b>Basic Services</b> Water is available from appropriate sources located at health facilities	<b>Basic Services</b> There are adequate and functioning toilets separate for patients and health staff, men and women, there are menstrual hygiene facilities and at least one accessible toilet for people with disabilities	<b>Basic Services</b> There are hand washing stations available in the health examination room and near the toilet (no more than 5 meters away) with running water and soap or alcohol hand rub	<b>Basic Services</b> Waste is sorted into three different categories, sharp objects and infectious waste are processed and disposed safely	<b>Basic Services</b> There is a cleanliness SOP and all staff responsible for cleanliness have received cleanliness training
<b>Limited Services</b> The water source is within 500 meters of the facility, but not all requirements for basic services are met	<b>Limited Services</b> At least there are adequate toilets for patients or health staff in health facilities, but not all basic service requirements are met	<b>Limited Services</b> Hand washing facilities are available near toilets or examination rooms, but not both	<b>Limited Services</b> There is medical waste sorting and medical waste processing but it does not meet the requirements	<b>Limited Services</b> There is a cleanliness SOP and at least there are staff in charge of maintaining cleanliness
<b>No Services</b> Water is taken from wells or springs that are not suitable or rivers/lakes or sources that are suitable but are 500 m from the facility or do not have a source	<b>No Services</b> Inadequate toilets or no toilets in health facilities	<b>No Services</b> There are no hand washing facilities or existing hand washing facilities are not functioning in treatment rooms and toilets	<b>No Services</b> There is no medical waste management, the waste is not separated and the waste that is thrown away is mixed with other objects	<b>No Services</b> There are no cleaning SOPs and the cleaning staff have not received training

Source: Profile of Availability of Water, Sanitation and Hygiene Facilities at Community Health Centers, 2020

# Analysis of Drinking Water and Sanitation Financing Needs


The summary of funding indications contains a brief explanation regarding the summary of sanitation development costs and the Master Plan for the Drinking Water Supply system until 2030 based on SSK, RISPAM documents, and joint analysis in Melawi Regency. Specifically, this information is presented in the form of the following table:

Table 10 Details of Drinking Water and Sanitation Financing Calculations for 3 Sectors

No	Information	Fiscal Year (Millions Rupiah)								Total Budget
		2023	2024	2025	2026	2027	2028	2029	2030	
<b>Indication of needs for the sanitation sector in the community</b>										
1	Domestic Wastewater	20,973,980,000	23,570,650,000	17,487,450,000	17,959,950,000	19,755,945,000	21,731,539,500	23,904,693,450	26,295,162,795	171,679,370,745
2	Waste	2,436,500,000	3,181,500,000	11,136,500,000	2,221,500,000	2,443,650,000	2,688,015,000	2,956,816,500	3,252,498,150	30,316,979,650
	<b>Total/Year</b>	<b>23,410,480,000</b>	<b>26,752,150,000</b>	<b>28,623,950,000</b>	<b>20,181,450,000</b>	<b>22,199,595,000</b>	<b>24,419,554,500</b>	<b>26,861,509,950</b>	<b>29,547,660,945</b>	<b>201,996,350,395</b>
<b>Indication of needs for the drinking water sector in the community</b>										
3	Physical Activity	8,860,000,000	8,860,000,000	8,860,000,000	8,860,000,000	8,860,000,000	12,510,000,000	12,510,000,000	12,510,000,000	81,830,000,000
4	Non Physical Activity	2,202,000,000	2,202,000,000	2,202,000,000	2,202,000,000	2,202,000,000	1,320,000,000	1,320,000,000	1,320,000,000	11,010,000,000
	<b>Total/Year</b>	<b>8,860,000,000</b>	<b>8,860,000,000</b>	<b>8,860,000,000</b>	<b>8,860,000,000</b>	<b>8,860,000,000</b>	<b>12,510,000,000</b>	<b>12,510,000,000</b>	<b>12,510,000,000</b>	<b>92,840,000,000</b>
	<b>Total/Year Water and Sanitation Sector</b>	<b>32,270,480,000</b>	<b>35,612,150,000</b>	<b>37,483,950,000</b>	<b>29,041,450,000</b>	<b>31,059,595,000</b>	<b>36,929,554,500</b>	<b>39,371,509,950</b>	<b>42,057,660,945</b>	<b>294,836,350,395</b>
<b>Indication of water and sanitation needs in education services</b>										
5	Development and Improvement of water and sanitation facilities and infrastructure	1,350,000,000	1,485,000,000	1,633,500,000	1,796,850,000	1,976,535,000	2,174,188,500	2,391,607,350	2,630,768,085	15,438,448,935
6	Non Physical Activity	3,005,000,000	3,005,000,000	3,005,000,000	3,005,000,000	3,005,000,000	3,005,000,000	3,005,000,000	3,005,000,000	24,040,000,000
	<b>Total/Year</b>	<b>4,355,000,000</b>	<b>4,490,000,000</b>	<b>4,638,500,000</b>	<b>4,801,850,000</b>	<b>4,981,535,000</b>	<b>5,179,188,500</b>	<b>5,396,607,350</b>	<b>5,635,768,085</b>	<b>39,478,448,935</b>
<b>Indication of water and sanitation needs in health services</b>										
7	Management of Environmental Health Service	358,867,150	394,753,865	434,229,252	477,652,177	525,417,394	577,959,134	635,755,047	699,330,552	4,103,964,570
8	Water Quality Test	25,000,000	27,500,000	30,250,000	33,275,000	36,602,500	40,262,750	44,289,025	48,717,928	285,897,203
	<b>Total/Year</b>	<b>383,867,150</b>	<b>422,253,865</b>	<b>464,479,252</b>	<b>510,927,177</b>	<b>562,019,894</b>	<b>618,221,884</b>	<b>680,044,072</b>	<b>748,048,479</b>	<b>4,389,861,773</b>
	<b>Total water and sanitation budget requirements in Melawi Regency</b>	<b>60,419,827,150</b>	<b>67,276,553,865</b>	<b>71,210,879,252</b>	<b>54,535,677,177</b>	<b>58,802,744,894</b>	<b>67,146,519,384</b>	<b>72,309,671,322</b>	<b>77,989,138,454</b>	<b>338,704,661,103</b>

Source: SSK, RISPAM dan analysis 2022

Community   
Rp. 294,836,350,395

Education Services   
Rp. 39,478,448,935

Health Services   
Rp. 4,389,861,773

**Total Water and Sanitation Financing Needs for Universal Access in Melawi Regency in 2030**

**Rp. 338.704.661.103**

# Funding Sources for Water and Sanitation in Melawi Regency

## Community Services

The source of funding for Melawi Regency sanitation financing comes from the Regency APBD amounting to 45% with a total of IDR. 85,954,389,170 so there is a large gap between local government needs and the ability to accommodate them. gap of 55% with a total of Rp. 107,144,631,575, while drinking water financing comes from the Regency APBD amounting to Rp. 57,500,000,000 with a gap of 30% for a total of Rp. 24,330,000,000. Fulfillment of the drinking water and sanitation financing gap is planned through the Provincial APBD, APBN, Regional Drinking Water Companies and alternative funding that can be accessed by the government through the private sector or direct contributions from the community with analysis per year until 2030 as follows:

Table 11 Details of Recapitulation of Sources of Community Sector Drinking Water and Sanitation Financing

No	Information	Fiscal Year (Millions Rupiah)								Total Budget
		2023	2024	2025	2026	2027	2028	2029	2030	
<b>Total Indication of Sanitation of Sector Needs</b>		23,410,480,000	26,752,150,000	28,623,950,000	20,181,450,000	22,199,595,000	21,731,539,500	23,904,693,450	26,295,162,795	193,099,020,745
1	Regency Regional Revenue and Expenditure Budget (APBD)	12,360,730,000	9,627,400,000	8,674,200,000	9,056,700,000	9,962,370,000	10,958,607,000	12,054,467,700	13,259,914,470	85,954,389,170
<b>Funding GAP (IDR)</b>		<b>11,049,750,000</b>	<b>17,124,750,000</b>	<b>19,949,750,000</b>	<b>11,124,750,000</b>	<b>12,237,225,000</b>	<b>10,772,932,500</b>	<b>11,850,225,750</b>	<b>13,035,248,325</b>	<b>107,144,631,575</b>
<b>Funding GAP (%)</b>		<b>47%</b>	<b>64%</b>	<b>70%</b>	<b>55%</b>	<b>55%</b>	<b>50%</b>	<b>50%</b>	<b>50%</b>	<b>55%</b>
<b>Other Funding Source</b>										
2	Provincial Regional Revenue and Expenditure Budget (APBD)	3,828,750,000	3,828,750,000	3,828,750,000	3,828,750,000	3,828,750,000	3,828,750,000	3,828,750,000	3,828,750,000	30,630,000,000
3	National Revenue and Expenditure Budget (APBN)	6,800,930,000	14,352,500,000	16,653,500,000	7,903,500,000	8,693,850,000	9,563,235,000	10,519,558,500	11,571,514,350	86,058,587,850
4	Alternative Funding (CSR, Investments, ect)	467,500,000	467,500,000	467,500,000	467,500,000	467,500,000	467,500,000	467,500,000	467,500,000	3,740,000,000
5	Community	190,000,000	260,000,000	280,000,000	280,000,000	280,000,000	280,000,000	280,000,000	280,000,000	2,130,000,000
<b>Total/Year</b>		<b>11,287,180,000</b>	<b>18,908,750,000</b>	<b>21,229,750,000</b>	<b>12,479,750,000</b>	<b>13,270,100,000</b>	<b>14,139,485,000</b>	<b>15,095,808,500</b>	<b>16,147,764,350</b>	<b>122,558,587,850</b>
No	Information	Fiscal Year (Millions Rupiah)								Total Budget
		2023	2024	2025	2026	2027	2028	2029	2030	
<b>Total Indication of Drinking Water Sector Needs</b>		8,860,000,000	8,860,000,000	8,860,000,000	8,860,000,000	8,860,000,000	12,510,000,000	12,510,000,000	12,510,000,000	81,830,000,000
1	Regency Regional Revenue and Expenditure Budget (APBD)	6,000,000,000	5,000,000,000	5,500,000,000	5,500,000,000	5,500,000,000	10,000,000,000	10,000,000,000	10,000,000,000	57,500,000,000
<b>Funding GAP (IDR)</b>		<b>2,860,000,000</b>	<b>3,860,000,000</b>	<b>3,360,000,000</b>	<b>3,360,000,000</b>	<b>3,360,000,000</b>	<b>2,510,000,000</b>	<b>2,510,000,000</b>	<b>2,510,000,000</b>	<b>24,330,000,000</b>
<b>Funding GAP (%)</b>		<b>32%</b>	<b>44%</b>	<b>38%</b>	<b>38%</b>	<b>38%</b>	<b>20%</b>	<b>20%</b>	<b>20%</b>	<b>30%</b>
<b>Other Funding Source</b>										
2	National Revenue and Expenditure Budget (APBN)	2,145,000,000	2,895,000,000	2,520,000,000	2,520,000,000	2,520,000,000	1,882,500,000	1,882,500,000	1,882,500,000	1,882,500,000
3	Regional Public Company	500,000,000	500,000,000	500,000,000	500,000,000	500,000,000	500,000,000	500,000,000	500,000,000	500,000,000
4	Alternative Funding (CSR, Investments, ect)	429,000,000	579,000,000	504,000,000	504,000,000	504,000,000	376,500,000	376,500,000	376,500,000	376,500,000
<b>Total/Year</b>		<b>3,074,000,000</b>	<b>3,974,000,000</b>	<b>3,524,000,000</b>	<b>3,524,000,000</b>	<b>3,524,000,000</b>	<b>2,759,000,000</b>	<b>2,759,000,000</b>	<b>2,759,000,000</b>	<b>2,759,000,000</b>

Source: SSK, RISPAM and Analysis 2022



## Education Services

The source of funding for financing sanitation in education services comes from the Regency APBD amounting to IDR 15,438,448,935 where there is a large gap between the needs and the ability of the regional government to accommodate them. Gap of 61% with a total of Rp. 24,040,000,000. Fulfillment of the gap for water and sanitation financing in education services is planned through the APBN (DAK, DAU, BOS, etc.) with the following analysis:

Table 12 Details of Recapitulation of Sources of Drinking Water and Sanitation Financing for Education Services

No	Information	Fiscal Year (Millions Rupiah)								Total Budget
		2023	2024	2025	2026	2027	2028	2029	2030	
	Indication of water and sanitation needs in education services	4,355,000,000	4,490,000,000	4,638,500,000	4,801,850,000	4,981,535,000	5,179,188,500	5,396,607,350	5,635,768,085	39,478,448,935
1	Regency Regional Revenue and Expenditure Budget (APBD)	1,350,000,000	1,485,000,000	1,633,500,000	1,796,850,000	1,976,535,000	2,174,188,500	2,391,607,350	2,630,768,085	15,438,448,935
	<b>Funding GAP (IDR)</b>	<b>3,005,000,000</b>	<b>3,005,000,000</b>	<b>3,005,000,000</b>	<b>3,005,000,000</b>	<b>3,005,000,000</b>	<b>3,005,000,000</b>	<b>3,005,000,000</b>	<b>3,005,000,000</b>	<b>24,040,000,000</b>
	<b>Funding GAP (%)</b>	<b>69%</b>	<b>67%</b>	<b>65%</b>	<b>63%</b>	<b>60%</b>	<b>58%</b>	<b>56%</b>	<b>53%</b>	<b>61%</b>
<b>Other Funding Source</b>										
2	National Revenue and Expenditure Budget (APBN)	3,266,250,000	3,367,500,000	3,478,875,000	3,601,387,500	3,736,151,250	3,884,391,375	4,047,455,513	4,226,826,064	29,608,836,701
	<b>Total/Year</b>	<b>3,266,250,000</b>	<b>3,367,500,000</b>	<b>3,478,875,000</b>	<b>3,601,387,500</b>	<b>3,736,151,250</b>	<b>3,884,391,375</b>	<b>4,047,455,513</b>	<b>4,226,826,064</b>	<b>29,608,836,701</b>

Source: Discussion with the Education Department

## Health Services

The source of funding for financing sanitation in education services comes from the Regency APBD amounting to IDR 3,077,357,567 where there is a gap between the needs and the ability of the regional government to accommodate it. Gap of 30% with a total of IDR 1,312,504,207. Fulfilling the water and sanitation funding gap in health services is planned through the APBN and alternative funding by collaborating with NGOs. The budget for health services focuses on the operation and maintenance of health services as well as the implementation of non-physical STBM by environmental health workers at the Health Service and Community Health Centers. The following is an analysis of the fulfillment of this gap:

Table 13 Details of Recapitulation of Sources of Drinking Water and Sanitation Health Services Financing

No	Information	Fiscal Year (Millions Rupiah)								Total Budget
		2023	2024	2025	2026	2027	2028	2029	2030	
	Indication of water and sanitation needs in health services	383,867,150	422,253,865	464,479,252	510,927,177	562,019,894	618,221,884	680,044,072	748,048,480	4,389,861,774
1	Regency Regional Revenue and Expenditure Budget (APBD)	276,384,348	253,352,319.00	301,911,513.80	352,539,752.13	443,995,716.26	340,022,036.20	578,037,461.54	531,114,420.54	3,077,357,567
	<b>GAP Pendanaan (Rp)</b>	<b>107,482,802</b>	<b>168,901,546</b>	<b>162,567,738</b>	<b>158,387,425</b>	<b>118,024,178</b>	<b>278,199,848</b>	<b>102,006,611</b>	<b>216,934,059</b>	<b>1,312,504,207</b>
	<b>GAP Pendanaan (%)</b>	<b>28%</b>	<b>40%</b>	<b>35%</b>	<b>31%</b>	<b>21%</b>	<b>45%</b>	<b>15%</b>	<b>29%</b>	<b>30%</b>
<b>Other Funding Source</b>										
1	National Revenue and Expenditure Budget (APBN)	95,966,787.50	126,676,160	121,925,804	118,790,569	88,518,133	208,649,886	76,504,958	162,700,544	999,732,841
2	Alternative Funding (CSR, Investments, ect)	38,386,715	42,225,387	46,447,925	51,092,718	56,201,989	61,822,188	68,004,407	74,804,848	438,986,177
	<b>Total/Year</b>	<b>134,353,503</b>	<b>168,901,546</b>	<b>168,373,729</b>	<b>169,883,286</b>	<b>144,720,123</b>	<b>270,472,074</b>	<b>144,509,365</b>	<b>237,505,392</b>	<b>1,438,719,018</b>

Source: Discussion with the Health Department

## Closing Remarks

Thank you to all parties who have supported the preparation of the Drinking Water and Sanitation Financing Roadmap in Melawi Regency, namely:

1. Melawi Regency Regional Planning and Development Agency
2. Melawi Regency Housing and Settlement Area working group
3. Melawi District Health Service
4. Department of Housing, Settlement Areas and Land, Melawi Regency
5. Melawi Regency Education and Culture Office
6. Melawi Regency Community and Village Empowerment Service
7. Melawi Regency Environmental Service
8. Wahana Visi Indonesia
9. Community-Based Drinking Water and Sanitation Provision (PAMSIMAS) Melawi Regency
10. Village Community Development and Empowerment Program Expert Staff (P3MD)

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