



Wahana Visi
INDONESIA



Roadmap for Funding and Budgeting **Drinking Water and Sanitation** in Community, School and Health Facilities Ende Regency

Pokja PKP Ende Regency

Foreword

All praises to the Lord Almighty for His providence and therefore we were able to skillfully construct Roadmap Model for Funding and Budgeting Drinking Water, Sanitation, and Hygiene. Coming from a realization that the current WASH planning which have been running are still divorced from each other thus became a challenge to observe the planning, actuating, and evaluating stages within communities, medical facilities, and schools.

We would like to sincerely thank Wahana Visi Indonesia in which they have aided us in encouraging cooperation regarding community development, especially when it comes to drinking water and sanitation while assembling this Roadmap.

The purpose of the developing this particular document is to support the planning and funding of 3 (three) target settings, which are Communities, Medical Facilities, and Education Facilities, as well as finding alternative funding support from other sources such as Banks, Credit Unions, and CSRs. Moreover this document provides the information gaps within funding as a planning data for the government.

We hope that in the future this document becomes a guiding tool for all parties in terms of planning drinking water, sanitation, and hygiene programs for the government's planning and budgeting document. We would also hope that this document becomes a reference point for NGOs and various private parties in aiding the government achieve Universal Coverage within the regency.

May all parties be able to contribute to Ende Regency's goal to achieve 100% access to clean and proper drinking water and sanitation for all.

Ende, Oktober 2023

A handwritten signature in black ink, appearing to read 'AWR', with a long, curved line extending downwards and to the left from the end of the signature.

Andreas Worho, ST.MT

Kepala Bappeda Ende

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Abbreviation List

SDGs	: Sustainable Development Goals
WVI	: Wahana Visi Indonesia
NGO	: Non Government Organisation
WASH	: Water Sanitation and Hygiene
SDGs	: Sustainable Development Goals
USC	: Universal Service Coverage
AMSH	: Air Minum Sanitasi dan Hygiene
TPB	: Tujuan Pembangunan Berkelanjutan
Pokja PKP	: Kelompok Kerja Perumahan dan Kawasan Permukiman
KPSPAM	: Kelompok Pengelola Sistem Penyediaan Air Minum
KPSPAM	: Rencana Induk Sistem Penyediaan Air Minum
SSK	: Strategi Sanitasi Kabupaten
RAD	: Rencana Aksi Daerah
OPD	: Organisasi Perangkat Daerah
CSR	: Corporate Social Responsibility
RTRW	: Rencana Tata Ruang Wilayah
BPS	: Biro Pusat Statistik
BUMDES	: Badan Usaha Milik Desa
RPJMD	: Rencana Pemerintah Jangka Menengah Daerah
RENSTRA	: Rencana Strategis
RENJA	: Rencana Kerja
RKPD	: Rencana Kerja Pemerintah Daerah
APBD	: Anggaran Pendapatan dan Belanja Kabupaten
PAD	: Pendapatan Asli Daerah
DBH	: Dana Bagi Hasil

Introduction

I. Background

The main purpose of point number 6 in United Nations' Sustainable Development Goals (SDGs) is to ensure the availability and sustainable management of water and sanitation for all. This point talks about providing water, sanitation, and hygiene (hand washing by using soap) for everyone, or more commonly known as Sustainable WASH for all, no one left behind. The scope of these services (water, sanitation, and hygiene) are to be 100% by 2030 through all sectors which includes communities, schools, and medical facilities in order to achieve Universal Service Coverage (USC).

Safe drinking water, sanitation, and hygiene (WASH) is crucial for the overall health and well-being of humans. Safe WASH services not only is a prerequisite for health, but also can be a contributor to livelihood, school attendance, dignity, and lead to communities that are resilient and live in a healthy environment. WASH Services in medical facilities are substantial in providing good quality healthcare, specifically to minimize mother and newborn mortality rates, infections, and the spread of diseases both during labor and postpartum care.

WASH Services in education facilities is also crucial. Every child has the right to access good quality education, which also encompasses access to drinking water, sanitation, and hygiene (WASH) while they are in school. Children spend a majority of their day in school, in which WASH services can impact their learning, health, and their dignity, specifically girls. The inclusion of WASH in school within targets 4a, 6.1, and 6.2 of UNSDGs displays a rise of recognition in WASH's importance as a key component of 'a safe learning environment, free of violence, inclusive, and effective' and as a part of WASH's universal access, which underscores the need of WASH outside of the household.

In order to support the efforts of achieving 100% Universal Coverage, the Ende Regency's Housing and Residential Area Task Force (Pokja PKP) along with Wahana Visi Indonesia collaborated in various activities ranging from developing toolkit systems for construction funding, strengthening capacities of water committee members (KPSAM) which includes developing a funding roadmap model that is usually used by the regency and village government in order to observe how committed the government will be in achieving WASH Universal Coverage on regency level. This model emphasizes on providing information regarding infrastructure needs, operational, maintenance, and sustainable operation funding systems so as to achieve WASH Universal Coverage. This model also focuses on how those models stated above can be planned and monitored as a road map to achieve Universal Coverage by 2030. This model will be referred to and integrated with existing policies both at the national level and local (regency) such as Regency Sanitation Strategy Document (SSK) and The Drinking Water Provision System Master Plan (RISPAM).

In addition to the two documents which have been stated above, the Ende Regency already possess a Regional Action Plan document (RAD) as a reference for Local Apparatus Organizations (OPD) to construct a budget within the Local Apparatus' Planning Document and the village government.

The basic reason to support the development of WASH financing strategies is to expedite improvements of the national WASH target by increasing equity, effectiveness, and efficiency of WASH expenditures, and also by extracting additional monetary resources. The benefits of developing WASH models/strategies (UNICEF, 2022). The hope is that with the presence of water and sanitation financing models along with the development of alternative funding systems, the target of 100% access of drinking water and sanitation can be fulfilled.

The drinking water and sanitation financing model is a strategic document that aids decision makers in the water and sanitation sector to ensure funding sustainability so as to support achieving 100% access to water and sanitation in the Ende Regency. The drinking water and sanitation financing model determined that there is a monetary discrepancy within the water and sanitation sector during the long planning period and identified to close those monetary gaps (through mobilizing further monetary resources by ways of retrenchment in achieving the water and sanitation sector's target), and suggests combining policy steps that will close the monetary gap (UNICEF, 2022)

Benefits of developing a WASH financial model/strategy (UNICEF, 2022):



II. GOAL :

In order to arrive on the arrangement of a development planning document, goals should be a crucial point to be identified so that all parties can understand what kind of goals they would want to achieve. Regarding to the joint-developed road map, it has been contributed in aiding governments in the following areas:

1. Support the planning and budgeting of 3 target settings, which are Communities, Medical Facilities, and Education Means.
2. Presenting information gaps between budgeting and actual needs in the field which then becomes a planning data for governments, both in the regency, subdistrict, and the village
3. Support funding from alternate sources such as banks, credit unions, and CSRs.



GENERAL OVERVIEW OF DRINKING WATER AND SANITATION IN INDONESIA :

TUJUAN 6 AIR BERSIH DAN SANITASI LAYAK

TUJUAN 6 AIR BERSIH DAN SANITASI LAYAK

6.1.1.(a) Persentase rumah tangga yang memiliki akses terhadap sumber air minum layak

Tahun	Baseline	Intervensi
2015	86.96%	86.96%
2019	88.70%	89.79%
2024	93.47%	93.47%
2030	100%	100%

Akses menyeluruh terhadap sumber air minum layak bagi semua tahun 2030

Sumber: Direktorat Perkotaan, Perumahan dan Pemukiman, Bappenas

- Akses terhadap air minum dan pelayanan dasar merupakan prioritas nasional dan hal itu sangat erat kaitannya dengan isu pembangunan lain seperti kesehatan, kemiskinan, dan pembangunan manusia. BAB sembarangan dan air limbah yang tidak diolah mengkontaminasi persediaan air dan menjadi sumber penyebaran penyakit diare juga kolera. Satu dari empat anak balita di Indonesia mengalami diare, yang merupakan penyebab utama kematian balita (UNICEF, 2018). Pada tahun 2018, 30,8% anak balita juga mengalami stunting (Risikesdas, 2018). Intervensi yang kuat, seperti penyediaan air minum, dapat berkontribusi sebesar 70% terhadap pencegahan stunting.
- Akses terhadap layanan sumber air minum layak mengalami kenaikan dari tahun ke tahun. Tahun 2018, sebesar 87,75% penduduk memiliki akses terhadap layanan sumber air minum layak termasuk yang bersumber dari perpipaan (20,14%) dan non-perpipaan (67,61%). Namun cakupan dari cadangan air yang dikelola secara aman masih rendah. Sebuah studi menyatakan bahwa akses terhadap sumber air minum yang aman hanya sebesar 8,5% (Hasil Survei Kualitas Air DIY, 2015). Berdasarkan data proxy dari studi tersebut, angka nasional hanya sebesar 6,8%.
- Meskipun angka proyeksi pada tahun 2030 menyatakan bahwa akses terhadap sumber air minum layak sudah universal, masih diperlukan upaya untuk meningkatkan akses terhadap air minum aman dan sistem persediaan air perpipaan. Akses terhadap air minum aman ditargetkan mencapai 15% pada tahun 2024 dan 43,15% pada tahun 2030. Sementara itu, akses terhadap sistem persediaan air perpipaan ditargetkan mencapai 30,54% pada tahun 2024, dan 53,94% pada tahun 2030.

TUJUAN 6 AIR BERSIH DAN SANITASI LAYAK

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6.1.1.(a) Persentase rumah tangga yang memiliki akses terhadap sumber air minum layak

Tahun	Baseline	Intervensi
2015	86.96	86.96
2019	89.71	89.79
2024	99.54	100
2030	100	100

Akses menyeluruh terhadap sumber air minum layak bagi semua tahun 2030

Sumber: Direktorat Perkotaan, Perumahan dan Pemukiman, Bappenas

Pencapaian Akses Air Minum Layak 100% dan Akses Air Minum Aman 15%

Arah Kebijakan 2020-2024

Strategi

- Peningkatan keamanan sumber air minum secara kualitas dan kuantitas.
- Peningkatan cakupan sistem persediaan air perpipaan dan non-perpipaan.
- Peningkatan kapasitas operator dalam menyediakan sumber air minum aman.
- Peningkatan tata kelola pemerintahan dan institusi
- Peningkatan kesadaran dan partisipasi komunitas

Dukungan Pembiayaan Pembangunan Air Layak Sekitar 22 Juta SR Hingga Tahun 2024

- Penegakkan regulasi tarif FCR untuk swasembada dan pertumbuhan PDAM
- Optimisasi strategi pembiayaan dan inovasi pembiayaan, juga potensi PPP.

Pencapaian Akses Air Minum Layak 100% dan Akses Air Minum Aman 43,15%

Arah Kebijakan 2025-2030

Strategi

- Penurunan layanan air bukan penerimaan dan kapasitas tunggu dari sistem penyediaan air.
- Percepatan pembangunan infrastruktur untuk sistem sumber air minum aman perpipaan.
- Pelaksanaan rencana pengamanan air untuk meningkatkan akses terhadap air minum aman melalui keran.

Dukungan Pembiayaan Pembangunan Air Layak Sekitar 35.52 Juta SR Tahun 2030

- Optimisasi strategi pembiayaan dan inovasi pembiayaan, juga potensi PPP.

TUJUAN 6 AIR BERSIH DAN SANITASI LAYAK

TUJUAN 6 AIR BERSIH DAN SANITASI LAYAK

6.2.1.(b) Persentase Rumah Tangga yang Memiliki Akses terhadap Sanitasi Layak

Tahun	Baseline	Intervensi
2015	67.95	67.95
2019	77.83	76.91
2024	89.88	90
2030	100	100

Akses menyeluruh terhadap sanitasi layak bagi semua dapat tercapai tahun 2030

Proyeksi (baseline) menunjukkan bahwa target sanitasi tahun 2024 (90% RT) dan target tahun 2030 (100% RT) akan terpenuhi

Sumber: SUSENAS, BPS
Proyeksi: Bappenas (berdasarkan target sanitasi SDGs)

Layanan Sanitasi yang Berkelanjutan

Peningkatan akses rumah tangga terhadap sanitasi layak hingga 90% (termasuk 20% sanitasi aman) dan menurunkan BAB sembarangan hingga 0%:

- Penguatan kapasitas pemerintah daerah dalam pengelolaan air limbah (termasuk pengelolaan lumpur tinja dan sistem pembuangan), pengetahuan dan kemampuan teknis, dan kerja sama dengan multi-pihak (swasta dan akademisi)
- Penguatan fungsi pengaturan dan pelaksanaan pemerintah daerah dalam pengelolaan air limbah.
- Pembuatan regulasi pengelolaan air limbah dan memastikan implementasinya di daerah termasuk alokasi pendanaan untuk sanitasi, pembayaran wajib untuk layanan sanitasi, mekanisme insentif, hukuman, subsidi, dan kewajiban bagi rumah tangga untuk memiliki akses terhadap sanitasi aman.
- Penguatan implementasi program perubahan perilaku untuk menghentikan praktik BAB sembarangan, termasuk mekanisme pemantauan secara berkala dan asistensi berkualitas bagi komunitas, desa, dan pemerintah daerah.
- Pengembangan mekanisme pembiayaan berkualitas, termasuk pembiayaan inovatif, subsidi pintar, dan belanja berkualitas untuk pembangunan sanitasi.

Peningkatan Akses terhadap Sanitasi Aman

Peningkatan akses rumah tangga terhadap sanitasi layak hingga 100% (termasuk 53,71% sanitasi aman):

- Penguatan layanan sanitasi berkelanjutan.
- Percepatan peningkatan akses rumah tangga terhadap sanitasi aman.
- Peningkatan kualitas perencanaan pembangunan sistem sanitasi dan implementasi program sanitasi.
- Pelaksanaan kolaborasi antara pemangku kepentingan untuk mengembangkan program sanitasi.
- Peningkatan komitmen pemerintah daerah untuk pengembangan sanitasi layak.

TUJUAN 6 AIR BERSIH DAN SANITASI LAYAK

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6.2.1.(b) Persentase Rumah Tangga yang Memiliki Akses terhadap Sanitasi Layak

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Sumber: SUSENAS, BPS
Proyeksi: Bappenas (berdasarkan target sanitasi SDGs)

- Senada dengan akses terhadap air minum layak, akses terhadap sanitasi layak berkaitan erat dengan kesehatan dan lingkungan. Khususnya, kurangnya akses terhadap sanitasi layak akan menurunkan kualitas air dan berpengaruh terhadap meningkatkan prevalensi stunting pada anak-anak dengan koefisien korelasi sebesar 0,66 (Risikesdas, 2013).
- Selain akses terhadap sanitasi layak, akses terhadap sanitasi yang aman juga merupakan bagian dari agenda 2030. Pada tahun 2018, hanya sebesar 7,42% rumah tangga di Indonesia memiliki akses ke sanitasi yang aman. Pada tahun 2030, pemerintah menargetkan angka tersebut naik ke 53,71% yang tentu dapat dicapai dengan pengelolaan lumpur tinja untuk sanitasi *on-site*, dan sistem pembuangan untuk sanitasi *off-site*.
- Indonesia juga masih menghadapi tantangan mengenai perilaku masyarakat akan praktik sanitasi. Masih ada 9,36% rumah tangga yang mempraktikkan BAB sembarangan baik di perkotaan maupun perdesaan (Bappenas, 2018). Pemerintah bertujuan agar Indonesia bebas dari perilaku BAB sembarangan pada tahun 2024.
- Kepemimpinan yang lebih kuat, komitmen, pengaturan regulasi dan kelembagaan yang baik, serta kapasitas teknis baik di level nasional dan regional, diperlukan untuk mempercepat penyediaan akses sanitasi yang layak bagi semua.

General Overview of Ende Regency

2.1. Geographical and Demographic Aspects

2.1.1. Location and Regional Characteristic

1. Area and Administrative Borderlines

Ende Regency is one of the 22 Regency/Municipalities in the province of East Nusa Tenggara (NTT) which encompasses an area of 2,067.75 km² with the border as follows.

- To the North: Flores Sea
- To the East: Sikka Regency
- To the South: Sawu Sea
- To the West: Nagekeo Regency

Administratively the Ende Regency is comprised of 21 subdistricts, 255 villages, 23 wards, and 893 hamlets.

The Wewaria subdistrict is the widest (14.05%), followed by Maukaro (10.39%), Kotabaru (9.38%), and Nangapanda (9.13%), whereas Central Ende is the smallest subdistrict of the bunch (0.28%). Based on the type of government, there are 2 subdistricts where the whole area is one single ward i.e. South Ende and Central Ende subdistrict, 10 subdistricts that all comprised of wards, and 9 subdistricts that has both village and ward government.

Tabel 2.1. Kecamatan, Ibu Kota Kecamatan, Jarak, Luas Wilayah, dan Jumlah Desa/Kelurahan

No.	Kecamatan	Nama Ibukota	Jarak ke Ibukota Kab. (km)	Luas wilayah		Jumlah	
				(km ²)	%	Desa	Kel.
1	Nangapanda	Ndorurea	29,00	190,31	9,13	28	1
2	Pulau Ende	Rendoraterua	17,87	10,22	0,49	9	-
3	Maukaro	Maukaro	97,00	216,66	10,39	11	-
4	Ende	Nangaba	9,00	164,99	7,91	32	-
5	Ende Selatan	Mbongawani	1,49	19,57	0,94	-	5
6	Ende Timur	Wolowona	4,55	19,63	0,94	3	3
7	Ende Tengah	Paupire	3,50	5,75	0,28	-	4
8	Ende Utara	Kotartatu	0,02	17,52	0,84	6	4
9	Ndona	Ndona	8,00	93,52	4,48	12	2
10	Ndona Timur	Demulaka	45,00	52,84	2,53	7	-
11	Wolowaru	Bokasape	65,00	64,53	3,09	16	1
12	Wolojita	Wolojita	72,00	39,77	1,91	5	1
13	Lio Timur	Watuneso	92,00	53,93	2,59	12	1
14	Kelimutu	Woloara	52,00	54,03	2,59	9	-
15	Ndori	Maubasa	87,00	26,71	1,28	10	-
16	Maurole	Maurole	84,00	155,14	7,44	13	-
17	Kotabaru	Kotabaru	117,00	199,70	9,58	13	-
18	Detukeli	Watunggere	57,00	112,29	5,38	13	-
19	Lepembusu Kelisoke	Peibenga	58,00	150,88	7,24	14	-
20	Detusoko	Detusoko	33,00	144,27	6,92	20	1
21	Wewaria	Welamosa	53,00	292,94	14,05	22	-
Total				2.085,19	100	255	23

Sumber Data: Ende Dalam Angka 2023, (Olahan Bappeda)

Data Source : Rankhir RPD Kabupaten Ende 2025-2026

In 2019, it had prepared an expansion proposal to be submitted to the central government, that encompasses 9 villages and 7 subdistricts, which up until now still considered as "preparation village" and still to be proposed to the provincial and central government, which follows:

2. Location, Geographical Conditions, and Area Allocations

a. Astronomical Location

Ende Regency is located in the southern side of the equator with coordinates 121°21' 6,44" until 122° 1' 28,1604" Eastern Longitude and 08° 55' 28,35" until 08° 26' 4,10" Southern Latitude.

b. Geostrategic Location

Based on its' geographical location, Ende Regency is strategically placed due to a number of things.

- It is situated in the middle of the Flores Island, one of 3 main islands in the East Nusa Tenggara province and surrounded by 5 regencies to the west, i.e Ngada, Nagekeo, Manggarai, East Manggarai, and West Manggarai, and 2 regencies to the east, i.e. Sikka and East Flores. In the early years of the Indonesia's independence where during that time Bali, West Nusa Tenggara, and East Nusa Tenggara is still one single region, Ende is the government capital of Flores region.
- Ende is a major shipping hub especially in the East Nusa Tenggara region and southern part of Indonesia, due to its' direct access to Kupang and Timor Island which is the provincial capital, and the island of Sumba off the coast of Sawu Sea.
- It is situated on the Bali-Lombok-Flores tourism route with Mount Kelimutu being both a focal point and a major tourism destination of the isle.
- During the history of Indonesia's struggle for independence, it became the place where first president Soekarno was exiled from 1943 up until 1948, and is believed to be the place where he constructed the nations' ideological principal, the Pancasila.

Tabel 2.2. Kecamatan dan Desa Pemekaran

Kecamatan	Desa Persiapan	Desa Induk
Wolojita	Waga	Pora
Kelimutu	Woloara Barat	Woloara
Wolowaru	Mbuliweragheta	Nakambara
Wewaria	Mautenda Selatan	Mautenda
Nangapanda	Maurongga	Raprendu
	Rendorua	Raprendu
	Tanarangga	Bheramari dan Jegharangga
Kotabaru	Kotabaru Tengah	Kotabaru
Ende	Tomberabu III	Tomberabu I

Sumber Data : Rankhir RPD Kabupaten Ende 2025-2026

c. Population by Numbers and Growth

In their publication, The Central Statistics Board of Ende Regency (Ende dalam Angka 2023) stated that up until late 2022 the number of population in the regency was 273,533 people, which comprises of 133,848 male individuals and 139,705 female individuals.

Compared to the numbers provided by the 2020 Census (SP 2020), it shows that there has been an increase by as much as 2,790 individuals from 270,763 or 0.59%. In terms of territory, Ende citizens are mostly concentrated in the city ($\pm 32,13\%$), specifically in the Southern Ende subdistrict (9.48%). This indicates that the city is still considered as an attractive place for people to look for work, school, and other activities, both by people from the village and outside the region.

The fact that the development of higher education, and proliferation of trade and services contributed to the population growth of Ende City. The subdistrict with the highest headcount is South Ende Subdistrict with 25,966 people, whereas the lowest headcount belongs to East Ndonga subdistrict with 5,041 people.

With an area of 2,085.19 km², the population density of Ende Regency in 2022 is 131.19 people per km². The subdistrict with the highest density is Central Ende subdistrict (4,149 people/km²) whereas the lowest is Lepembusu Kelisoke subdistrict with a density of 35.60 people/km². The sex ratio between man and woman in 2022 is 95.80%.

USIA	Tahun 2019				Tahun 2020				Tahun 2021				Tahun 2022			
	L	P	Total	%	L	P	Total	%	L	P	Total	%	L	P	Total	%
Anak-anak (0 - 14 Tahun)	42.107	40.451	82.558	30,14	35.982	33.876	69.858	25,80	35.942	33.901	69.843	25,67	35.933	33.950	69.883	25,55
Dewasa (15 - 49 Tahun)	64.400	74.547	138.947	50,72	71.821	73.792	145.613	53,78	72.070	73.806	145.876	53,63	72.348	73.847	146.195	53,44
Lanjut Usia (Diatas 50 Tahun)	23.100	29.324	52.424	19,14	24.742	30.550	55.292	20,42	25.154	31.125	56.359	20,69	25.567	31.908	57.475	21,01
Total	129.607	144.322	273.929	100	132.545	138.218	270.763	100	133.166	138.832	272.078	100	542.369	139.705	273.553	100

d. Conditions/Territories

1.Inner Regions

The inner regions of Ende comprises of 163 Villages/Wards that spreads across 15 subdistricts, which are Nangapanda, Ende Island, Ende, Ndonga, Detusuko, Wewaria, East Lio, Wolowaru, Wolojita, Detukeli, Maurole, Maukaro, East Lio, Kotabaru, Kelimutu, North Ende, and East Ende.

2. Remote Regions

The remote regions of Ende regency comprises of 93 villages, spread across 13 subdistricts, which are Nangapanda, Ende, Ndonga, Wewaria, Wolowaru, Maurole, Maukaro, East Lio, Kotabaru, Detukeli, East Ndonga, Ndori, and Lepembusu Kelisoke.

3. Coastal Regions/ Archipelago

The existence of the coastal regions consists of Northern and Southern Coast,i.e.

- Northern Coasts, which covers Maukaro, Maurole, Wewaria, and Kotabaru subdistricts.
- Southern Coasts, which covers Nangapanda, Ende, North Ende, South Ende, East Ende, Ndonga, Wolojita, Wolowaru, Ndori, East Lio , dan Ende Island.
- Aside from the coastal regions, there is also an island which is aptly named Ende Island

4. Mountain Regions.

The majority of territories in Ende regency are mountainous and includes two (2) active volcanoes, which are Mount Iya and Mount Kelimutu. The area is also a protected forest site with the presence of Mount Kelimutu National Park and the Kemang Boleng Forest which is situated in the central mountain regions of Ende regency. Based on the levels of development, there are 255 villages in the regency that can be categorized as:

- Underdeveloped Villages: as much as 113 villages or 44.31%
- Developing Villages: as much as 133 villages or 52.16%
- Developed Villages: as much as 9 villages or 3.53%

For further details, please refer to the table below :

Projection of Population Growth

No	Kecamatan	Laju Pertumbuhan Penduduk					Rata-rata Pertumbuhan
		2023	2028	2033	2038	2043	
1	Nangapanda	23.189	23.570	23.957	24.350	24.749	0,02
2	Pulau Ende	8.705	8.871	9.040	9.213	9.389	0,02
3	Maukaro	7.852	7.993	8.136	8.282	8.431	0,02
4	Ende	17.643	18.099	18.568	19.048	19.541	0,03
5	Ende Selatan	26.084	26.680	27.289	27.913	28.551	0,02
6	Ende Timur	19.537	19.796	20.058	20.324	20.593	0,01
7	Ende Tengah	24.010	24.891	25.806	26.754	27.736	0,04
8	Ende Utara	18.390	18.798	19.214	19.639	20.074	0,02
9	Ndona	14.005	14.299	14.600	14.907	15.220	0,02
10	Ndona Timur	5.063	5.175	5.290	5.407	5.527	0,02
11	Wolowaru	16.450	16.853	17.267	17.691	18.125	0,02
12	Wolojita	6.300	6.431	6.564	6.700	6.840	0,02
13	Lio Timur	8.033	8.097	8.162	8.228	8.294	0,01
14	Kelimutu	7.138	7.396	7.663	7.940	8.227	0,04
15	Ndori	5.840	5.886	5.932	5.978	6.025	0,01
16	Maurole	11.691	11.958	12.231	12.511	12.797	0,02
17	Kota Baru	10.491	10.625	10.760	10.896	11.034	0,01
18	Detukeli	6.860	7.066	7.277	7.495	7.720	0,03
19	Lepembusu Kelisoke	5.401	5.550	5.702	5.859	6.020	0,03
20	Detusoko	14.373	14.599	14.828	15.061	15.298	0,02
21	Wewaria	17.647	17.896	18.149	18.405	18.665	0,01
	Jumlah	274.702	280.529	286.494	292.602	298.856	0,44

Proportion and Projection of Urban and Rural Populations

No	Kecamatan	Proyeksi dan Proporsi Penduduk							
		2028		2033		2038		2043	
		Jumlah	Proporsi	Jumlah	Proporsi	Jumlah	Proporsi	Jumlah	Proporsi
Penduduk Perkotaan									
1	Ende Selatan	26.680	32,14%	27.289	32,24%	27.913	32,34%	28.551	32,44%
2	Ende Timur	19.796		20.058		20.324		20.593	
3	Ende Tengah	24.891		25.806		26.754		27.736	
4	Ende Utara	18.798		19.214		19.639		20.074	
Penduduk Perdesaan									
1	Nangapanda	23.570	67,86%	23.957	67,76%	24.350	67,66%	24.749	67,56%
2	Pulau Ende	8.871		9.040		9.213		9.389	
3	Maukaro	7.993		8.136		8.282		8.431	
4	Ende	18.099		18.568		19.048		19.541	
5	Ndona	14.299		14.600		14.907		15.220	
6	Ndona Timur	5.175		5.290		5.407		5.527	
7	Wolowaru	16.853		17.267		17.691		18.125	
8	Wolojita	6.431		6.564		6.700		6.840	
9	Lio Timur	8.097		8.162		8.228		8.294	
10	Kelimutu	7.396		7.663		7.940		8.227	
11	Ndori	5.886		5.932		5.978		6.025	
12	Maurole	11.958		12.231		12.511		12.797	
13	Kota Baru	10.625		10.760		10.896		11.034	
14	Detukeli	7.066		7.277		7.495		7.720	
15	Lepembusu Kelisoke	5.550		5.702		5.859		6.020	
16	Detusoko	14.599		14.828		15.061		15.298	
17	Wewaria	17.896		18.149		18.405		18.665	
Jumlah Penduduk		280.529	100%	286.494	100%	292.602	100%	298.856	100%

Division of Service Territories

The division of services territories is based upon the Ende Regent's Decree Letter number 65/KEP/HK/2015 regarding The Establishment of Villages and Wards in Ende Regency, and can be divided as follows.

NO	KECAMATAN, DESA/KELURAHAN	KLASIFIKASI DESA			NO	KECAMATAN, DESA/KELURAHAN	KLASIFIKASI DESA		
		DALAM KOTA	PEDALAMAN	TERPENCIL			DALAM KOTA	PEDALAMAN	TERPENCIL
1.	NANGAPANDA		Pedalaman			17) Desa Uzuramba			Terpencil
	1) Kelurahan Ndorurea		Pedalaman			18) Desa Tonggopapa		Pedalaman	
	2) Desa Ondorea		Pedalaman			19) Desa Embutheru		Pedalaman	
	3) Desa Nggorea		Pedalaman			20) Desa Nua Ja		Pedalaman	
	4) Desa Raporendu		Pedalaman			21) Desa Wawonato			Terpencil
	5) Desa Bheramari		Pedalaman			22) Desa Jejaraja			Terpencil
	6) Desa Kerirea			Terpencil		23) Desa Nemboramba		Pedalaman	
	7) Desa Tendarea			Terpencil		24) Desa Embu Ngena		Pedalaman	
	8) Desa Tendambepa			Terpencil		25) Desa Rhandorama		Pedalaman	
	9) Desa Rapowawo		Pedalaman			26) Desa Tendambonggi		Pedalaman	
	10) Desa Watumite			Terpencil		27) Desa Wologai Dua			Terpencil
	11) Desa Zozozea		Pedalaman			28) Desa Worhopapa		Pedalaman	
	12) Desa Ndorurea I		Pedalaman			29) Desa Ranoramba		Pedalaman	
	13) Desa Ndeturea		Pedalaman			30) Desa Peozakaramba		Pedalaman	
	14) Desa Sanggarhorho		Pedalaman			31) Desa Uzuramba Barat			Terpencil
	15) Desa Tiwerea			Terpencil		32) Desa Wajakea Jaya		Pedalaman	
	16) Desa Jegharangga		Pedalaman		4.	ENDE SELATAN	Kota		
	17) Desa Penggajawa		Pedalaman			1) Kelurahan Paupanda	Kota		
	18) Desa Ondorea Barat		Pedalaman			2) Kelurahan Rukunlima	Kota		
	19) Desa Uzuzozo			Terpencil		3) Kelurahan Mbongawani	Kota		
	20) Desa Timbazia		Pedalaman			4) Kelurahan Tetandara	Kota		
	21) Desa Mbobhenga		Pedalaman			5) Kelurahan Tanjung	Kota		
	22) Desa Malawaru			Terpencil	5.	NDONA	Kota	Pedalaman	
	23) Desa Anaraja		Pedalaman			1) Kelurahan Lokoboko	Kota		
	24) Desa Kekandere		Pedalaman			2) Kelurahan Onelako	Kota		
	25) Desa Tanazozo		Pedalaman			3) Desa Nanganesa	Kota		
	26) Desa Tenda Ondo			Terpencil		4) Desa Manulondo	Kota		
	27) Desa Jemburea			Terpencil		5) Desa Wolotopo		Pedalaman	
	28) Desa Embuzozo		Pedalaman			6) Desa Wolotopo Timur		Pedalaman	
	29) Desa Romarea			Terpencil		7) Desa Ngaluroga		Pedalaman	
3.	ENDE		Pedalaman			8) Desa Ngalupolo		Pedalaman	
	1) Desa Rukuramba		Pedalaman			9) Desa Kekasewa			Terpencil
	2) Desa Riaraja		Pedalaman			10) Desa Nila			Terpencil
	3) Desa Mbotutenda			Terpencil		11) Desa Puutuga		Pedalaman	
	4) Desa Wologai			Terpencil		12) Desa Wolokota			Terpencil
	5) Desa Ndetundora I		Pedalaman			13) Desa Kelikiku		Pedalaman	
	6) Desa Ndetundora II		Pedalaman			14) Desa Reka		Pedalaman	
	7) Desa Tomberabu I		Pedalaman		6.	DETUSOKO		Pedalaman	
	8) Desa Tomberabu II			Terpencil		1) Kelurahan Detusoko		Pedalaman	
	9) Desa Nakuramba		Pedalaman			2) Desa Nuaone		Pedalaman	
	10) Desa Wolokaro		Pedalaman			3) Desa Ranga		Pedalaman	
	11) Desa Ja Mokeasa			Terpencil		4) Desa Wolomage		Pedalaman	
	12) Desa Emburia		Pedalaman						
	13) Desa Randotonda		Pedalaman						
	14) Desa Raburia			Terpencil					
	15) Desa Tinabani			Terpencil					

NO	KECAMATAN, DESA/KELURAHAN	KLASIFIKASI DESA			NO	KECAMATAN, DESA/KELURAHAN	KLASIFIKASI DESA		
		DALAM KOTA	PEDALAMAN	TERPENCIL			DALAM KOTA	PEDALAMAN	TERPENCIL
	6) Desa Rateroru		Pedalaman			13) Desa Wolosoko		Pedalaman	
	7) Desa Dile		Pedalaman			14) Desa Niramesi			Terpencil
	8) Desa Roa		Pedalaman			15) Desa Nakambara		Pedalaman	
	9) Desa Wolotolo		Pedalaman			16) Desa Tana Lo'o		Pedalaman	
	10) Desa Wolotolo Tengah		Pedalaman			17) Desa Lise Pu'u		Pedalaman	
	11) Desa Randoria		Pedalaman		9.	WOLOJITA		Pedalaman	
	12) Desa Wolomasi		Pedalaman			1) Kelurahan Wolojita		Pedalaman	
	13) Desa Saga		Pedalaman			2) Desa Nuamulu		Pedalaman	
	14) Desa Ndito		Pedalaman			3) Desa Nggela		Pedalaman	
	15) Desa Niowula		Pedalaman			4) Desa Pora		Pedalaman	
	16) Desa Wolofeo		Pedalaman			5) Desa Tenda		Pedalaman	
	17) Desa Sipijena		Pedalaman			6) Desa Wiwipemo		Pedalaman	
	18) Desa Detusoko Barat		Pedalaman		10.	MAUROLE		Pedalaman	
	19) Desa Wologai		Pedalaman			1) Desa Maurole		Pedalaman	
	20) Desa Wologai Tengah		Pedalaman			2) Desa Mausambi		Pedalaman	
	21) Desa Turunalu		Pedalaman			3) Desa Watukamba		Pedalaman	
7.	WEWARIA		Pedalaman			4) Desa Aewora		Pedalaman	
	1) Desa Mukusaki		Pedalaman			5) Desa Keliwumbu		Pedalaman	
	2) Desa Aemuri		Pedalaman			6) Desa Ranokolo		Pedalaman	
	3) Desa Ekoae		Pedalaman			7) Desa Ranokolo Selatan		Pedalaman	
	4) Desa Wewaria		Pedalaman			8) Desa Otogedu			Terpencil
	5) Desa Fataatu Timur		Pedalaman			9) Desa Detuwulu			Terpencil
	6) Desa Fataatu		Pedalaman			10) Desa Woloau		Pedalaman	
	7) Desa Welamosa		Pedalaman			11) Desa Ngalukoja		Pedalaman	
	8) Desa Nuangenda		Pedalaman			12) Desa Niranusa		Pedalaman	
	9) Desa Detubela		Pedalaman			13) Desa Uludala		Pedalaman	
	10) Desa Tanali		Pedalaman		11.	MAUKARO		Pedalaman	
	11) Desa Ratewati		Pedalaman			1) Desa Kamubheka		Pedalaman	
	12) Desa Mautenda Barat			Terpencil		2) Desa Kebirangga		Pedalaman	
	13) Desa Mbotulaka			Terpencil		3) Desa Kebirangga Selatan			Terpencil
	14) Desa Mautenda		Pedalaman			4) Desa Nabe		Pedalaman	
	15) Desa Kelitembu		Pedalaman			5) Desa Kobaleba		Pedalaman	
	16) Desa Numba			Terpencil		6) Desa Boafeo			Terpencil
	17) Desa Aelipo			Terpencil		7) Desa Magekapa		Pedalaman	
	18) Desa Ratewati Selatan			Terpencil		8) Desa Mundinggasa		Pedalaman	
	19) Desa Waka			Terpencil		9) Desa Kolikapa		Pedalaman	
	20) Desa Woloaja			Terpencil		10) Desa Kebirangga Tengah		Pedalaman	
	21) Desa Ekolea		Pedalaman			11) Desa Natanangge		Pedalaman	
	22) Desa Aendoko		Pedalaman		12.	LIO TIMUR		Pedalaman	
8.	WOLOWARU		Pedalaman			1) Kelurahan Watuneso		Pedalaman	
	1) Kelurahan Bokasape		Pedalaman			2) Desa Hobatuwa		Pedalaman	
	2) Desa Mbuliwaralau		Pedalaman			3) Desa Wolosambi		Pedalaman	
	3) Desa Mbuliloo		Pedalaman			4) Desa Woloaro		Pedalaman	
	4) Desa Jopu		Pedalaman			5) Desa Detupera			Terpencil
	5) Desa Rindiwawo		Pedalaman			6) Desa Wololele A			Terpencil
	6) Desa Lisedetu		Pedalaman			7) Desa Liabeke		Pedalaman	
	7) Desa Mbuliwaralau Utara		Pedalaman			8) Desa Fatamari			Terpencil
	8) Desa Bokasape Timur		Pedalaman			9) Desa Ranggatalo		Pedalaman	
	9) Desa Nualise		Pedalaman			10) Desa Nualima		Pedalaman	
	10) Desa Liselowobora		Pedalaman			11) Desa Tanaroga		Pedalaman	
	11) Desa Likanaka			Terpencil		12) Desa Bu Tanalagu			Terpencil
	12) Desa Wolokoli		Pedalaman			13) Desa Mbewawora			Terpencil

NO	KECAMATAN, DESA/KELURAHAN	KLASIFIKASI DESA			NO	KECAMATAN, DESA/KELURAHAN	KLASIFIKASI DESA				
		DALAM KOTA	PEDALAMAN	TERPENCIL			DALAM KOTA	PEDALAMAN	TERPENCIL		
13.	KOTA BARU		Pedalaman								
	1) Desa Kotabaru		Pedalaman			3) Desa Serandori					Terpencil
	2) Desa Tou		Pedalaman			4) Desa Kelisamba					Terpencil
	3) Desa Tou Timur		Pedalaman			5) Desa Maubasa Timur					Terpencil
	4) Desa Loboniki		Pedalaman			6) Desa Mole					Terpencil
	5) Desa Hangalande			Terpencil		7) Desa Lunggaria					Terpencil
	6) Desa Ndondo		Pedalaman			8) Desa Aebara					Terpencil
	7) Desa Niopanda			Terpencil		9) Desa Ratemangga					Terpencil
	8) Desa Tou Barat		Pedalaman			10) Desa Maubasa Barat					Terpencil
	9) Desa Liselande			Terpencil	18.	ENDE UTARA	Kota				
	10) Desa Rangalaka		Pedalaman			1) Kelurahan Kotaratu	Kota				
	11) Desa Pise			Terpencil		2) Kelurahan Kotaraja	Kota				
	12) Desa Neotonda		Pedalaman			3) Kelurahan Roworena	Kota				
	13) Desa Nuanaga		Pedalaman			4) Kelurahan Roworena Barat	Kota				
14.	KELIMUTU		Pedalaman			5) Desa Borokanda	Kota				
	1) Desa Nduaria		Pedalaman			6) Desa Watusipi		Pedalaman			
	2) Desa Nuamuri		Pedalaman			7) Desa Gheoghoma	Kota				
	3) Desa Nuamuri Barat		Pedalaman			8) Desa Mbomba	Kota				
	4) Desa Woloara		Pedalaman			9) Desa Embundoa	Kota				
	5) Desa Koanara		Pedalaman			10) Desa Raterua	Kota				
	6) Desa Pemo		Pedalaman		19.	ENDE TENGAH	Kota				
	7) Desa Waturaka		Pedalaman			1) Kelurahan Potulando	Kota				
	8) Desa Detuena		Pedalaman			2) Kelurahan Onekore	Kota				
	9) Desa Wolokelo		Pedalaman			3) Kelurahan Kelimutu	Kota				
15.	DETUKELI			Terpencil		4) Kelurahan Paupire	Kota				
	1) Desa Maurole Selatan			Terpencil	20.	ENDE TIMUR	Kota				
	2) Desa Detumbewa			Terpencil		1) Kelurahan Mautapaga	Kota				
	3) Desa Nggesa			Terpencil		2) Kelurahan Rewarangga	Kota				
	4) Desa Watunggere			Terpencil		3) Kelurahan Rewarangga Selatan	Kota				
	5) Desa Nida			Terpencil		4) Desa Nduangga		Pedalaman			
	6) Desa Kanganara			Terpencil		5) Desa Tiwutewa		Pedalaman			
	7) Desa Kebesani			Terpencil		6) Desa Kedebodu		Pedalaman			
	8) Desa Detukeli			Terpencil	21.	LEPEMBUSU KELISOKE					Terpencil
	9) Desa Wolomuku			Terpencil		1) Desa Wologai Timur					Terpencil
	10) Desa Unggu			Terpencil		2) Desa Nggumbelaka					Terpencil
	11) Desa Nggesa Biri			Terpencil		3) Desa Mukureku					Terpencil
	12) Desa Watunggere Marilonga			Terpencil		4) Desa Kuru					Terpencil
	13) Desa Jeo Du'a			Terpencil		5) Desa Ndenggarongge					Terpencil
16.	NDONA TIMUR			Terpencil		6) Desa Ndikosapu					Terpencil
	1) Desa Kurulimbu			Terpencil		7) Desa Tanalangi					Terpencil
	2) Desa Sokoria			Terpencil		8) Desa Taniwoda					Terpencil
	3) Desa Demulaka			Terpencil		9) Desa Detuara					Terpencil
	4) Desa Roga			Terpencil		10) Desa Kuru Sare					Terpencil
	5) Desa Kurulimbu Selatan			Terpencil		11) Desa Lise Kuru					Terpencil
	6) Desa Nggewa			Terpencil		12) Desa Rutu Jeja					Terpencil
	7) Desa Sokoria Selatan			Terpencil		13) Desa Mukereku Sa Ate					Terpencil
17.	NDORI			Terpencil		14) Desa Tiwusora					Terpencil
	1) Desa Wonda			Terpencil							
	2) Desa Maubasa			Terpencil							
	3) Desa Serandori			Terpencil							
						JUMLAH DESA & KELURAHAN	25	163			90

3. Topography

Topographical conditions of Ende region consist of hills and mountains that placed in the core and south region, despite the lowland with compact hills located in the north of the region. Overall, there has 20,60% territory of Ende Region (421 km²) located in the heights more than 500 meter above the sea level(dpl). The area of region that have the most heights is East Ndona (1.148 mdpl) and the lowest area is South Ende (306 mdpl).

Tabel 2.5. Ketinggian Rata2 dari Permukaan Laut (dpl) dan % Luas Wilayah menurut Ketinggian per Kecamatan

No	Kecamatan	Luas Wilayah berdasarkan Kategori Ketinggian DPL (Ha)							Total Luas Wilayah (km ²)
		0-250 mdpl (Ha)	250-500 mdpl (Ha)	500-750 mdpl (Ha)	750-1000 mdpl (Ha)	1000-1250 mdpl (Ha)	1250-1500 Mdpl (Ha)	1500-1750 mdpl (Ha)	
1	Nangapanda	7.421,70	8.346,41	2.674,28	589,04	-	-	-	19.031,40
2	Pulau Ende	920,83	100,67	-	-	-	-	-	1.021,51
3	Maukaro	8.870,32	6.943,58	4.118,39	1.622,40	110,83	-	-	21.665,52
4	Ende	2.382,52	5.495,37	4.745,90	3.012,09	863,15	-	-	16.499,08
5	Ende Selatan	1.427,21	464,25	65,54	-	-	-	-	1.956,99
6	Ende Timur	832,46	657,72	389,7	83,33	-	-	-	1.963,20
7	Ende Tengah	516,54	55,13	2,85	-	-	-	-	574,50
8	Ende Utara	1.159,15	503,5	88,96	-	-	-	-	1.751,57
9	Ndona	2.835,91	2.411,57	1.828,68	1.589,12	515,03	171,76	-	9.352,08
10	Ndona Timur	-	362,07	854,98	1.647,20	1.423,43	861,38	135,11	5.284,18
11	Wolowaru	1.261,68	2.042,74	1.662,53	945,96	408,29	131,83	-	6.453,03
12	Wolojita	841,59	990,61	932,46	547,31	282,36	328,07	54,19	3.976,60
13	Lio Timur	1.318,14	1.851,67	1.089,04	700,4	238,08	179,79	15,87	5.392,99
14	Kelimutu	-	-	487,67	1.437,66	1.952,31	972,55	553,01	5.403,18
15	Ndori	286,25	1.247,86	131,88	-	-	-	-	2.670,99
16	Maurole	7.817,53	4.535,17	2.122,08	925,29	-	-	-	15.513,89
17	Kotabaru	1.052,09	4.097,43	2.981,29	1.483,23	834,5	71,52	-	19.970,11
18	Detukeli	831,34	3.930,80	3.592,46	1.972,77	866,42	34,77	-	11.228,56
19	Lepembusu Kelisoke	314,77	1.481,83	2.622,28	3.002,15	4.133,13	3.140,52	393,68	15.088,34
20	Detusoko	66,09	1.147,50	3.446,80	4.313,20	3.246,64	1.676,31	530,64	14.427,20
21	Wewaria	18.272,68	7.573,47	2.248,06	651,44	406,71	141,86	-	29.294,16

Sumber: Dinas PUPR Kab.Ende 2023, BPS, Ende Dalam Angka 2023, (Data olahan Bappeda)

Based in the landslope, dominantly the area of Ende Region (58,11% or ±1.195 km²) located in the splay above 40%. Each of the slant delivered in the table below.

Tabel 2.6. Kemiringan Tanah (Lereng) dirinci Menurut Kecamatan di Kabupaten Ende

No	Kecamatan	Kemiringan Tanah (Lereng) – Slope (%)								Total Luas Wilayah (km ²)
		0-3% slope		3-12% slope		12-40% slope		>40% slope		
		%	Luas (km ²)	%	Luas (km ²)	%	Luas (km ²)	%	Luas (km ²)	
1	Nangapanda	5,20	989,63	6,56	1.248,46	83,81	15.950,22	4,43	843,09	19.031,40
2	Pulau Ende	5,50	56,18	7,01	71,61	5,34	54,55	82,15	839,17	1.021,51
3	Maukaro	2,30	498,31	4,12	892,62	23,55	5.102,23	70,03	15.172,36	21.665,52
4	Ende	2,41	397,63	8,49	1.400,77	8,68	1.432,12	80,42	13.268,56	16.499,08
5	Ende Selatan	6,60	129,16	22,08	432,10	36,11	706,67	35,21	689,06	1.956,99
6	Ende Timur	4,71	92,47	15,26	299,58	17,58	345,13	62,45	1.226,02	1.963,20
7	Ende Tengah	7,97	45,79	34,44	197,86	22,62	129,95	34,97	200,90	574,50
8	Ende Utara	4,21	73,74	15,23	266,76	13,03	228,23	67,53	1.182,84	1.751,57
9	Ndona	0,41	38,34	-	-	22,73	2.125,73	76,86	7.188,01	9.352,08
10	Ndona Timur	0,28	14,80	-	-	21,31	1.126,06	78,41	4.143,33	5.284,18
11	Wolowaru	-	-	3,38	218,11	17,73	1.144,12	78,89	5.090,80	6.453,03
12	Wolojita	-	-	3,43	136,40	22,32	887,58	74,25	2.952,63	3.976,60
13	Lio Timur	-	-	3,28	176,89	17,40	938,38	79,32	4.277,72	5.392,99
14	Kelimutu	-	-	5,11	276,10	26,20	1.415,63	68,69	3.711,44	5.403,18
15	Ndori	-	-	2,94	78,53	29,76	794,89	67,30	1.797,58	2.670,99
16	Maurole	3,94	611,25	5,78	896,70	42,72	6.627,53	47,56	7.378,41	15.513,89
17	Kotabaru	0,33	65,90	5,62	1.122,32	46,59	9.304,07	47,46	9.477,81	19.970,11
18	Detukeli	6,60	741,08	8,21	921,86	17,45	1.959,38	67,74	7.606,23	11.228,56

No	Kecamatan	Kemiringan Tanah (Lereng) – Slope (%)								Total Luas Wilayah (km ²)
		0-3% slope		3-12% slope		12-40% slope		>40% slope		
		%	Luas (km ²)	%	Luas (km ²)	%	Luas (km ²)	%	Luas (km ²)	
19	Lepembusu Kelisoke	1,32	199,17	4,28	645,78	12,39	1.869,45	82,01	12.373,95	15.088,34
20	Detusoko	3,21	463,11	6,14	885,83	40,58	5.854,56	50,07	7.223,70	14.427,20
21	Wewaria	3,61	1.057,52	6,49	1.901,19	40,30	11.805,55	49,60	14.529,90	29.294,16
Total Luasan (km²)			5.474,08		12.069,49		69.802,02		121.173,49	
% Terhadap Total Wilayah			2,63		5,79		31,79		58,11	

Source: Ende Dalam Angka Tahun 2018 (Data Olahan Bapeda)

4. Geology

The separation of Ende region, according to the depth of the land is effectively divided into 52,96% area have the depth of land effective in 0-30 cm; and 11,32% have effective land depth for 30-60 cm as well as 30% having the effective depth land for 60-90% , alongside, 5,5% remote area have effective land above 90cm. The characteristic of land in the region dominated with mediteran land, in the form of volcano with the texture of 44,87% of medium soil, 45,46% of rough ground, 9,24 of softground, and 0,43% not in category.

Tabel 2.7. Persentase Luas Wilayah menurut Tekstur Tanah per Kecamatan

No.	Kecamatan	Jenis Tekstur			Total Luas Wilayah (km ²)
		Sedang	Kasar	Halus	
1	Nangapanda	35,13	33,69	31,18	19.031,40
2	PulauEnde	35,28	33,71	31,01	1.021,51
3	Maukaro	33,05	34,19	32,67	21.665,52
4	Ende	50,09	49,91	-	16.499,08
5	EndeSelatan	49,92	50,08	-	1.956,99
6	EndeTimur	49,89	50,11	-	1.963,20
7	EndeTengah	50,14	49,86	-	574,50
8	EndeUtara	49,90	50,10	-	1.751,57
9	Ndona	49,67	50,33	-	9.352,08
10	Ndona Timur	40,64	50,36	-	5.284,18
11	Wolowaru	49,70	50,30	-	6.453,03
12	Wolojita	49,71	50,29	-	3.976,60
13	Lio Timur	49,71	50,29	-	5.392,99
14	Kelimutu	49,63	50,37	-	5.403,18
15	Ndori	49,71	50,29	-	2.670,99
16	Maurole	50,00	50,00	-	15.513,89
17	Kotabaru	50,00	50,00	-	19.970,11
18	Detukeli	50,00	50,00	-	11.228,56
19	Lepembusu Kelisoke	33,42	33,55	33,03	15.088,34
20	Detusoko	33,30	33,56	33,14	14.427,20
21	Wewaria	33,35	33,61	33,04	29.294,16

Sumber: Ende Dalam Angka 2018 (Kantor Pertanahan Kabupaten Ende), data olahan Bappeda

5. Hidrology

Protected forest along the core region, affected to distribution of river basin lands (DAS) and fountains in Ende Region. Several large DAS has founded in Ningapanda River, Nangaba River, Wolowona River, Loworea River, Ndono River, Lowo Lande River, almost every years confronted with flood. The fountain has separated in several region with approximately debit 4-17 liter/second.

Several fountains consists of Woloare, Aekipa, Ae pana, Nangapanda, Ae Ino, Seke Mele, Aewana, Aemuri, Kena Fiko adn Lio Lo'o fountains has utilized by Regional Water Sources Company (PDAM) for the fulfillment water needs for the people in Ende, Nangapanda, Detusoko, Wolowaru and Maurole region. Several fountains with the small debit has used specifically for rural area's water soures.

Tabel 2.8. Daerah Aliran Sungai dan Mata Air di Kabupaten Ende

No	Kecamatan	Nama Sungai (DAS)	Nama Mata Air (debit-liter/detik)	Keterangan
1	Nangapanda	Lowo Nangapanda	Mata Air Nangapanda (10)	PDAM Nangapanda
2	Pulau Ende			
3	Maukaro	Lowo Bengge, Ae Molumbai, Rowo		
4	Ende	Lowo Nangaba		PDAM / IKK Nangaba
5	Ende Selatan			
6	Ende Timur	Lowo Wolowona	Mata Air Aewanda	

No	Kecamatan	Nama Sungai (DAS)	Nama Mata Air (debit-liter/detik)	Keterangan
7	Ende Tengah			
8	Ende Utara	Manungae	Mata Air Woloare (4), Mata air Aemuri (5)	PDAM Kota Ende
9	Ndona	Lowo Wolotopo dan Ngalupolo	Mata Air Ae pana (19), Mata air Aekipa (12)	PDAM Kota Ende dan Ndona
10	Ndona Timur	Lowo Aebai, LowoRia		
11	Wolowaru	Lowo Ae Bara, Lowo Ae hepo	Mata Air Lia Lo'o(7), Seke Mele(-)	PDAM Wolowaru
12	Wolojita	Lowo Aebai		
13	Lio Timur	Lowo Lise		
14	Kelimutu	Lowo Aebara, Lowo Ria	Mata air Moni (4)	
15	Ndori	Lowo Ria		
16	Maurole	Lowo bajo	Mata Air Ae Ino (7)	PDAM Maurole
17	Kotabaru	Lowo Ndondo, Lowo Lande		
18	Detukeli	Lowo Laka, Lowo Pemoria		
19	Lepembusu Kelisoke	Lowo Lise, Lowo Pombo		
20	Detusoko	Lowo Ria	Mata Air Kena Fiko	PDAM Detusoko
21	Wewaria	Lowo Rea		

ber: Ende Dalam Angka 2021

6. Climatology

Ende region have dry tropical climate, with approximately reach the temprature between 22,5-340C, range of rainfall between 0-549 mm/year, with medium stage of rainfall intencity. Total rainfall days occured within 128 days, with rainfall days mostly poured on January. Air humidity in avarage reach 80,90 gr/m3, with approximately humidity on 68,7 gr/m3 and maximum of 89 gr/m3.

7. Land Usage

Land usage in the Ende region directed with regard of Location Mapping Plan, as has regulated in the Region Regulation No. 11, 2011 regarding RTRW Ende Regon 2011-2031 and reconsider result. In general, the usage of land in Ende includes, protected area for 77,669,33 ha (37,95%) and cultivation area for 126,990,72 ha (62,05%), with the specific wide of each land usage described in the table bellow:

Tabel 2.9. Penggunaan Lahan di Kabupaten Ende

NO	Penggunaan Lahan	Luas (km ²)	%
I	Kawasan Lindung	77.669,33	37,95
1	Kawasan Hutan Lindung	31.689,95	15,48
	* Hutan Lindung	24.193,34	11,82
	* Cagar Alam	1.958,24	0,96
	* Taman Nasional	5.538,37	2,71
2	Kawasan yang Memberi Perlindungan Terhadap Kawasan Bawahannya	33.295,46	16,27
	* Kawasan Resapan Air	26.236,67	12,82
	* Sempadan Pantai	1.971,28	0,96
	* Sempadan Sungai	4.484,47	2,19
	* Hutan Bakau (Mangrove)	603,04	0,29
3	Kawasan Perlindungan Setempat	12.683,92	6,20
	* Kawasan Rawan Bencana Gunung Api	390,91	0,19
	* Kawasan Perlindungan Setempat Terhadap Gerakan Tanah	12.293,01	6,01
II	Kawasan Budidaya	126.990,72	62,05
1	Daerah Permukiman	12.935,72	6,32
2	Kawasan Kebun Campuran	14.365,98	7,02
3	Lahan Penggembalaan	9.279,23	4,53
4	Pertanian Lahan Basah	1.935,55	0,95
5	Pertanian Lahan Kering	38.236,64	18,68
6	Hutan Produksi		
	* Hutan Produksi	35.290,94	17,24
	* Hutan Produksi Terbatas	6.150,63	3,01
	* Hutan Produksi Konversi	1.186,03	0,58
7	Pertambangan	7.610	3,72
	TOTAL I+II	204,660,05	100

Sumber: RTRW Kabupaten Ende 2011-2031

8. Potential of Area Development

Development Area potential in Ende region are based on the Ende's region characteristics and directed with the strategy and concept policy of regional spatial structure and spatial location concepts as being assisted in Perda No. 1, 2022 regarding RTRW Ende Region, 2023-2024. Concept of development area in Ende region in accordance of RTRW, includes 5 area, such as:

Gambar 2. 1. Konsep Pengembangan Wilayah Kabupaten Ende Tahun 2023-2024



Sumber: RTRW Kab. Ende Tahun 2023-2024

A. Konsep Struktur Ruang Wilayah

A. Concept of Area Structures

Development of structure area based on the existing data and analysis that have been conducted. Plan of development in the core habitation area relies on the condition of existing, and related policy, and the resulted on gathered analysis:

a. Center Regional Activity Area (PKW) such as central authority area in the Town of Ende

b. Center Local Area (PKL) such Province authority area, under development process on Regional Regulation, that not stated the PKL accuracy in the Regency of Ende. Based on that, the regency government outlined Town area as PKL, below:

1) Town of Wolowaru

2) Town of Maurole

3) Town of Detusoko;

4) Town of Nangapanda

c. Regional Service Center, consists of:

1) Town of Wolojita in the Regency of Wolojita

2) Town of Welamosa in the Regency of Wewaria

3) Town of Ndona in the Regency of Ndona

4) Town of Demulaka in the Regency of East Ndona

5) Town of Woloara in the Regency of Kelimutu; and

6) Town of Ngaba in the Regency of Ende.

d) Environmental Service Central, consists of :

1) Town of Maubasa in the Regency of Ndori

2) Town of Maukaro in the Regency of Maukaro

3) Town of Natuneso in the Regency of East Lio

4) Town of Kotabaru in the Regency of Kotabaru

5) Town of Watunggere in the Detukeli Regency

6) Town of Peibenga in the Lempebusu Kelisoke; and

7) Town of Rendoraterua in the Region of Ende Islands.

With the above Settlement System, Ende Regency can develop V (five) Development Areas, as follows:

a. Development Area I

In the development area, includes subdistrict of Ende, Central Ende, South Ende, East Ende and South Ende with the central of WP in the subdistrict of Central Ende, with the major activities such as:

- 1) The central of government in regional level
- 2) The central of trade in regional level
- 3) The central of education in regional level
- 4) The central of health services in regional level
- 5) The central of transportation services in regional level.

Specific potentials in these region is the Bung Karno site object, and legacy of Flores monument, city garden, and beaches, mountains and culinary spots, that will developing as icon of Tourism in Ende Towns.

b. Development Area II

The development area consists of subdistrict of Detusoko, Detukeli, Lepembusu Kelisoke, East Ndona, with the central WP in the subdistrict of Detusoko, that directed with central activities, such as: tourism, agriculture and mining. The specific potentials in this area includes: rice fields, with the unique harvest scheme (leader fields), Detusoko geyser spot, development household fruits beverages businesses, traditional group area in Wolopoto and Wologai, as well as Mumi in Wolowagi, subdistrict of Detusoko. The agriculture and farming can be enhanced with this area with the agropolitan concepts such as, vegetables and fruits, biopharmaceutical plantations (ginger), cashew, candlenut. There was potential of Geothermal Power Electricity (PLTP) in Mutubusa, Sokoria, in sub-district of East Ndona.

c. Development Area II

The region with development area includes, the sub-district of Wolowaru, Wolojita, Kelimutu, East Liu, and Ndori, with the central WP in Wolowaru sub-district that has the direction of activities in agriculture, tourism, industry and mining. The specific potentials in the region are the National Garden of Kelimutu, with the three unique lake colors, supported with the traditional villages and weaving (tenun) with special ties and souvenirs industry, and the enhancement of eco-tourism in the surrounding area of National Kelimuti Garden, as well as the traditional market in Nduaria, in sub-district of Kelimutu. In the industry sector, the possible enhancement is the industry conduct of mete beans, kakaos, and tomatoes. The plantation possibilities that could be enhanced are coffees and cacaos

d. Development Area VI

This development area, includes subdistrict of Nangapanda, Ende Islands, and Maukaro with the central WP: subdistrict of Nagapanda, that has mainly directed development in tourism, agriculture (estates), mining, fishery, and transportation. The specific potentials in the region have the prospect in green stones (Zeolit), in the coast area of Nangapanda sub-district, agro-industry based on fisheries and marine product management, as well as the tourism spot in Portugal monumen in Ende Islands. Agriculture and farming sector that can be developed in this region is kakaos, coffees, cocounts, cloves. The area surroundings rice fields in Maukaro sub-districts can be developed as the central of production rice fields in Ende's regency. In the tourism sectors, the enhancement can be occurred in beaches spots of Jaga Po Kobaleba Village, Maukaro Beache, and Alam Tiwu Lewu in Kebirangga Village, subdistrict of Maukaro

e. Development Area V

This area includes, sub-district of Maurole, Wewaria, and Kota Baru with the central WP in the sub-district of Maulore. The directed focused activities in this area are mining industry, fishery, agriculture and several industries. The specific potention such as rice fields with the technic of irrigation are compatible, cashew, and the potention of farming ehnacement in cows, buffalos, horses. In the sector of tourism are developed in beach of Enrara and Maurole, as wella s lake of Alam Tiwusora and Lake of Bou. This area have potentials in the development of industry bases on farming and agriculture, as the competent suply of electric energy (PLTU Ropa) and the national strategic pathways in Pantura Flores.

B. Concept of Area's Pattern

The concept of area are based on the policy of development as well as the policy of layout area, currently has been designed with the result of lands availability. Although, there is concepts of Area's Pattern that have been developed such as:

- The decision of protected area according to the laws, such as the Minister of Environment Decree regarding the area of protected forest and the area of national garden, along with the Governor or Regent Decree regarding cultural heritage area or traditional/cultural forest. Despites, for the protected area, the decided location has relies on the regulation and the existed physical avaiiability.
- For the fulfillment of cultural heritage area, also based on the current laws and the result of the analysis of lands availability and the needs of area for upcoming 20 years.

The development of potential area in the Ende regency align with the National Development Area Regulations, in NTT Province, as well as Sikka regency and direct border sub-district Nagekeo, such as:

a. In the national level, Ende city is the Central of Area's Activities, with the supported regulation: Soekarno Street, Katerdal Street, Boarder City of Ende-Detusoko, Ahmad Yani Street, Gatot Subroto Street and Kesehatan Street;

b. Construction of gathered harbour, and consturction of transit harbour.

c. Airport for gathered for thertiary level includes Hasan Eroebesman Airport in the Ende regency.

d. The construction adn development of Electric & Power Generator

e. Development and enhacement of the priority sector such as forests, industries, fishery, argculture geothermal, tourism and farming.

f. Development of Ende-Kelimutu National Tourism Strategic Area (KSPN)

b. In the regional level of NTT Province, Ende cities included in the system of Central Region Activity (PKW), with the focus of development in:

a) The city of Ende has included in the central system activities of PKW

b) The development of Terminal B

c) Transportation netowrk with rivel, lakes and crossover includes: plan of harbour construction includes Ende harbour between the crossover of Ende and Surabaya.

d) Plan of sea network transportation system, includes

- Gathered Harbour: Ippi Harbour in Ende Regency

- Feeder Harbour: Maurole and Maurole in subdistrict of Maurole, Ende Regency

e) Plan of air transportation system

- Airport for gathered purposes tertiary level includes, Hasan Aroeboesman Airport in Ende regency.

f) The Plan of Energy System

- PLTB Sukoria in Ende Regency with the capacity of 2x2 MW;

- PLTU Ropa in Ende Regency with the capacity of 2x7 MW

- Garuk Main Substantion in Ende Regency with capacity of 20 MW and voltage of 70/20 KV

- Ropa Main Substantion in the Ende Regency with the capacity of 10 MW and the voltage of 70/20 KV

- Network transmission with 70 KV electricity power connects PLTP Sikoria ke Ropa in Ende regency, PLTU Ropa kelnocomer (Ende - Maumere), Ende - Maumere, Bajawa

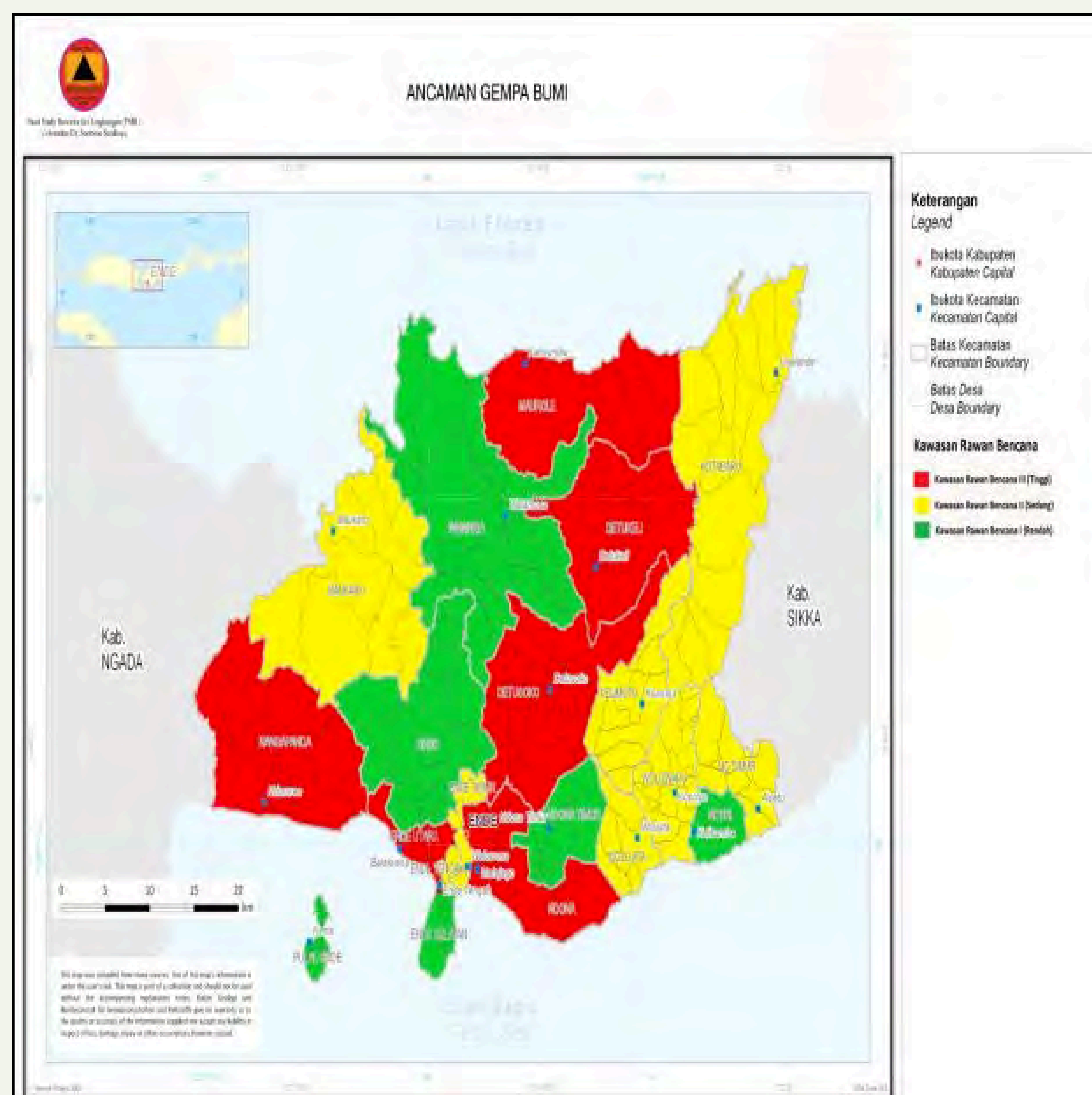
c. **The development regulation in Sikka Regency**, in the sub-district of Mego has appointed on the production forest development, alongside with Magepanda with the direction on the development in agriculture and farming sector (fields herding), as the policy of development in the region of East Lio and Kotabaru sub-districts.

d. **The policy of area's development in Nagekeo area**, in the Wolowae sub-districts, directed with the protected forest area in the Tendatoto Village, and the area of dry farm fields, moist farm fields, and mixed fields in Tendakinde Village, that has adopted the policy of development in Nangapanda and Maukaro sub-district.

Natural Disaster Prone Areas

a) Earthquake

Ende Regency has known as the earthquake prone area in Indonesia. This area has the fast population growth, as well the infrastructure especially in Ende city and surroundings. Several earthquake that has destructive effect in this area are Maumere in year of 1989 and 1992. This earthquake in Ende regency has caused by subduction edges zones factor, active fault lines stroking against each other. The high intensity destruction of this earthquake in the scale of VIII and IX (MMI) Scale.



Tabel 2.10. Zonasi Ancaman Gempa di Kabupaten Ende

Zonasi	Wilayah Kecamatan	Gambaran Bahaya Gempa Bumi
Bahaya Gempa sangat Tinggi	Ende, Ndona, Detusoko, Wewaria, Maurole dan Detukeli	Goncangan tanah kuat, patahan gempa, gerakan tanah(jatuhan tanah dan batuan), retakan tanah dan likuifaksi
Bahaya Gempa Tinggi	Nangapanda, Maukaro, Ende dan Ende Utara	Goncangan tanah kuat, patahan gempa, gerakan tanah (jatuhan tanah dan jatuhan batuan, jatuhan bahan rombakan, luncuran rombakan), retakan tanah dan likuifaksi
Bahaya/kerentanan gempa Sedang	Maukaro, Ende, Detusoko, Wewaria, Maurole, Detukeli dan Kotabaru	Goncangan tanah sedang, retakan tanah dan patahan gempa, serta likuifaksi
Bahaya Gempa Sedang-Rendah	Ende Utara, Ende Timur, Ende Tengah, Ende Selatan, Ndona, Ndona Timur, Wolowaru, Wolojita, Lio Timur, Ndori, Detusoko, Kelimutu, Wewaria, Maurole, Kotabaru	Goncangan tanah, gerakan tanah (jatuhan batuan, rayapan tanah, gliciran rombakan)
Bahaya Gempa Rendah	Nangapanda, Maukaro, Ende, Ende Utara, Ende Timur, Ende Tengah, Ende Selatan, Ndona, Ndona Timur, Wolowaru, Wolojita, Lio Timur, Ndori, Detusoko, Kelimutu, Wewaria, Maurole, Kotabaru.	Goncangan tanah, retakan tanah dan gerakan tanah

Sumber : RTRW Kabupaten Ende 2011-2031

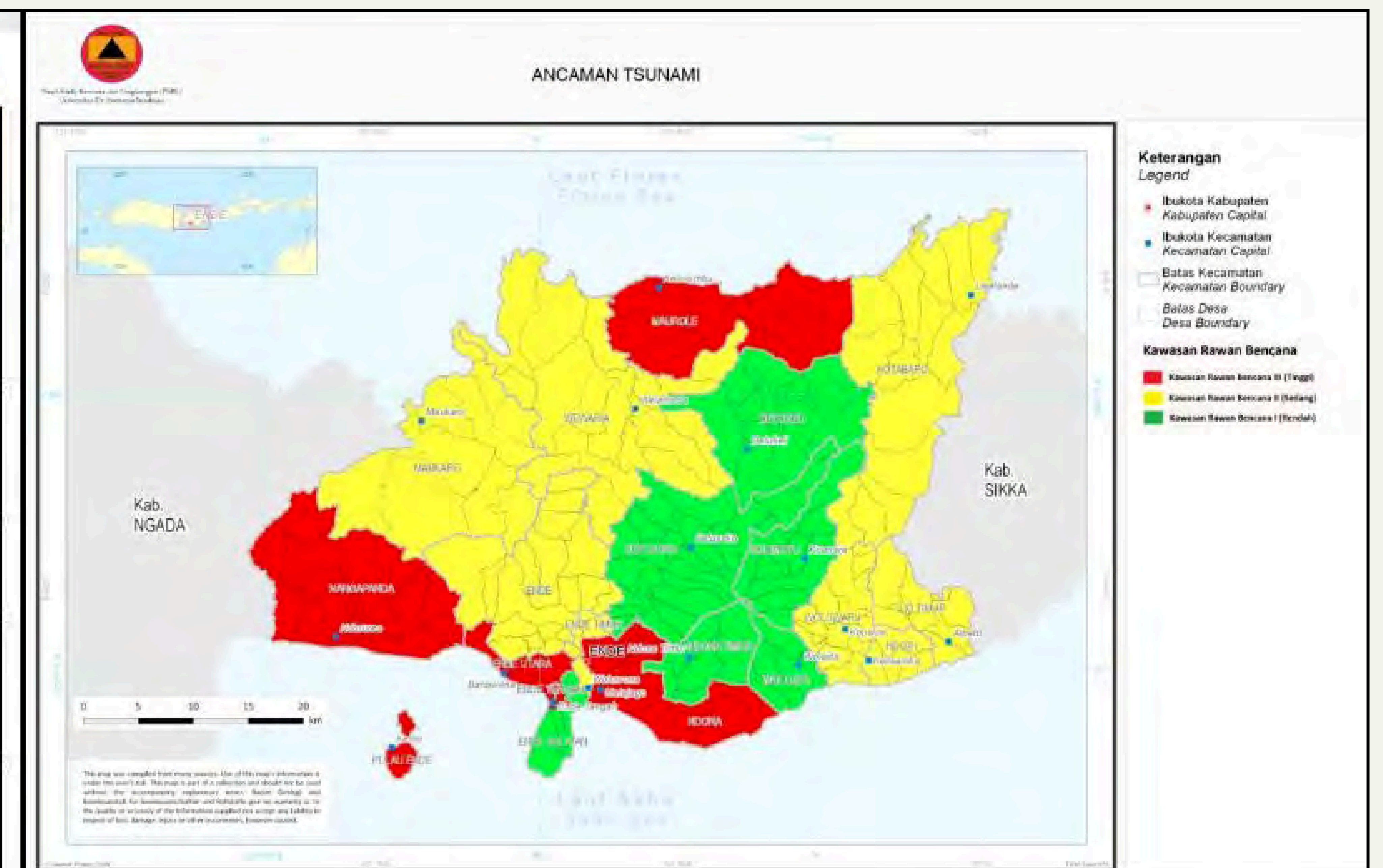
b. Tsunami and Tidal Wave

The potential of tsunami and tidal wave has occurred for almost all the coastal beach of Ende regency. Related tsunami has its correlation of high intensity of earthquake in this regency. The area that have disaster of tsunami and tidal wave in the region such as:

Tabel 2.11. Wilayah Ancaman Tsunami/Gelombang Pasang di Kabupaten Ende

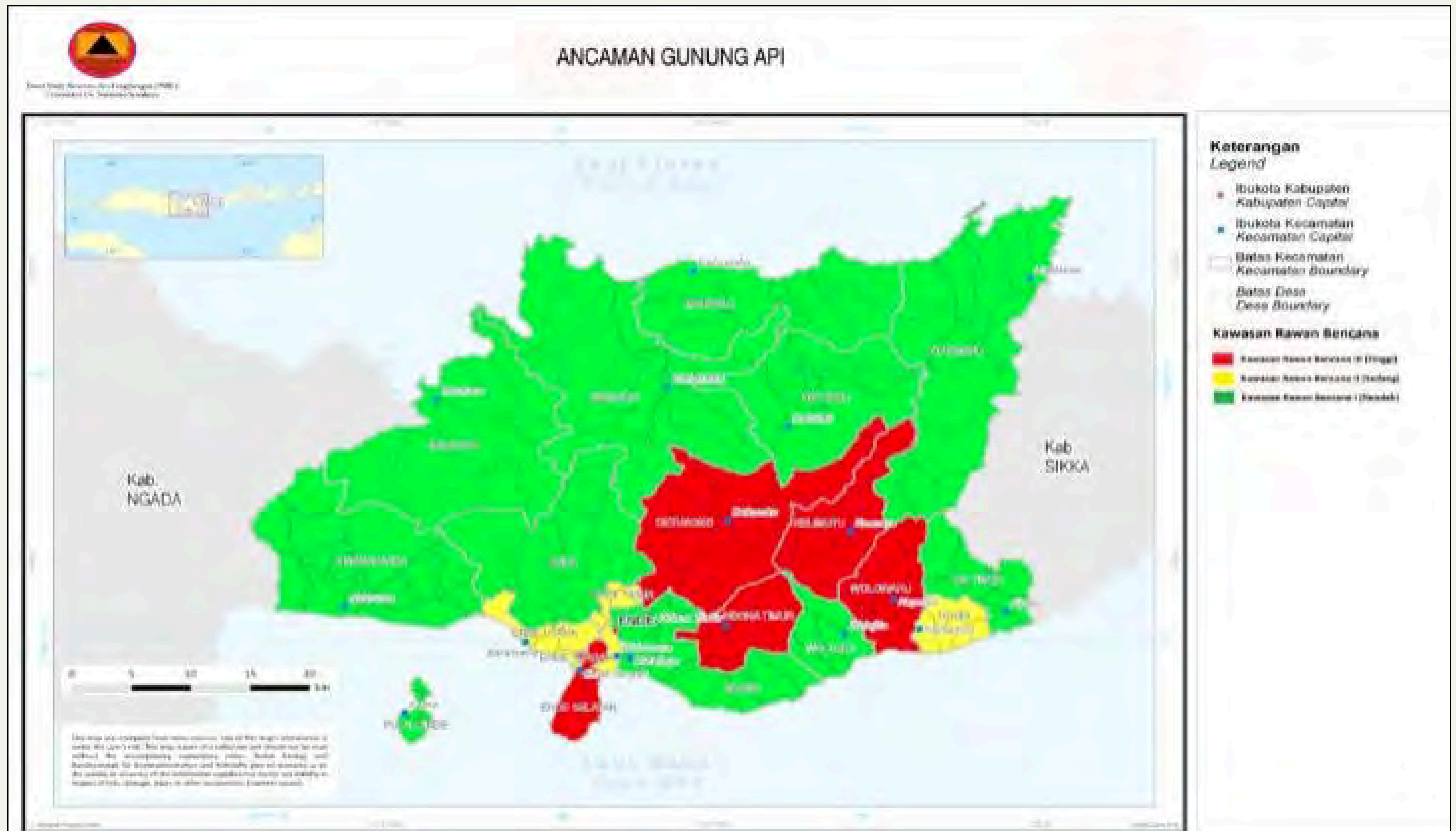
No	Kecamatan	Desa/Kelurahan
1	Nangapanda	Desa Bheramari, Raporendu Ondorea, Ondorea Barat, Kelurahan Ndorurea, Ndorurea 1, Nggorea, Penggajawa.
2	Pulau Ende	Desa Puutura, Rorurangga, Rendoraterua, Aejeti, Ndoriwoy Redodori dan Paderape
3	Ende	Desa Rukuramba
4	Ende Selatan	Kelurahan Rukun Lima, Kelurahan Mbongawani, Tetandara, Paupanda dan Kelurahan Tanjung
5	Ende Utara	Kelurahan Kotaraja, Kotaratu, Desa Borokanda, dan Desa Gheogoma
6	Ende Timur	Kelurahan Mautapaga
7	Ndona	Desa Nanganesa, Wolotopo, Wolotopo Timur, Ngalupolo, Reka, Nila, Desa Kekasewa, Ngaluroga
8	Wewaria	Desa Aemuri, Desa Mukusaki, Desa Ekoae, dan Desa Wewaria
9	Maukaro	Desa Magekapa, Desa Kobaleba, Desa Kebirangga, dan Desa Nabe
10	Maurole	Desa Aewora, Watukamba, Ranakolo, Ranakolo Selatan, Maurole, Mausambi, dan Keliwumbu
11	Kotabaru	Desa Loboniki dan Desa Kotabaru
12	Wolowaru	Desa Mbuliwaralau
13	Lio Timur	Desa Hobatua
14	Ndori	Desa Maubasa, Desa Maubasa Timur dan Desa Serandori

Sumber: RTRW Kabupaten Ende 2011-2031



c. Volcanic Eruptions

There was two volcanos in Ende Region, such as Iya, and Kelimutu, such gives threat to surroundings environments includes South Ende, Central Ende, East Ende, East Ndonga, Detusoko, Walowaru, Kelimutu and Wolojita.

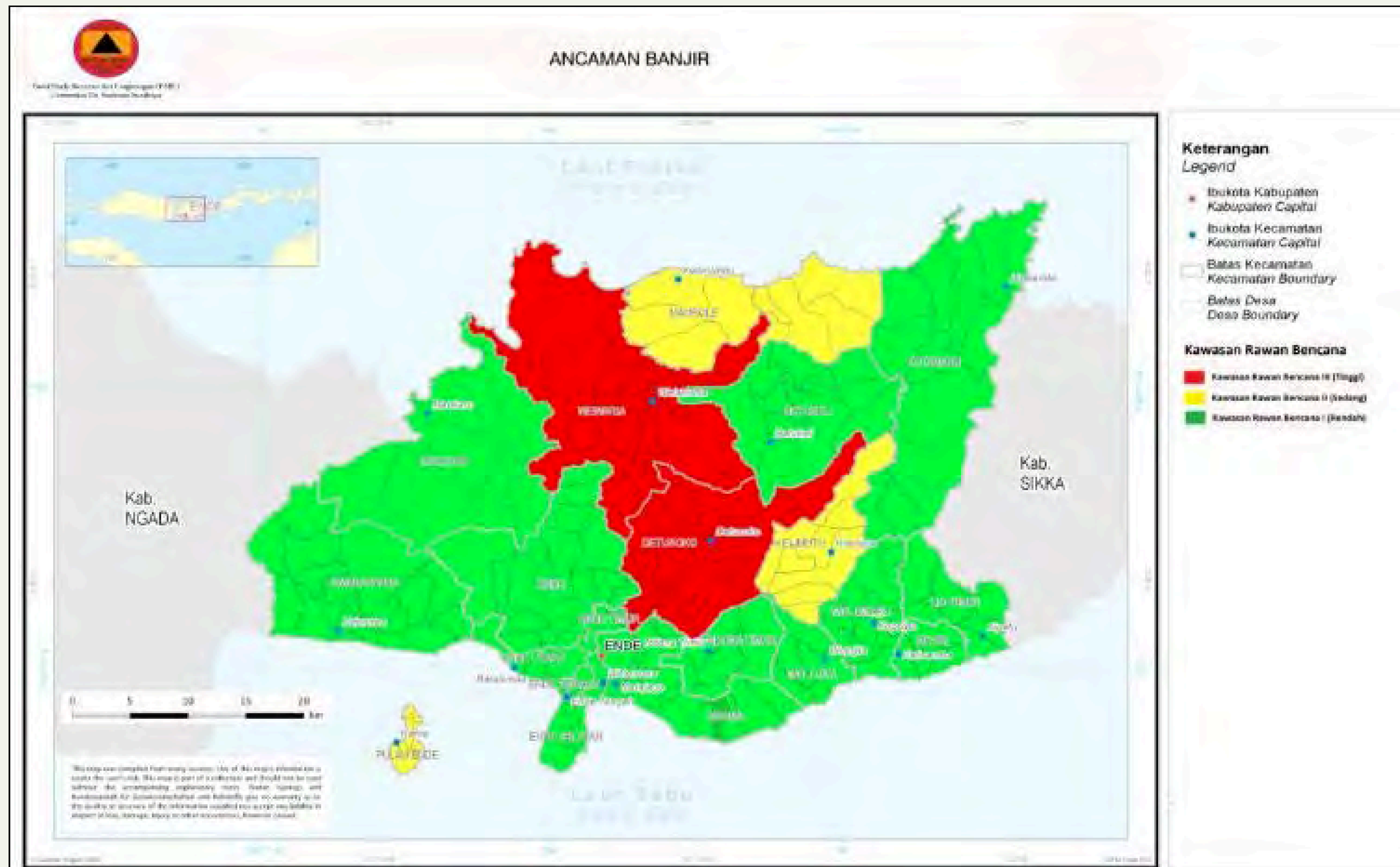


d. Debris Flow

Debris flow is the mix of water and lands, descending chunks of rock and gravel slide through the gaps flow. The cause of debris flows is always triggered with the hard rainfall follows by the ravine path, tributaries and flow basis. With the area topography conditions and have manys ravine path, tributaries and flow basis, often occured in subdistricts of Nangapanda, Ende, South Ende, North Ende, East Ende, Ndonga, Detusoko, Wewaria, Maukaro, Maurole, Detukeli, Kotabaru, Wolowaru, Kelimutu, East Lio and Ndori.

e. Drought

Drought occured with the increased water debit above the normal capacity that beyond the its norma flows (rivers and tributaries) caused by the high intencity of rainfall and effected the area surroundings. The often effected area displayed in the picture bellow. Several river has potential of drought, especially in Wolowuna, Nangaba, Nangapanda, and Loworea River.



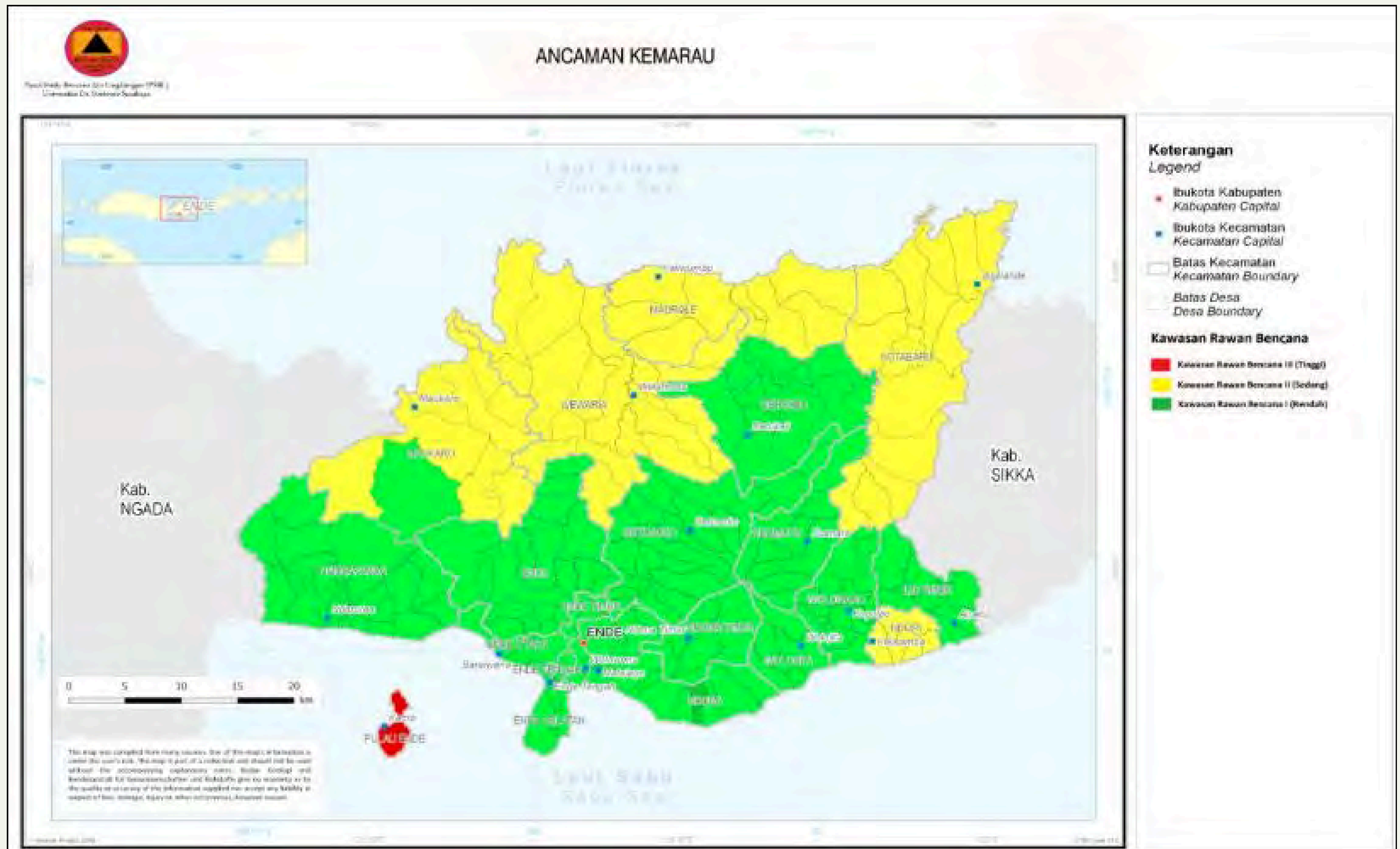
f. Landslide

Landslide has occurred with the slopes gestures in the form of rock, debris, soil, or mixed materials, moving out or down from hillside. The area that have potential of landslide are Nangapanda, Ende, Central Ende, North Ende, East Ende, Ndonga, East Ndonga, Wewaria, Maukaro, Detukeli, Kota Baru Wolo, Kelimutu, Wolojita, Lio Timur and Ndori subdistricts.



g. Drought

Drought often occurring in the area of Ende regency which as the semiarid area with short rainfall season and long summer season. The rainfall can occur between 3-4 months (December- March) and summer season occur on 8-9 monts (April- November). Based on analysis, sub-district with high droght effect is Ende Island, sub districts with medium drought effect are Wewaria, Makaro, Maurole, Kotabaru & Ndori, the sub-district with low drought effect are Nangapanda, Ende, South Ende, North Ende and Ende subdistrict.



Standard Criteria for Drinking Water Planning

1. Standards of Water Needs

According to the module for water needs projection and identification of fluctuating water usage standards, there are two types of standards for clean water needs:

- If the level of existing water consumption is lower than the base standard, then use the standards according to the current measurements
- If the level of existing water consumption is equal to or higher than the base standard, then use the existing water consumption numbers
- On areas that do not have a SPAM system, use the standards according to the current measurements

Non-domestic needs standards are set around 15% of domestic usages in accordance with Ministry Regulation number 18/2007 or according to RSNO T-01-2023 article 52 regarding Plumbing Planning Regulations or matched with the needs of the specific area.

As an effort to plan a network for clean water distribution within a territory, there were a number of activities held by the authority which included:

- Taking stock of and studying the existing and potential clean water sources within the particular area
- The conditions of current water distribution networks (which includes the severity of pipe leakages that are in the distribution)
- Calculating the level for clean water needs based upon population projection numbers within residential areas
- Conduct a feasibility study, which comprises of technical, economical, financial, and environmental feasibilities for the development of water sources and the development of a distribution system for clean water.

Analysis for providing clean water encompasses the usage of clean water by the people with water distribution pipes and those without pipes.

- Clean Water Sources
- Clean Water Capacities
- Quality of Clean Water
- Quantity of Clean Water
- Continuity of Clean Water
- Distribution Systems
- The number and types of connections
- The number of people accommodated
- The level of service

The existing data needed to conduct an analysis for clean water provisions through non piping systems includes.

- Water Sources (Wells, Rain Water, Water Springs, etc.)
- Existing infrastructures (Water pumps)
- Water quality
- Water quantity
- Continuity of service

Water needs are calculated based on the upcoming 5 year population projection numbers and the average use of each people after 20% addition to account for loss of water (leakage). The water needs projection is used for determining.

- Water sources that can keep up to both quality and quantity requirements.
- Continuity
- Water distribution capacities
- Reservoir capacities
- Pipe diameters for both transmission and distribution

Water needs are based upon services provided by domestic connections and non-domestic connections by the following calculations.

1. Calculate Water Needs.

$$Q = P \times q$$

$$Q_{md} = Q \times f_{md}$$

Q_{md} = Water Needs (L/day)

q = The individual's daily water needs (L/individual/day)

P = The number of people being served according to the planning year (person)

f_{md} = Maximum factors (1.00-1.15)

Domestic Needs

Domestic needs are water needs that comes from household and social usages. The domestic standard for usage and consumption is based upon the average daily usage of water needed by each person. The standard for domestic water consumption can be known by observing the table below

Tabel 4. 1 Tingkat Konsumsi/Pemakaian Air Rumah Tangga Sesuai Kategori Kota

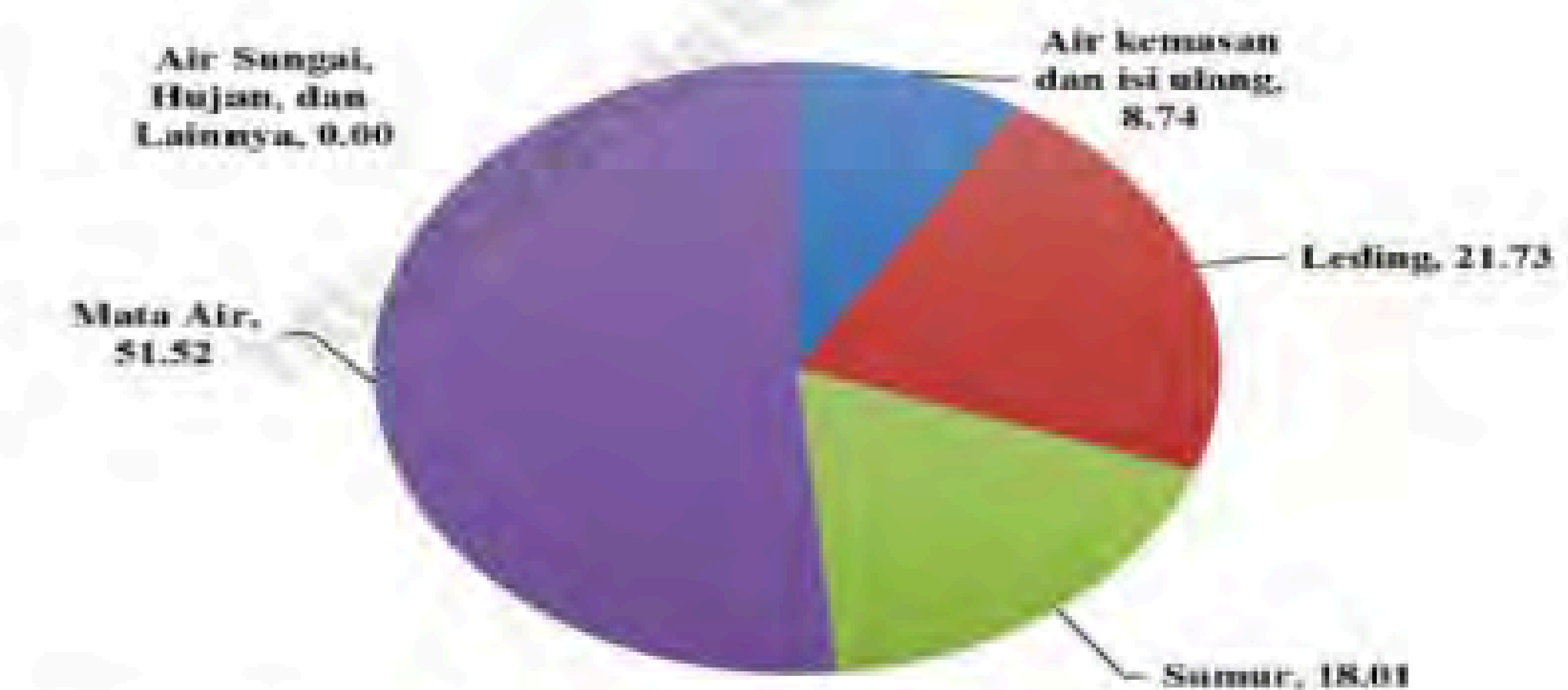
No.	Kategori Kota	Jumlah Penduduk	Sistem	Tingkat Pemakaian Air
1.	Kota Metropolitan	>1.000.000	Non Standar	190
2.	Kota Besar	500.000 – 1.000.000	Non Standar	170
3.	Kota Sedang	100.000 – 500.000	Non Standar	150
4.	Kota Kecil	20.000 – 100.000	Standar BNA	130
5.	Kota kecamatan	<20.000	Standar IKK	100
6.	Kota Pusat Pertumbuhan	<3.000	Standar DPP	60

Sumber: SK-SNI 7831:2012 Perencanaan Sistem Penyediaan Air Minum

F. Air Bersih

Di antara sekian banyak jenis sumber air, mata air merupakan sumber air yang paling banyak digunakan sebagai air minum oleh rumah tangga di Kabupaten Ende. Pada Tahun 2019, rumah tangga yang memenuhi keperluan air minumannya berasal dari sumber mata air sebanyak 51,52%, diikuti sumber leding 21,73%. Selain mata air, leding, sumur juga banyak digunakan di Kabupaten Ende sebanyak 18,01%, dan rumah tanggadengan penggunaan air kemasan dan isi ulang sebesar 8,74%.

Gambar 2.3 Persentase Rumah Tangga menurut Sumber Air Minum Tahun 2019



Sumber data: BPS Ende, Inkesra Kab. Ende Tahun 2019

General Overview and Condition of Communal Drinking Water and Sanitation in Ende Regency

The Analysis of Household Needs for Water

The data for household water needs encompasses the type of water sources used for the entire household needs i.e. drinking and cooking, the individuals' total daily water usage, the types of drinking water sources, distance and time needed to get to the water source, ease of access to water sources, people who regularly collect water from the source, how the water is processed within the household, the storage of drinking waters, and access towards drinking water.

The grouping by the number of daily household water usage per person refers to the Hygiene Related Public Health Risk Criteria used by the World Health Organization. The individuals' total daily water usage is the number of total daily household water usage divided by the number of people within the household. The water usage number is then divided into multiple criteria.

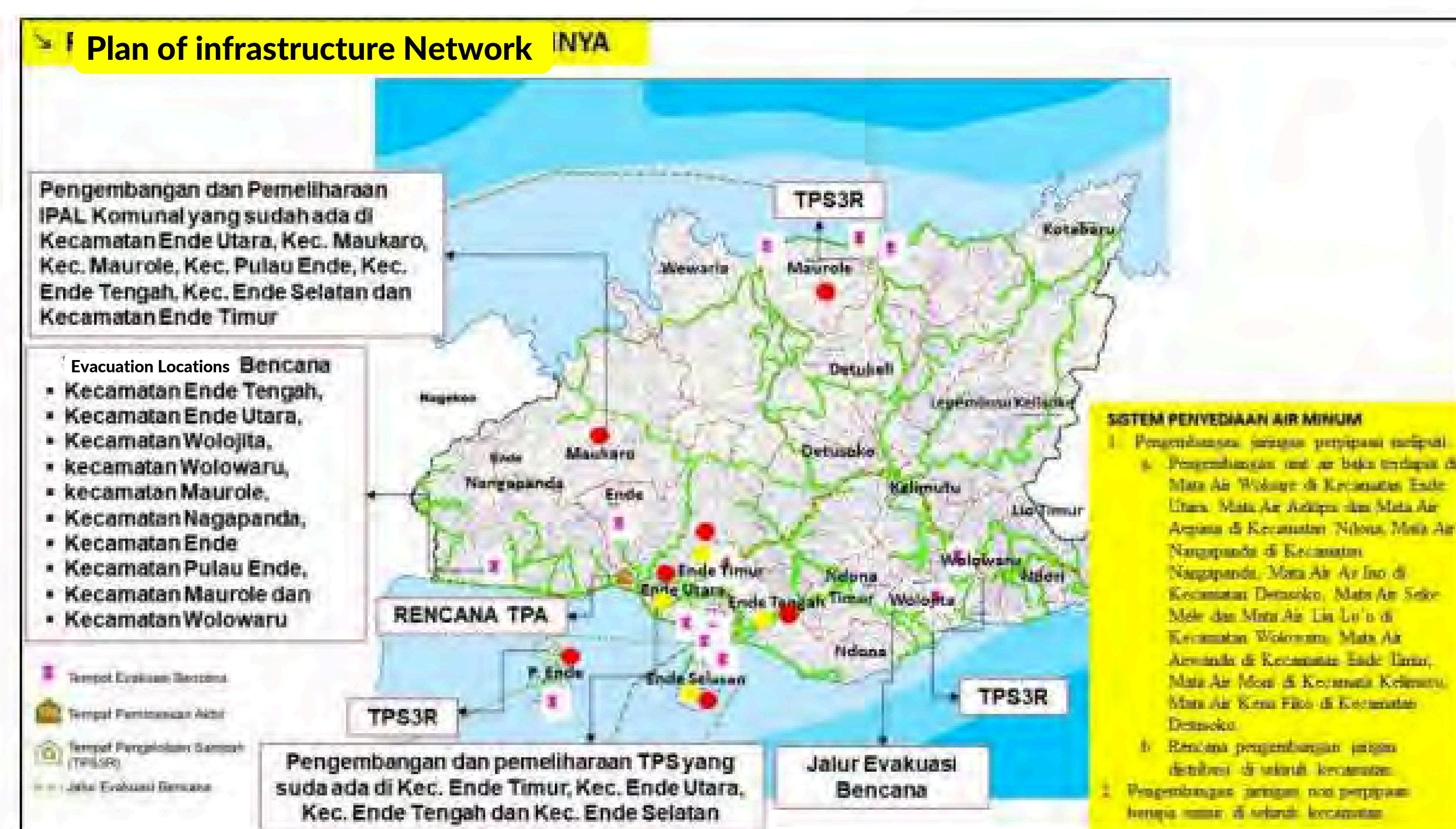
- Water usage below 5L/person/day, signifies zero access
- Water usage between 5-19.9L/person/day, signifies low access
- Water usage between 20-49.9L/person/day, signifies basic access
- Water usage between 50-99.9L/person/day, signifies medium access
- Water usage greater than or equal to 100L/person/day, signifies optimal access

6. Plan of Infrastructure Network

The development of infrastructure network become the priority that delivered such as:

- The construction and maintenance of IPAL Komunal that has established in North Ende region, Maukaro, Maurole, Ende Island, Central Ende, South Ende, and East Ende subdistricts
- Drinking Water Supply System (SPAM), with constructing the network of pipes and development of not pipes network such draw well in every sub-districts.
- Enhancement and maintenance of TPS that has established in East Ende, North Ende, Central Ende and South Ende sub-district.
- Building infrastructure of TPA in Ende region
- Building infrastructure of TPS34 in the sub-region of Wolowaru, Maurole, Ende Island;and
- The provision of disaster evacuation route.

Picture 2. 15 Plan of Infrastructure Network



2.9 Partnership between Government and BUMN/D, NGO, Private Sector

In accordance of governance, development and community empowerment, Government of Ende Regency builds partnership with BUMN/D, NGO and private sectors.

Efforts in building this partnership in order to solve the gap of regency's development funding with the limited fiscal capacity, that has not able to funding whole programs, activities and sub-activities of public service. Ende development has stakeholders support in implemeneting its programs.

Since, 2014 untull 2021, listed 12 company/BUMN/ and privates, has conducted several programs and CSR activities in area of Ende regency, such as:

1. PT .Pertamina
2. PT. PLN Central
3. PT. BRI TBK
4. NTT Bank Branches
5. PT Pelindo
6. PT. BNI Branch Ende
7. PT. Taspen Branch Ende
8. Mandiri Bank Ende Branch
9. PT. Nippon Paint Indonesia
10. PT. Pegadaian (Persero)
11. PT Suzuki Ende
12. PT. Alfa Mart

With these BUMN details, the government services performance of Ende region, has displayed in table below:

TABEL 2. 8. THE ACHIVEMENT OF GOVERNMENT PERFORMANCES IN INDICATOR PROGRAM 2020-2022

NO.	DESCRIPTION	ACHIVEMENT (%)		
		2020	2021	2022
1	Percentage of Good Roads Condition (>40 Km/Hour)	-	33,19	44,28
2	Percentage of Good Condition in Regency Irrigation	38,66	39,30	53,73
3	Percentage of Retaining Wall Construction in the Connection Roads and Habitation	26,08	33,75	46,50
4	Proposition of Households with Sustain Access towards Decent Water, Town and Sub-districts.	90,83	92,40	95,28
5	Percentage of Good Condition Drainase/Construction of Unclogged Water Fows.	67,39	71,71	53,64
6	Procentage of Plans, Functions and Management of Area Arrangement based on Applied Regulation	-	104	96,54
7	Extensive of Open Green Public Area (RTH) for 20% From the Wide of Townhood.	36,08	36,08	1,40

SPAM EKSISTING MANAGED BY PERUMDA TIRTA KELIMUTU

NO	SPAM NAME	SPAM SOURCE	LOCATION/ SERVICE AREA	RESERVOIR	SR	FUNCTIONS
1.	IKK Wolowaru	S. Lowo Moke	Sub-district Bhokasape, Lisedetu Village, Nakambara Village	100	327	OPERATED
2.	IKK Maurole	MA. Ae Ino	Maurole, Mausambi, Watukamba Villages	100	359	OPERATED
3.	IKK Detusoko	MA. Kena Fiko		N/a	93	HALF OPERATED
4.	IKK Nangaba	S. Tiwu Kipi	Borokanda, Raterua, Embu Ndoa, Rukuramba Villages	N/a	371	HALF OPERATED
5.	SPAM Moni	MA. Muruk eba	Koanara, Waturaka Villages	100	47	HALF OPERATED
6.	IKK Lio Timur	S. Fatamari	Fatamari, Wolowaro (Detubelo backwoods) Villages, Sub-districts of Watuneso, Wolosambi and Desu Detu Pera Villages		325	OPERATED
7.	IKK Nangapanda	Sumur Bor Ko'o Fai		100	719	OPERATED
8.	SPAM P. Ende	Air Laut Sistem SWRO				
9	SPAM Induk	Sungai Wolowona, Mata air Aepana, Mata Air Aekipa dan Mata Air Woloare	Sub-districts of East Ende, South Ende, Central Ende & North Ende, and Ndoa		9,933	OPERATED

SPAM MANAGMENT INSTITUTION NON GOVERNMENT (PERUMDA)

SPAM NON-GOVERNEMENT (PERUMDA) Ende Regency has operated by POKMAS (Society Group), such as KPSPAM, Komite Air / Water Committe, and BUMDES.

Area of provision water non-government in 2022 reached 22,924 KK, devided in:

- 1) Pipe Network, 6.899 KK
- 2) Non Pope Network, 12.970 KK
- 3) Direct Pickup to fointain 3.055 K

ACCOMPLISHED OF WASTE WATER SERVICES

2023

Budget		Accomplished Waste Water (accumulated until 2023)	
Waste Water Budget, 2023	Percentage Budet of Waste Water towards total Regional Spending (%)	Decent (%)	Secure (%)
10.024.790.000,00	0,84%	72,11%	7,91%

target **2024**

BUDGET CEILINGS WASTE WATER 2024	*Target of Waste Water in 2024 (accumulated until 2024)	
	Decent (%)	Secure (%)
8.188.175.000,00	73,96%	8,62%

Capaian Layanan air Limbah

PROGRAM PENGELOLAAN DAN PENGEMBANGAN SISTEM AIR LIMBAH 2013 s.d 2022

No.	Program Infrastruktur Bidang Sanitasi	JUMLAH ANGGARAN	Sumber Dana	Target Output		Target Outcome				Tahun
				JML/THN	Sat.	Kuant.	Sat.	Kuant.	Sat.	
1.	PROGRAM PENGELOLAAN DAN PENGEMBANGAN SISTEM AIR LIMBAH	54.636.440.300	DAK/APBN	3.154	Unit	30.385	Jiwa	6.014	KW	2013 s.d 2022

Tabel : PROGRAM PENGELOLAAN DAN PENGEMBANGAN SISTEM AIR LIMBAH 2013 s.d 2022

No.	Jenis Prasarana	Nilai Kontrak	JUMLAH DAK /TAHUN	Sumber Dana	Target Output		Target Outcome				Tahun
		(Rp)			JML/THY	Sat.	Kuant.	Sat.	Kuant.	Sat.	Pembangunan
1	MCK++	360.300.000	1.060.910.000	DAK	3	Unit	180	Jawa	32	KK	2013
2	MCK++	468.060.000	1.704.048.000	DAK	4	Unit	200	Jawa	60	KK	2014
3	MCK++	350.352.200	2.288.077.700	DAK	6	Unit	150	Jawa	30	KK	2015
4	Tangki Septik Komunal (10 - 20 KK)	94.012.000	2.405.572.600	DAK	13	Unit	50	Jawa	18	KK	2016
5	Tangki Septik Komunal (10 - 20 KK)	388.000.000	3.512.600.000	DAK	36	Unit	200	Jawa	48	KK	2017
6	Tangki Septik Komunal (5 - 10 KK)	504.000.000	4.872.000.000	DAK	58	Unit	300	Jawa	60	KK	2018
7	IPAL Komunal 50 SR	448.840.000	2.248.200.000	DAK	5	Unit	250	Jawa	50	KK	2018
8	MCK Kombinasi IPAL Komunal 25 SR	468.350.000	7.403.600.000	DAK	16	Unit	125	Jawa	25	KK	2018
9	Tangki Septik Individual (50 KK)	468.350.000	6.508.900.000	DAK	700	Unit	250	Jawa	50	KK	2018
10	MCK++	427.500.000	855.000.000	DAK	2	Unit	300	Jawa	60	KK	2019
11	Peningkatan pipa pengumpul dan SR untuk kabupaten/kota yang telah memiliki SPALD-T	141.075.000	428.450.000	DAK	82	SR	135	Jawa	27	KK	2019
12	MCK Kombinasi IPAL Komunal 25 SR	468.860.000	2.213.160.000	DAK	6	Unit	125	Jawa	25	KK	2019
13	Tangki Septik Komunal (5 - 10 KK)	280.000.000	1.600.000.000	DAK	20	Unit	175	Jawa	35	KK	2020
14	Tangki Septik Individual (50 KK)	250.000.000	3.065.000.000	DAK	613	Unit	250	Jawa	50	KK	2020
15	Toilet individu + Tangki Septik individu	320.000.000	3.500.000.000	APBN		Unit	130	Jawa	23	KK	2020
16	Tangki Septik Individual (50 KK)	360.000.000	5.621.000.000	DAK	803	Unit	250	Jawa	50	KK	2021
17	Tangki Septik Individual (50 KK)	371.728.000	5.190.916.000	DAK	782	Unit	280	Jawa	56	KK	2022
TOTAL			54.838.440.300		3.154		30.365	Jawa	6.014	KK	

1. Community-based Total Sanitation in Ende Regency - Ende Regency Health Department

Community-based Total Sanitation (STBM) is an approach to change hygiene and sanitation behavior through community empowerment with motivating methods. The STBM program has outcome indicators and output indicators. The STBM outcome indicator is the decrease in the incidence of diarrheal diseases and other environment-based diseases related to sanitation and behavior. Meanwhile, the STBM output indicators are as follows:

- a. Every individual and community has access to basic facilities so as to realize a community that is free from any open defecation.
- b. Every household must implement safe drinking water and food management in the household.
- c. Every household and public service facility in a community (such as schools, offices, restaurants, health centers, markets, terminals) should have hand washing facilities (water, soap, hand washing facilities) so that everyone washes their hands properly.
- d. Every household must manage its trash properly
- e. Every household must manage its waste properly.

In Ende regency in 2021 out of 279 total villages and sub-districts there are 219 villages and sub-districts that have implemented STBM or 78.5%. While the total number of STBM villages is 99 villages, this number has not changed from 2015. The number of villages/kelurahan that implement STBM and STBM Village from 2014 has increased significantly this can be seen in the following figure. Villages/families can be considered STBM if they have fulfilled one of the pillars mentioned above, which is stated in a declaration by the community and signed by the head of the administrative area.

2. Public Places (TTU) that Meet Health Requirements

Public places are public places or public facilities used for communal activities and organized by the government/private sector or individuals, including public markets, schools, terminals, airports, stations, ports, hotels and other public places. Public places that meet health requirements means that they meet physiological, psychological requirements and can prevent transmission of disease between users. The total TTUs in 2021 that have met the requirements in Ende Regency are 631 or 86.7% of the 728 total TTUs available.

This achievement decreased slightly compared to 2020 which was at 100% due to the addition of other public places (TTU).

3. Clean Water Facilities:

Access to clean water and sanitation is one of the core fundamentals of a healthy community. Clean water and proper sanitation are critical elements that support human health. Sanitation is related to environmental health, which affects the health status of the society. Poor sanitation conditions will have a negative impact on many aspects of life, ranging from the degradation of the quality of the society's living environment, contamination of drinking water sources for the community, increased incidence of diarrhea and the emergence of diseases. Based on existing data, the total number of drinking water facilities that comply with health standards in Ende Regency in 2021 is 1,555 or (50%) of the 3,113 samples of drinking water facilities taken. Judging from the existing number, it is still not optimum in mobilizing cross-sector cooperation and community behavior that still pays less attention to the efficiency and activities of utilizing clean drinking water.

4. Food Processing Places that Meet Health Requirements:

Proper food management that meets health requirements is one of the efforts to achieve an optimal level of public health, so it is necessary to pay attention in terms of nutritional value, purity, and cleanliness. Because even though the nutritional value and purity are better, but if the environmental hygiene is not monitored and maintained, the food can lead to disease due to contamination. Some things that need to be considered in the food processing process include the preparation of processing places such as kitchens that must meet the requirements, including a place to wash equipment; a place to store food ingredients; a preparation place; and a processing place. The total number of TPMs that fulfill the requirements in Ende Regency is 199 out of 301 total existing TPMs or 66.1%. This achievement is greatly decreased compared to 2020 which was at 100%. This is due to the low percentage of reports coming from public health centers and some public health centers experiencing an increase in the number of TPMs that do not meet the health standards.

Tabel 2. 88. Hasil Pencapaian SPM Bidang Perumahan Rakyat dan Permukiman

No	Jenis Pelayanan Dasar	Penerima Layanan Dasar (80 %)					Batas waktu capaian	Mutu Minimal Layanan Dasar (20%)					% Pencapaian SPM	Batas waktu capaian	Ket.
		Indikator	Target	Realisasi	%	% Penerima Layanan Dasar		Indikator	Target	Realisasi	%	% Mutu Layanan Dasar			
1	2	3	4	5	6 = (4x5)	7= 6x80 %	8	9	10	11	12	13 = 12x20%	14 = 7+13	15	16
1	Penyediaan & rehabilitasi rumah layak huni bagi korban bencana Kab/kota.	Jumlah Warga Negara korban bencana yang memperoleh rumah layak huni	167	111	66,47	53,17%	1 tahun	Jumlah barang dan jasa	100% (sesuai dengan jumlah Warga Negara yang memperoleh kebutuhan pokok air minum sehari-hari yang akan dipenuhi)	65,48%	65,48%	13,10%	66,27%	Setiap tahun	Tuntas Muda
2	Fasilitasi Penyediaan rumah yang layak huni bagi masyarakat yang terkena relokasi program pemerintah daerah kabupaten / kota	Jumlah Warga Negara yang terkena relokasi akibat Program Pemerintah Daerah Kabupaten/ Kota yang memperoleh fasilitas penyediaan rumah yang layak huni	0	0	0	0	1 tahun	Jumlah barang dan jasa	100% (sesuai dengan jumlah Warga Negara yang memperoleh layanan pengolahan air limbah domestik yang akan dipenuhi)	0	0	0	0	Setiap tahun	Belum Tuntas
Total Indeks Pencapaian SPM dan Kategori Pencapaian SPM													33,14%		Belum Tuntas

Public Housing and Settlement Areas - Ende Regency Public Housing, Settlement Areas and Land Agency (DPRKPP) Services in the Public Housing affairs are related to the availability of habitable houses, clean water, sanitation and the environment. An overview of the condition of service outcomes as presented below:

1. Habitable House Ratio.

In 2021 there were 46,215 (71.51%) habitable houses out of a total of 64,628 houses in Ende Regency.

2. Percentage of Slum Area in Urban Areas that are Managed.

In 2021, no slum area handling has been carried out due to limited funds thus the total slum area handled is still the same as the previous year, namely 14.11 Ha (11.92%).

3. Percentage of Sanitized Residential Houses.

In 2021, the number of sanitized residential houses has increased by 803 houses to 32,636 (50.50%) out of a total of 64,628 residential houses.

4. Percentage of Population Served by Appropriate Wastewater System.

In 2021, the number of people served by an adequate wastewater system has increased by 3,212 people to 120,994 people served by an adequate wastewater system (43.72%) of the total population of 276,740 people.

5. Percentage of land owned by local government that is certified.

%). In 2021, the area of certified local government owned land has increased by 18,025 m² to 1,977,376 m² (19.24%) of the total land area of 10,273,760 m².

4. Perumahan Rakyat dan Kawasan Permukiman

Pelayanan pada urusan Perumahan Rakyat terkait dengan ketersediaan rumah layak huni, sanitasi dan lingkungan serta air bersih. Gambaran kondisi capaian layanan sebagaimana disajikan sebagai berikut:

- Persentase Rumah Tinggal Bersanitasi**
Pada Tahun 2022 Persentase Rumah Tinggal Bersanitasi sebesar 50,50% atau sebanyak 32.636 dari 64.628 rumah yang ada.
- Persentase KK Korban Bencana Alam atau Relokasi yang memperoleh Rumah Layak Huni**
Pada Tahun 2022 Persentase KK Korban Bencana Alam atau Relokasi yang memperoleh Rumah Layak Huni sebesar 10% atau sebanyak 6 KK yang direlokasi dari 60 KK korban Bencana Alam.
- Persentase Luasan Permukiman Kumuh di Kawasan Perkotaan yang Tertangani**
Pada tahun 2022 luas kawasan kumuh yang tertangani seluas 14,11 Ha dari total luas kawasan kumuh seluas 118,41 Ha, atau capaian kinerja sebesar 11,92%.
- Porsentase Meningkatnya Rumah Layak Huni**
Pada tahun 2022 jumlah Rumah Layak Huni sebanyak 117.782 rumah dari total 270.207 rumah yang ada, capaian kinerja sebesar 43,59%.

Tabel 2. 9. Capaian Kinerja Indikator Program TA 2020-2022

NO	URAIAN	CAPAIAN (%)		
		2020	2021	2022
1	Persentase Rumah Tinggal Bersanitasi	49,26	50,50	50,50
2	Persentase KK Korban Bencana Alam atau Relokasi yang memperoleh Rumah Layak Huni	71,13	71,51	72,35
3	Persentase Luasan Permukiman Kumuh di Kawasan Perkotaan yang Tertangani	11,92	11,92	11,92
4	Porsentase Meningkatnya Rumah Layak Huni	-	-	43,59

NO	INDIKATOR KINERJA	CAPAIAN (%)			
		2019	2020	2021	2022
14	Persentase Balita Gizi Buruk	0,57	0,55	3,12	2,69
15	Prevalensi Balita Gizi Kurang	14,20	12,04	14,64	10,28
16	Prevalensi Stunting (Pendek dan Sangat Pendek) pada Anak di Bawah Dua Tahun/Baduta	42,04	14,80	15,21	5,72
17	Prevalensi Stunting (Pendek dan Sangat Pendek) pada Anak di Bawah Lima Tahun/Balita	19,59	17,40	14,33	8,93
18	Jumlah Desa yang melaksanakan STBM	80,65	91,73	84,89	98,92
19	Meningkatnya Sarana Air Minum yang Memenuhi Syarat	46,08	61,50	88,78	85,71
20	Meningkatnya Sarana Sanitasi Tempat Pengolahan Makanan/Minuman yang memenuhi syarat	100,00	88,51	77,50	100,00
21	Cakupan Desa/kelurahan Universal Child Immunization (UCI)	89,93	84,23	80,75	86,38
22	Cakupan Desa/ Kelurahan mengalami KLB yang dilakukan penyelidikan epidemiologi < 24 jam	100,00	100,00	0,00	0,00
23	Cakupan Penemuan dan Penanganan Penderita Penyakit DBD	100	100,00	100,00	100,00
24	Cakupan balita pneumonia yang ditangani	1,89	17,75	9,18	31,36
25	Persentase Anak Usia 1 tahun yang Diimunisasi Campak Rubella	77,60	51,43	53,22	95,30
26	Tingkat prevalensi Tuberkulosis (per 100.000 penduduk)	39,82	78,98	21,83	1.643
27	Prevalensi HIV/AIDS (persen) dari Total Populasi	100	26,34	0,278	2,08
28	Non Polio AFP Rate per 100.000 Penduduk	0,008	0,00	0,00	10,00
29	Cakupan Pelayanan Kesehatan Penderita Hipertensi	28,00	86,36	91,48	97,20
30	Cakupan Penemuan Penanganan Penderita Penyakit TBC BTA	39,82	100,00	100,00	100,00
31	Angka Kejadian Malaria	0,01	0,0018	0,0011	0,0014
32	Cakupan Pelayanan Kesehatan Penderita Diabetes Melitus	37,19	92,18	91,93	95,97
33	Cakupan penderita Diare Yang Ditangani	59,14	43,12	9,18	59,89
34	Cakupan Pelayanan Kesehatan Orang Dengan Gangguan Jiwa Berat	52,42	68	100,00	100,00
35	Rasio Dokter per satuan Penduduk	0,018	0,129	7,51	0,15

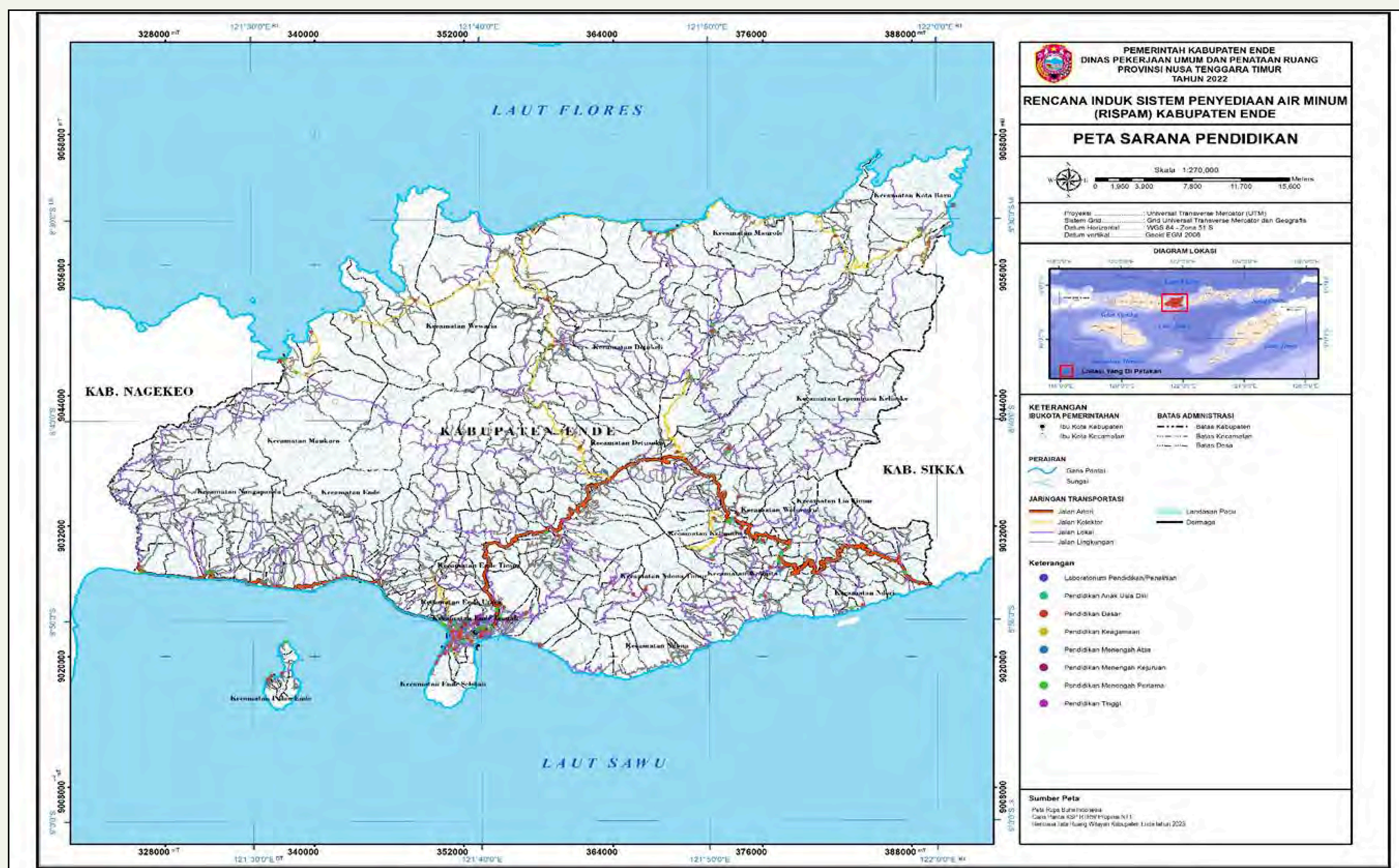
INDIKATOR AIR, SANITASI DAN HYGIENE SEKOLAH DI INDONESIA

		
Air	Sanitasi	Kebersihan
Pelayanan Tingkat Lanjut <i>Ditentukan tingkat Nasional</i>	Pelayanan Tingkat Lanjut <i>Ditentukan tingkat Nasional</i>	Pelayanan Tingkat Lanjut <i>Ditentukan tingkat Nasional</i>
Pelayanan Dasar Air minum dari sumber yang layak dan tersedia di sekolah	Pelayanan Dasar Fasilitas yang layak, terpisah berdasarkan jenis kelamin dan dapat digunakan di sekolah	Pelayanan Dasar Sarana CTPS (Cuci Tangan Pakai Sabun) lengkap dengan air yang mengalir dan sabun
Pelayanan Terbatas Ada sumber air layak (air perpipaan, sumur/mata air terlindungi, penampungan air hujan, air dalam kemasan), namun air tidak tersedia saat survei	Pelayanan Terbatas Ada sarana sanitasi yang layak (WC sentor cubluk dengan tutup, jamban komposting), namun tidak terpisah berdasarkan jenis kelamin dan tidak dapat dipergunakan	Pelayanan Terbatas Sarana cuci tangan dengan air namun tidak tersedia sabun
Tidak Tersedia Tidak ada sumber air atau sumber air tidak layak (sumur/mata air tidak terlindungi, air tangka dan sumber air permukaan)	Tidak Tersedia Tidak ada jamban atau jamban tidak layak (cubluk tanpa penutup, jamban menggantung dan buang air di sembarang tempat)	Tidak Tersedia Tidak ada sarana cuci tangan di sekolah, atau ada sarana cuci tangan tapi tidak tersedia air

Gambar 1.3 Operasional Indikator Sanitasi Sekolah dalam SDGs

Map of Ende Regency Education Facilities

Educational facilities in Ende Regency cover kindergarten, primary school, junior high school, and senior high school. Educational facilities at the primary school level are evenly distributed in all sub-districts, as well as junior secondary education, both with the status of public and private schools. Meanwhile, there are no high school facilities in some sub-districts. The largest number of primary school education facilities is in Kecamatan Nangapanda with a total of 25 units consisting of public and private schools. The largest number of junior secondary schools is in Nangapanda sub-district and the largest number of senior secondary schools is in Nangapanda sub-district with 3 units. For more details about the distribution of educational facilities in each sub-district in Ende Regency, it can be seen in the "Number of Education in Ende Regency in 2021" table on the distribution of educational facilities map in Ende Regency.



THE IMPORTANCE OF WATER, SANITATION AND HYGIENE FACILITIES IN HEALTH SERVICES

Health service facilities (shortened to "fasyankes") such as Puskesmas, Pustu etc. have an important role for the public as a center for health services, both promotive, preventive, curative and rehabilitative. Unfortunately, health facilities also have the potential to be a source of infection and spread of disease in the community if they are not equipped with proper Water, Sanitation, and Hygiene facilities. The lack of proper water, sanitation, and hygiene facilities in health facilities is often associated with the spread of healthcare associated infections (HAIs).

The availability of water, sanitation and hygiene facilities or known globally as Water, Sanitation, Hygiene (WASH) is the main enabler of health services, namely aspects of quality, justice and dignity for all people. Proper water source and sanitation facilities, hand washing facilities with soap and running water, medical waste treatment, hygiene management, are essential and must be available at Puskesmas to avoid various diseases including Covid-19 which has become a pandemic today.

Tabel 2. 84. Hasil Pencapaian SPM Bidang Urusan Pekerjaan Umum

No	Jenis Pelayanan Dasar	Penerima Layanan Dasar (80%)					Batas waktu capaian	Mutu Minimal Layanan Dasar (20%)					% Pencapaian SPM	Batas waktu capaian	Ket.
		Indikator	Target	Realisasi	%	% Penerima Layanan Dasar		Indikator	Target	Realisasi	%	% Mutu Layanan Dasar			
1	2	3	4	5	6 = (4x5)	7 = 6x80%	8	9	10	11	12	13 = 12x20%	14 = 7+13	15	16
1	Penyediaan Kebutuhan pokok air minum sehari-hari	Jumlah Warga Negara yang memperoleh kebutuhan pokok air minum sehari-hari	35.044	17.760	5,92 %	9,54 %	thn	Jumlah barang dan jasa	100% (sesuai dengan jumlah Warga Negara yang memperoleh kebutuhan pokok air minum sehari-hari yang akan dipenuhi)	5,92 %	5,92	1,38	5,92 %	Setiap tahun	Tuntas Madya
2	Penyediaan pelayanan pengolahan air limbah domestik	Jumlah Warga Negara yang memperoleh kebutuhan layanan pengolahan air limbah domestik	35.044	9.588	7,04 %	1,63 %	thn	Jumlah barang dan jasa	100% (sesuai Dengan jumlah Warga Negara yang memperoleh layanan pengolahan air limbah domestik yang akan dipenuhi)	7,04 %	7,04	1,41	7,04 %	Setiap tahun	Tuntas Pratama
Total Indeks Pencapaian SPM dan Kategori Pencapaian SPM												81,98 %		Tuntas Madya	

Indeks Pencapaian SPM yang diperoleh dalam bidang urusan Pekerjaan Umum sebesar **81,98 %**, maka kategori pencapaian SPM adalah **Tuntas Madya**.

Map of Ende Regency Health Facilities

Health facilities in Ende Regency consist of hospitals, puskesmas, auxiliary puskesmas, polyclinics and pharmacies. Hospitals are only found in Ende Tengah and Wolowaru sub-districts, each with 1 unit. Puskesmas are not found in the Wewaria sub-district, and auxiliary puskesmas are not found in several sub-districts such as East Ende and Central Ende. Polyclinics are only found in several sub-districts such as East Ende, Central Ende, Ndonga, Kelimutu, Kotabaru, Detusoko and Wewaria. Pharmacies are located in the sub-districts of Nangapanda, South Ende, East Ende, Central Ende, North Ende, Detusoko and Wewaria. For more details about the distribution of health facilities per sub-district in 2019 can be seen in the table Number of Health Facilities in Ende Regency in 2021 and the map of the distribution of health facilities in Ende Regency.



Tabel 2. 64. Pencapaian Target SDGs 6 di Kabupaten Ende Tahun 2020/2022

Tujuan/Target Tujuan Pembangunan Berkelanjutan	INDIKATOR KABUPATEN	KONDISI TAHUN 2020	KONDISI TAHUN 2021	KONDISI TAHUN 2022	SUMBER DATA	TARGET SDGS 2030	Instansi Pelaksana
Tujuan 6. Menjamin Ketersediaan serta Pengelolaan Air Bersih dan Sanitasi yang Berkelanjutan untuk Semua							
6.1.1 Proporsi populasi yang menggunakan layanan air minum yang dikelola secara aman	Proporsi Rumah Tangga dengan Akses Berkelanjutan terhadap Air Minum Layak, Perkotaan dan Perdesaan	90,83 %	93,20 %	95,82 %	LKPJ	6.1 Pada Tahun 2030, mencapai akses universal dan merata terhadap air minum yang aman dan terjangkau bagi semua	DINAS PUPR
6.1.1. (a) Persentase rumah tangga yang memiliki akses terhadap layanan sumber air minum layak dan berkelanjutan	Meningkatnya Sarana Air Minum yang Memenuhi Syarat	44,20 %	44,20 %	85,71 %	LKPJ		DINKES
6.1.1 (b) Kapasitas prasarana air baku untuk melayani rumah tangga, perkotaan dan industri, serta penyediaan air baku untuk pulau-pulau	Proporsi Rumah Tangga dengan Akses Berkelanjutan terhadap Air Minum Layak, Perkotaan dan Perdesaan	90,83 %	93,20 %	95,82 %	LKPJ		DINAS PUPR
6.2.1 Proporsi populasi yang menggunakan layanan sanitasi yang dikelola secara aman, termasuk fasilitas cuci tangan	Cakupan Rumah Tangga yang ber-PHBS	27,15 %	27,15 %	38,17 %	LKPJ	6.2. Pada Tahun 2030, mencapai akses terhadap sanitasi dan kebersihan yang memadai dan merata bagi semua, dan	DINKES
	Persentase Desa yang Melaksanakan STBM	67,63 %	87,77 %	99,28 %	LKPJ		DINKES
	Meningkatnya Kualitas Hygiene Sanitasi Tempat Pengolahan Makanan/Minuman	100 %	100 %	93,18 %	LKPJ		DINKES

Investment Demand Analysis for Drinking Water and Sanitation in Communities

POKJA PKP KABUPATEN ENDE 2021

Tabel 5.1. Analisis Kebutuhan Investasi Pelayanan Air Minum

Indikator	Kondisi saat ini (Tahun 2020)	Kondisi 2024 (jiwa)	Tambahan cakupan pelayanan	Biaya investasi per orang(Rp)	Kebutuhan investasi sd 2024
Jumlah penduduk	270.763	274.793	4.030		
- Perkotaan	87.269	88.568	1.299		
- Perdesaan	183.494	186.225	2.731		
Jumlah penduduk yang dilayani Air Minum	252.513				
- Perkotaan	79.258	88.568	9.310	700.000	6.517.042.962
- Perdesaan	173.255	186.225	12.970	560.000	7.263.080.053
Cakupan penduduk yang dilayani (%)	93,05	100	6,95		
- Perkotaan	90,82	100	9,18		
- Perdesaan	94,42	100	5,58		
Berbasis Lembaga dan Masyarakat					
A. PDAM					
B. Berbasis masyarakat					
Total kebutuhan					13.780.123.015

POKJA PKP KABUPATEN ENDE 2021

Tabel 5.2. Analisis Kebutuhan Investasi SANITASI

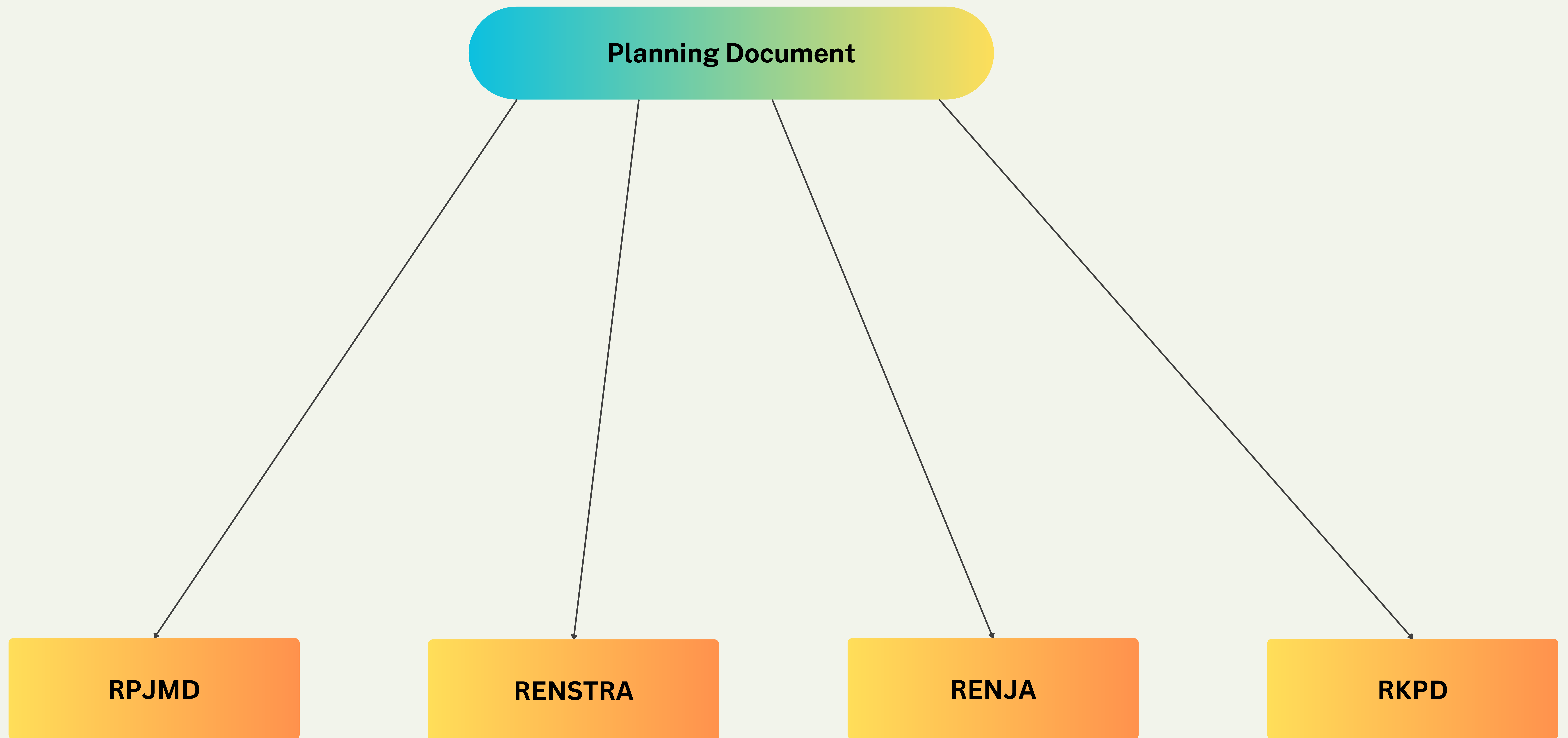
Indikator	Kondisi saat ini (Tahun 2020)	Kondisi 2024 (jiwa)	Tambahan cakupan pelayanan	Biaya investasi per orang(Rp)	Kebutuhan investasi sd 2023
Jumlah penduduk	270.763	274.793	4.030		
- Perkotaan	87.269	88.568	1.299		
- Perdesaan	183.494	186.225	2.731		
Jumlah penduduk dengan saptik tank tertutup	239.896	274.793	34.897		
- Perkotaan					
- Perdesaan					
Cakupan penduduk yang dilayani (%)	88,6	100	11,40		
Jumlah Rumah tangga Kabupaten	61.838	62.758	920		
Cakupan rumah tangga yang dilayani (tabel II.4)	54.788	62.758	7.970	6.500.000	51.803.871.041
jumlah rumah tangga yang belum terlayani	7.050	7.970	920		
Berbasis Lembaga dan Masyarakat					
Total kebutuhan					51.803.871.041

CALCULATION OF WATER AND SANITATION BUDGET GAP NEEDS:

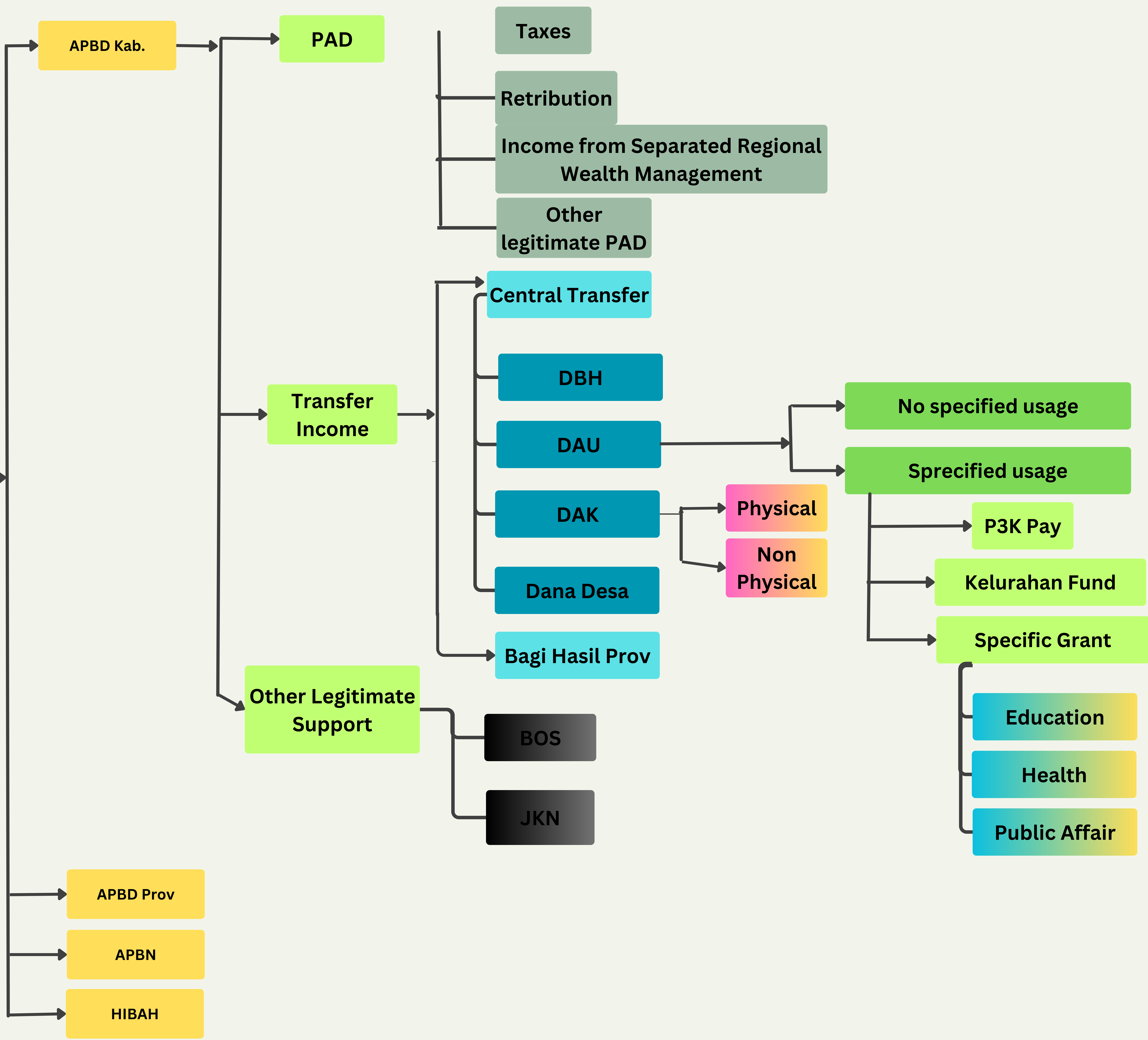
To meet the planning needs for the water and sanitation budget in Ende District, an analysis and calculation between the needs and availability of the budget is needed to assist in the process of preparing OPD and village government planning documents. The planning process will utilize data on community needs compared to budget availability so as to find the budget gap. Attached is a budget gap analysis in accordance with the Ende District RAD APMPL document for 2022-2024.

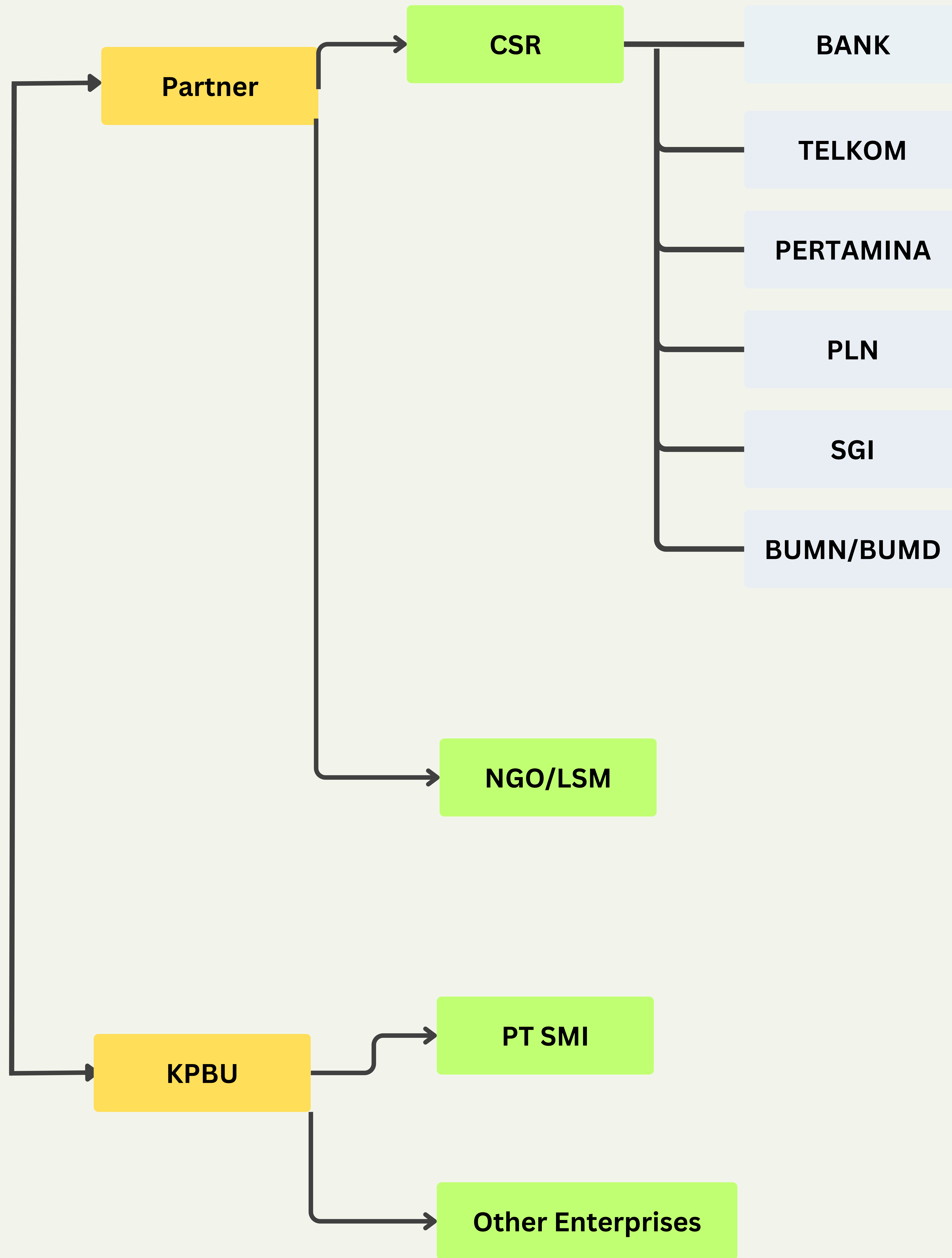
	Kebutuhan (Perhitungan RAD AMPL)	Kemampuan (Perhitungan RPJMD)
Air Minum	Rp. 13.780.000.000	Rp. 6.800.000.000 (49,35%) 1 program di PUPR
Sanitasi	Rp. 51.604.000.000	Rp. 31.843.500.000 (61,46%) 2 program di DPRKPP
GAP		TARGET AKSES (RAD AMPL)
Air Minum	Rp. 6.980.000.000 (50,65%)	98,66%
Sanitasi	Rp.19.960.500.000 (38,54%)	100%

FLOW AND STRUCTURE OF ENDE REGENCY GOVERNMENT PLANNING AND BUDGETING



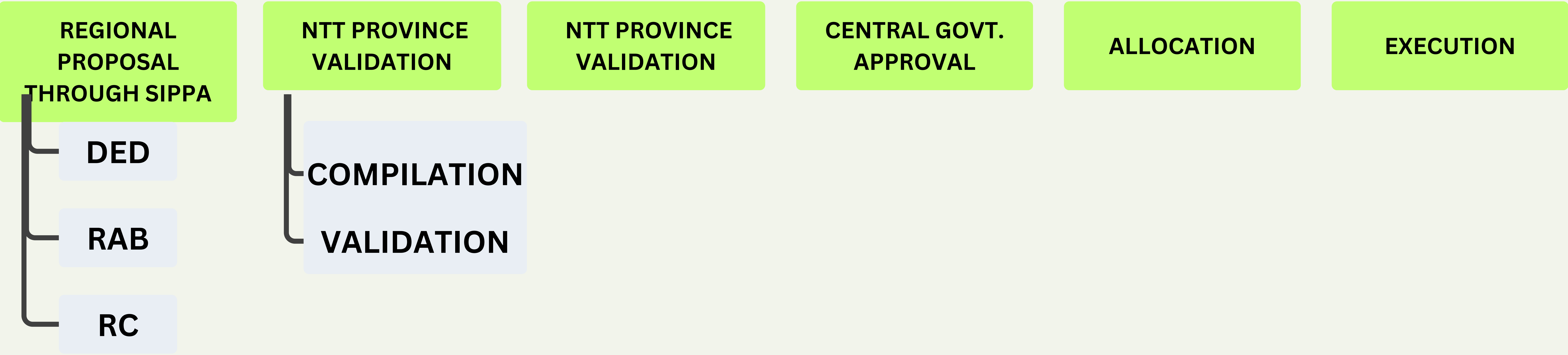
Budgeting





Planning Document

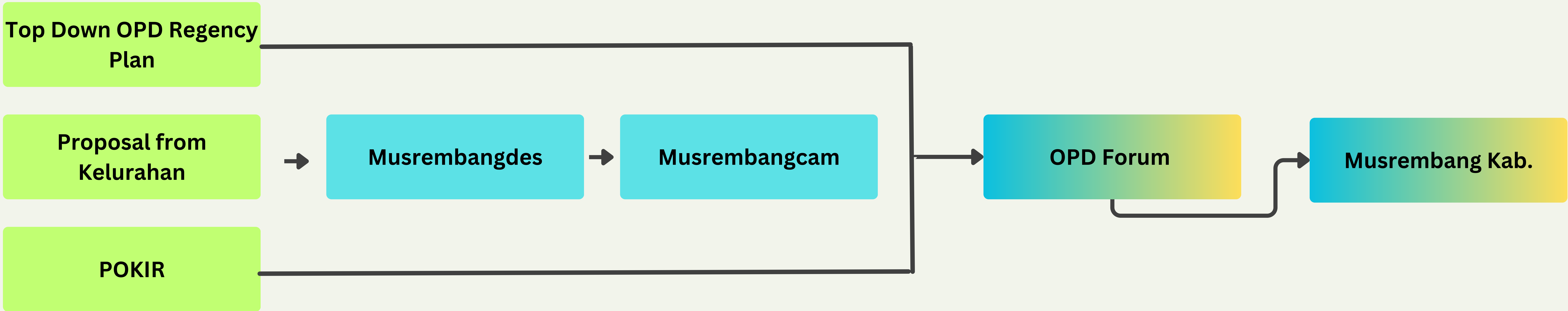
APBN

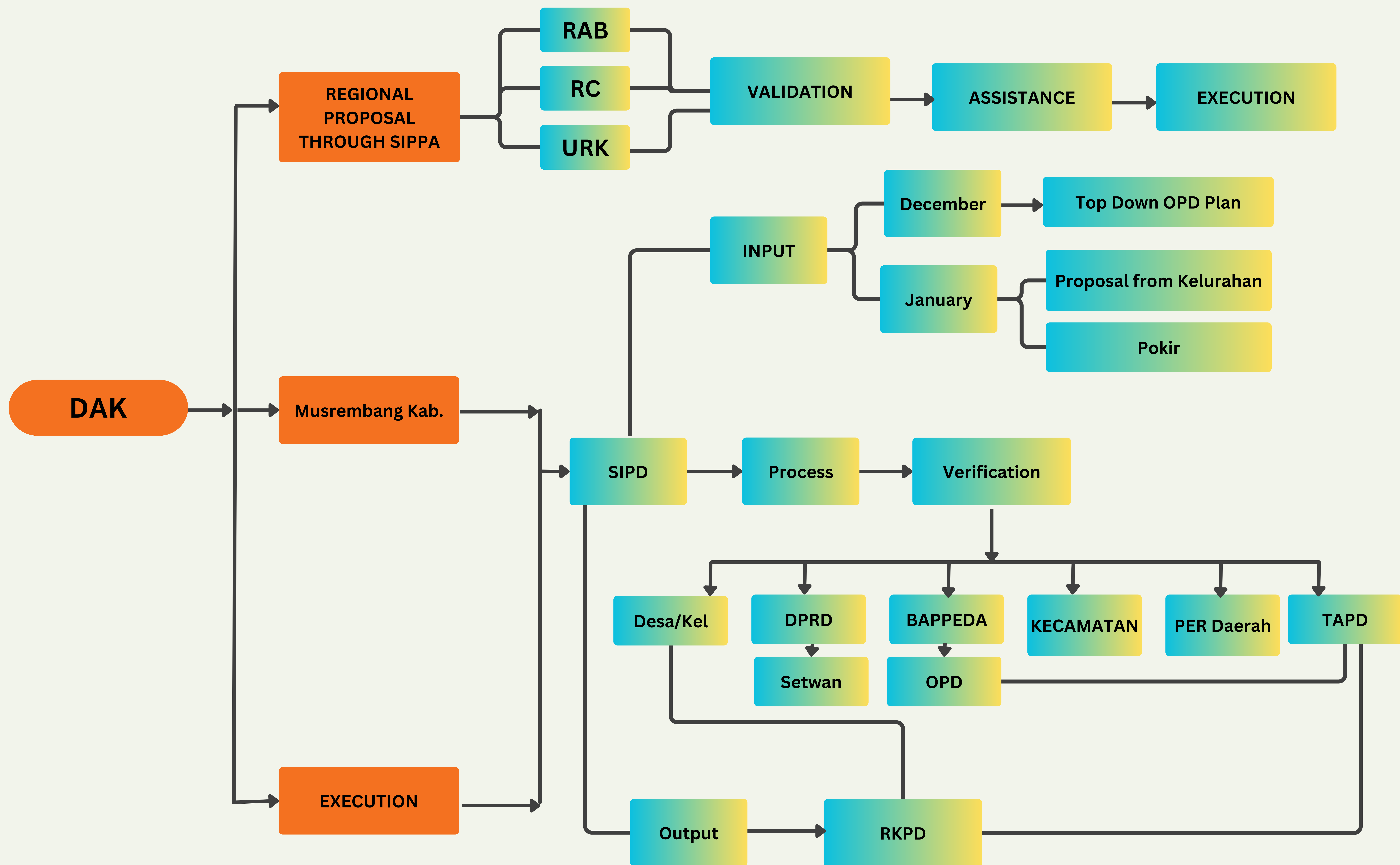


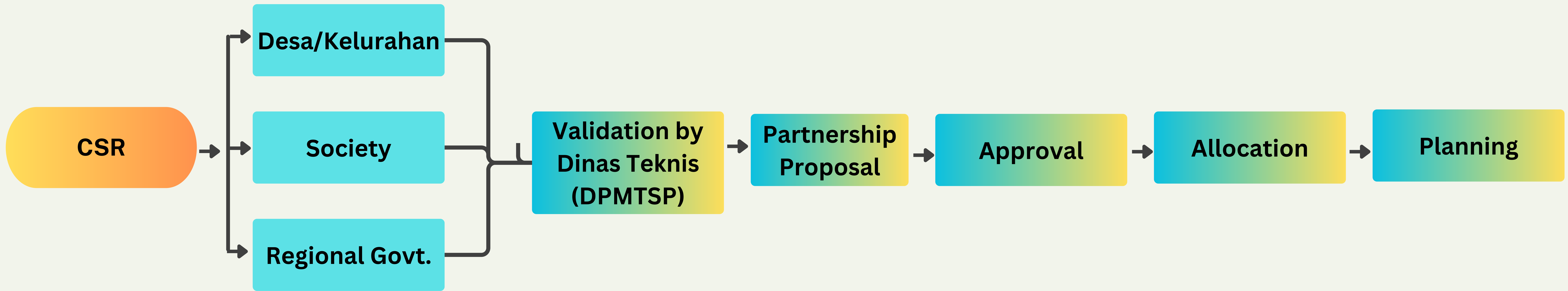
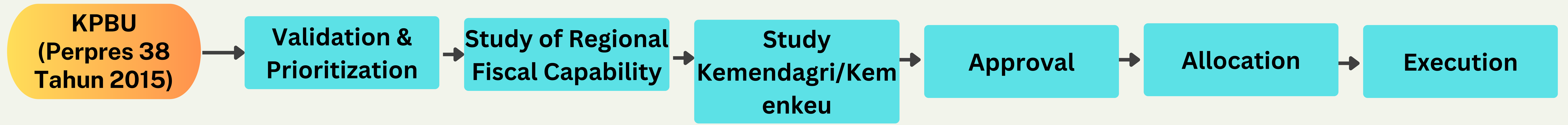
APBD PROV



DAU







Scenario of Sanitation Target Achievement

In accordance with the results of the analysis of sanitation planning instruments, the scenario for achieving sanitation targets in Ende District is not much different from the stages of sanitation development described previously. However, this scenario is a 5-year medium-term access improvement plan. This target scenario describes in more detail the stages of development for each year as a basis for preparing sanitation funding needs to achieve universal access targets. The sanitation target achievement scenario is shown in the following table.

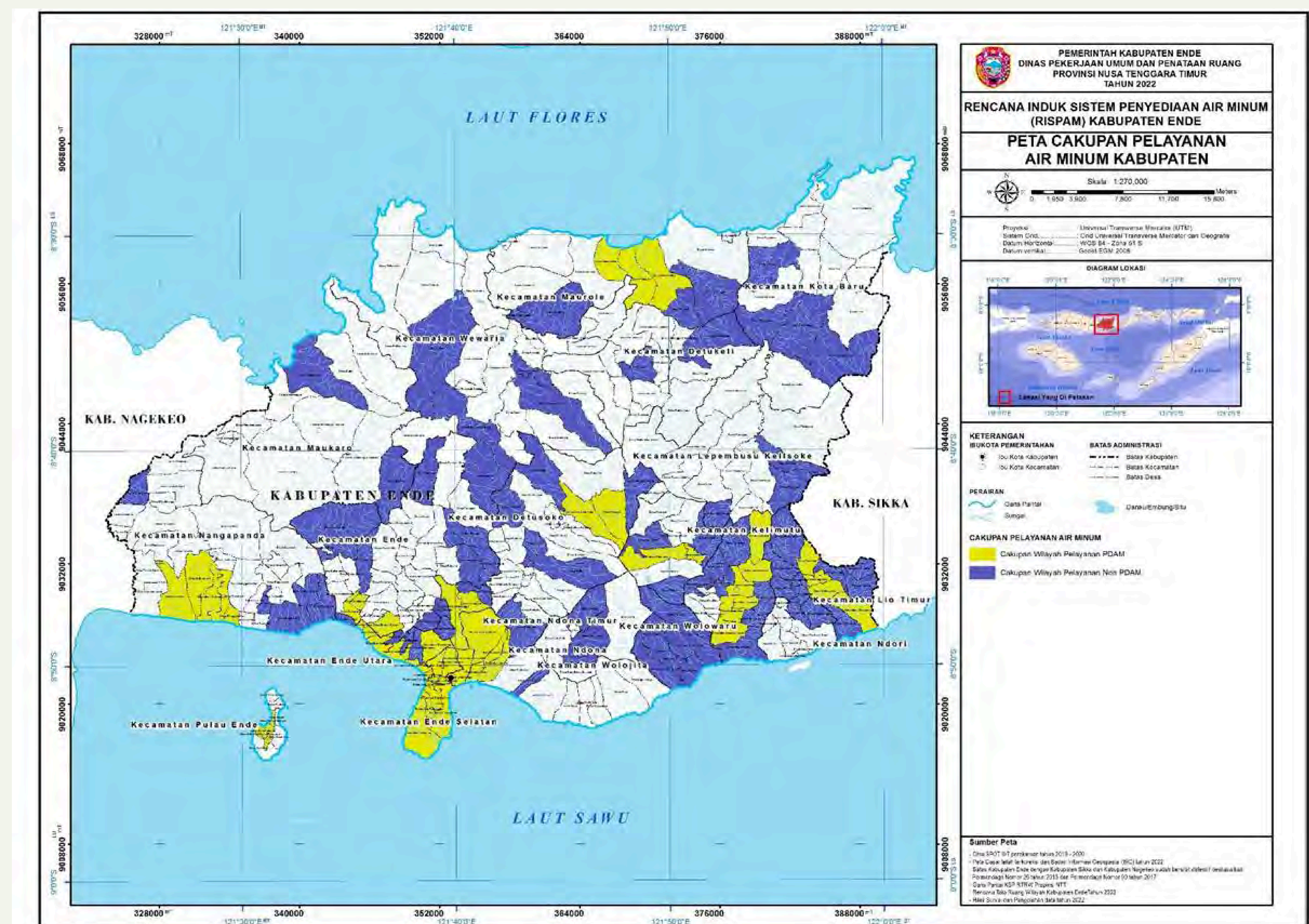
Komponen	Tahun										
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Air Limbah Domestik											
Akses Layak ⁽¹⁾	33	36	41	48	54	58,39	85	86	87	88	90,27
Akses Dasar ⁽²⁾	19	24	21	16	16	16,25	12	11	10,4	10	9,73
Tanpa Akses ⁽³⁾	48	40	38	36	30	25,37	0	0	0	0	0
Persampahan											
Penanganan ⁽⁴⁾	12	14	16	18	20	16,72	23	26	30	40	50,17
Penanganan Rumah Tangga ⁽⁵⁾	0	0	0	1	3	4,6	57	54	48	35	22,83
Pengurangan ⁽⁶⁾	0	0	0	0	0	0,57	10	20	22	25	27
Tidak Tertangani ⁽⁷⁾	88	86	84	81	77	78,12	10	0	0	0	0
Drainase Perkotaan											
Luas Genangan (ha)	25,57	20,35	18	16,5	15,8	15,4	5	0	0	0	0

Sumber: instrumen SSK dan hasil analisa Pokja AMPL

The target achievement scenarios are scenarios for achieving the sanitation targets of Ende Regency over the next 5 years. For domestic wastewater scenario, the increase of proper access gradually from 58.39% of proper access to 85% in 2019 and 90.27% by the end of 2023. Basic access from 16.25% in 2018 to 12% in 2019 and 9.73% by the end of 2023. While without access or open defecation 25.37% in 2018 to 0% in 2019. The waste sub-sector in the existing condition of waste handling to landfill has only reached 16.72%, targeted for 2020 handling to landfill from 26%, the medium term in 2023 is 50.17% and a reduction from 0.57% in 2018 to 27% by the end of 2023.

Existing SPAM Condition of Ende Regency

To provide daily drinking water, the people of Ende Regency obtain water from various sources using both piped and non-piped systems. Clean water facilities with piping systems are obtained from Perumda Tirta Kelimutu and independent from the community. Until now, the level of clean water service in Ende Regency has reached 54.74% of the entire population of Ende Regency. Of the 21 sub-districts in Ende Regency, 10 sub-districts have received piped clean water services managed by Perumda Tirta Kelimutu Ende Regency. The number of house connections served by the clean water pipeline network from Perumda Tirta Kelimutu reached 12,174 SR. While drinking water services by POKMAS reached 22,924 SR Piped clean water services are still prioritized in sub-district centers and settlement centers, while in some distant rural settlement areas, non-piped clean water supply dominates by using boreholes/dug wells and nearby springs, rivers, reservoirs and tank cars as a source of clean water supply for daily needs, especially for geographically and demographically difficult water areas. The following is a map of service coverage:



Ende Regency WASH Budgeting Trends based on Work Plan and Implementation RKA

3 Setting WASH	TAHUN ANGGARAN			TOTAL
	2021	2022	2023	
Komunitas	13.124.779.530	9.244.930.018	18.623.640.000	40.993.349.548
Sarana Kesehatan	1.326.600.000	1.224.000.000	2.956.300.000	5.506.900.000
Sarana Pendidikan	2.836.304.807	2.530.300.000	6.031.581.000	11.398.185.807
TOTAL				57.898.435.355
RKA/PELAKSANAAN				
3 Setting WASH	TAHUN ANGGARAN			TOTAL
	2021	2022	2023	
Komunitas	13.770.777.799	10.607.067.980	18.380.640.000	42.758.485.779
Sarana Kesehatan	935.259.152	193.210.102	410.299.000	1.538.768.254
Sarana Pendidikan	3.872.015.809	1.388.527.508	4.268.130.000	9.528.673.317
TOTAL				53.825.927.350

The existing water and sanitation budget is taken from the RKA and Renja OPD documents to capture the 3 target settings for drinking water and sanitation, namely in communities, health facilities and education facilities for the 2021-2023 fiscal year taken from the RI SIPD. The purpose of looking back at the existing water and sanitation budget is to look at budget planning and implementation in order to get a budget gap or difference. When the water and sanitation budget gap has been raised so that the government can prepare other alternative funding to close this gap.

Existing Budget Water and Sanitation Planning and Budget

Estimated water and sanitation budget needs for Ende Regency in 3 sectors

3 setting WASH	2024	2025	2026	2027	2028	2029	2030	Total
Komunitas	20,486,004,000	22,534,604,400	24,788,064,840	27,266,871,324	29,993,558,456	32,992,914,302	36,292,205,732	194,354,223,055
Sarana Kesehatan	3,251,930,000	3,577,123,000	3,934,835,300	4,328,318,830	4,761,150,713	5,237,265,784	5,760,992,363	30,851,615,990
Sarana Pendidikan	6,634,739,100	7,298,213,010	8,028,034,311	8,830,837,742	9,713,921,516	10,685,313,668	11,753,845,035	62,944,904,382
TOTAL	30,372,673,100	33,409,940,410	36,750,934,451	40,426,027,896	44,468,630,686	48,915,493,754	53,807,043,130	288,150,743,427

Estimated capacity of the local government of Ende Regency

3 setting WASH	2024	2025	2026	2027	2028	2029	2030	Total
Komunitas	20,218,704,000	22,240,574,400	24,464,631,840	26,911,095,024	29,602,204,526	32,562,424,979	35,818,667,477	191,818,302,246
Sarana Kesehatan	451,328,900	496,461,790	546,107,969	600,718,766	660,790,642	726,869,707	799,556,677	4,281,834,452
Sarana Pendidikan	4,694,943,000	5,164,437,300	5,680,881,030	6,248,969,133	6,873,866,046	7,561,252,651	8,317,377,916	44,541,727,076
TOTAL	25,364,975,900	27,901,473,490	30,691,620,839	33,760,782,923	37,136,861,215	40,850,547,337	44,935,602,070	240,641,863,774

Regency WASH Funding GAP Analysis

3 setting WASH	2024	2025	2026	2027	2028	2029	2030	Total
Komunitas	267,300,000	294,030,000	323,433,000	355,776,300	391,353,930	430,489,323	473,538,255	2,535,920,808
Sarana Kesehatan	2,800,601,100	3,080,661,210	3,388,727,331	3,727,600,064	4,100,360,071	4,510,396,078	4,961,435,685	26,569,781,538
Sarana Pendidikan	1,939,796,100	2,133,775,710	2,347,153,281	2,581,868,609	2,840,055,470	3,124,061,017	3,436,467,119	18,403,177,306
TOTAL	5,007,697,200	5,508,466,920	6,059,313,612	6,665,244,973	7,331,769,471	8,064,946,418	8,871,441,059	47,508,879,653
% Gap Pendanaan								16%

This budget estimate is taken from the calculation of the RKA of each OPD for the 2020-2023 fiscal year with details of an estimated 10% increase per year. For the community budget is taken from the RKA OPD of the PUPR Office and the PRKP Office, while the Health Facilities budget is taken from the RKA of the Health Office and the Education facilities budget is taken from the RKA of the Youth and Sports office. This budget includes monitoring, evaluation and training costs. From the estimation, the OPD achievement target can reach 80% but is adjusted to the availability of each OPD's budget PAGU.

With the estimated budget use in the 3 target settings as described above, of course the Ende Regency government has limited budget so that the Ende Regency Bappeda together with development partners continues to encourage technical OPDs to maximize water and sanitation budgets in Renja and RKP. In addition, it keeps encouraging other alternative funding from the financial institution sector such as Bank NTT Ende Branch through AMS (Drinking Water and Sanitation) micro credit with the product KREDIT MERDEKA. In collaboration with Bank NTT, there are also other financial institutions such as Credit Cooperatives. In accordance with the recommendation from Puskpodit Flores Mandiri, Sangosai Credit Cooperative because this Credit Cooperative has Micro Finance products that can be accessed by the community.

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5. RISPAM Kabupaten Ende 2023-2037
6. RKA (Rencana Kerja dan Anggaran OPD TA 2020-2023
7. Renja (Rencana Kerja) OPD TA 2020-2023
8. Rancangan Akhir RPD Kabupaten Ende TA 2024-2026
9. RKPD Dinas Kesehatan Kabupaten Ende tahun 2023

Conclusion

This is the explanation of the road map for water supply and sanitation financing, developed for the 3 target settings as described above. With the water and sanitation financing system equipped with a road map that has been prepared and agreed upon by the central government, provincial government, district government and village government, it will be easier to understand the flow and system of government financial planning.

Thus, this guide can be used by the government in planning programs, especially water supply and sanitation. With the estimation of water supply and sanitation financing in 3 service settings, namely Community, Health Services and Education Services that have been made by the District PKP Working Group, it will be very good for OPD or technical agencies to prepare plans and budgets in accordance with the above estimates.

Poja PKP as the responsible party for planning and budgeting for water supply and sanitation will continue to strive so that the achievement of water and sanitation in the 3 service settings can be achieved so that the UC achievement target is in accordance with the SDGs mandate.

Ende, October 2023