



# VANUATU NATIONAL WATER POLICY

2017 - 2030

# Vanuatu National Water Policy (2017 – 2030)

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## 1 National Water Policy Priorities

The Vanuatu National Water Policy (2017-2030) seeks to deliver the policy objectives established by the National Sustainable Development Plan (2016-2030) at:

- ECO 2.2 to ensure safe water services for all
- ENV 4.2 to protect community water sources
- ENV 4.7 to build community natural resource management capacity
- SOC 3.2 to reduce communicable diseases
- SOC 6.5 to strengthen local authorities to enable decentralised service delivery
- SOC 6.6 to strengthen physical planning to meets the need of a growing population

to achieve the Sustainable Development Goal (SDG) targets for water that include:

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

6.3: Improve water quality by halving untreated wastewater and increasing safe reuse globally by 2030

6.4: Increase water-use efficiency and ensure sustainable withdrawals to address water scarcity by 2030

6.5: Implement integrated water resources management at all levels by 2030

6.6: Protect and restore water-related eco-systems, including wetlands, rivers, aquifers and lakes by 2020

6.7A: Expand international cooperation in water related activities and programmes by 2030.

6.7B: Strengthen the participation of local communities in improving water management.

The Vanuatu National Water Policy (2017-2030) has established seven priority areas to strengthen the accountability of the institutions necessary to secure a safe and sufficient, accessible and affordable, reliable and sustainable source of water for all.

## 1.1 Water Safety & Security

*Understanding* the appreciable gains that have been made by Vanuatu in achieving high levels of proximate access to an improved drinking water source; *the Policy endeavours to address the premier SDG challenges of drinking water safety and security*

**What exists:** Access to drinking water in Vanuatu increased over the MDG period with 94% of the population having access to an improved drinking water source in 2015. Piped water is the most popular form of access primarily due to an increase in water piped onto the premises (associated with a decline in access via public standposts) followed by access to rainwater. The proximity of access has improved with 86% of the population having access to drinking water on premises and men bearing more than an equal responsibility for water collection off the premises. An increasing prevalence of household water treatment particularly in urban areas suggest that the safety of drinking water is not guaranteed. Changing weather patterns associated with the recent el. Nino weather patterns have also revealed that rainwater dependency and a lack of storage undermine the security of a sufficient quantity of water.

**What doesn't exist:** In the absence of robust drinking water quality testing regimes, the quality of drinking water consumed by the majority of the population of Vanuatu is unknown. While the incidence of acute undernutrition in children continues to decline the incidence of chronic undernutrition in children under five has actually increased from 24.6% stunting in 1983 to 28.5% in 2013. While it is well known that exposure to faecal bacteria in drinking water can lead to diarrhoea and sickness, it is less well known that the constant exposure to faecal bacteria leads to stunting of the villi in the lower intestine inhibiting the ability of the body to absorb nutrients and contributing to chronic undernutrition. In this sense, the safety of drinking water for consumption by children under five takes more significant proportions. The lack of any enforceable limits on the abstraction or usage of water resources, the increasing variability of weather patterns and inadequate storage of water suggest that drinking water security will be a major challenge in the future.

**What to do:** The primary role of the government is to secure the safe consumption of sufficient water for all. This means either ensuring the residual safety of water supplied to consumers or ensuring appropriate household treatment of water not safe at the point of supply. It also means identifying and enforcing water protection and buffer zones to secure the safety and sufficiency of water. This may include anticipating and promoting investments that increase the ability to access stored water. Actions prioritized under the Water Policy to strengthen the focus on water safety and security include:

- The extension of drinking water safety and security planning to all drinking water asset owners (i.e. departments, private, communities, schools, health facilities, households).
- The expansion of access to drinking water testing and treatment services raising awareness on the link between faecal coliforms and chronic undernutrition.
- Strengthening water resource data management to identify priority areas to invest in the diversification, storage and regulation of water resources

## 1.2 Water Supply Markets

*Recognising that the movement up the drinking water ladder from basic to safely managed water services is more efficiently undertaken by market mechanisms; the Policy supports a shift from public departmental and community service provision models to market based service delivery instruments*

**What Exists:** *In rural areas;* while community based service provision models have been the major focus of public investment programmes, privately owned and financed schemes are the major source of water for the majority of the population. Water piped onto the premises has been the major growth area in spite of the fact that public funded systems only provide public standposts and in spite of the fact that households with piped connections continue to use rainwater for drinking. *In urban areas;* the Water Supply Act (1955) provides for the delegation of water management to private operators exemplified by Port Vila where a concessionaire finances the O&M and capital works from tariff revenues to deliver safe and secure piped drinking water. In all of the other urban centres, piped drinking water supply managed by the government demands recurring O&M and asset creation subsidies to deliver a service that is not always secure or safe to drink.

**What Doesn't Exist:** *In rural areas;* most piped water supply systems are managed by communities but the functionality of these community owned schemes is lower than any other schemes. These community owned schemes generally do not generate enough revenues for O&M with communities only financing one third of the repairs of community owned systems. *In most urban areas* (except Port Vila), the commercial orientation is weak because water revenues do not accrue to the department that is operating and maintaining the schemes. The incentives to increase efficiency is low because any improvements that lead to reductions in O&M costs actually result in reduced budget allocation in the following year. The poor incentives to reduce costs and the inability to retain revenues lead to the deterioration of the quality of services. In both rural and urban areas, a weak commercial orientation, poor O&M and low service quality is rewarded with new assets contributing to a build-neglect-rebuild cycle of management.

**What to do:** While community based models are efficient in supporting households to shift from unimproved to improved water sources, market based models are more efficient in moving from improved to safely managed water sources. As the majority of the population already have access to an improved source of water, the Policy focus will be on enabling the existing water assets to generate the savings necessary to cover the costs of O&M and asset replacement. Actions prioritized under the Policy to professionalize the management of water systems include:

- Establishing a state-owned Water Company or contracting private operators to generate the revenues necessary to operate, maintain and upgrade public urban water assets.
- Rewarding communities that develop efficient management systems for the operation and maintenance, billing and collection, replacement and expansion of public rural water assets.
- Strengthening access to high quality personnel (i.e. engineers, plumbers, drillers), products (i.e. tanks, pipes, meters) and techniques (i.e. drilling rigs, HDPE welding)
- Improving access to finance for households (i.e. via loans, rebates, consumer cooperatives) to access higher quality drinking water products (i.e. water supply meters, first flush systems, rainwater tanks).

### 1.3 Water Services Compliance

*Cognisant* of the fact that a greater reliance on market mechanisms can lead to exploitation of the quality and quantity of water; *the Policy endeavours to strengthen the regulation of drinking water services requiring all water asset managers to be bound by 'quality of service' agreements with the government*

**What exists:** The Water Resources Management Act (2002) empowers the government to regulate water services requiring any non-customary users of water to apply for the right to undertake waterworks (clause 7), the right to use water (clause 8) and requiring all Rural Water Committees to register with the government (clause 19). The Water Resources Management Act (2002) also empowers the government to declare water protection zones (clause 26) and introduce a system of penalties (clause 32) and fees (clause 36) for the enforcement of the conditions listed under the Act. The Water Resources Management Act (2002) requires the government to establish a national water resources inventory (clause 25) detailing the occurrence, flow, characteristics, quantity, quality and uses of water. Working with NGOs, the government has developed a water inventory detailing all drinking water assets and a 4W matrix (i.e. who, what, where, when) detailing who is doing what and where and their progress.

**What doesn't exist:** There is currently no system within the Department of Water Resources for the granting of permits for waterworks or the licensing of water abstraction. There is also no system within the government (writ large) for applications that impinge on Water Resources to be referred to the Department of Water Resources. Although the Department of Water has developed a water inventory that GPS references all drinking water assets, there is no system for updating the O&M status of these assets. Similarly, although the government has developed a 4W system for tracking the progress of NGOs this doesn't include private and non-drinking waterworks and neither is it linked to the drinking water inventory. At the moment, there is also no system through which these Rural Water Committees can register with the government.

**What to do:** Given the weakness of the systems for extending licenses for the use and penalties for the miss-use of water resources, in spite of legislation requiring authorization for the use of water, the Policy will seek to create incentives for high risk users of water to comply with government standards for undertaking water works, using water and providing water for drinking. Actions prioritized under the Policy to strengthen the licensing of water system compliance include:

- Introducing a two-step permit system requiring a permit to undertake works to access water resources and a license to use water resources (especially for the supply of drinking water).
- Automating and linking the waterworks permit process to the inventory so that all 'permitted' water assets are added into the inventory.
- Automating and linking a licensing process (potentially engaging a Call Centre) to facilitate the two way flow of information on the status of water systems with Rural Water Committees.

## 1.4 Formalize Water Providers

*Realizing that rural water committees are not legal entities that cannot be held to account for 'quality of service' standards; the Policy endeavours to improve the accountability for compliance to 'quality of service' standards by seeking to vest public water asset ownership with a legal entity*

**What exists:** The Water Resources Management Act (2002) recognizes the presence of Rural Water Committees (clause 19) and the powers of the government to transfer water schemes to Rural Water Committees (clause 20) that shall report to the Provincial Water Resources Advisory Committee. Recognizing the improved performance associated with a greater role for women in Rural Water Committees the Act requires registration only if at least 40% of members are female (clause 20H). When these assets are transferred to communities they are effectively 'written off' in the public asset register as having zero value. In addition, the government has no established means to ensure that the water assets are maintained or the quality of water services are sustained. The Cooperative Societies Act (1982), the Charitable Associations Incorporation Act (1982) and the Companies Act (1986) all offer avenues for communities to register as not-for-profit entities with the capacity to own water assets and land (and bear their associated liabilities).

**What doesn't exist:** While the government can transfer water assets to Rural Water Committees, it cannot enter into enforceable agreements with them defining the quality and inclusiveness of the water services to be provided by those assets. This is primarily because Rural Water Committees in Vanuatu are not legal entities which means that they cannot legally own assets or incur expenses, sue or be sued and therefore they cannot be held externally responsible for any quality of service failures. As such, the liability for the water assets is not owned by anyone and any transactions (i.e. joint bank accounts) are actually made by individuals on behalf of the community. This limits the willingness of Rural Water Committees to save water tariff revenues to invest in the replacement and expansion of water facilities.

**What to do:** Given the inability of the government to enforce any discipline on informal Rural Water Committees, this Policy will prioritize the registration of Rural Water Committees as legal entities with the ability to own water assets and the associated liabilities. Actions prioritized under the Policy to strengthen the registration of Rural Water Committees include:

- Support from the government and NGOs to be directed to assist existing and new Rural Water Committees to register as legal not-for-profit entities and comply with requirements under any of the relevant Acts.
- Prioritize government and NGO support towards communities that are already legally registered entities and willing to comply with the roles required of the Rural Water Committees.

## 1.5 Rights of the Pipes

*Knowing* that the placing of public water assets on unsecured land undermines the security and safety of drinking water services; *the Policy endeavours to secure the land prior to the approval of any public water scheme*

**What exists:** *In rural areas;* most public water assets are placed on private land to be managed by community. Although the majority of publicly installed rural water supply schemes only provide water to standposts, the growing dependence on water piped onto the premises suggests that it is households extending these services. This is leading to an increased incidence of pipes being cut or damaged by landowners as well as landlords donating land so as to exercise control over access to public water assets. In such cases the lack of clarity as to whether it is the government, or the landlord, or the community that should finance water asset repairs undermines the security of water services. *In municipal and notified planning areas;* land is owned by the State and the drinking water assets are installed on state-owned land. However, water assets installed on state owned land are not necessarily secure because no one is responsible for protecting the rights of water supply assets from the infringement by other public and private services that may be installed on state owned land.

**What doesn't exist:** *In rural areas;* public water assets are placed on land that is unsecured because the communities to whom they are transferred cannot own land or sign a legally binding lease agreement or exercise rights to an easement. In addition, the rights of water pipes are not registered on the respective land titles and therefore the rights of those assets is not legally protected. *In municipal and notified planning areas;* no-one manages the state-owned land to protect the easement rights of water assets (i.e. requisite setbacks from electricity, telecommunication & drainage lines and the). No one is enforcing compliance to the spatial plans (zoning) or coordinating activities amongst the various departments responsible for public service provision.

**What to do:** Water insecurity is associated linked to a failure to secure the land on which public water assets are installed and therefore this Policy will prioritize the securing of the land rights of water assets. This will seek to ensure that the 'rights of the pipes' are secured against tampering, against a failure of appropriate O&M and against the denial of access to public drinking water assets. Actions prioritized under the Policy to strengthen the 'rights of water pipes' include:

- Require that the ownership, or lease, or easement rights of any new land that will host public water assets to be registered on the land title deed.
- Recognize the easement rights of existing water assets on their respective land titles irrespective of whether the land is privately or state owned.
- Strengthen the management of state owned land by empowering an agency (i.e. municipality, Province, PWD) to undertake coordination to protect the easement rights of all public assets.

## 1.6 Provincial Council By-Laws

*Understanding* that ensuring drinking water services for all has been clearly assigned to the provincial governments; *the Policy endeavours to separate the regulation of failure (by the central government) from the licensing of compliance (by the provincial governments)*

**What exists:** The Public Health Act (1994) assigns the responsibility to the Provincial (Municipal) Councils to ensure (enforce) sufficient & safe water for all (clauses 42, 43 & 44) and the authority to pass by-laws (clause 116). The Decentralization Act (1994) empowers the Provincial Council to pass by-laws for constructing, maintaining and managing water supply (clause 20). The Water Resources Management Act (2002) establishes Provincial Water Resources Advisory Committees to advise the provincial government and the Decentralization Act empowers such committees to draft by-laws for the consideration of the Provincial Council. A Legislative Review of the Public Health Act by the Vanuatu Law Commission identified the power of custom in defining practice at the community level recommending that changes to public health by-laws reflect custom rules on hygiene and sanitation.

**What doesn't exist:** While legislation assigns the responsibility to ensure safe and sufficient water for all to the provincial governments they play a negligible role in service provision. In spite of the political sentiment accorded to decentralization, there has been very limited delegation of funds and functionaries to the provinces or municipalities. Almost all of the functionaries and funds deployed at the provincial level are managed by central departments. In spite of this, neither the central or provincial government exert any significant influence at the community level, where the Chiefs of custom and the leaders of the church tend to define community rules and practices.

**What to do:** In a context where there is little appetite for fiscal decentralization, there is the potential to strengthen a regulatory model of decentralization. This would entail strengthening the role of the provinces in the passing of water resources and drinking water management by-laws that strengthen the role of Area Councils to pass rules that ensure compliance. Actions prioritized under the Water Policy to strengthen the licensing of compliance by the provincial governments include:

- The central development of model water by-laws for the consideration of the Provincial and Municipal Councils
- Support to Provincial Water Resources Advisory Committees to amend the model water by-laws to reflect the local context for consideration by the Provincial and Municipal Councils.
- The introduction of a requirement that only Area Councils with infrastructure zoning rules will be eligible to receive public water supply projects within their jurisdiction.



## 1.7 Secure Water Future

*Recognizing* that water is the primary medium through the impact of Climate Change is mediated and that the vulnerability to disasters significantly impacts the safety and security of water; *the Policy endeavours to strengthen coordination with other sectors and partners to understand, predict, design and invest to secure Vanuatu's water future.*

**What exists:** Vanuatu ranks amongst the world's most disaster-prone countries<sup>1</sup> being vulnerable to volcanic eruptions, earthquakes, tsunamis, cyclones, storm surge, landslides, droughts and flooding. The severity and unpredictability of many of these risks is anticipated to increase with global Climate Change. The impacts of climate change on agriculture, energy, industry and urbanization will be primarily mediated by changes in water patterns. While the dispersed population and tropical climate present certain challenges, the abundant natural resources, high rainfall and mountainous topography do offer multiple opportunities to store sufficient rain, surface and ground water to improve Vanuatu's future water and power security.

**What doesn't exist:** The Ministry of Climate Change was established in 2013 with Departments of Energy, Environment, Meteorology Geo-Hazards and National Disaster Management Office. While coordination in disaster preparedness and response is improving there is very little engagement between the Ministries on the long term prediction, planning and investment to respond to changes in the supply of rain, ground and surface water resources to secure sufficient safe water in the face of changes in water demand from agricultural, industrial and municipal users. The prediction of changes in future water rainfall patterns and hydrogeological patterns, the identification of micro-hydro, run-of-the-river hydro and reservoir based hydro-schemes has been largely independent of water supply investments.

**What to do:** While ensuring safe and secure water for all is the primary focus of this Policy, there is a recognition that risks posed by disasters and evolving changes to the natural and built environment challenge the safety and security of water in the medium to long term. This requires increased engagement with other sectors and partners to predict and reduce the impact of changes to the environment, plan and respond to potential disaster risks to safeguard sufficient water for all. Actions prioritized under the Policy to strengthen investments in securing Vanuatu's water future include:

- *Strengthened risk management:* through mapping water resources (ground, surface, rain) to enable investments in diversified water sources and increase storage giving priority to rain / ground water for drinking and surface water for agriculture and industry.
- *Improved disaster preparedness, response and recovery:* building on local knowledge to improve the protection of water supplies, strengthen response in coordination with other sectors and partners through improved data management, improve recovery through lesson learning and sharing knowledge to build back better.
- *Low carbon development:* utilizing renewable energy sources (i.e. hydro-schemes and solar pumps) and improved water pumping efficiencies including the storage of water to smooth the peaks and troughs of energy demand relative to supply.

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<sup>1</sup> United Nations University Institute for Environment and Human Security (2012) *World Risk Report*

## 2 Water Policy Implementation

**Priority:** The National Water Policy has defined seven priority areas for the Government of Vanuatu to strengthen water safety and security for all. The National Water Resources Advisory Committee (NRWAC) has been established under the Water Resources Management Act to guide the Director of the Department of Water Resources (DoWR) in the development of the National Water Policy.

**Implementation:** of the National Water Policy requires Provincial and Municipal Councils to pass drinking water by-laws clearly assigning and defining the consequences for water safety and security failures. The Water Resources Management Act has established Provincial Water Resources Advisory Committees (PWRAC) to coordinate activities such as the preparation of provincial water by-laws.

**Compliance:** with the National Water Policy will require Area Councils to develop enforceable rules prioritizing water safety and security. The enforceability of Area Council Rules will require Chiefs and Secretaries to combine both legal and social norms that enshrine water safety and security for all.

**Support:** The pre-eminence of the responsibilities assigned to Provincial and Municipal Councils may be supported by the Department of Water Resources through the issuing of “Model By-Laws”.

**Effectiveness:** The strong association of water safety, with spatial planning and infrastructure safety, with sanitation and hygiene practices, with improved health outcomes associated with the growth of children suggests that it would be beneficial for the Provinces to develop By-Laws and the Area Councils to develop Rules for water, sanitation & hygiene (WASH) infrastructure and services.

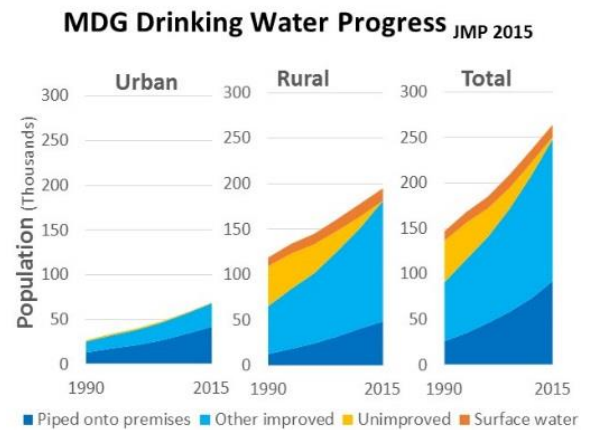
**Coordination:** With the drafting of a Sanitation and Hygiene Policy by the Ministry of Health there is an opportunity for the National and Provincial Water Resources Advisory Committees (NWRAC & PWRACs) to support the Provinces in the drafting of Water, Sanitation & Hygiene (WASH) Infrastructure and Services By-laws.

**Evaluation:** To determine the effectiveness of the policy prioritization of drinking water safety and security, the Department of Water Resources will need to work with the Ministry of Health to generate data on improvements in the average height-for-age of children, against biological water quality compliance, against the issuing of water works and water use permits and the implementation of drinking water safety and security plans (DWSSP).

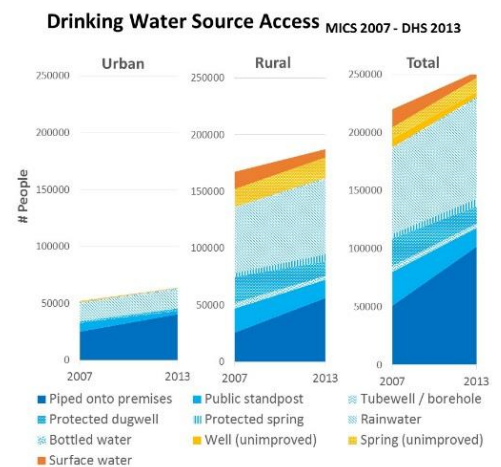


## Annex 1: Vanuatu Water Context (Demand Side Assessment)

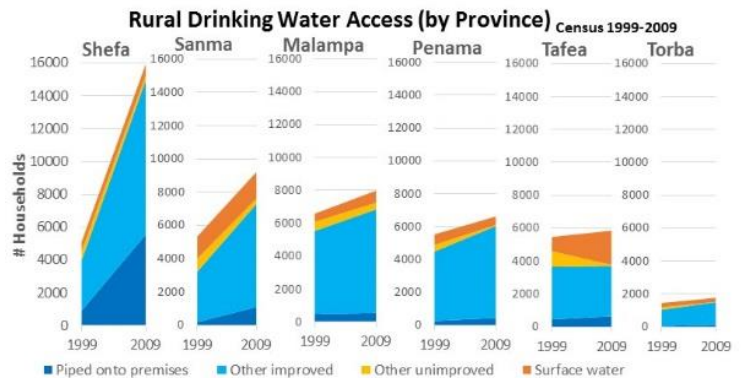
**Drinking Water Access:** Vanuatu successfully achieved the 2015 MDG of halving the percentage of those without access to an improved drinking water source since 1990. Nationally, the biggest improvement over the MDG period was access to water piped onto premises (17%) followed by other improved water sources (15%). Although the growth rate in urban areas was 1.8 times greater than the rural growth rate, the total increase in rural population was 1.8 times greater than that of the urban population. As a result, the major challenge still lies in rural areas that house most of the population (75%), have higher levels of poverty and remain unreached with improved drinking water access.



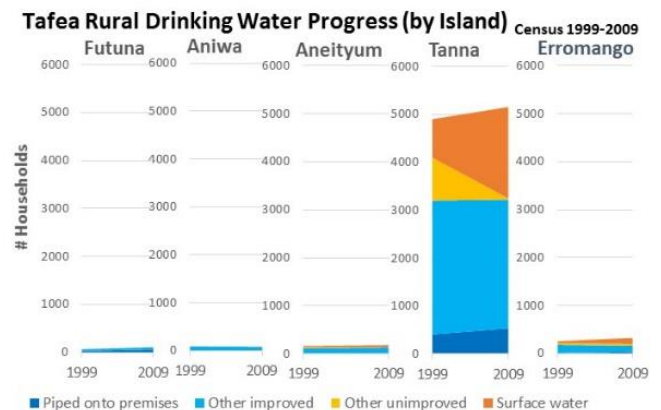
**Form of Drinking Water Access:** Access to piped drinking water either from a public standpost or piped to the dwelling is the now most popular primary source of drinking water for households. Access to piped drinking water on the premises has been the major area of progress between 2007 and 2013, while access to piped water from public standposts declined and access to rainwater tanks increased slightly over this period. A significant percentage of urban households with access to piped water appear to also rely on rainwater as their primary drinking water source. The reliance on bottled water in both rural and urban areas is still low with negligible penetration over this period.



**Equity of Drinking Water Access:** In spite of the percentage increase in access to improved drinking water sources, provincial analysis across the middle of the MDG period (1999 – 2009) reveals that the number of households without access has remained static (i.e. those without access remained unreached). Shefa recorded the most significant progress (and with the highest population growth) reaching more households with improved drinking water sources (11,000 HH) than the rest of the five provinces combined (7,500 HH).

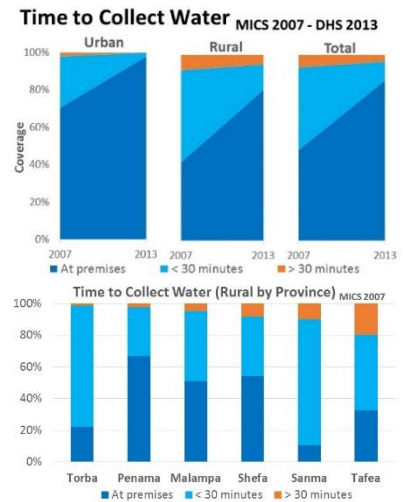


- Tafea recorded negative progress with only 50 additional households gaining access to an improved drinking water relative to a population growth by 500 households. In terms of overall performance, changes in access on Tanna will tend to define the performance of Tafea Province as a whole because the number of households on Tanna is more than 7 times greater than the sum of the number of households on the other 4 islands put together.



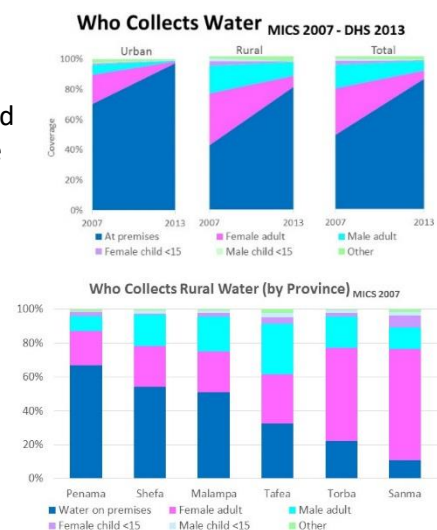
**Proximity of Drinking Water Access:** improved over the middle of MDG period with drinking water access on the premises (i.e. from pipes, rainwater, tubewells, dugwells etc.) increasing significantly from 49% in 2007 to 86% in 2013 reaching 100% of urban households. Over the same period, the percentage of the population travelling more than 30 minutes to collect water almost halved from 7% in 2007 to 4% in 2013

- *Provincial rural:* proximity of access of households to drinking water within a 30 minute round trip was almost universal in Torba (99%) and Penama (98%) and lowest in Tafea (80%) in 2007. Rural access of households to drinking water on the premises was extremely low in Sanma at just 11% and highest in Penama at 67% in 2007.



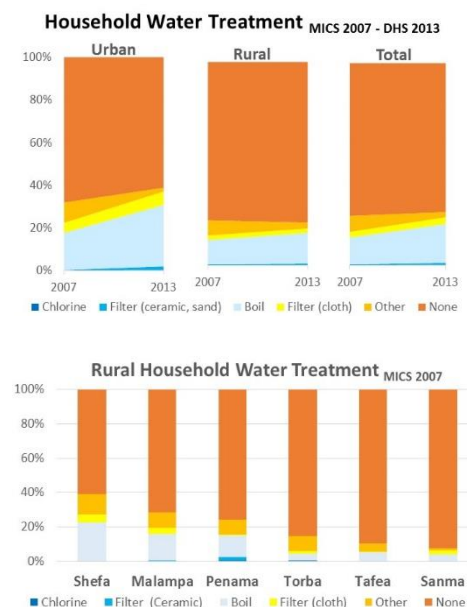
**Gender Balance:** in the collection of drinking water improved over the middle part of the MDG period with the collection of water by women dropping six-fold (i.e. from 30% to 5% of the female population) while the collection by men dropped two-fold (i.e. from 15% to 6.5% of the population). As a consequence, the responsibility for the collection of water off the premises had shifted to a point where men were more bearing more responsibility than women for the collection of drinking water.

- *Provincial rural:* gender analysis in Torba and Sanma reveals that 80% to 90% of drinking water was not available on the premises in 2007 and women undertook 4 to 5 times more of the water collection than men. By contrast in Malampa and Shefa, just under 50% of drinking water was not available on the premises and the responsibility was almost equally shared between men and women in 2007.

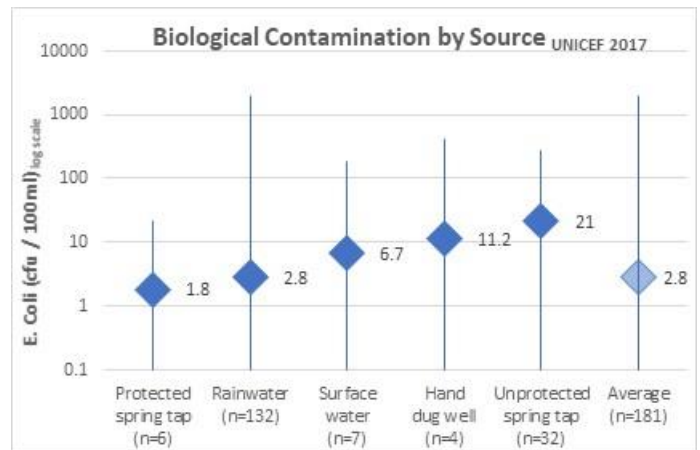


**Drinking Water Treatment:** Over the period from 2007 - 2013, the percentage of households undertaking safe drinking water treatment practices increased from 14% to 20%. This was primarily associated with an increase in the practice of boiling water primarily in the urban areas. This suggests a growing awareness of an increasing unsafety of drinking water. In the absence of any significant surveys of drinking water quality it is hard to estimate the exposure to water quality risks.

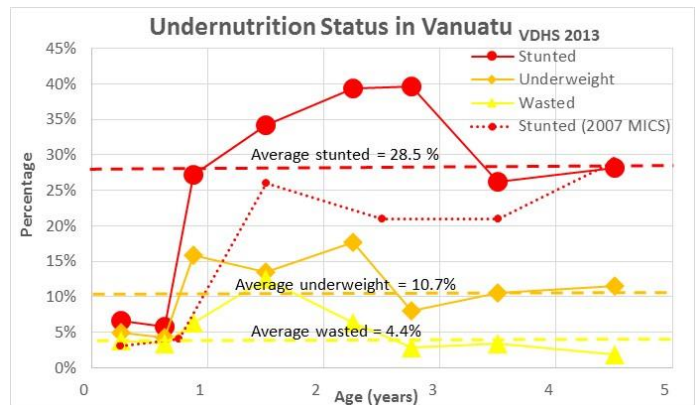
- *Provincial rural:* analysis revealed that safe drinking water treatment practices by households were the lowest in Sanma, Tafea and Torba ranging from just 4% – 5% in 2007. Household safe drinking water treatment practices is highest in Shefa, Malampa and Penama but still relatively low ranging from just 20% - 15% of households in 2007.



**Water Quality:** There are no national surveys or database establishing the biological safety of drinking water against the National Drinking Water Quality Standards of <1 E. Coli colony forming unit per 100ml. A water quality assessment by UNICEF found 51% and 45% of water at source and point of use in conformance with the national water quality standards. Protected springs and rainwater were less contaminated at source as compared to surface water, hand dug wells and unprotected springs. The DoWR is analysing secondary data to enable the determination of water safety risk profiles by source to estimate the safety of access.

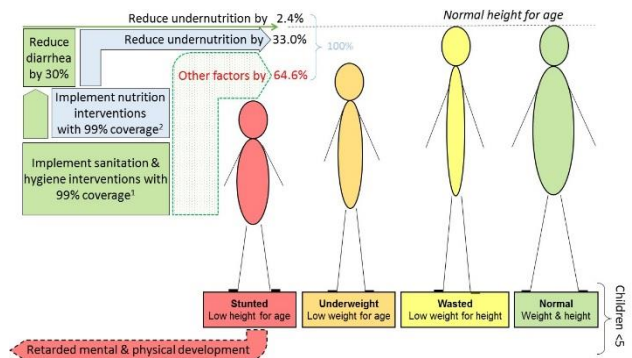


**Drinking Water Impact:** According to the World Bank data bank, the prevalence of chronic undernutrition in children under 5 (stunting) has increased from 24.6% in 1983 to 28.5% in 2013. Allowing for population growth, this means that there are approximately twice as many children under five that are stunted as compared to 1983. The prevalence of stunting increases significantly from 9 months to 3 years of age and this trend appears to have become worse over the period from the 2007 MICS to the 2013 DHS.



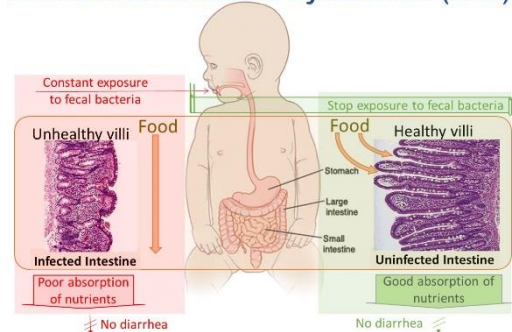
**Addressing Chronic Undernutrition:** Meta-analysis of all the known randomized control trials on interventions addressing chronic undernutrition (stunting) in children under 5 concluded that:

- All nutrition interventions – incl. vitamin A and zinc and energy protein supplements, complementary feeding, breastfeeding promotion & micronutrient supplements in pregnancy – implemented with 99% effectiveness would decrease the average height deficit of Asian & African children by 33%<sup>2</sup>.
- All sanitation and hygiene interventions implemented with 99% effectiveness would reduce diarrhea incidence by 30% which would in turn decrease the prevalence of stunting by only 2-4%<sup>3</sup>.



**Environmental Enteric Dysfunction (EED):** This meta-analysis implies that 65% of interventions to address the causes of chronic undernutrition (stunting) have not yet been quantified. One such gap is the knowledge of a sub-clinical condition known as environmental enteric dysfunction (EED) where constant ingestion of fecal bacteria can lead to the blunting of intestinal villi resulting in the malabsorption of nutrients without diarrhea symptoms. This suggests that the presence of faecal bacteria in drinking water may be associated with the high rates of stunting in Vanuatu.

### Environmental Enteric Dysfunction (EED)

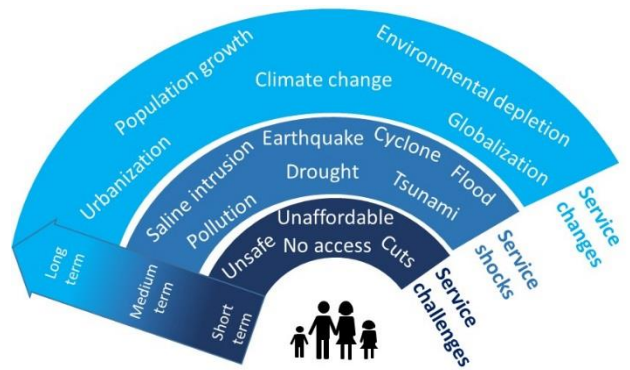


<sup>2</sup> Humphrey J H (2009) *Child under-nutrition, tropical enteropathy, toilets, and handwashing*; Lancet

<sup>3</sup> Bhutta ZA, Ahmed T, Black RE (2008) *Interventions for maternal and child undernutrition and survival*. Lancet

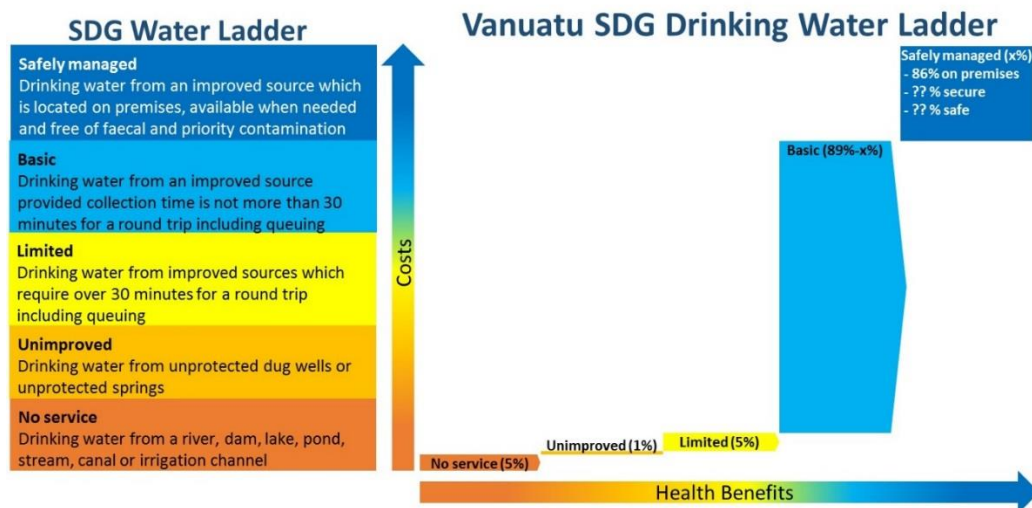
**Water Effectiveness:** Diarrhoea affected 12% of children in the 2 weeks preceding the 2013 DHS. Contrary to expectations, the DHS 2013 found that diarrhoea in children was more common in households with an improved drinking water source and the highest wealth quintile. This supports recent evidence suggesting that diarrhoea may be more strongly associated with changes in the biological contamination of drinking water (i.e. the unpredictability of water safety) while chronic undernutrition (i.e. stunting) may be more strongly associated with consistent levels of exposure to biological contamination of the drinking water (i.e. consistently unsafe water).

**Water Security:** Vanuatu ranks amongst the world's most disaster-prone countries being vulnerable to volcanic eruptions, earthquakes, tsunamis, cyclones, storm surge, landslides, droughts and flooding. The severity and unpredictability these risks is anticipated to increase with water being the primary medium through which the impact of Climate Change will be mediated on energy, agriculture, industry and urbanization. While Vanuatu is blessed with abundant water resources there is a need to secure those water resources in the face of growing risks and greater uncertainty.



**SDG Water Status:** The sustainable development goal (SDG) for water is captured in Target 6.1 “to achieve universal and equitable access to safe and affordable drinking water for all by 2030”. The concept of a drinking water ladder seeks to capture progress towards everyone accessing a ‘safely managed’ service. This requires an improved water source that meets the following conditions:

- the source should be located on premises (within the dwelling, yard or plot),
- the water should be available when needed, and
- the water supplied should be free from faecal and priority chemical contamination.



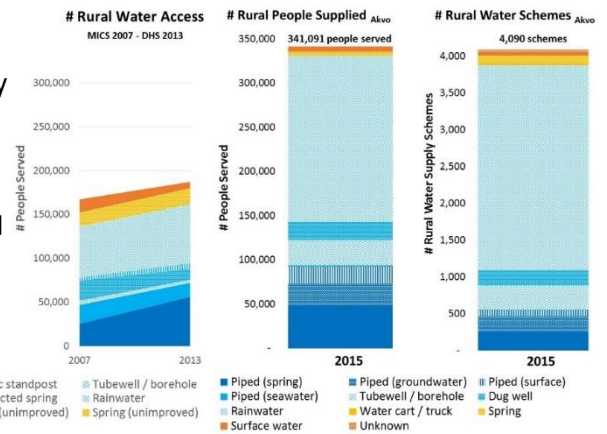
In Vanuatu, only 5% of the population are accessing surface water (classified as having no service), while 1% have access from unprotected wells or springs (classified as unimproved). Although 94% of the population have access to an improved source, a total of 5% of the population require more than 30 minutes per round trip to collect water from this source (classified as limited). This means that 89% of the population have access to an improved water source within 30 minutes (classified as basic) however there is insufficient data to calculate the percentage of water which is classified as safely managed. While it is known that 86% of the population have access to water on the premises, the availability of water when needed (i.e. security of water) and the percentage of water that is free of contamination (i.e. safety of water) is unknown. *This suggests that drinking water safety and security is the priority challenge within in the Vanuatu context.*

## Annex 2: Vanuatu Water Context (Supply Side Assessment)

Over the period from 2014 – 2016, the Department of Water Resources conducted a national water supply inventory of all drinking water assets in Vanuatu. Primary data collection was completed in collaboration with UNICEF deploying the AkvoFlow mobile application. The collection of the water inventory was executed by DGWMR and NGO partners (primarily CARE, ADRA and OXFAM). The Akvo water inventory data was assessed against the key domains of functionality, management, maintenance, gender, quantity, quality, sustainability and access.

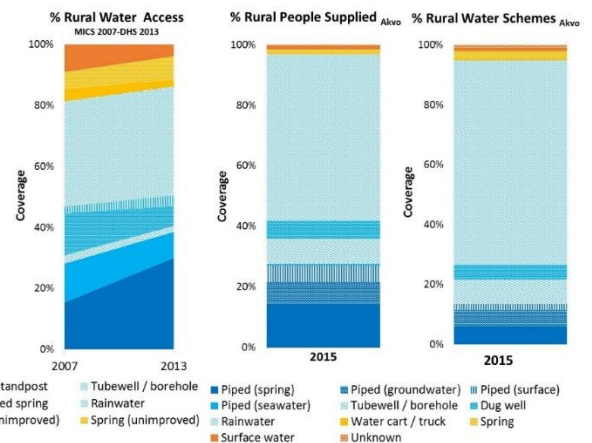
### Supply Side Access to Drinking Water

The Akvo flow data indicates a total of 4,090 water supply schemes in Vanuatu with rain water systems constituting the vast majority with 2,793 schemes. When compared with demand side analysis, the Akvo flow data over-estimates the number of people served suggesting a total of over 350,000 people. With a total rural population in Vanuatu of <200,000 people, this overestimation may be a consequence of families accessing drinking water from multiple sources.



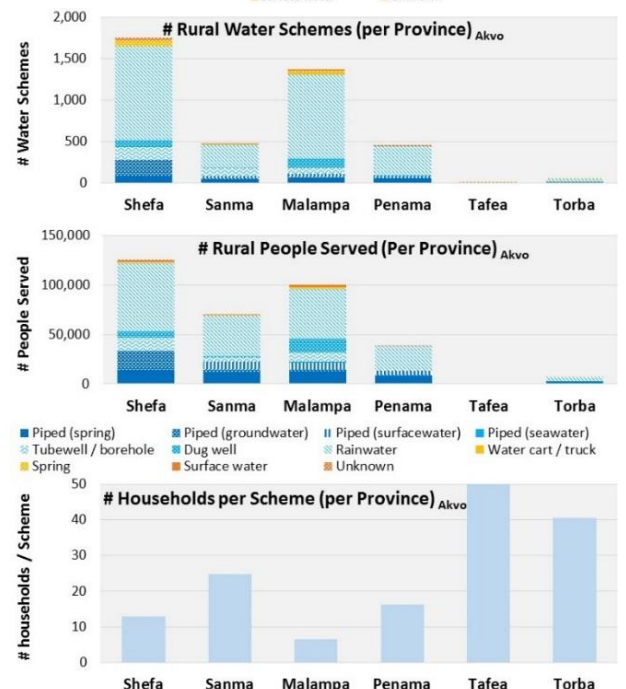
### Supply Side Access by Drinking Water Assets

The number of schemes does not necessarily relate to the percentage of people served by those schemes. Again, when compared with the demand side data, the Akvo supply side data tends to over-estimate the percentage of the population served by rainwater. This could be due to the fact that the presence of rainwater tanks are physically obvious. This also could be because rainwater tanks have lower levels of functionality, are less desirable as a drinking water source than estimated or serve fewer people than estimated.



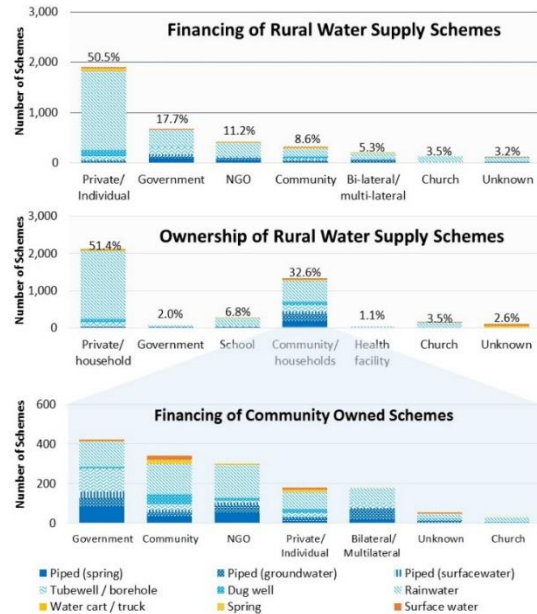
### Supply Side Access by Province

Analysis of the number of schemes by Province reveals that Shefa has the most water supply schemes followed closely by Malampa. While the numbers of people served have been overestimated for all Provinces, this tendency also seems to have been the greatest in Malampa. As a result, Malampa has more than twice as many schemes per household served and almost four times as many schemes per capita as any of the other Provinces. This suggests that capital investments should be directed towards Provinces other than Malampa where there are fewer water schemes per capita served. It also raises the question as to whether there are more dysfunctional schemes in Malampa as compared to the other Provinces. This Provincial analysis also reveals the absence of data for Tafea the completion of which would further increase the over estimation of the numbers of people served.



## Ownership of Schemes

Over half of all rural water supply schemes are privately owned and privately financed. While community is the second most significant owner of rural water supply schemes, community is a minor financier of these schemes. Community owned schemes have been primarily financed by government, community, NGOs, individuals & donors. In particular, communities are the dominant owner of piped water supply schemes that have been primarily financed by the government and NGOs. The securing of the land with the water supply assets is largely the responsibility of the communities. As communities cannot legally own water assets, or bear the liabilities associated with water asset ownership, the securing of the land with the water supply assets with financing and refinancing liability remains problematic.



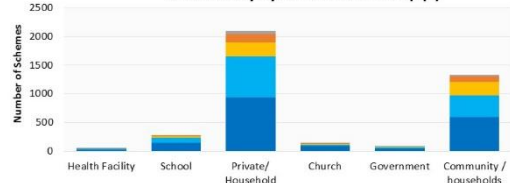
## Functionality of Schemes

The functionality of rural water supply schemes was reasonable with almost 50% of schemes cited as functioning “good” while almost 80% of schemes were functioning “good + fair”. “Good” functionality was highest amongst church owned schemes (63%) and lowest amongst community owned schemes (44%). “Good + fair” functionality was highest amongst health facility owned schemes (90%) and lowest amongst community owned schemes (70%). Poor functionality was also greatest amongst community owned schemes. Greater representation of women in rural water committees and greater involvement of women in the management of schemes being associated with higher levels of functionality.

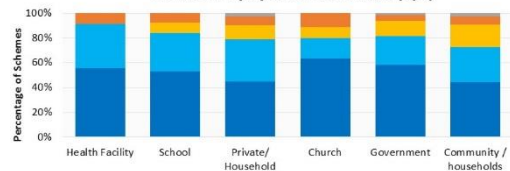
## Functionality of Schemes



## Functionality by Scheme Ownership (#)



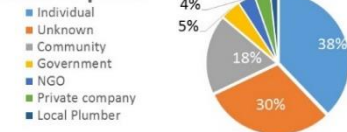
## Functionality by Scheme Ownership (%)



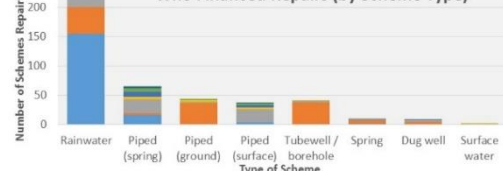
## Financing of O&M

The major financier of repairs to water supply schemes were individuals repairing privately owned schemes which were primarily rainwater systems. The second largest financier of repairs to rural water schemes was unknown. The third largest financier of repairs to rural water schemes were communities repairing community owned schemes which were primarily piped water systems. In spite of being a major owner of rural water supply schemes, communities financed repairs in less than a third of the schemes that they owned. This tendency to subsidize communities to repair their own schemes undermines the delegation of the ownership of assets and the associated liabilities to communities.

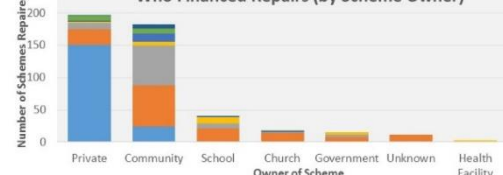
## Who Financed Repairs?



## Who Financed Repairs (by Scheme Type)



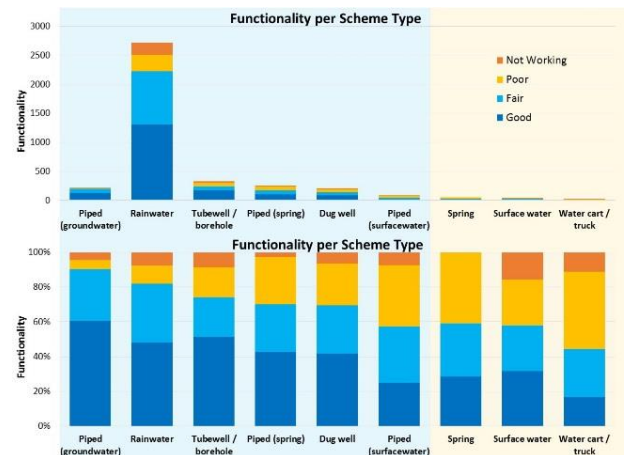
## Who Financed Repairs (by Scheme Owner)





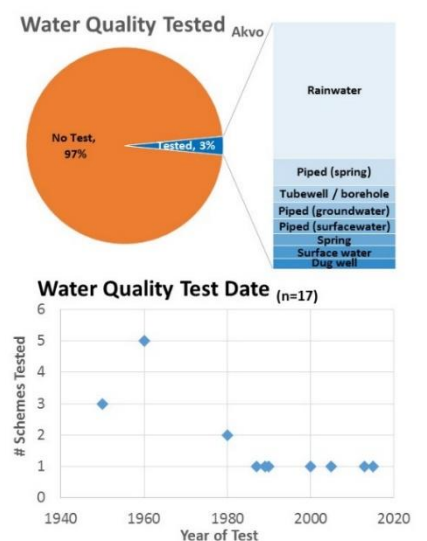
### Scheme Functionality

The functionality of improved drinking water supply schemes is better than unimproved drinking water schemes. The “good” functioning of water supply schemes was highest amongst piped ground water schemes (60%) and lowest amongst water carts (17%). The “good + fair” functioning of water supply schemes was also highest amongst piped groundwater schemes (90%) and lowest amongst water carts (44%). Unimproved water supply schemes were most likely to be not working or functioning poorly.



### Water Quality Testing

The prevalence of water quality testing is extremely low in Vanuatu with only 3% of schemes tested. The type of the water quality test (H<sub>2</sub>S strip, laboratory, other) and the year of the test was known for just 0.5% and 0.4% of the schemes respectively. The results of these water quality tests were not known by the owners of any of these schemes.



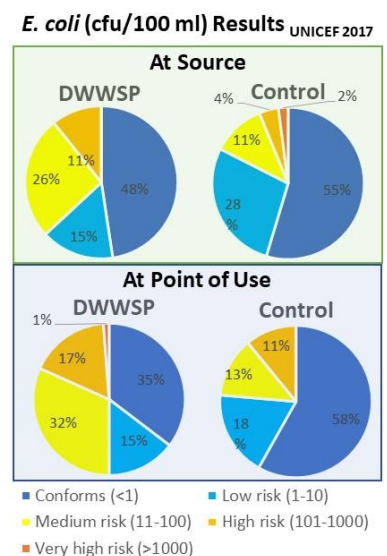
### Water Quality Standards

The Vanuatu National Water Quality Standards (2016) were issued to ensure that all Vanuatu communities can have confidence in the quality of drinking water that they are receiving. Consistent with the World Health Organization (WHO) guidelines, these standards combine end-point water quality compliance standards with water safety planning processes designed to manage water quality risks. Recognizing the significant differences in risk and capacity, these standards differentiate between urban and rural standards.

### Drinking Water Safety & Security Planning (DWSSP)

Water Safety Planning processes were initiated with DoWR and the Ministry of Health’s Environmental Health Unit in 2006 following the 3<sup>rd</sup> Edition of the WHO Water Safety Guidelines. Since then, the Government of Vanuatu has expanded this to include Drinking Water Safety and Security Planning (DWSSP) to address the challenge of securing sufficient and sustainable water resources reliably safe for human consumption. The Vanuatu National Water Strategy (2008–18), the National Environmental Health Policy and Strategy (2012–16) have prioritised DWSSP for community water supply schemes. More recently, the National Sustainable Development Plan (2016-2030) has targeted 100% of community water supply systems with DWSSPs by 2030. As of December 2016, revisions to the Water Supply and Water Resource Management Acts require all urban and rural drinking water supplies to prepare drinking water safety and security plans (to be audited by DoWR).

While there is little doubt of the strategic importance of DWSSP in the context of Vanuatu, the introduction of DWSSP’s does not mean that drinking water is necessarily safer or more secure. Recent analysis by UNICEF showing higher levels of biological contamination in DWSSP versus control schemes.



## Annex 3: Vanuatu Water Context (Institutional Assessment)

The following assignment of responsibilities for water gives precedence to legislation passed by national and local councils over the standards, rules and strategies developed for their execution.

**Water Resources Management Act [CAP 281]:** establishes the ownership of water resources with the Minister of Land and Natural Resources on behalf of the State but assigns water access rights for customary use with custom landowners. The Act requires the Director of Water Resources to declare water protection zones and issue waterworks / wateruse permits for the non-customary use of water resources. The Act enables the Director to set standards and penalize compliance failures. This Act empowers the Director to transfer schemes to Rural Water Committees that meet certain standards (i.e. undertaken DWSSP, at least 40% women representation, registered with the Provinces). The Act establishes National and Provincial Water Resources Advisory Committees (NWRAC & PWRACs) to strengthen coordination with other sectors.

- *Vanuatu National Water Strategy (2008-18):* Prioritizes the regulation function and capacities of DoWR (supported by the NWRAC); the community management of water schemes (with greater support of the Provinces); improved knowledge management of water resources; strengthened water quality standards, monitoring and water safety planning for risk management; the preparation of Provincial master plans for water resource development and management.

**Water Supply Act [CAP 24]:** establishes the responsibilities for urban water supply schemes up to the water meter (but not service failures) with the government (or its concessionaire) and beyond the meter with the customers. The Act empowers the Minister of Lands and Natural Resources (with the approval of the Council of Ministers) to let water supply concession contracts to the private sector. The Act requires concessionaires to have drinking water safety plans audited by the Department of Water Resources. The Act empowers the Minister in consultation with the Director from the Ministry of Health to issue water quality standards and penalize compliance failures.

- *Vanuatu National Drinking Water Quality Standards (2016):* Establishes a biological standard for urban water supplies of a free chlorine residual of  $\geq 0.2$  mg/L or  $< 0$  e. *Coli* CFU/ 100 ml as well as standard set of physical / chemical parameters. Establishes a biological standard for rural water supplies of  $< 0$  e. *Coli* CFU/ 100 ml requiring water safety plans and an assessment against source risk profiles as well as a basic set of physical / chemical parameters.

**Public Health Act [CAP 234]:** establishes the responsibility of provincial councils to ensure and municipal councils to enforce sufficient access to safe water for all. The Act requires owners and/or occupiers of premises that design and construct water supply systems to comply with public health standards. The Act provides for water quality sampling by environmental health officers and the imposition of penalties or closure of polluted water outlets / sources. The Act also assigns the responsibility for maintaining the safety of water for drinking to the occupier of premises. A Law Commission review suggests a greater role for Area Councils in developing public health rules to strengthen water and sanitation service delivery compliance.

**Food Control Act [CAP 228]:** empowers local authorities to regulate the regulate the preparation, storage, sale and use of food (& water) to ensure public health and safety. This includes the safety of water for consumption as well as preparation hygiene and sterilizing food processing equipment.

**Decentralization Act [CAP 230]:** establishes local government councils as a body corporate (i.e. with perpetual succession and power to sue and be sued and own assets) in local government regions defined by the Minister of Internal Affairs. The Act empowers Provincial Councils to pass (and notify sub-committees to draft) by-laws for water supply and public health services to be gazetted into law by the Minister of Internal Affairs after a complaint redressal period. The Act empowers Provincial Councils to issue licenses, contracts & set rates for water & sanitation service delivery. Provincial Councils are required to approve their annual budget and may incur debt from donors.

**Municipalities Act [CAP 126]:** establishes municipal councils as a body corporate (i.e. with perpetual succession and power to sue and be sued and own assets) in regions defined by the Minister of Internal Affairs. Municipal councils exercise control over and care for all roads (including the right of way for public pipes, sewers, drains & cables) and public open spaces within a municipal area. If necessary, the municipality may carry sewers, drains and pipes through and across any land after notifying the owner. The municipal council is responsible to control, manage and administer the municipality to safeguard public health. Municipalities are empowered to pass By-Laws to protect the safety or maintain the health or suppress nuisances for the inhabitants within the municipality.

**Environmental Conservation Act [CAP 283]:** provides for the conservation, sustainable development and management of the land, air and waters of Vanuatu. Water as defined in the Act refers to all surface water (flowing or situated), groundwater (including geothermal) and estuarine / coastal seawater and therefore does not pertain to water contained in works. All projects, proposals and activities that cause or are likely to cause significant environmental, social and/or custom impacts are required to undergo an Environmental Impact Assessment (EIA). The Act requires the Minister of Environment to issue wastewater standards and regulations governing water pollution.

**Physical Planning Act [CAP 193]:** enables any Municipal or Local Government Council to declare any area within its jurisdiction a Physical Planning Area requiring the preparation and gazetting of a physical (zoning) plan for that area by the Minister for Internal Affairs. No person shall carry on development in a Physical Planning Area without the approval of the Council.

- *Municipal Building Permits:* limits the construction of any works subject to an environmental impact assessment (Department of Environment) and compliance with zoning requirements (Municipal Town Planning & Building Division), rights to develop the land enshrined in the land title or lease (Department of Land, Survey & Registry), building safety (Public Works Department), fire safety (Fire Department), approval for a water connection (DoWR or its concessionaire) and inspection (Municipal Town Planning & Building Division).

**Building Act [No. 36 of 2013]:** Empowers the Minister of Infrastructure and Public Works Utilities to prescribe a Building Code for the construction of buildings in any municipality or Physical Planning area or any building owned or partly owned by the State. This requires that no person may construct a building without first obtaining a building permit from the Authority. No building or any part of a building may be occupied or reoccupied unless the Authority has issued a fitness to occupy certificate (based on an inspection against the terms of the building permit).

- *Vanuatu National Building Code (2000):* Specifies compliance with AS 3500 Plumbing and Drainage Code and AS 2179/80 Metal Rainwater Goods Standard (Specification, Selection & Installation). The code includes plumbing and rainwater specifications for any buildings (DF5 & DF7), public buildings (NF5 & NF7) including fire mains (NE 1.2).

**Utilities Regulatory Authority Act [No. 11 of 2007]:** Establishes the Utilities Regulatory Authority (URA) to promote consumers long-term interest in access to safe, reliable and affordable electricity and water services throughout Vanuatu. URA approves tariffs for electricity and water services for State-Owned Public water enterprises and private providers under Concessions Contracts. URA is mandated to assist in resolving consumer complaints and advises the Government on policy and legislative matters related to electricity and water.

- *Customer Complaints and Dispute Resolution Rules (2015):* provide a clear and transparent understanding of the consumers' and utilities' respective rights and obligations. The process defined in the rules establishes the powers and obligations of the URA to ensure a fair, impartial, transparent and consistent resolution of consumer complaints.

**Charitable Associations Incorporation Act [CAP 140]:** provides for the incorporation of a committee having not less than six members as a body corporate that may sue and be sued, own assets and liabilities including land to be registered with the Department of Lands. The Registrar of may impose conditions for the appropriate functioning is required to gazette every incorporation under the Act.

**Companies Act [CAP 191]:** provides for the establishment of not-for-profit Companies that promote social causes and prohibit the payment of any dividend to its members. Such Companies may be registered as a company with limited liability enjoying all the privileges but subject to exceptions in the obligations of limited companies (i.e. the freedom not to use the term “limited” in the name) specified by the Registrar of Companies (Commissioner of Vanuatu Financial Services Commission).

**Cooperative Societies Act [CAP 152]:** provides for the incorporation of a society comprising at least seven members with the Registrar of Cooperative & Business Development Services as a body corporate having perpetual succession, the power to hold property, to enter into contracts, to sue and be sued and distribute benefits amongst member. Cooperatives are required to enshrine one vote per shareholder even if some shareholders possess more shares than others.

**Custom Land Management Act [No. 33 of 2013]:** provides for the determination of custom owners and the resolution of disputes over ownership of custom land by customary institutions. Formalises the recognition of customary institutions termed ‘nakamals’ and ‘custom area land tribunals’ to determine the rules of custom which form the basis of ownership and use of land in Vanuatu.

**Land Reform Act [CAP 123]:** vests all state land and all public roads at the day of Independence with the Government of Vanuatu.

**Land Acquisition Act [CAP 215]:** provides for the acquisition of land and easements in the public interest including systems for determining appropriate compensation, appeal and resolution.

**Land Lease Act [CAP 163]:** provides for the registration of the rights and responsibilities of a lessee (Individual or body corporate) to land, water and air and the development of those resources.

**Business License Act [CAP 249]:** requires anyone undertaking “Water Works, Distribution and Supply Companies and Providers” for the “collection purification distribution, supply and sale of water to household, industrial and commercial users” to obtain a license from the Minister or Local Council.

**Vanuatu Qualifications Authority Act [No. 1 of 2014]:** establishes the Vanuatu Qualifications Authority to strengthen the post-school education skills training (i.e. plumbing), regulate the issuing of qualifications and ensure the maintenance of quality standards in associated trades.

**Education Act [No. 9 of 2014]:** Requires any registered government and non-government schools to comply with reasonable standards of health and safety.

- *Minimum Quality Standards for Primary Schools:* requires each school to have a water source and/or storage unit providing at least 2 litres of potable water for every teacher and student.

**National Disaster Act [CAP 267]:** Establishes the National Disaster Management Office (NDMO) to implement the strategies and policies of the National Disaster Management Committee. Requires the Director to activate the National Disaster Operations Centre and coordinate government departments in the event of the declaration of a state of Emergency by the President on the advice of the Council of Ministers.

**Meteorology and Geological Hazards and Climate Change Bill:** Assigns the coordination of climate change activities to the National Advisory Council on Climate Change (NACCC). The NACCC being formally recognized by the Vanuatu Council of Ministers to implement Multilateral Environmental Agreements for the Government. The Climate Change Unit in the Vanuatu Department of Meteorological Services (VMS) functions as the Secretariat of the NACCC.

The People												
CONSTITUTION OF THE REPUBLIC OF VANUATU												
Assembly Decentralization Act    Public Health Act    Water Resources Management Act    Custom Land Management Act    Education Act    Cooperative Societies Act Municipalities Act    Food Control Act    Utilities Regulatory Act    Land Leases Act    Land Reform Act    Environmental Protection Act    Qualifications Authority Act    Business Licence Act Physical Planning Act    Health Committees Act    Building Act    Water Supply Act    Land Acquisition Act <i>Meteorology and Geological Hazards and Climate Change Bill</i> National Budget (Annual)												
Cabinet Land Use Planning & Zoning Policy (2012)    Environmental Health Policy (2012-16)    Climate change and disaster risk reduction policy (2016-30)    Inclusive Education Policy (2010- 20)    Cooperatives Policy (2017)												
National Sustainable Development Plan (2016 - 2030)												
Ministry	Department of Local Authorities	Public Health Directorate (PHD)	Public Works Department	Utilities Regulatory Authority	Department of Water	Department of Lands	National Disaster Management Office	Department of Environmental Protection & Conservation	Department of Education	Technical Vocational Education and Training	Registrar of Cooperatives	Inland Revenue Department
	Zoning guidelines	Rural sanitation standards	National Building Code	URA Code of Practice	Establish NWRAC	Land transfer rules / fees		Environmental Impact Assessment (EIA)	Minimum quality standards for schools	Plumbers certification	Cooperative Rules	Business Licence Rules
		Pikinini Helt Book		Urban tariff decisions	Water strategy (2008-18)	Land lease rules		Effluent / wastewater standards			Consumer Cooperative By-laws	
				Small provider rules	Drinking water quality standard	Mandatory land acquisition rules						
					Rural water supply standard	Land easement rules						
					PV Concession							
					Water license							
Provincial Council	Notify Physical Planning Areas	Water & sanitation	Building Bye-Laws									
	Pass By-Laws	Water & sanitation	By-Laws									
	Gazette physical plan (zoning)											
Provincial Admin	Planning approvals		Building & completion certificate		Establish PWRAC			Approve EIA	Provincial Education Board (PEB)			Issue trade licenses
					License water committees							
Area Council		Public Health Rules				Nakamal form						
						Mediation form						
Municipal Council	Notify Physical Planning Areas	Sanitation By-Laws	Building Bye-Laws									
	Pass By-Laws	Sanitation By-Laws										
	Gazette physical plan (zoning)											
Municipal Admin	Planning approvals		Building & completion certificate					Approve EIA	Municipal Education Board (MEB)			Issue trade licenses

## Horizontal Assignment of Water Responsibilities

While the legislation tends to assign responsibilities vertically, the following summary seeks to understand the horizontal assignment of responsibilities for water and related sectors.

Who	How	What	Reference	Directive	Other
Central Government	Regulate WASH service failures	Safe sanitation & water for all	Public Health Act (1994), Cl. 5 & 6	Director (Public Health) to set water, sanitation & hygiene safety standards	Duty of every Local Authority to safeguard public health under the Act
		Water Resources Management	Water Resources Management Act (2002), cl. 14,	Director (Department of Water) to establish standards to control the taking of water & the construction of schemes	The Director may delegate powers to determine water rights, register water committees & set local standards
		Urban Water Supply	Water Supply Act (1955), cl. 22	Director (Department of Water) to set urban water standards. Minister may delegate management to concessionaire	Minister (Land & Natural Resources) & Minister (Health) to jointly establish drinking water safety standards
		Local Council By-Laws	Decentralization Act (1988), cl. 3 & 4	Minister (Local Government) may define Local Council Regions, appoint members & define Local Area Councils	Minister (Internal Affairs) to gazette Local Council by-laws if no complaints
		Planning	Physical Planning Act (1988)	Minister (Land & Natural Resources) to resolve appeals if applications are rejected by provincial/municipal councils	Zoning / physical planning to be undertaken by the provinces.
		Safe infrastructure	Building Act (2013), Cl.	DG (Infrastructure & Public Works) to establish building codes / standards	Codes to include plumbing standards & registration of plumbers
		Manage asset ownership risk	Cooperative Societies Act (1982)	Minister (Business Development) to appoint Registrar of Cooperatives	
		Certified services	Vanuatu Qualifications Authority Act (2014)	Registration of training providers & accredit engineers /plumbers' courses	
		Water pollution	Environmental & Conservation Act (2002)	Minister (Environment) make regulations governing water pollution standards	EIA required for all projects which may deplete or contaminate water resources
Arbitrate	Cost of quality services	Utilities Regulatory Authority Act (2007)	URA to ascertain the tariffs to maximise the provision of safe, reliable and affordable urban water services for all	To consult, investigate, share public information & resolve grievances. To give advice to the government.	
Provincial / Municipal Governments	License WASH service compliance	Local Government Authorities	Constitution of Vanuatu (1980), Cl. 82	Decentralization legislation to be enacted to enable people's participation	Local government councils to include representation by custom chiefs
		Provincial Government	Decentralization Act (1994), cl. 20	Council to pass by-laws for water, hygiene & public health services. Can notify Sub-Committees to draft by-laws.	Council has the power to issue licenses, contracts & set rates for water & sanitation service delivery
		Municipal Government	Municipalities Act (2006), cl. 25, Schedule	Council to pass by-laws to safeguard public health, provide sanitation services & regulate / license municipal services.	No mention of any exercise of authority of the municipalities over the provision of drinking water supply

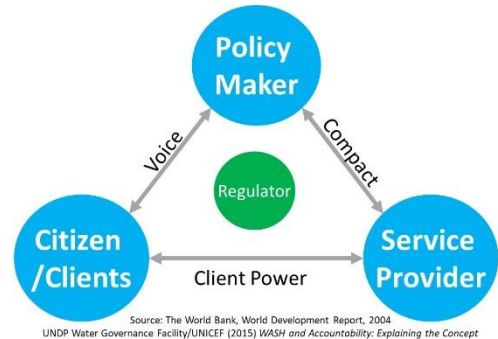
Who	How	What	Reference	Directive	Other
		Water & sanitation service provision	Public Health Act (1994), 42, 43 & 44	Councils to ensure (enforce) sufficient & safe water for all in rural (urban) areas	Local Council has powers to enforce on behalf of environmental health officers Local Councils may pass by-laws to address public health concerns
			Public Health Act (1994), 49, 50 & 51	Councils to ensure (enforce) sufficient & safe sanitation for all in rural (urban) area	
		Water resource management	Water Resources Management Act (2016)	Provincial water resources committee to advise the Province & rural committees	Rural water committees to sign formal agreements with provincial councils
		Planning approvals	Physical Planning Act (1988), Cl. 1 & 2	Councils to approve the development of any WSS assets in notified planning areas	No exemption for public authorities (except for maintenance)
		Building certification	Building Act (2013), Cl. 7, 14 & 22	Councils to provide building, completion & fitness to occupy permits for buildings in urban & notified planning areas	Councils empowered to make building by-laws to give effect to the Act
		Trade Licence Approvals	Business Licence Act (1998), Cl. 2	Provincial councils to issue trade licenses for all builders (incl. plumbers & masons)	Revenues from the licence shall incur to the provincial council
		Custom Rules for Sanitation	Public Health Act Legislative Review	Support chiefs to develop and enforce community WASH rules & standards	Need to link the enforcement of WASH standards to public health outcomes
Arbitrate	Dispute resolution	Custom Land Management Act (2013)	Mediation of land disputes by nakamal, land tribunal & island court		
	Dispute resolution	Co-operative Societies Act (1982)	Arbitration of disputes to be referred to the Registrar		
Asset Manager	Manage the provision of WASH Services	Land ownership	Constitution of Vanuatu (1980), cl. 73	All land belongs to customary owners (incl. rights to water for customary use)	The government owns water & may purchase land from customary owners
			Custom Land Management Act (2013)	Custom owners of land to be confirmed by customary institutions	
		Urban Water Supply	Water Supply Act (1955), cl. 22	DoWR (asset owner on behalf of gov't) can delegate water network management to a concessionaire	Liability for urban water connections is with consumers up to the point of discharge from the water meter
		Drinking water management	Water Resources Management Act (2016)	Water assets and their management can be transferred to rural water committees	Need to clarify if service delivery liabilities are transferred also!
		Safe food	Food Control Act (2007) Cl. 32, 33, 35,	All food premises to be fitted with water, sanitation & handwashing facilities	All water for sale must comply with WHO safety standards
		WASH in Schools	Education Act (2014), Cl. 15	To register all schools so they meet prescribed health and safety standards	All gov't & non-gov't kindergartens & schools must have a governing council
		WASH Cooperatives	Cooperative Societies Act (1982)	Can own assets, raise capital and distribute benefits among shareholders	Can invest in WASH asset upgrades and be held liable for WASH failures
		Private providers	Business Licence Act (1998), Cl. 2	No person shall carry out any business activity without a license	

### Accountability to Poor People

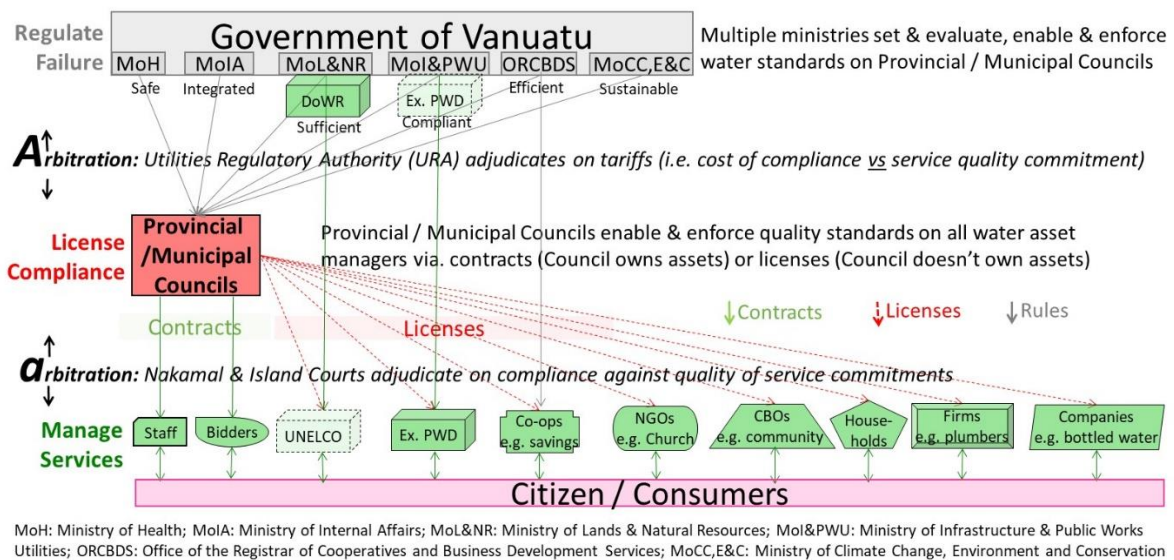
The accountability framework developed in the 2004 World Development Report prioritises the role of poor citizen / clients in holding service providers to account through two channels.

- As Clients (via the short route of accountability): through the payment for water services
- As Citizens (via the long route of accountability): through electing politicians to make laws and license / contract service providers

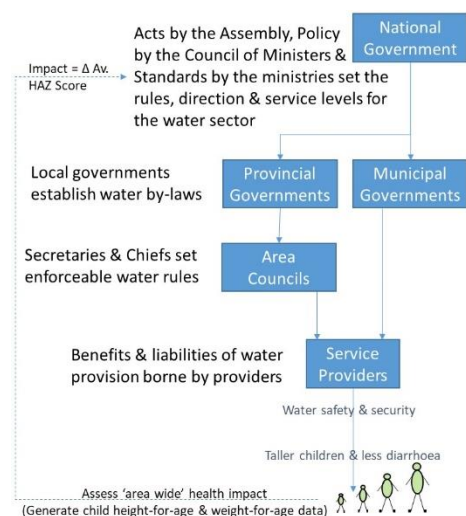
This has more recently been applied by the UNDP Water Governance Facility and UNICEF to a framework for Enabling Environment and Water Governance. This framework proposes that poor citizen / clients can hold service providers accountable when there is a clear separation of roles between the policy maker (sets the standards), the service provider (delivers services) and the regulator (arbitrates on compliance) and when collective action enables the voice and client power of the poor and excluded to be amplified.



Within a decentralized service delivery environment there is a need to make a further distinction separating POLICY (i.e. the regulation of failure by the central government from the licensing of compliance by local governments) from PROVISION (i.e. the management of services by water asset owners) from REGULATION (i.e. the adjudication on the costs of compliance by URA and nakamals).



The legislative assignment of responsibilities suggests that the responsibility for ensuring safe and secure water for all lies with the Local Governments (Provinces & Municipalities). Provincial / municipal councils being empowered to issue by-laws assigning (and defining) the consequences for water safety and security failures. For public assets and in notified planning areas, local governments are already empowered to issue building permits and right-to-occupy certificates (in addition to waterworks and wateruse permits). Local governments are also empowered to issue trade licenses for plumbers, builders and rural water committees while Area Councils are well positioned to develop rules to ensure the effectiveness of water services delivery for all.





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