The Current Situation and Challenges of the Water Supply System in Vanuatu

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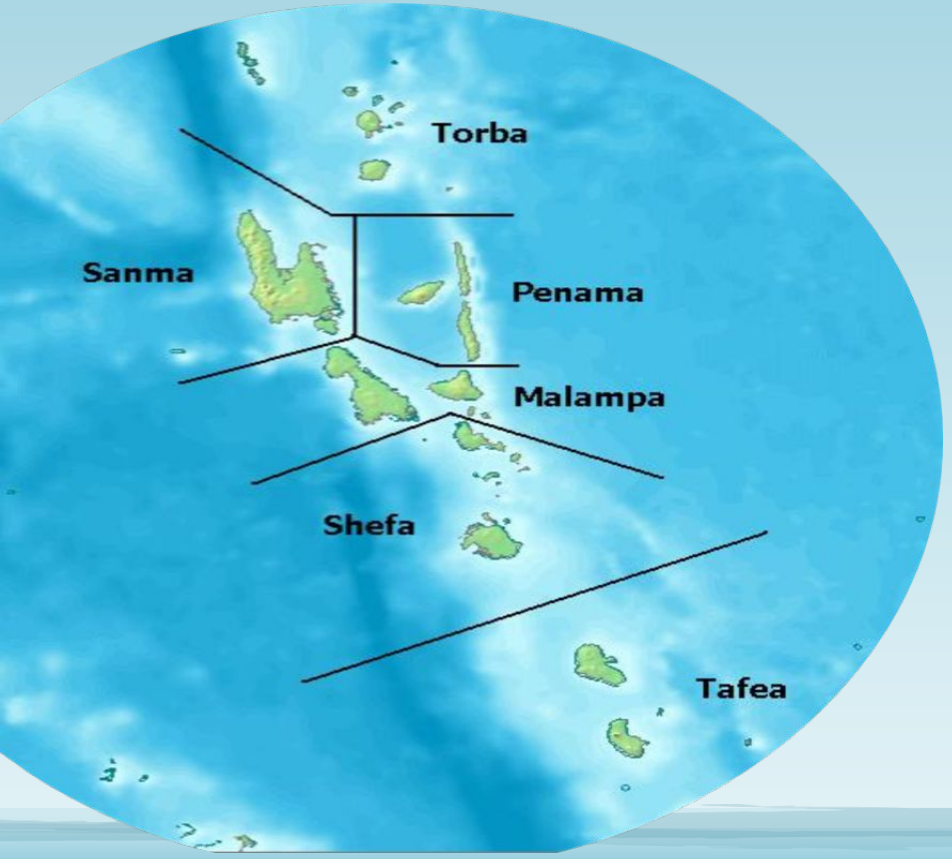
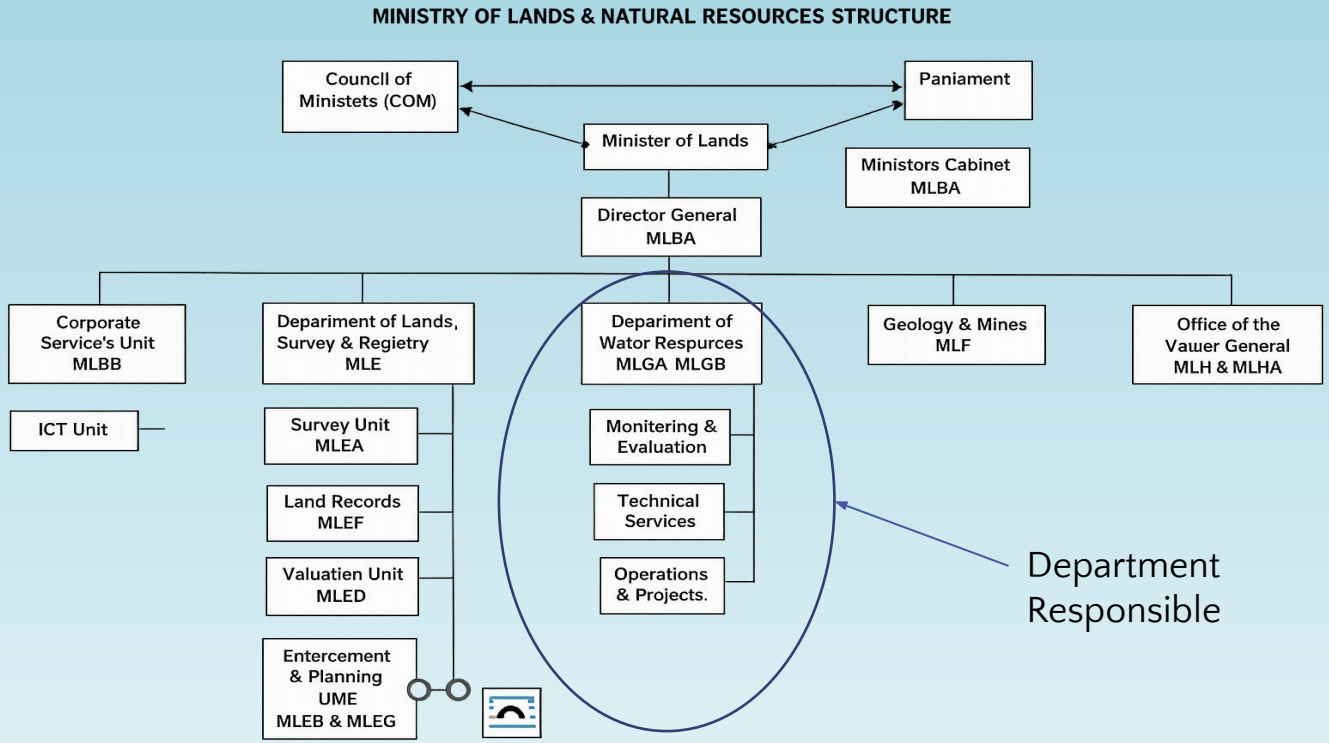
Department of Water Resources Institutional Overview





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Institutional Mandate and Role of the Department of Water Resources (DoWR)

- National authority responsible for water resources management and water supply
- Policy development, planning, regulation, and technical oversight
- Design and implementation of rural and outer island water supply systems
- Emergency water supply support during disasters

Sustainable Development Goals (SDG)

6.1: Achieve universal and equitable access to safe and affordable drinking water for all by 2030

Our National Sustainable Development Plan (NSDP)

ECO 2.2 to ensure safe water services for all

Legislative Mandate

Core Acts:

Water Resource Management Act – Water resource protection, allocation, and sustainability

Water Supply Act – Regulation and oversight of water supply services

National Water Policy 2017–2030

National Water Strategy 2018–2030

National Drinking Water Standards (2016)

National Implementation Plan – Safe & Secure Drinking Water

Decentralisation Act (Provincial Service Delivery)

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Water Source Categories for Supply Systems in Vanuatu

Primary Water Sources

1. Surface Water Resources: Springs, Rivers, and Catchment Systems
2. Groundwater Resources: Aquifers and Borehole Development

Supplementary and Alternative Water Sources

- Rainwater Harvesting Systems: Household and Community-Level Supply
- Desalination Systems: Seawater and Brackish Water as a Last-Resort Supply Option

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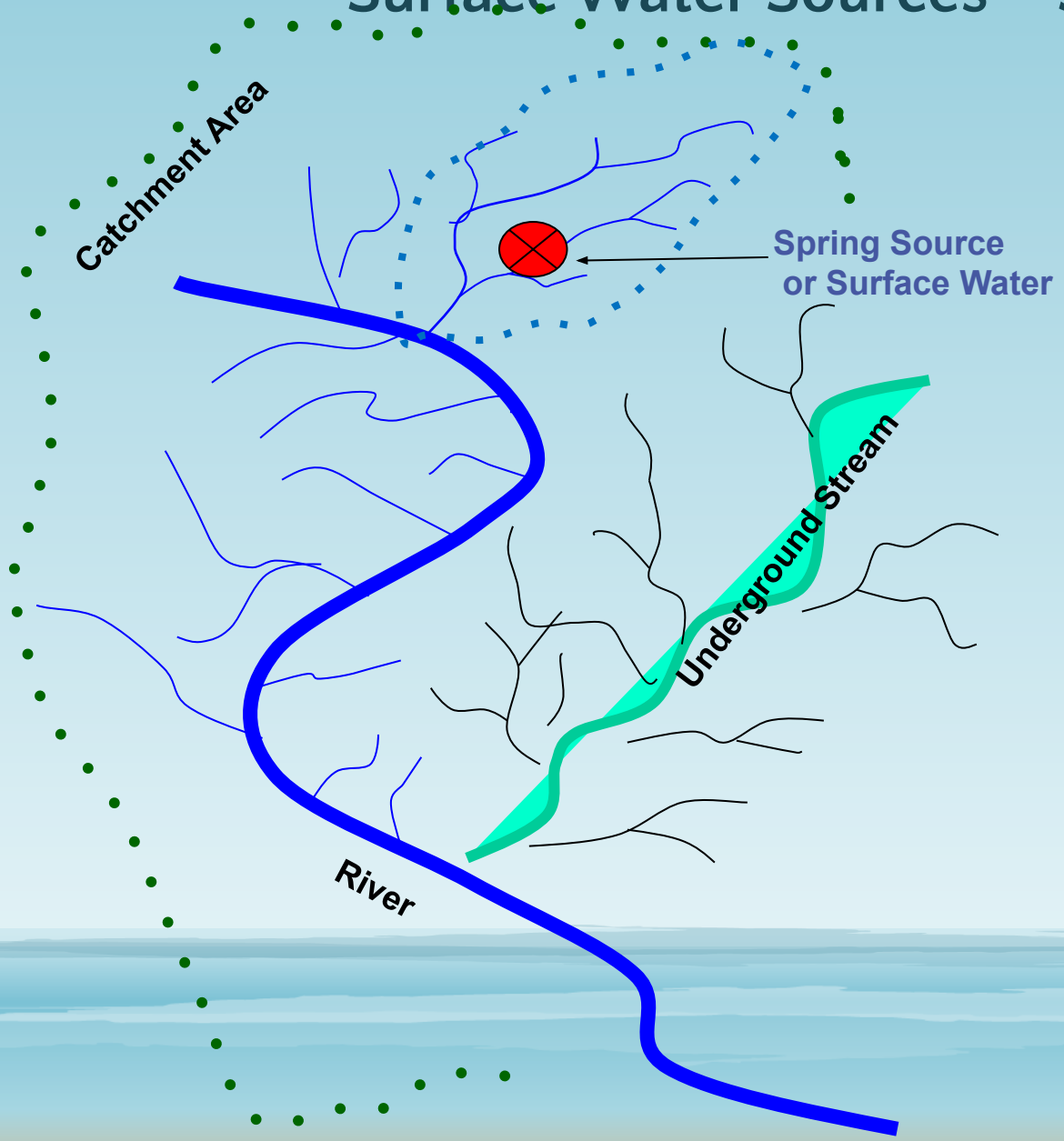
Surface Water Sources – Springs, Rivers, and Catchments



Photos Showing Spring Sources as Surface Water Supply

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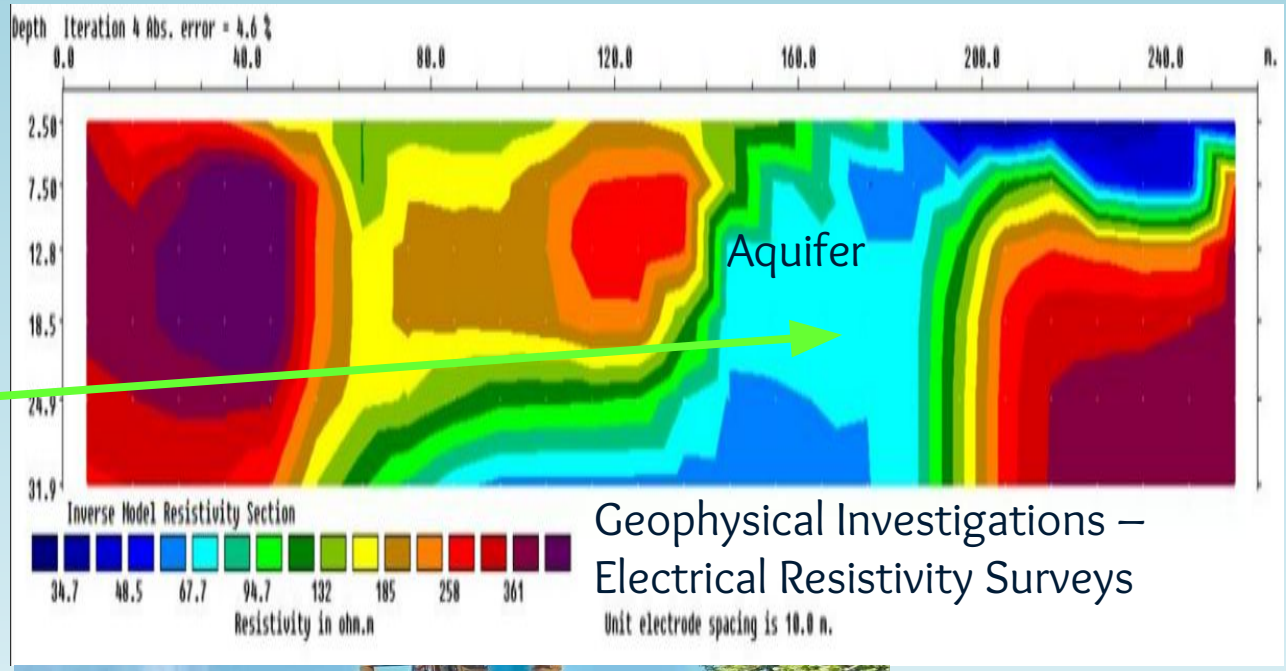
Borehole Development for Groundwater Supply



Geophysical Investigations – Electrical Resistivity Surveys

Borehole Construction

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Rainwater Harvesting Water Sources

Step 1: Understand Your Rainwater Needs

Step 2: Sizing Storage of Your Rainwater

Step 3: Size or Assess Your Rainwater Roofing Collection Area

Step 4: Filter Leaves and Debris

Step 5: Divert the First Flush

Step 6: Secure Your System

Step 7: Pump or Gravity System

Step 8: Manage Standing Water

Step 9: Final Stage Filtration

Step 10: Monitor Your Water Level

Step 11: Care for Your System

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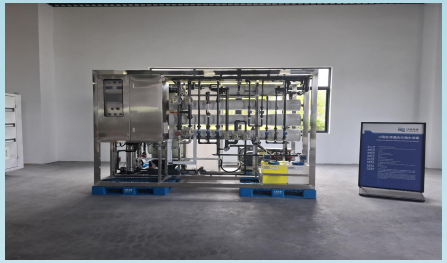
Desalination as an Alternative Water Source (Seawater and Brackish Water)

Demand

①The expected fresh water production (m^3/d)?
②What water quality standards to meet such as WHO guidelines for drinking-water quality?



Raw Sea Water

① Test Report of Raw Seawater Quality for the project site or neighboring sea areas?
②Tidal level difference (the general pattern of tidal variation? The sea level?)
③Raw seawater temperature: the highest, lowest and average water temperature?
④ Any charge / permits for raw seawater intake?
⑤Is it allowed to discharge brine (generally its concentration is less than twice as that of raw seawater) to the sea?

Site Selections

①Specific location with boundary and coordinates.
②Topographic map detailing the area, shape, land formation, etc.
③Data on geological formation

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Water Demand Assessment Considerations

1.Target Population

National population (2020 Census): 300,019 people

2025 approx. 335,000

Growth rate 2.5% – 2.7% per year

Predominantly rural and peri-urban communities

High proportion of population dependent on non-piped water supply systems

2.Geographic Coverage (Islands)

Services extend across 65 inhabited islands of Vanuatu out of 83 Islands

Coverage includes remote and outer islands with limited access

Diverse hydrogeological conditions (volcanic, limestone etc..)

3.Urban & Administrative Focus

Capital City: Port Vila (Efate Island)

Provincial Headquarters supporting service delivery in:

Luganville (Sanma Province)

Lakatoro (Malampa Province)

Saratamata (Penama Province)

Isangel (Tafea Province)

Shefa Province

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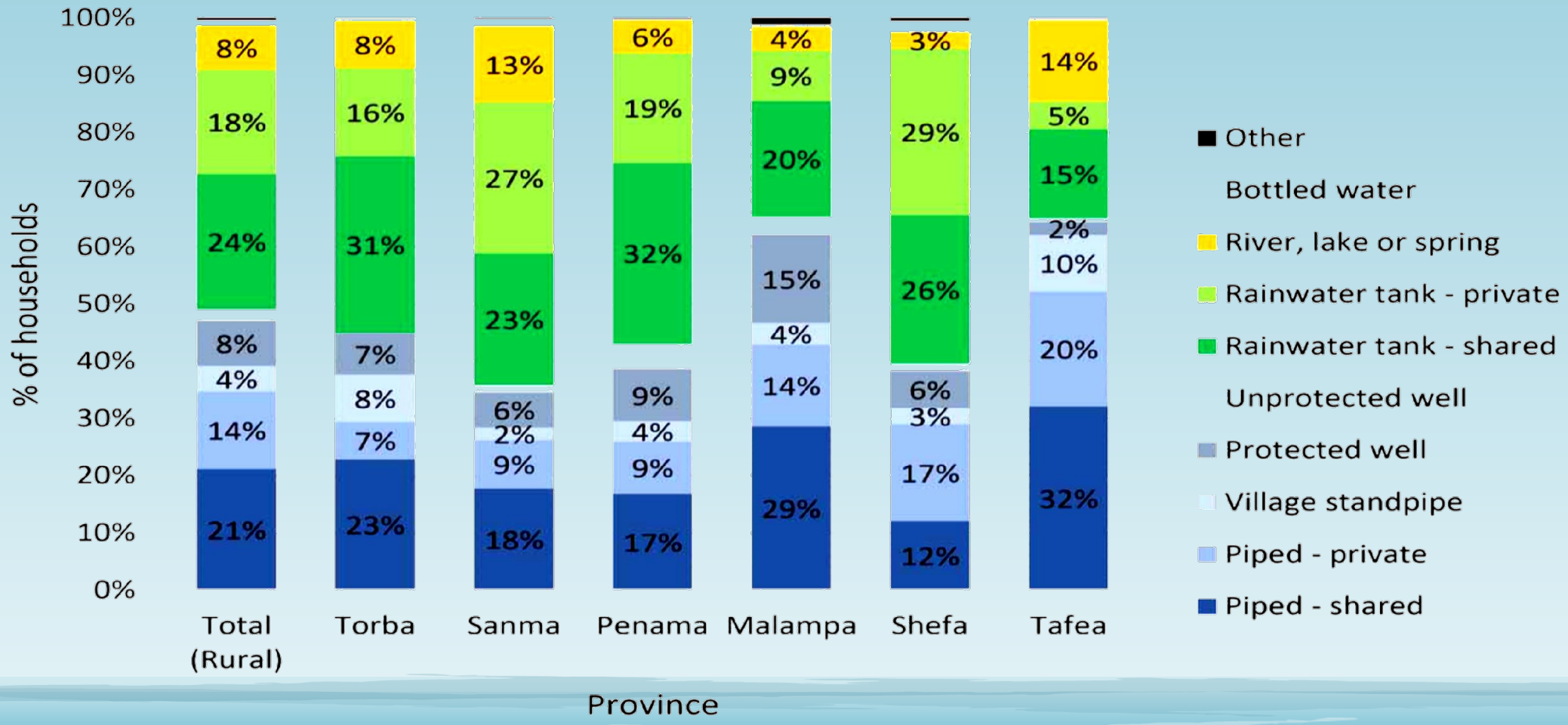
Distribution of Rural Drinking Water Sources by Province



Graph showing Distribution of rural household drinking water sources by province in Vanuatu, highlighting significant reliance on rainwater harvesting and shared piped systems, with notable provincial variation in surface water, groundwater, and improved water supply access. Source: Vanuatu National Statistics Office (VNSO), 2021.

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National Water Forum 2025: Identifying Priority Challenges for Sustainable Water Service Delivery in Vanuatu

1. Sector Wide Coordination and Service Delivery Challenges

Operational Challenges Across the Water Sector:

- Sector Wide often received conflicting guidance from different agencies, NGOs, or projects
- Poor coordination between national offices, provinces, and Sector Wide led to delays and duplication
- Sector Wide concerns were not consistently fed back to decision-makers
- Unclear responsibilities caused confusion over:
  - Who maintains systems?
  - Who responds when systems fail?

Result: **Water systems breaking down with no clear support pathway**

Underlying Systemic Challenges:

- Fragmented coordination between national government agencies, provinces, utilities, NGOs, and development partners
- Limited structured platforms for regular dialogue across the water sector
- Weak feedback loops between policy makers, implementers, and communities
- Overlapping roles and responsibilities leading to inefficiencies in service delivery

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2. Policy and Planning Disconnect at Sector Wide Level

Policy and Strategic Alignment Challenges Across the Water Sector:

- National policies were not well understood at Sector Wide level
- Sector Wide water needs were not clearly reflected in national planning
- Climate risks affecting villages were not fully integrated into provincial water planning
- Sector Wide lacked clarity on:
  - Their rights to water
  - Their responsibilities under national laws

Result: **Policies existed, but Sector Wide did not feel their benefits**

Underlying Policy and Strategic Challenges:

- Existing water-related policies and frameworks were not consistently aligned or jointly reviewed
- Limited collective understanding of how water sector priorities link to:
  - National Sustainable Development Plan (NSDP)
  - Climate resilience strategies
  - Sustainable Development Goals (SDGs)
- Gaps between policy intent and on-the-ground implementation

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3. Knowledge Sharing and Capacity Gaps Across the Water Sector

Operational Knowledge and Capacity Challenges Across the Water Sector:

- Limited technical knowledge to operate and maintain water systems
- Few opportunities for training in:
  - Water system maintenance
  - Water quality protection
- Dependence on external technicians
- Limited awareness of new or improved water technologies

Result: **Systems failed quickly after project completion**

Underlying Knowledge and Capacity Constraints:

- Knowledge and technical expertise were siloed within institutions and projects
- Limited opportunities to share lessons learned, best practices, and innovations nationally
- Capacity gaps at provincial and community levels
- Inconsistent exposure to new technologies, approaches, and international experiences

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4. Challenges in Setting and Prioritizing Water Sector Needs

Operational Priority-Setting Challenges Across the Water Sector:

- Sector Wide struggled to clearly prioritise:
  - New water systems vs repairs
  - Quantity vs quality improvements
- Water challenges were addressed one village at a time, not holistically
- Disaster impacts on water systems were not planned for in advance

Result: **Reactive responses instead of planned solutions**

Underlying Strategic and Planning Challenges:

- No consolidated national platform to openly identify and prioritize sector-wide challenges
- Issues such as:
  - Water access inequity
  - Water quality risks
  - Climate and disaster impacts were addressed in isolation rather than holistically
- Lack of consensus on short-term vs long-term priorities

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5. Partnership and Resource Mobilization Challenges Across the Water Sector

Operational Partnership and Financing Challenges Across the Water Sector:

- Limited awareness of available funding or support programs
- Sector Wide water needs were not clearly visible to donors
- Short-term projects often ended without long-term support
- Limited linkage between Sector Wide needs and national investment plans

Result: **Sector Wide left with incomplete or unsustainable systems**

Underlying Financing and Partnership Constraints:

- Limited visibility of sector needs to potential donors and financing partners
- Weak coordination in mobilizing financial and technical resources
- Heavy reliance on fragmented, project-based funding
- Insufficient alignment between donor investments and national priorities

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6. Accountability and Action Implementation Challenges Across the Water Sector

Operational Accountability and Ownership Challenges Across the Water Sector:

- No clear agreements on:
  - Who owns the system?
  - Who is responsible for repairs?
- Sector Wide decisions were often not formally documented
- Limited follow-up after project completion
- Weak accountability between Sector Wide, provinces, and service providers

Result: **Breakdowns, disputes, and abandonment of systems**

Underlying Governance and Accountability Constraints:

- Absence of agreed, cross-sector action points guiding policy implementation and investment planning
- Limited accountability mechanisms across stakeholders
- Challenges translating discussions into concrete commitments and follow-up actions

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Climate and Natural Hazard Impacts on Water Security: Droughts, Saltwater Intrusion, Floods, Cyclones & Earthquakes

Cyclone Pam 2015. The Category 5 cyclone - devastated Vanuatu, destroying water infrastructure and crops, triggered severe drought and dry conditions across many island

Ambae Volcanic Eruption 2018 -Ash fall from the eruption contaminated wells, rainwater tanks, and groundwater, leaving many communities without safe drinking water.

Drought Conditions
Driven by the ENSO cycle: El Niño (warming) brings drought, La Niña (cooling) brings heavy rain, and neutral is normal. Occurs every 2–7 years, lasting 9–12 months or longer. We ship bottled drinking water to the affected areas

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Thank You – Questions and Discussion?

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