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Rural Water Supply Operation and Maintenance in Ethiopia: A Critical Review of Policies, Proclamations, Regulations and Directives

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This research assessed Ethiopia's policies and regulatory frameworks for rural water scheme operation and maintenance, highlighting the evolution of these policies, key milestones, and implementation challenges. It analysed national strategies and regional directives, revealing disparities and emphasising the need for community involvement, capacity building, and financial management. The findings indicate that while Ethiopia's water governance has shifted towards decentralisation, significant gaps remain in financing, technical capacity, and community ownership. Recommendations include revising legal frameworks, improving coordination between authorities, engaging the private sector, and strengthening financial capacity to ensure sustainable and functional water systems.

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Abbreviations

FDRE	Federal Democratic Republic of Ethiopia
GTP	Growth and Transformation Plan
JMP	Joint Monitoring Programme
MDGs	Millenium Development Goals
MoFED	Ministry of Finance and Economic Development
MoWE	Ministry of Water and Energy
MoWIE	Ministry of Water, Irrigation and Energy
OWNP	One WASH National Programme
PASDEP	Plan for Accelerated and Sustained Development to End Poverty
SDGs	Sustainable Development Goals
SDRP	Sustainable Development and Poverty Reduction Program
UAP	Universal Access Plan
WASH	water, sanitation and hygiene
WASHCOs	water supply, sanitation and hygiene committees
WSDP	Water Sector Development Plan
WUAs	water user associations

Introduction

Background

Access to clean and safe drinking water is a fundamental human right and a critical component of public health and sustainable development. In Ethiopia, where a significant proportion of the population resides in rural areas, the provision of potable water is essential for improving quality of life and promoting economic development. Access to potable water has progressed from the Millennium Development Goals (MDGs) to the Sustainable Development Goals (SDGs) through different national strategies and plans in the country.

In 2000, access to potable water was 23% in rural areas (within 1.5 km), and 75% in urban areas (within 0.5 km) with a non-functionality rate of 30% (MoFED PASDEP, 2006). In 2002, the Ministry of Finance and Economic Development (MoFED) launched the Sustainable Development and Poverty Reduction Program (SDPRP). The target of the program was to increase water supply coverage to 31% in rural areas and 39% at national level (FDRE SDPRP, 2002). Through the national Plan for Accelerated and Sustained Development to End Poverty (PASDEP), that aimed to achieve MDGs, the government of Ethiopia envisioned to increase access to potable water to 35% in rural areas (within 1.5 km), and 80% in urban areas (within 0.5km) with a non-functionality rate of 10% (MoFED PASDEP, 2006).

To address the issue of non-functionality, the plan proposed establishing and organizing committees responsible for operation and management of schemes and community financing mechanisms for covering the cost of operation and maintenance (MoFED PASDEP, 2006). The water supply component of the PASDEP and the national Growth and Transformation Plan (GTP I) was used to develop the Water Supply and Sanitation Universal Access Plan (UAP). The UAP aimed to achieve 98% access to water supply for rural populations based on the GTP I standards, which state that access to water supply should be within 1.5 km at 15 litres per capita per day (MoWE UAP, 2011). When GTP I started, access to potable water was 69% in rural areas and the non-functionality rate was 20% (MoWIE GTP II, 2015).

In 2015, there was a global shift from MDGs to SDGs, which changed the national strategy of Ethiopia and the targets of the national GTP. In addition to providing universal access to water supply in all regions based on the GTP I standards, GTP II reevaluated standards for access to water supply. The standard for rural water supply access was 25 litres per capita per day within 1 km (FDRE GTP II, 2016). By 2020, GTP II aimed to increase access to potable water to 85% of which 20% would be through rural piped systems. In addition, the plan aimed to decrease the non-functionality rate to 7%. This was planned to be achieved through the legalisation of all WASHCOs to strengthen community management and the establishment of a supply chain for spare parts. In addition, the plan aimed to increase the engagement of the private sector in operation and maintenance of water supply schemes.

By 2020, access to drinking water supply was found to be 79% in rural areas, based on GTP II standards. Although there was a decrease in non-functionality rate to about 9%, the second national WASH inventory conducted in 2018 showed a non-functionality rate of 19% (MoWIE, 2021). According to the national WASH inventory conducted in 2018, the non-functionality rate was 19%, with Somali (48.4%), Harari (40.1%), Afar (25.2%) and Dire Dawa (22.3%) having the highest non-functionality rates (WRDC, 2021). The Ministry of Water, Irrigation and Energy prepared a ten-year strategic plan based on the National Ten-Year Development Plan, 'A Pathway to Prosperity'. The plan aims to achieve 100% service with 25 litres per capita per day 50% with public tap within 1km, which is similar to the basic service level of the Joint Monitoring

Programme (JMP) standards. The plan also aims to decrease the non-functionality rate to 7%. This is to be achieved by legalizing WASHCOs, and establishing WUAs, strengthening their administration, providing access to spare parts and maintenance services in all woredas, building the private sector's capacity for operation and maintenance, and increasing community contributions.

The country has made progress in establishing rural water supply schemes, yet challenges remain in their operation and maintenance, which are crucial for ensuring sustainability and functionality (MoWIE, 2018). Despite these efforts, many rural communities struggle with the technical and financial aspects of operation and maintenance, leading to high rates of non-functionality.

Community mobilisation and capacity building are essential for defining roles and responsibilities in operation and maintenance, yet past initiatives have often been rushed, focusing more on hardware than on the necessary software components for sustainability (Marvin, 2021). The study by Anthonj et al. (2018) emphasises the challenges associated with measuring water service availability in rural Ethiopia, highlighting different factors, including fee collection, access to post-construction support, and management arrangements on the functionality of water points. Tilahun et al. (2013) identified key factors affecting the sustainability of rural water supply systems in Ethiopia, emphasizing the critical role of community participation and the effectiveness of water committees. Many studies reveal that water committees are often established only to satisfy formal requirements, missing legitimate recognition from the user communities which can lead to lack of proper operation and maintenance of water supply systems (Linda Annala & Arto Suominen, 2016; Tilahun et al., 2013). Furthermore, the lack of effective financial management at the community level results in difficulties in conducting preventive maintenance and focus on maintenance when the system breaks down, highlighting the need for a comprehensive approach that includes budgeting for both hardware and software aspects of operation and maintenance (MoWIE, 2018).

To improve water point functionality, it is crucial to engage user communities throughout the planning and implementation processes, promoting a sense of ownership, which is vital for the community's commitment in maintaining water systems. (Anthonj et al., 2018, 2018; Linda Annala & Arto Suominen, 2016; MoWIE, 2018) notes that communities with longer-established water committees tend to have better management practices, suggesting that ongoing training for these committees could enhance water point functionality. To improve sustainability, the national operation and maintenance strategic framework calls for clearer roles, regular training, and adequate resource allocation to empower communities and ensure effective water supply management (MoWIE, 2018).

Institutional support for post-construction management remains vague, with communities often left to manage water supplies by themselves after construction (Marvin, 2021; MoWIE, 2018). Technical support for water supply management is coordinated by the woreda water offices, which oversee water supply infrastructure development projects. However, the woredas face significant challenges, including lack of financial and human capacity, high staff turnover, inadequate staffing ratios, and logistical difficulties in reaching remote communities (MoWIE, 2018). The lack of tools, spare parts, and budget allocations for operation and maintenance further hinders their efforts.

Ethiopia's National Water Resources Management Policy (1999) emphasises the importance of community ownership in managing water supply facilities (MoWR, 1999). The Ministry of Water,

Irrigation and Energy is the primary national agency responsible for water policy implementation. It collaborates with regional water bureaus and local governments.

However, the practical implementation of this policy has been inconsistent, often challenged by a lack of understanding and resources at the community level (MoWIE, 2018). The rural water supply operation and maintenance strategic framework emphasises the need for regional states to issue proclamations, directives, and regulations to establish water supply, sanitation and hygiene committees (WASHCOs), water user associations (WUAs), and rural water utilities. The One WASH National Programme (OWNP) has sought to address these discrepancies by promoting community involvement in the planning, construction, and maintenance of water facilities (OWNP, 2018b).

Objective and research questions

The main objective of this research is to critically assess the existing policies and regulatory frameworks governing rural water scheme operation and maintenance in Ethiopia at the national and regional level.

The main research questions are:

- What are the existing national policies, strategies, proclamations, and regulations governing rural water supply operation and maintenance?
- How have these policies evolved over time, and what are the key milestones in their development?
- What are the existing proclamations, regulations, and directives at the regional level that pertain to rural water supply operation and maintenance? How do these vary across different regions?
- What are the key challenges in implementing these policies?
- What policy recommendations can be proposed to improve rural water supply operation and maintenance in Ethiopia at both national and regional levels?

Methodology

The methodology for this research is designed to comprehensively assess a rural water supply operation and maintenance legislative framework at national and regional levels in Ethiopia by employing a mixed-methods approach.

Literature review

A thorough literature review was conducted to establish a foundational understanding of the existing policies, frameworks, and challenges related to rural water supply in Ethiopia.

More than 800 literature sources were compiled and reviewed for this research report. The literature sources were systematically reviewed to identify recurring themes, gaps, and challenges in the operation and maintenance of rural water schemes. After careful screening, about 200 sources were selected for further in-depth review because of their content pertaining to rural water supply, national and regional mandates, and overall relevance to this research. Finally, 120 literature sources are referenced and used in this research because their content is directly related to the research questions.

Key informant interviews

To gain deeper insights into the practical challenges and successes of rural water management, key informant interviews were conducted with a diverse group of stakeholders from Amhara region. The key informant interviews included regional water bureau officials and experts, woreda level officials and experts in Dera, Farta, and North Mecha woredas, which are implementation woredas for IRC WASH through the Conrad N. Hilton Foundation Sustainable WASH Programme and a renewal grant, and representatives from implementing NGOs in Amhara region.

Key topics covered in the interviews included the effectiveness of existing policies, proclamations, regulations, and directives, challenges faced in the operation and maintenance of water schemes, successful practices and lessons learned from community management, and recommendations for improving policy implementation and community engagement. Key informant interview questions and a list of interviewees can be found in Annex 1 and Annex 2 respectively.

Limitations

The number of key informants may not capture the full diversity of experiences and perspectives across all regions of Ethiopia. Future research could expand the sample size to include a broader range of stakeholders.

During the literature review, we were not able to find the proclamations, regulations, and directives pertaining to rural water supply operation and maintenance in Gambella region. Additionally, there are limited resources available for Benishangul-Gumuz and Somali regions.

Results and discussion

National policies, strategies, proclamations, and regulations

Figure 1 shows the main milestones in relation to national-level policies until 1991, which mostly focused on central governance.

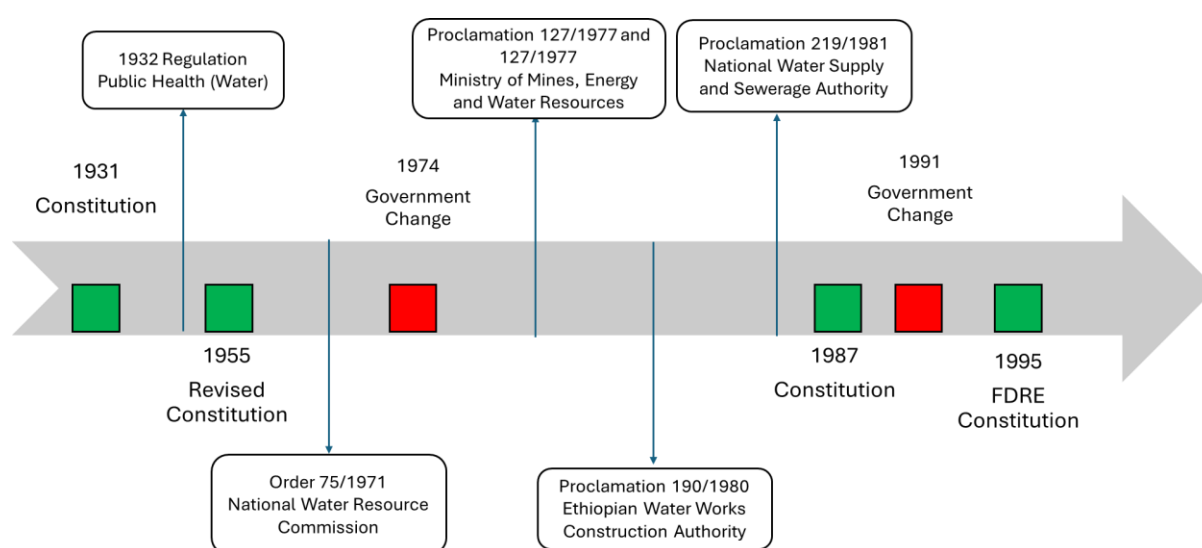


Figure 1: National policies and proclamations: 1931-1991

Before 1931, the Ethiopian Empire didn't have a formal written constitution. The Fetha Negest (Justice of the Kings) has been the governing document for legal, ceremonial, religious, imperial court, and customary matters. After the coronation of Emperor Haile Selassie in 1930, the first formal written constitution was established in 1931. Though the 1931 constitution doesn't specifically give mandate to natural resources (Constitution, 1931), there is a regulation on public health, specifically for water, published in 1940. The regulation states that no person is allowed to distribute water, except for the monarch, no person is allowed to contaminate ground and surface water by open defecation or solid waste (National Regulation, 1940).

In 1955, the constitution was revised and approved by the parliament. According to Article 130, the Empire's natural resources (waters, forests, land, air, lakes, rivers and ports) belong to the state, granting central government the mandate over these natural resources (Constitution, 1955). Through order 75/1971, the Empire established the first national water resources commission to ensure proper water resources management in the country (National Order 75, 1971). The order included a specific article on operation and maintenance, stating that the commission has the mandate to handle "the issuing, renewal, cancellation or suspension of any licences, permits or concessions, as may be required by law for the use of water for the construction, operation, or maintenance of water works" (National Order 75, 1971, p., 14).

After the downfall of the emperor in 1974, the Derg regime established the Ministry of Mines, Energy and Water Resources in 1977, through proclamation 127/1977 (powers and responsibilities of ministers) and Proclamation 127/1977 (central planning commission establishment). Through the proclamations, the government gave the Ministry the mandate to undertake studies for the expansion, development, conservation, utilization, distribution and economic use of the national water resources and carry out experimental developments in water resources (Federal Proclamation 127, 1977). The first concept of community participation and ownership of water schemes was mentioned in proclamation 190/1980 with the establishment of the Ethiopian Water Works Construction Authority. The proclamation gives the authority the responsibility to look for means to increase the participation of the community during the construction of water schemes through money, labour, and materials (Federal Proclamation 190, 1980). This proclamation was followed by another milestone proclamation, proclamation 219/1981 which is the establishment of the Ethiopian Water Supply and Sewerage Authority. The authority was established to provide water supply and sewerage services throughout Ethiopia. The authority had the mandate to conduct a feasibility study, lay distribution systems, operate, repair, maintain, and improve water works and set tariffs (National Proclamation 219, 1981). The authority also had the responsibility to support, facilitate and coordinate the user community in constructing, repairing, maintaining and improving small-scale water supply systems like hand-dug wells, ponds and springs. This gave the authority a centralized mandate for construction, rehabilitation, operation and maintenance of water supply schemes in the country. Operation and maintenance activities were managed by the branch (Ketena) Water Supply and Sewerage Authority. However, this system did not significantly engage user communities, which hindered community ownership and proved to be ineffective.

In addition to these proclamations, Articles 10 and 13 of the 1987 constitution highlight that the state is responsible for ensuring proper management of water resources and the development and utilization of these resources will be determined by additional proclamations (Constitution, 1987).

The operation and maintenance of rural water supply systems is currently based on the community-based scheme management approach which underlines community responsibility

and ownership for the development, operation and maintenance of water supply systems. Figure 2 shows the main milestones in relation to national-level policies from 1995 to 2015, which mainly focus on decentralized governance. In this era, the focus was on achieving the Millennium Development Goals (MDGs) and setting up the necessary governance frameworks in the first few years.

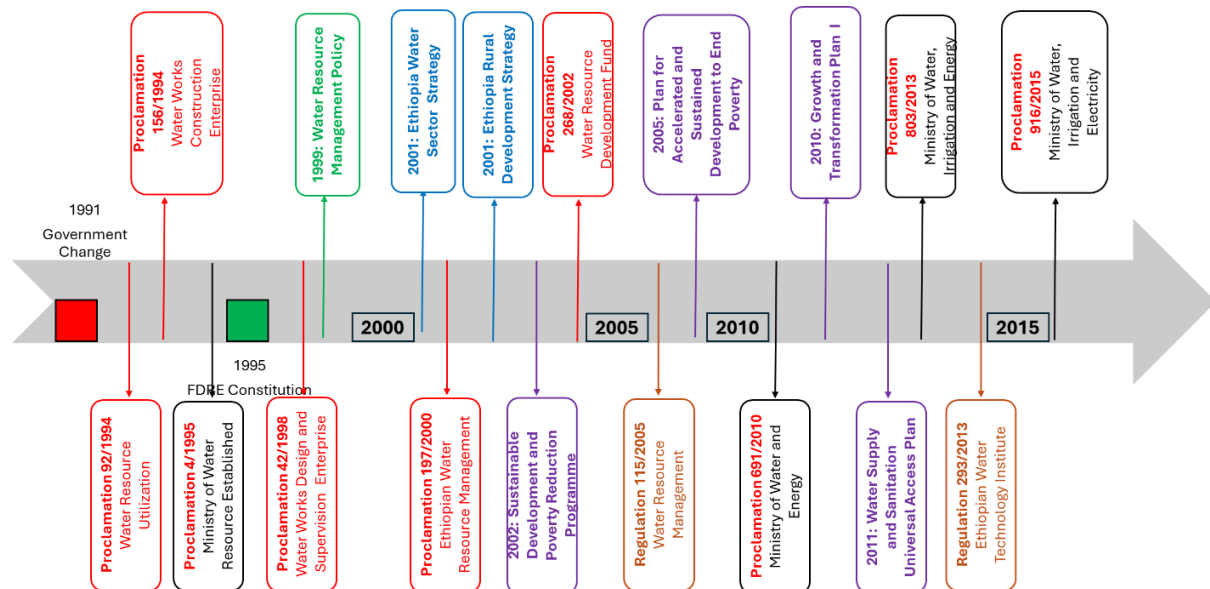


Figure 2: National policies and proclamations: 1991 to 2015

After the downfall of the Derg regime in 1991, which ended centralized management, the Federal Democratic Republic of Ethiopia (FDRE) was established in 1995. The 1995 FRDE constitution, which remains the governing constitution to this day, gives mandate to regional states to determine, utilise and manage natural resources within their region through Articles 51.11, 52.2d and 89.5 (Constitution, 1994). In addition, proclamation 92/1994, which is the water resources utilization proclamation, strengthens the mandate of regional states in managing water resources within their region (Federal Proclamation 92, 1994). Subsequently, the Ministry of Water Resources was established through proclamation 4/1995, with the mandate to prepare policies, strategies, laws and plans on water resource utilization, conduct tariff studies for water use at different levels, and assist regional states in water resources development (Federal Proclamation 04, 1995). The regulation 42/1998 was published to facilitate the implementation of the proclamation (Federal Regulation 42, 1998). The proclamation was amended in 2005 to grant the Ministry of Water Resources the mandates of permit and regulation (Federal Proclamation 471, 2005). The concept of community-based scheme management has been implemented in Ethiopia since the decentralization proclamation was issued in 1994.

The first water resources management policy was issued in 1999 and the Ethiopian water resources management proclamation in 2000 followed right after. The 2000 proclamation, proclamation 197/2000, grants the Ministry of Water Resources the mandate to implement the water resources management policy (Federal Proclamation 197, 2000). These documents are still the basis for water resources management in the country. In 1999, the average access to clean and safe water supply was about 17% at national level (MoWR, 1999). While the water supply and sanitation master plan development report states that the percentage of people using a safe water supply is 23% (FDRE, 2001a). The aim of the policy is for water resources development to focus on decentralised, community-centred management that promotes social equity, economic

efficiency, and sustainability while actively involving all stakeholders, especially women, in the process. The policy states that all water sector planning and projects should incorporate protection, conservation, maintenance, and budget for replacements, while also ensuring institutional stability, smooth transitions during changes, and active participation from the private sector in water resources management (MoWR, 1999).

The technology and engineering part of the policy underscores the necessity of having national standards and design criteria for water resources management activities, including installation and maintenance. It also calls for an integrated approach for operation and maintenance to ensure reliable water supply systems across regions. Additionally, it encourages the management of water schemes by local communities, while ensuring that ownership structures reflect local realities and stakeholder participation (MoWR, 1999).

The policy also highlights the importance of integrating funding for water conservation, operation, maintenance, and training from the outset. It encourages site-specific water pricing that considers the unique circumstances of each region, ensuring that the basic water needs of disadvantaged communities are met. The policy aims to create a sustainable financial model that balances affordability for users while ensuring recovery of operational costs for rural water systems (MoWR, 1999). The policy promotes the "user pays" principle, with tariffs tailored to local economic conditions, aiming for cost recovery while ensuring social equity.

The policy promotes participation of the private sector in water resources management and encourages community involvement in decision-making processes. It calls for the establishment of institutional frameworks that support decentralized management and enhance local ability for effective water management. Additionally, it emphasises the need for a legal framework that supports active participation from all stakeholders, particularly to ensure sustainable and fair water supply and sanitation services throughout the country (MoWR, 1999). There is also a water resources management regulation (Federal Regulation 115, 2005), which was intended to operationalize the water resources management policy but mostly focused on permits and construction work.

The water sector strategy, drafted in 2001, aimed to translate the water resources management policy into action by setting up effective institutions that support sustainable water resource development. This includes promoting local artisans and the private sector to form associations for sustainable operation and maintenance, setting up and capacitating Water Users Associations (WUAs), and encouraging decentralised water services through financially autonomous utilities. Additionally, it emphasises the formation of water committees at various administrative levels to enhance community involvement in water management (MoWR, 2001). This involves assessing technical capacity gaps, providing training, and equipping stakeholders with necessary tools and facilities. Financial sustainability is emphasised through the establishment of cost-sharing arrangements and self-financing mechanisms, ensuring that local communities can contribute to the maintenance and operation of rural water supply systems. The strategy states that "rural tariff settings are based on the objective of recovering operation and maintenance costs while urban tariff structures are based on full cost recovery" (MoWR, 2001, p., 22). Additionally, it underscores the importance of stakeholder participation in decision-making processes through the development of appropriate legislation. With this proclamation in place, the regional states were expected to draft proclamations, regulations and directives for rural water supply management, operation and maintenance.

The Ethiopian rural development strategy also underscored the challenges related to operation and maintenance for rural water supply schemes. The strategy shows the main reasons for non-

functionality in rural areas are lack of ownership, and lack of proper bylaws for management of schemes (FDRE, 2001b). The strategy emphasises that the owners of the schemes are the users and that water committees need to be established for day-to-day operation of these schemes. The strategy also specifies that the costs for the operation and maintenance of schemes need to be covered by users (FDRE, 2001b). If the maintenance is beyond the capacity of the water users and water committees, the strategy states the woreda needs to have the financial and human resources capacity to perform these functions (FDRE, 2001b).

In 2002, the Ministry of Finance and Economic Development launched the Sustainable Development and Poverty Reduction Programme (SDPRP). The target of the programme was to increase water supply coverage to 31% in rural areas and 39% at national level but doesn't specify strategies on how to increase water supply coverage or decrease non-functionality rate (FDRE SDPRP, 2002).

With the establishment of the water resource development fund in 2002 (Proclamation 268/2002, which was amended to proclamation 581/2008), the Ministry mandated all water supply and sanitation service providers to be self-sufficient in providing reliable and sustainable water supply services to the community. This office (Federal Proclamation 268, 2002; Federal Proclamation 581, 2008) became a permanent source of finance for water resource development in the country.

The first long-term plan for water resource development came in 2002 with the Ministry of Water Resources' Water Sector Development Plan (WSDP). The plan targeted to increase water supply coverage to 45% by the end of 2006, to 60% by the end of 2011 and to 76% by the end of 2016 (MoWR, 2002). The plan also gave priority to rehabilitation of existing water schemes. However, the plan did not emphasise to operation and maintenance of schemes.

In alignment with the MDGs, the PASDEP aimed to increase access to water services. This five-year plan launched in 2005 emphasised the challenges in operating and maintaining rural water systems. To address this issue, the plan suggested that the government move towards a system of organising communities to take responsibility for village water supplies and for commercialising urban water supply systems (MoFED PASDEP, 2006). The plan also encouraged establishing community management structures and financing mechanisms to reduce the non-functionality rate of water systems from 30% to 10% in rural areas. Consequently, the first Growth and Transformation Plan (GTP I) aimed to increase coverage to 98% in rural areas and reduce the non-functionality rate to 10% nationally. The strategies for achieving these are similar to the PASDEP.

The year 2013 was a significant milestone with the establishment of the Ethiopian Water Technology Institute through Regulation 293/2013. Through this regulation, the Ministry gave the institute the responsibility to facilitate technology transfer to individuals involved in water development and related activities, provide practical training to enhance the skills of the current and prospective workforce in collaboration with technical and vocational education institutions, and higher education institutions, and produce and build the capacity of instructors needed for these educational institutions to ensure effective training in the water sector (Federal Regulation 293, 2013).

The Ministry of Water Resources was changed to the Ministry of Water and Energy in 2010 (Federal Proclamation 691, 2010), to the Ministry of Water, Irrigation and Energy in 2013 (Federal Proclamation 803, 2013), to the Ministry of Water, Irrigation and Electricity in 2015 (Federal Proclamation 916, 2015), back to the Ministry of Water, Irrigation and Energy in 2018 (Federal

Proclamation 1097, 2018), and to the Ministry of Water and Energy in 2021 (Federal Proclamation 1263, 2021) without any significant mandate changes in relation to potable water supply.

Figure 3 shows the main milestones in relation to national-level policies from 2015 to the present day and focuses mainly on decentralized governance. This era aligns with the Sustainable Development Goals (SDGs), which moved the targets from coverage to sustainability of water supply systems.

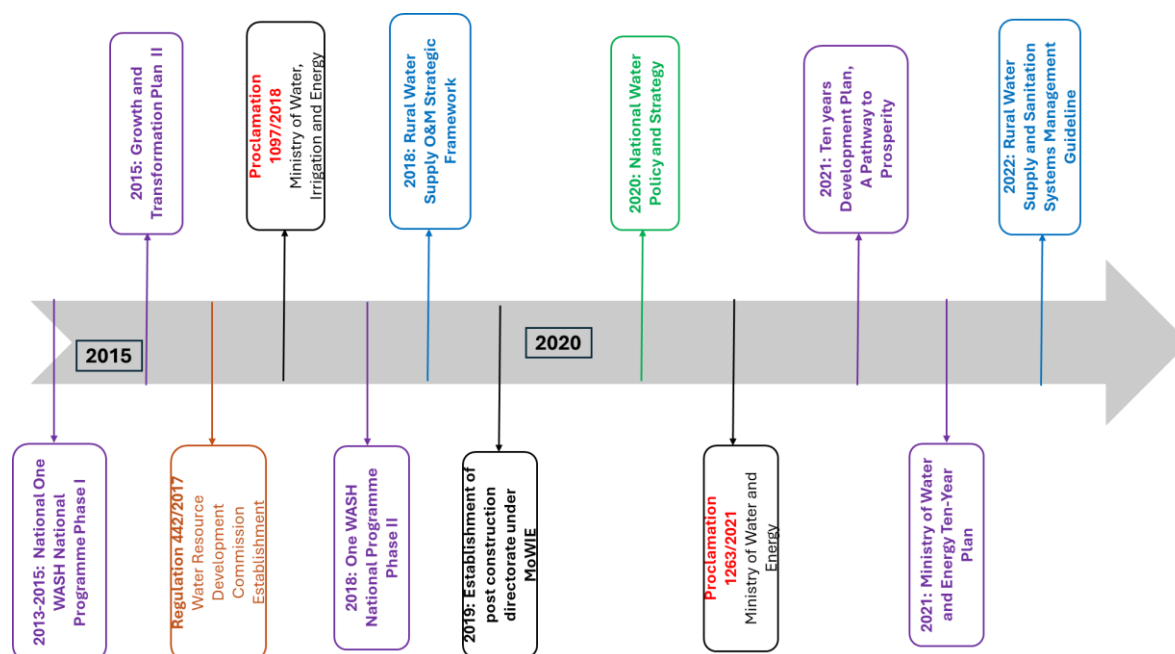


Figure 3: National policies and proclamations: 2015 to present

In 2015, the world transitioned from the Millennium Development Goals (MDGs) to the Sustainable Development Goals (SDGs). With this change, the government of Ethiopia also adjusted its priorities. There was also a shift in thinking, with operation and maintenance of water supply schemes becoming a critical and integral part of plans. The GTP II aimed to reduce the non-functionality rate of rural water supply schemes from 15.5% to 7% by strengthening community management through legalization of WASHCOs (MoWIE GTP II, 2015). The plan also aimed to establish a supply chain for spare parts, create a water supply extension support system at kebele level to enhance operation and maintenance of water supply schemes, professionalization of operation and maintenance activities, and ensure community involvement throughout the implementation cycle of water projects to strengthen ownership and management.

In 2017, the Water Resource Development Commission was set up through regulation 442/2017. This regulation aimed to enhance public health and economic development through the reliable supply of clean drinking water and sanitation. The commission was given the mandate to conduct research and design to improve drinking water services, implement infrastructure projects, ensure the cost recovery principle, provide support to regions to increase water supply coverage, ensure the active participation of the community from planning to implementation of water projects and ensure the participation of the youth in the operation and maintenance of water schemes (Federal Regulation 442, 2017).

The implementation of the first phase OWNPN was from 2013 to 2015 and aimed to achieve the national Growth and Transformation Plan by 2015. The programme is a consolidated national programme designed to improve WASH services in Ethiopia. The programme was designed to run in two phases, from 2013 to 2015 and from 2015 to 2020, and phase three is now under development. The main aim of the OWNPN is to align and integrate WASH activities, ensure full ownership of WASH programmes by the government and user community, and bring together different ministries, such as the Ministry of Water, Irrigation and Energy, Ministry of Health, Ministry of Education, and Ministry of Finance and Economic Development, for the implementation of WASH activities (OWNPN, 2018a). To achieve GTP I, the OWNPN constructed and rehabilitated many schemes across the country with the joint effort of government, development partners, NGOs, training institutions, private sector, and the community.

Through the joint effort of the OWNPN, and different strategies and plans, the non-functionality rate was reduced to 11% by 2018. However, the national WASH inventory conducted in 2018 showed non-functionality rate as 19% at national level with Oromia having the lowest and Somali having the highest non-functionality rate of 17.5% and 48.4% respectively (WRDC, 2021). The sustainability of rural water supply schemes remained a challenge due to a lack of post-construction support, unaffordability of operation and maintenance spare parts and reliance on WASHCOs that are not legalized and operate entirely on a voluntary basis (OWNPN, 2018b). The programme aimed to enhance system development, financial management, and operation and maintenance capacity of service providers. The programme gave priority to enhancing the operation and maintenance capacity of rural and urban water supply schemes with a special emphasis on rural piped schemes, that were constructed but are not sufficiently owned or operated by the community or the woreda (OWNPN, 2018b). In addition, the programme focused on solutions to obtain affordable spare parts and maintenance services with private sector involvement and public private partnership arrangements. The Ministry established the post-construction directorate in 2018/19. In collaboration with the Ethiopian Water Technology Institute, the OWNPN also planned to train caretakers, private operation and maintenance service providers and woreda experts on operation and maintenance. The programme acknowledged the necessity of ongoing support for rural communities through post-construction technical assistance, as they cannot manage water systems independently. The programme suggested a post-construction unit at the regional, zonal, or woreda level that can assist WASHCOs and weaker utilities in connecting with private institutions and local operation and maintenance teams for major repairs (OWNPN, 2018b).

To facilitate community management of rural water supply systems, and enhance professionalization of these services, the Ministry of Water, Irrigation and Energy drafted the rural water supply operation and maintenance strategic framework in 2018. The framework aims to provide guidance and policy direction for the operation and maintenance of water supply systems in Ethiopia, ensuring long-term sustainability and community benefits. The main strategic directions for enhancing operation and maintenance of rural water supply schemes are strengthening community ownership and management, ensuring cost recovery through appropriate tariffs, establishing sustainable spare part supply chains, supporting private sector engagement, improving the capacity of the local service providers, developing a standard monitoring and reporting system for operation and maintenance, and integration of operation and maintenance practices into education and training curricula, to name a few (MoWIE, 2018).

According to the framework, the Ministry has the responsibility to develop policies strategies and guidelines related to operation and maintenance, provide financial and technical assistance, capacitate regional bureaus to implement operation and maintenance practices in their region

and monitor operation and maintenance performance for rural water supply schemes. MoWIE is not expected to carry out operation and maintenance activities at the scheme level. Figure 4 shows operation and maintenance services as intended by the framework. The regional bureaus are expected to follow up the implementation of the strategic framework, support private sector development and conduct capacity assessment, allocate budget for post-construction support, and provide regular refresher trainings on operation and maintenance to local service providers. The zonal departments and woreda offices are responsible for development and approval of operation and maintenance plans, regular support and follow-up with WASHCOs, support in the study and approval of water tariffs, and provide regular capacity building to WASHCOs and boards. The framework specifically states that the community, through WASHCOs, WUAs and rural utilities, is responsible for operation and maintenance of rural water supply schemes (MoWIE, 2018).

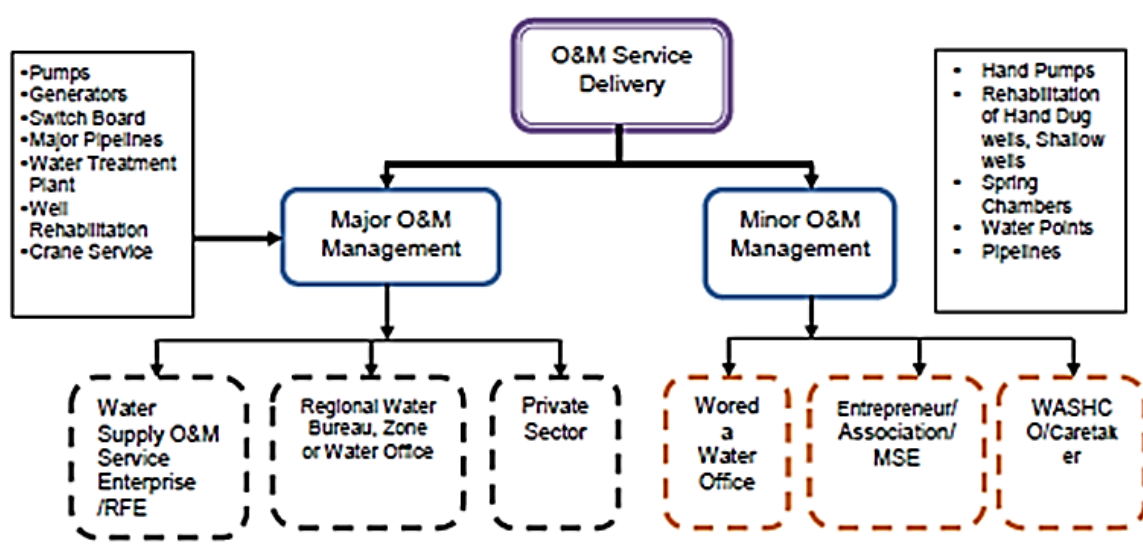


Figure 4: Operation and maintenance services. Source, rural water supply operation and maintenance strategic framework (source: (MoWIE, 2018)

After having used the water policy and strategy as the main documents for implementation for over 20 years, the Ministry of Water and Energy drafted a new water policy and strategy in 2020. The strategy and policy document emphasises improving water supply and sanitation systems, focusing on inclusivity, sustainability, and effective governance (FDRE, 2020). The document gives priority to providing services to underserved communities, ensuring all infrastructures are participatory and inclusive. The policy and strategy pay attention to sustainable financing by establishing criteria that include life cycle costing for capital and operational expenses, basing water tariffs on cost recovery principles, and considering socioeconomic factors and environmental conditions. The document states that full cost recovery (capital, operation and management) should be applied in urban settings, while also considering partial capital and full operation and management cost recovery for urban areas based on their stage of development and financial situation (FDRE, 2020). For rural areas, the document promotes full operation and management cost recovery for community managed schemes, and partial capital and full operation management cost recovery for rural piped systems i.e., rural utilities.

It also promotes targeted subsidies when needed. Regarding spare parts for operation and maintenance, the policy and strategy encourage local production of technologies and spare parts and foster the participation of the private sector in the supply, operation and maintenance of

water supply and sanitation systems (FDRE, 2020). The policy and strategy also suggest the increased participation of the community during planning and implementation of water and sanitation systems to establish accountability mechanisms for system ownership. In addition, the policy and strategy promote capacity building across all levels for the construction, rehabilitation, operation and maintenance of water supply and sanitation schemes by assessing gaps and designing improvement frameworks for capacity building.

Following the drafting of the water policy and strategy, the Ministry developed a ten-year (2021-2030) strategic plan based on the policy and strategy document and the ten-year development plan: A Pathway to Prosperity. The ten-year development plan aims to provide 100% at least basic service coverage in both urban and rural areas of the country, and to implement multi-village, climate-resilient water supply schemes for vulnerable areas (FDRE, 2021). The Ministry's ten-year plan shows that the non-functionality rate, which is highly dependent on proper operation and maintenance, increased from 9% to 19% in 2018 (FDRE, 2021). The document also emphasises that the non-functionality rate is higher (19.4%) in springs and wells, which are the main sources of water in rural areas, than in piped schemes (14%). The plan also aims to provide water supply and sanitation to underserved populations, expand climate-resilient drinking water supply and carry out rehabilitation, maintenance, and conservation activities to ensure sustainable service provision (MoWIE, 2021). The plan has the goal to construct several water supply schemes to serve the population with at least basic services, increase community participation in planning and implementation (from 10% to 15% physical contribution), reduce the non-functionality rate from 19% to 7% by organizing and establishing WASHCOs and WUAs and urban and rural water and sewerage utilities, and ensure all woredas have access to affordable and reliable spare parts and maintenance services. The plan also aims to build the technical and financial ability of the private sector to supply spare parts and perform reliable maintenance services.

In addition to these recent documents, the Ministry's 2022 rural water supply and sanitation systems management guideline specifically highlights the roles and responsibilities of the government, the private sector and the community. According to the guideline, the Ministry of Water and Energy is responsible for providing policy direction, supporting regional bureaus with the construction and rehabilitation of water supply facilities as needed, and sourcing finance for capacity building. The regional bureaus are responsible for supporting the supply of spare parts, providing support and follow-up to zone and woreda offices and undertake research (MoWE, 2022). The zonal departments are given the responsibility to provide technical assistance to the woreda offices, especially in situations where things are beyond the capacity of the woreda office. The woreda offices are responsible for accounting and storing of spare parts until strong private shops are available in the woreda, implementing water supply infrastructure, and training, monitoring and supervision of WASHCOs, WUAs, and rural utilities. The communities, through WASHCOs, WUAs, rural utilities and federations, are considered the ultimate owners of water supply systems. They are responsible for managing, planning, budgeting, coordinating resources, arranging spare parts availability, implementing operation and maintenance activities, covering costs for operation and maintenance, and paying and collecting tariffs for investments and running costs (MoWE, 2022). Although major maintenance is the responsibility of the government, for community managed schemes, the government considers major maintenance to be the responsibility of the community. This creates a misunderstanding in the implementation process. Most frameworks state that if any activity is beyond the capacity of the community, the community should report it to the government to obtain solutions, whether for major or minor maintenance.

With the establishment of the Ministry and the drafting of the different policies, strategies, plans, proclamations and regulations, the regional states also began drafting their own proclamations related to water resources management in their respective regions. The regional proclamations, regulations and directives are discussed in the next section.

Regional proclamations, regulations and directives

Afar

After the establishment of FDRE, the Afar regional government started organizing its governance structure. As a result, the Water Resources Development Bureau was established in 1999 through proclamation 6/1999. The proclamation granted the bureau the mandate to construct water supply infrastructure in the region, and to organize, educate and provide technical support to rural communities to participate in water resource development (Afar Proclamation 06, 1999).

The bureau was restructured as the Water, Mines and Energy Resource Development Bureau in 2004 with an additional mandate to ensure the implementation of the national water policy and to establish and enforce regional proclamations, regulations and directives pertaining to water resources management in the region (Afar Proclamation 15, 2004). The bureau underwent several restructurings over the years, each time receiving additional mandates. In 2005, the Water Resources Development Bureau was established with a mandate to study water tariffs and the cost management system, improve organizational capacity of water service providers by giving special attention to operation and maintenance activities to ensure sustainability, engagement of the private sector, and carry out construction work as needed (Afar Proclamation 28, 2005). The proclamation also stressed the importance of operation and maintenance, stating that the regional bureau will be “providing operational, maintenance and managerial support to woreda water resource development offices and drinking water, irrigation, sanitation and drainage service providers, carrying out maintenance work beyond the capacity of the woreda office, formulating a regional maintenance standard, and monitoring maintenance work in the region” (Afar Proclamation 28, 2005, p., 3).

In 2008, the region got its first proclamation on rural and urban water supply services; Proclamation 44/2008. The proclamation outlines the roles and responsibilities of various entities involved in managing rural and urban drinking water and sewage services. For rural water supply systems, the region included community management model, with water committees elected from the user community. The water committees are responsible for daily operation of the water scheme, handling operation and maintenance, and ensuring that the water schemes are protected by the users. However, the proclamation doesn't specify which of the schemes need to be managed by a rural utility and which will be managed by water committees (Afar Proclamation 44, 2008).

In 2019, a new proclamation was issued to reorganize urban and rural water and sewerage services in the Afar region. The proclamation also includes a regulation (Afar Regulation, 2020) and a directive (Afar Directive, 2020) published in 2020. For rural water supply schemes, the documents have criteria for three levels of rural water supply utility. The criteria are based on the type of scheme (20%), number of water points (25%), number of metered household connections (35%), location of scheme (10%) and capital (10%). Based on these criteria, if a scheme scores above 80%, it is considered a high-level water supply scheme utility, if it scores 60–79%, it is considered a medium level and if the scheme scores less than 60%, it will be

managed by a water committee (Afar Proclamation 116, 2019). In addition, the proclamation states that all schemes crossing kebele or woreda boundaries will be managed by a rural utility, regardless of their size.

The rural utilities are accountable to the users and the Woreda Water, Irrigation and Energy Office if the scheme is in a single woreda but crossing a kebele boundary. However, if the scheme crosses a woreda boundary, the accountability could extend to the Regional Water, Irrigation and Energy Bureau. The utilities are expected to run on a full cost recovery basis and collect tariffs that can cover capital and operational costs (Afar Proclamation 116, 2019).

Schemes within kebele boundaries, such as medium-depth boreholes with hand pumps, shallow wells with hand pumps, and springs on spot, will be managed by a WASHCO established by the Woreda Water, Irrigation and Energy Office, along with the kebele administration. WASHCOs manage the scheme, establish a fair payment system based on agreements with users, and use the collected payments for operation, maintenance and expansion. Two or more WASHCOs form a union; multiple unions create a federation; and federations can form a league at the regional level. The Woreda Water, Irrigation and Energy Office supports the establishment of WASHCOs and builds their capacity, monitors operation and maintenance, supports major repairs, and ensures availability of spare parts in the woreda. The region ensures implementation of proclamations, regulations and directives, supports water quality management, and provides technical support and training for service delivery mechanisms, including operation and maintenance (Afar Proclamation 116, 2019). Figure 5 shows the evolution of the proclamations, regulations and directives for the Afar region.

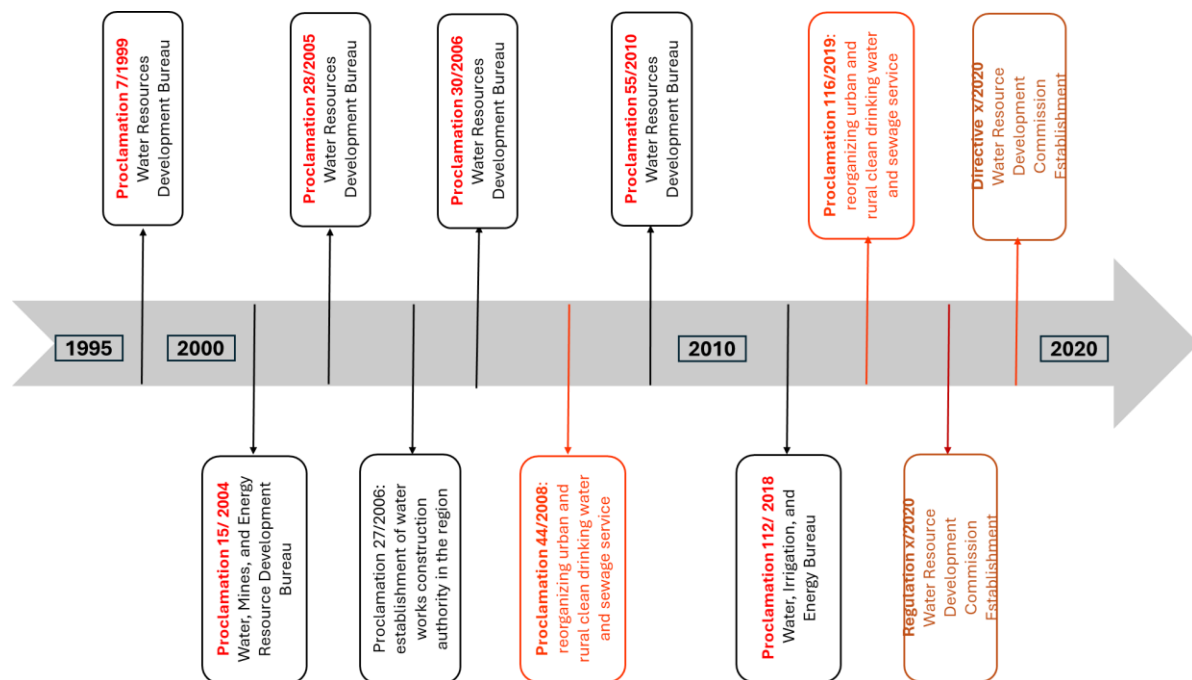


Figure 5: Afar proclamations, regulations and directives

Amhara

In 1995, the Regional Water, Mines and Energy Resources Development Bureau was established through proclamation 4/1995. The bureau was given the mandate to manage water resources, oversee rural water supply systems, and implement related development programmes (Amhara

Proclamation 04, 1995). In 2001, the bureau was reorganised and became the Regional Water and Mineral Resources Development Bureau through proclamation 60/2001 without a change in the mandate for rural water supply (Amhara Proclamation 60, 2001). In 2004, the Regional Water Resource Development Bureau was established through proclamation 99/2004, separating it from the responsibilities of minerals and energy. The Water Resource Development Bureau was accountable to the Regional Rural Development Bureau. The proclamation emphasised the provision of clean and potable water and sanitation services to ensure public health and productivity. It granted the bureau the mandate to enforce federal and regional water management laws, devise fair and consistent water tariff assessment procedures, and conduct related research. The bureau was also tasked with preparing and distributing policies, strategic plans, directives, and standards for water resources management, and ensuring their implementation. Furthermore, it was tasked with strengthening the institutional capacity of water user associations by promoting efficient operations and maintenance and ensuring continuous service delivery at required standards (Amhara Proclamation 99, 2004). In 2010, the bureau received additional mandates through proclamation 176/2011. In addition to the mandates stated in the previous proclamation, the bureau was tasked with providing technical assistance for the sustainability of water supply facilities, offering training to enhance the community's sense of ownership and raising the skills of those engaged in the sector to properly handle and utilize the region's water resources and water supply facilities (Proclamation 176, 2010). In addition, the proclamation states that the bureau is expected to "carry out high and medium-level maintenance works or cause same to be carried out so that the constructed water facilities may deliver the desired and sustainable service" (Amhara Proclamation 176, 2010), giving the mandate of medium and major maintenance to the region.

The bureau was reestablished as the Water, Irrigation and Energy Development Bureau in 2015 through proclamation 230/2015, still without significant mandate changes related to rural water supply (Amhara Proclamation 230, 2015). In addition, the Amhara Water Works Construction Enterprise was established in 2019, through Proclamation 181/2019, with the mandate to undertake water development projects, construct and maintain potable water facilities and collect fees for its services, conduct study and research activities, and provide training to professionals in the sector (Amhara Regulation 181, 2019).

The Amhara National Regional State issued its first proclamation for the establishment of urban and rural water supply sewerage services in 2003, through proclamation 82/2003, and regulation 34/2005. The proclamation specifies roles and responsibilities of rural utilities and water committees. It states that rural water supply and sewerage stations will be managed by a committee elected from the community, which plays a vital role in the governance of these services. This committee is tasked with administering and overseeing daily operations of the schemes. The committee is also expected to encourage community members to take responsibility for safeguarding the rural water supply system. The committee reviews and proposes tariffs needed to cover the administration and repair costs of the water supply system, ensuring these tariffs are approved by customers before implementation (Amhara Proclamation 82, 2003). The committee will have diverse revenue generating streams, including water sales, property sales, and grants and donations from private and non-governmental institutions (Amhara Proclamation 82, 2003). The revenue collected will be used for maintaining and improving the water supply services in the community. In the regulation, the criteria for the classification of urban and drinking water supply and sewerage services are outlined. Rural drinking water supply and sewerage stations are to be managed by water committees established by the user communities, ensuring local governance and accountability (Amhara Regulation 34, 2005).

The 2003 and 2005 proclamations and respective regulations were replaced by the revised proclamation on the reorganization of the water supply and sewerage service for both urban and rural areas, by proclamation 188/2011. Following the proclamation, the region issued revised regulation 94/2012 and directive 03/2015, for the establishment of the urban and rural water supply and sewerage service.

Proclamation 188/2011 outlines the reorganization of urban and rural water services, mandating that the rural drinking water supply and sewerage stations are to be managed by water committees, established by the user communities. The proclamation highlights the need for adequate and clean water to support the social and economic activities of local communities. It encourages the establishment of operational frameworks that promote cost recovery principles (operation and management) and budget administration. Water committees are tasked with overseeing the management of water stations, including the recruitment and administration of caretakers, maintaining service quality, and ensuring the community's involvement in safeguarding water resources (Amhara Proclamation 188, 2011). Additionally, it outlines the responsibilities of water committees to ensure effective management, operation and maintenance cost recovery, and community engagement in managing water services. The Water Resource Development Bureau is tasked with monitoring the compliance with water management policies, providing technical support, and facilitating capacity-building initiatives to enhance the effectiveness of water services (Amhara Proclamation 188, 2011).

Regulation 94/2012 outlines the responsibilities of woreda water supply offices regarding the maintenance and operation of facilities, including the obligation to manage rural kebeles' water supply systems. It specifies the financial responsibilities of various stakeholders, including water users, in covering construction and operational costs (Amhara Regulation 94, 2012). The regulation also allows for the outsourcing of specific activities to licensed organizations, enhancing operational efficiency. Technical support and capacity-building initiatives by the bureau are emphasised to ensure effective service delivery and compliance with water quality standards.

Directive 03/2015 focuses on the organization of rural water user associations (WUAs) and establishes a tiered classification system based on the number of kebeles served. It delineates the responsibilities of WUAs to manage rural water schemes sustainably, ensuring that all users pay fees to cover operational costs (Amhara Directive 03, 2015). The directive also allows WUAs to form unions for collective management and representation. It emphasises the importance of community involvement in maintaining water services and outlines the roles of regional, zonal, and woreda water and energy bureaus in supporting these associations. The directive mandates the regional water and energy bureaus to ensure the presence and implementation of relevant regulations and guidelines at the woreda level. It highlights the importance of financial oversight, and technical support in setting up and maintaining WUAs (Amhara Directive 03, 2015). Zonal water departments are tasked with providing training and support to WUAs, while woreda offices focus on capacity building.

In addition, there is a directive issued in 2019 on rural water utility organization. Directive 01/2019 outlines the responsibilities of rural water utilities, emphasizing the need for cost recovery in their operation and maintenance activities (Amhara Directive 01, 2019). It categorizes utilities based on the number of kebeles served and the user population, with varying levels of accountability (boards) to zonal or woreda authorities depending on their classification. The directive stresses the importance of setting up utilities in accordance with existing proclamations and regulations, ensuring they operate effectively and sustainably, while meeting

the needs of the communities they serve. The directive further describes the roles of regional, zonal, and woreda water and energy bureaus in supporting these utilities. Regional bureaus handle the compliance with regulations, provide technical support, and manage water quality. Zonal departments support in training and setting up utilities, while woreda offices focus on capacity building and operational support (Amhara Directive 01, 2019).

Currently the proclamation, regulation and directive on the water supply and sewerage service for both urban and rural areas are in the process of being replaced by a new proclamation, which is still in draft. The proclamation has been drafted in 2024 and is titled “reestablishment of the urban and rural water supply sewerage service”. The new draft proclamation outlines the management framework for rural water supply schemes, which will be administered by water user associations (WUAs) accountable to the Woreda Water and Energy Office and the kebele administration. WUAs are expected to handle the hiring and managing of employees required for the operation and maintenance of the water supply schemes. To encourage community engagement and a sense of ownership, the proclamation emphasises the need for user awareness regarding the protection of the water scheme. Additionally, WUAs will decide and enforce water tariffs to cover the costs of managing, operating and maintaining water supply facilities, ensuring regular payments from users (Amhara Proclamation, 2024).

The draft also sets up a hierarchical structure for WUAs, where two or more WUAs in a kebele can form a registered union at the woreda level, and multiple unions can form a federation, registered at the regional level. This structure aims to enhance collaboration and resource sharing among WUAs, thereby strengthening the overall management of rural water supply systems (Amhara Proclamation, 2024).

The Regional Water and Energy Bureau is tasked with monitoring and supporting the alignment of water services with federal policies, overseeing the construction of drinking water projects, and ensuring that completed projects are handed over to the appropriate authorities. The Zonal Water and Energy Department focuses on addressing challenges faced by water schemes within the woredas. If issues cannot be resolved at the zonal level, the department will escalate the matter to the regional bureau. Meanwhile, the Woreda Water and Energy Office is responsible for constructing new schemes, expanding existing ones, pipeline construction, major maintenance and handling maintenance tasks that exceed the capacity of WUAs or rural utilities (Amhara Proclamation, 2024). Figure 6 shows the evolution of the proclamations, regulations and directives for the Amhara region.

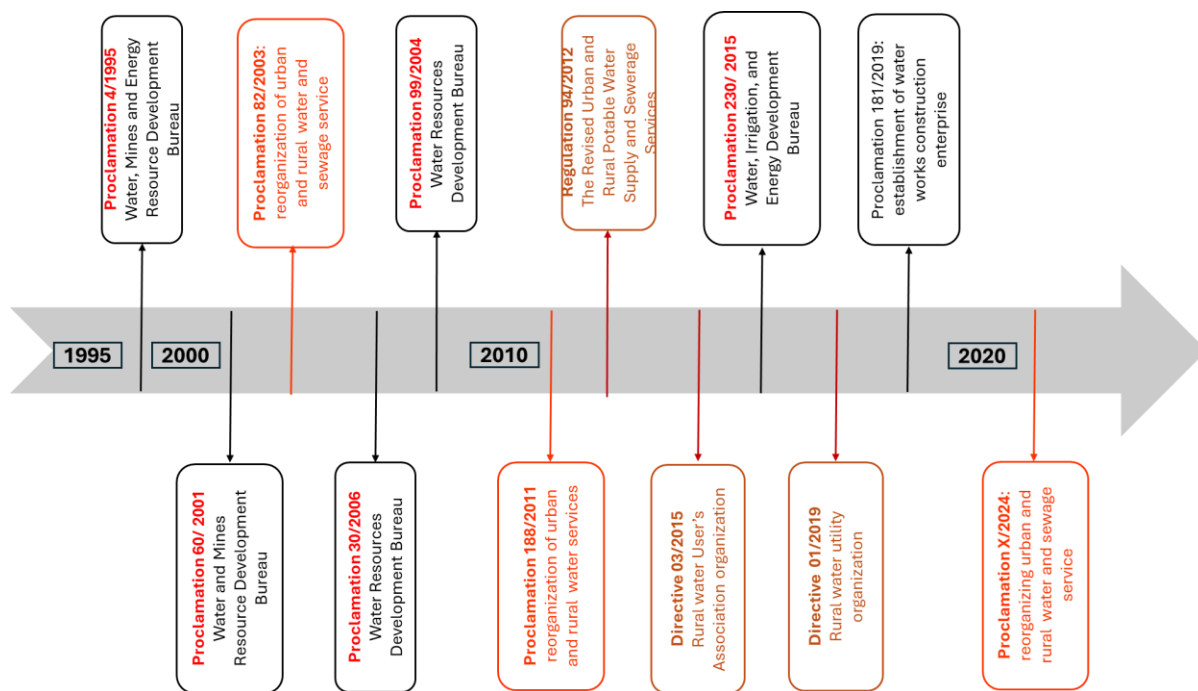


Figure 6: Amhara proclamations, regulations and directives

Benishangul Gumuz

The Benishangul Gumuz regional state issued a proclamation for the establishment and organization of rural water supply WUAs in 2008 through proclamation 71/2008. Following the proclamation, the regional Water, Mines and Energy Development Bureau prepared a regulation and a directive for the implementation of the proclamation in 2011.

Proclamation 71/2008 gives power to WUAs to manage, operate and generate revenue. WUAs are also responsible for setting water tariffs and service charges through consultations with communities to ensure coverage of operational and maintenance costs (Benishangul Gumuz Proclamation 71, 2008). Additionally, WUAs are tasked with ensuring the availability of essential equipment and materials, managing income from water sales, and addressing community needs. Regulation 12/2011 and the respective directive complements the proclamation by outlining the roles and responsibilities of the Woreda Water and Energy Office in supporting the WUAs. The responsibilities include ensuring adherence to federal water policy principles, granting ownership rights to associations, and providing necessary bylaws. The woreda office is also responsible for fostering a conducive environment for private sector involvement in maintenance and supply activities, coordinating maintenance efforts, and facilitating the procurement of spare parts when needed (Benishangul Gumuz Regulation 12, 2011).

Harari

Proclamation 15/1999 established the Water and Sewerage Service Authority with the primary goal of providing adequate and clean water to the community. The regional council is responsible for determining the tariffs for services, while the authority is expected to sustain its operations through its own revenue sources, which may include service charges, donations, loans, and regional support (Harari Proclamation 15, 1999).

Subsequent proclamations, including Proclamation 22/2000 and Proclamation 26/2001, focus on the reorganization of the water and sewerage service authority without significant changes to

the mandate on water supply (Harari Proclamation 22, 2000; Harari Proclamation 26, 2001). Proclamation 47/2004 outlines the powers and duties of the executive bodies and emphasises the role of the Rural Agriculture and Development Bureau in providing technical support to the water and sewerage authority, overseeing water resource projects, and ensuring community participation in water resource development (Harari Proclamation 47, 2004). Proclamation 59/2006 mandates the Water Supply and Sewerage Authority to set fair tariffs based on national policies. The proclamation further reorganizes the authority, transferring the mandate for rural water management from the rural agriculture bureau to the authority, adding responsibilities such as compiling water resource data, constructing water schemes, and ensuring access to clean and potable water (Harari Proclamation 59, 2006). Figure 7 shows the evolution of the proclamations, regulations and directives for Harari.

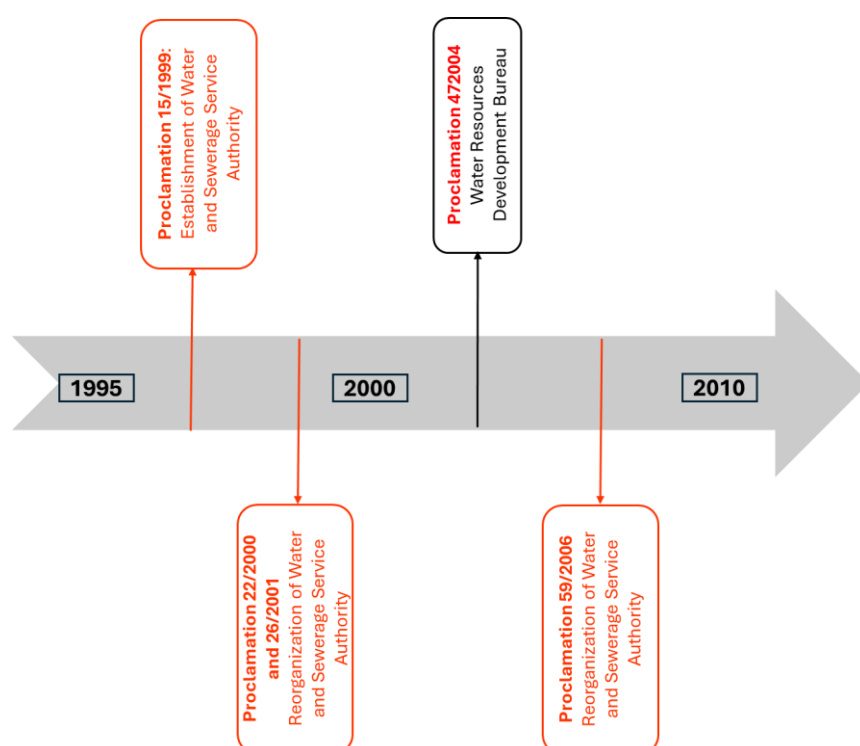


Figure 7: Harari proclamations, regulations and directives

Oromia

Proclamation 7/1995 established the executive bodies of the Oromia Regional State, including the Water Resources, Mines and Energy Bureau. The bureau was given the mandate to enforce federal and regional policies and laws related to water resources. Additionally, the bureau was tasked with maintaining quality standards for potable water, ensuring that both rural and urban populations have access to safe drinking water through comprehensive design, study, and construction of water systems. The bureau was also given the responsibility to conduct studies to determine appropriate tariffs for water usage for urban utilities, which must be approved by the government (Oromia Proclamation 07, 1995).

Proclamation 87/2004 aimed to amend the structure of the executive bodies and redefine their powers, and the bureau was restructured to become the Water Resources Bureau. In addition to the mandates stated in proclamation 7/1995, the bureau was granted the mandate to decentralize the operations of the water systems for timely maintenance of water schemes, by

empowering the user community to manage water schemes (Oromia Proclamation 87, 2004a). The bureau is also responsible for ensuring the active participation of the community during identification, design and implementation of the water schemes, to increase the sense of ownership. The bureau was also tasked with the renovation and expansion of urban and rural water schemes (Oromia Proclamation 87, 2004a).

Through Proclamation 29/1999, the bureau was reestablished as the Water, Mineral and Energy Resources Development Bureau. The proclamation emphasised the need for the bureau to “undertake the operation and maintenance of completed water supply projects to ensure the provision of appropriate services” (Oromia Proclamation 29, 1999, p., 4). The bureau was then reestablished as the Water Resource, Mines and Energy Bureau in 2001 (Oromia Proclamation 49, 2001), the Water Resource Development Bureau in 2004 (Oromia Proclamation 87, 2004b), the Water Resource Bureau in 2007 (Oromia Proclamation 132, 2007), the Water, Mines and Energy Bureau in 2011 (Proclamation 163, 2011), the Water, Mineral and Energy Bureau in 2016 (Proclamation 199, 2016), and the Water and Energy Resource Development Bureau in 2018 (Proclamation 213, 2018) without significant changes in the mandates related to rural water supply. However, proclamation 132/2007 specifies that the bureau is responsible to “undertake renewal and maintenance activities where it is beyond the capacity of beneficiaries, cause the beneficiaries to administer it” (Oromia Proclamation 132, 2007, p., 30), which moved the operation and maintenance responsibility from the region to the community. This statement is also in all the consecutive proclamations. In addition, proclamation 213/2018 grants the bureau the mandate to facilitate conditions for the independent administration of urban and rural water supply services, follow up same and take corrective measures (Oromia Proclamation 213, 2018).

The Oromia National Regional State issued a proclamation for the establishment and administration of rural potable water supply service organizations in 2009 through Proclamation 152/2009.

The service organizations are tasked with conducting studies on the construction and design of rural potable water services to expand access or develop new sources. They are responsible for the operation and maintenance of these services, facilitating construction with their budgets, NGO support, or private investments (Oromia Proclamation 152, 2009). The organizations also conduct research to prepare water tariffs for rural services, which are implemented upon board approval. The responsibilities of the bureau include transferring constructed rural potable water stations to the service organizations and providing necessary training, advice, and technical assistance.

Proclamation 228/2020 and the respective regulation 2018/2020, which is on potable water and sewerage services, focused on the administration, operation, and maintenance of rural potable water and sewerage services. The proclamation aimed to enable the associations, unions and federations to be “self-sufficient and independent covering their expenses with the income from the services provided and operate with their own budgeting system” (Oromia Proclamation 228, 2020, p., 6). This proclamation outlines criteria for establishing different grade utilities, detailing performance metrics such as beneficiary numbers, water supply efficiency, coverage, waste control, annual income, and sewage disposal effectiveness. Rural utilities (named Rural Potable Water Service Organizations) are accountable to the Woreda Water and Energy Resource Development Office, zone department or regional bureau depending on the geographical location of the water supply system and their board. WUAs are accountable to the beneficiaries and the Woreda Water and Energy Resource Development Office.

While rural utilities are expected to operate on full cost recovery principles, the WUAs are expected to cover operation and maintenance costs (Oromia Proclamation 228, 2020). This is significantly different from the national policy, which states that there should be operation and maintenance cost recovery in rural settings (at best partial capital and full operation and maintenance cost recovery).

Two or more WUAs can form unions and register with the Woreda Water and Energy Resource Development Office, and unions and service organizations (rural or urban) can form a federation that is established and registered at the regional level. The federation encourages and supports the member unions and utilities to be self-sufficient.

The Woreda Water and Energy Resource Development Office's responsibilities include water scheme construction, maintenance and spare part supply, which are beyond the capacity of the associations and unions (Oromia Proclamation 228, 2020). The roles and responsibilities of the Regional Water and Energy Resource Development Bureau include ensuring that services provided align with national policies and regional customs, conducting capacity-building efforts, and offering technical support to service organizations. The bureau is also responsible for approving tariffs for water and sewage services. Next to that, the bureau also takes care of upgrading and expanding potable water and sewage services which are beyond the capacity of the associations, unions and federations (Oromia Proclamation 228, 2020). Figure 8 shows the evolution of the proclamations, regulations and directives for Oromia.

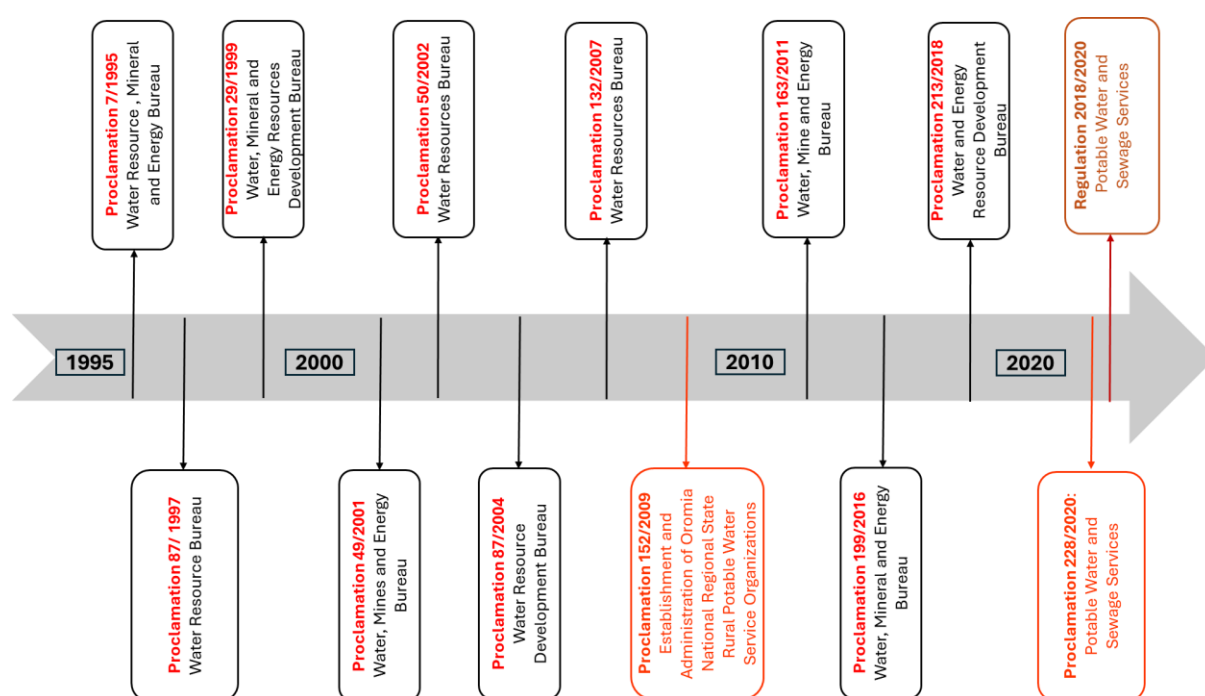


Figure 8: Oromia proclamations, regulations and directives

Central Ethiopia, Sidama, South Ethiopia, and Southwest Ethiopia

After its establishment in 1995, the Southern Nations, Nationalities and Peoples Region (SNNPR) has been split into four regions: Sidama Region (Established in 2020), Southwest Ethiopia Region (Established in 2021), Central Ethiopia Region (Established in 2023) and South Ethiopia Region (Established in 2023). In this section, we will look at the proclamations and regulations before the region was split into four regions, as well as any available proclamations from each region

since their establishment. It is assumed that each region will have a proclamation related to potable water supply and sewerage services in the future.

Proclamation 3/1995 established the regional Water, Mines and Energy Resource Development Bureau. The region was given the mandate to design, study and construct water supply systems and to ensure that water quality standards are met in the region (SNNPR Proclamation 03, 1995). In 2001, the bureau became part of the Bureau for Coordination of Development Structure without any changes in its mandate (SNNPR Proclamation 36, 2001). The bureau became the Water and Irrigation Development Bureau in 2015 (SNNPR Proclamation 161, 2015) and the Water, Mines and Energy Development Bureau in 2018 (SNNPR Proclamation 178, 2018) without significant changes in the mandates related to rural water supply.

In 2012, the region issued a regulation on establishing rural potable water and sanitation associations. Regulation 102/2012 and its directive (SNNPR Directive 01, 2012) were issued without a proclamation. According to the regulation and directive, water and sanitation associations must be registered at the woreda level, and two or more associations can form a federation, but there can't be more than one federation per kebele (SNNP Regulation 102, 2012). The associations are responsible for providing potable water services to the community against a fair tariff that covers operation, maintenance, rehabilitation and expansion of water supply systems (SNNP Regulation 102, 2012).

In 2021, the region issued a directive for establishment of multi-village rural water utilities. Directive 02/2021 outlines the requirements for establishing multi-village rural water utilities. The organizational structure of the utilities varies based on the number of woredas or kebeles served, and the number of people served (SNNPR Directive 02, 2021). The directive categorizes utilities into different levels based on their service area and population size. Level 1 utilities serve three or more woredas, or over ten kebeles in a woreda, or a population exceeding 80,000, with the zone heading the board. Level 1A utilities cater to five or more woredas, or over 16 kebeles with populations exceeding 150,000, while Level 1B includes those serving 3-4 woredas or 10-15 kebeles with populations between 80,000 and 149,999. Lower levels, such as Level 2, Level 3, and Level 4, correspond to smaller service areas and populations, with the Woreda Water, Mines, and Energy Office heading the board for these levels. The directive states that tariffs should be based on the community's ability to pay but also cover the costs of operation, maintenance, rehabilitation and expansion of water facilities (SNNPR Directive 02, 2021).

In 2020, the Sidama Regional Bureau of Water and Irrigation Development was established through proclamation 03/2020. The bureau is tasked with developing manuals and standards for water management, overseeing projects, conducting studies for drinking water provision, expanding access to water services in urban and rural areas, organizing water committees, granting licenses, establishing urban and rural water utilities, and addressing urgent water supply needs while implementing long-term solutions for scarcity (Sidama Proclamation 03, 2020). The bureau was reorganized to become the Water, Mines and Energy Bureau in 2021 (Sidama Proclamation 18, 2021) without significant mandate changes related to rural water supply. Similarly, the Southwest Ethiopia Regional Water, Mines and Energy Bureau was established in 2021 (Southwest Ethiopia Proclamation 04, 2021) with similar mandates to the Sidama Regional Bureau. Figure 9 shows the evolution of the proclamations, regulations and directives for these regions.

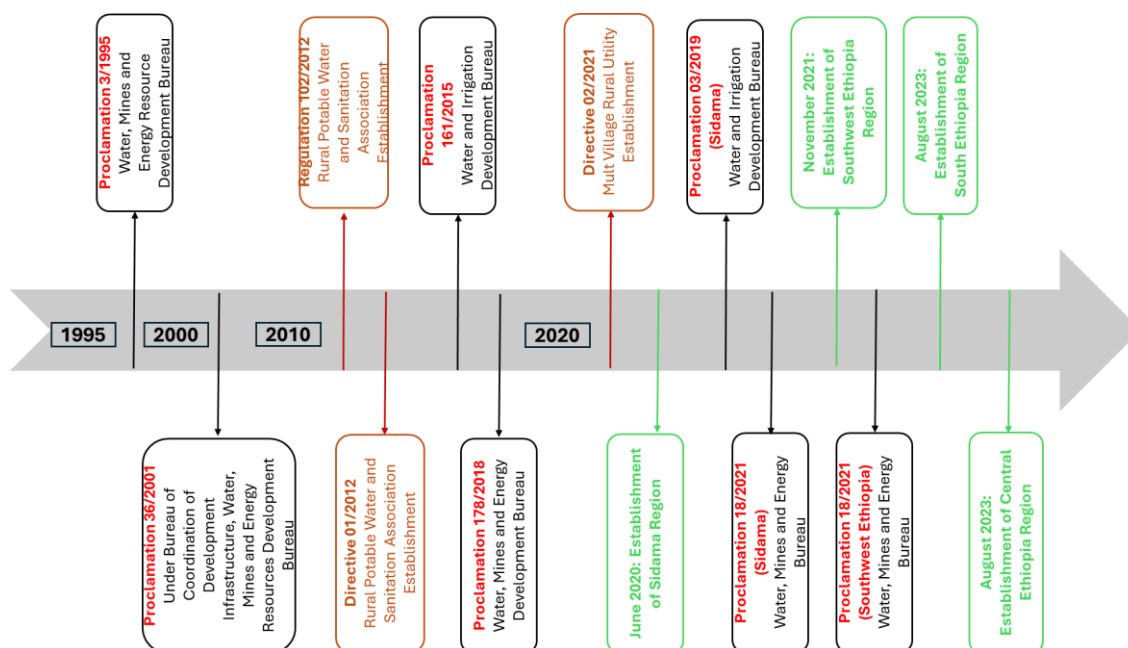


Figure 9: SNNPR, Sidama, Southwest Ethiopia proclamations, regulations and directives

Somali

The 2019 proclamation on the definition of powers and duties of executive bodies reestablished the Regional Water Bureau. The mandates of the regional bureau include, but are not limited to, preparing and implementing regional policies and strategies, conducting studies and designs related to water resources and distribution in the region, and studying tariffs for water services to ensure their implementation once approved. The proclamation also states that the region needs to create an enabling environment for the community to participate in the construction and maintenance of water facilities and provide training and support to water committees, so that water facilities can provide sustainable services (Somali Proclamation 185, 2019).

The region issued a proclamation on the organization of urban and rural water supply and sewerage services in 2023, through proclamation 226/2023. Utilities are classified based on several criteria, including the number of users, water supply capacity, the amount of service charges collected, and their ability to cover costs for operation and maintenance. This classification creates a grading system that ranges from Grade 1 (urban utilities) to Grade 4, which is managed by committees (Somali Proclamation 226, 2023).

The proclamation states that rural utilities and water committees should be able to cover their operation and maintenance costs (Somali Proclamation 226, 2023). The roles and responsibilities of rural potable water committees include mobilizing the community to protect and maintain water schemes, and review and implement tariffs to cover the costs for operation and maintenance of the scheme.

The Woreda Water and Energy Resource Development Office ensures that the services provided align with the regional proclamations, provide capacity building and technical support for service providers, monitor construction works and ensure that the water supplied meets water quality standards. The proclamation also states that the woreda is responsible for performing research and design works as well as works of expansion and repair beyond the capacity of the service provider as it deems necessary (Somali Proclamation 226, 2023).

Tigray

Proclamation 9/1995 outlines the duties and responsibilities of regional bureaus and establishes the Water Resource, Mines and Energy Bureau. The bureau was tasked with ensuring that water quality standards are met for water supply systems, supporting water committees by providing training so that they can become independent, and preparing a water tariff study and monitor its implementation. The proclamation also states that “if above the capacity of the committees, the bureau will perform major maintenance on water schemes” (Tigray Proclamation 09, 1995, p., 9).

Proclamation 54/2002 led to the establishment of the Regional Water Resource Development Bureau. The bureau was given the mandate to ensure the availability of resources for the construction and rehabilitation of water schemes, provide training, prepare water tariff studies and oversee their implementation, provide support to water committees (Technical assistance), collaborate with woreda offices to maintain all water schemes and develop regional proclamations, regulations, and directives in alignment with federal policies (Tigray Proclamation 54, 2002). The bureau was reorganized as the Water, Mines and Energy Resource Development Bureau in 2005 (Tigray Proclamation 94, 2005), the Water Resource Development, Mines and Energy Bureau in 2009 (Tigray Proclamation 168, 2009), and the Water Resource Bureau in 2012 (Tigray Proclamation 215, 2012) without significant mandate changes in relation to rural water supply.

Proclamation 19/1995 established urban utilities and rural water committees, requiring the formation of water committees for each scheme in rural settings. These committees are accountable to both the users and the Woreda Water, Mines, and Energy Office, managing and operating the water schemes. They are responsible for collecting water fees from users and reporting any maintenance issues or challenges beyond their capacity to the woreda office (Tigray Proclamation 19, 1995).

Proclamation 122/2007 reestablished the urban and rural water and sewerage utilities, emphasizing that rural service providers must be able to cover their operation and maintenance costs. Regulation 40/2007 was also issued for the implementation of this proclamation. The proclamation states that the woreda is responsible for ensuring that rural utilities and committees operate according to federal and regional policies, proclamations, regulations, and directives, providing capacity building and technical support to service providers and making capital investments to ensure the community has access to adequate water. The woreda office is also responsible for ensuring the availability of affordable spare parts and tools and performing major maintenance on the request of WASHCOs (Tigray Proclamation 122, 2007).

WASHCOs are accountable to users and the Woreda Water Resource Office, while the utilities are accountable to the board and the Woreda Water Resource Office. They are responsible for supplying adequate and quality water to users and ensuring the efficient collection of water sale revenue. They generate revenue from various sources, including water sales, service payments, property sales, and contributions from users. WASHCOs are also responsible for mobilizing the community to cover operation and maintenance costs and for ensuring that caretakers are trained on proper operation and maintenance of the schemes (Tigray Proclamation 122, 2007).

In 2015, Proclamation 122/2007 was amended through proclamation 257/2015. The proclamation reiterates that the cost of operation and maintenance needs to be covered by rural service providers (rural utilities and WASHCOs).

In addition to these proclamations on rural water supply, the region has a proclamation on establishing a revolving fund for the purchase and supply of spare parts for drinking water and

irrigation services. Proclamation 225/2012 allows for the acquisition of necessary spare parts for the operation and maintenance of water supply schemes, distributing them at a fair price and ensuring that the proceeds go into the revolving fund. It also provides spare parts through direct payments or loans, to ensure that loans are repaid (Tigray Proclamation 225, 2012). The revolving fund is to operate at the regional level. Figure 10 shows the evolution of the proclamations, regulations and directives for Tigray.

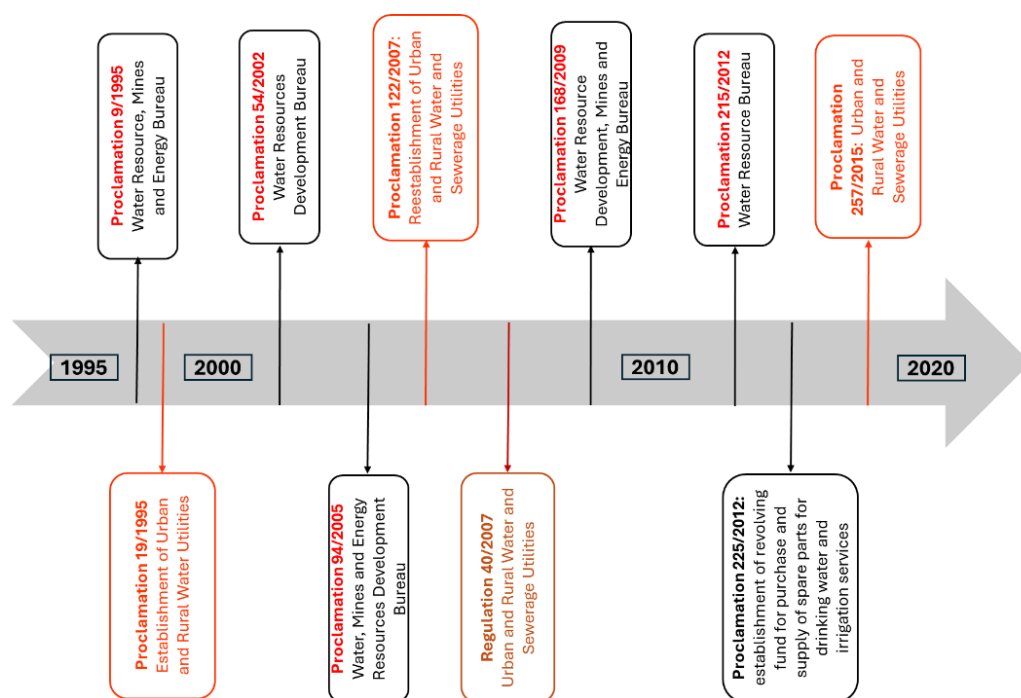


Figure 10: Tigray proclamations, regulations and directives

Comparative analysis of national policies and proclamations and regional proclamations, regulations and directives

Ethiopia's approach to rural water supply operation and maintenance is governed by a series of proclamations, regulations, and directives that vary significantly across the regions. Professionalization of service delivery is gaining momentum, and the principle of partial and full cost recovery is also emphasised. This section examines the similarities and differences between the frameworks across the different regions.

The analysis of national and regional policies and key informant interviews showed that while there is a robust framework promoting community management and ownership, the actual implementation of these policies is inconsistent. During key informant interviews, interviewees frequently mentioned the gap between policy formulation and practical implementation. Interviewees noted that while policies exist to promote community management, the lack of coordination between the different levels of government hinders effective execution. One government official from the Woreda Water and Energy Office stated, "We have the policies, but the support structures at the local level are often weak, leading to confusion and inefficiencies". The National Water Resources Management Policy (1999) and the OWNPN (2016) emphasise community involvement, yet gaps remain in translating these policies into actionable practices on the ground (MoWIE, 2018).

A common issue is the lack of funds for maintenance activities, which often causes communities to adopt a reactive approach, addressing problems only after they occur (Linda Annala & Arto Suominen, 2016). Additionally, most communities lack the necessary support to effectively manage their water supply systems (MoWIE, 2018). Most of the key informants emphasised the critical role of training in enhancing community capacity for operation and maintenance. They expressed the need for more comprehensive training programmes that cover not only technical skills, but also financial management and governance. A woreda official stated, “Without proper training, the WASHCOs often don’t know how to manage the funds or maintain the system. They need ongoing support and training”. Moreover, the capacity of local governments to support operation and maintenance activities is limited. Woreda water offices are tasked with overseeing water supply management, but they frequently lack the financial and human resources to fulfil their responsibilities.

The coordination between different levels of government and between governmental and non-governmental organizations is also often inadequate, leading to fragmented efforts and missed opportunities for collaboration. Informants noted that successful water management often requires partnerships between government agencies, NGOs, and community organizations. Collaborative approaches were seen as essential for mobilizing resources, sharing knowledge, and fostering community ownership. A government official remarked, “When we work together with NGOs and communities, we can achieve much more than when we operate in silos”.

Tigray region was the first region to issue a proclamation related to water supply services in 1995, followed by Harari in 1999 and Amhara region in 2003. Gambella region issued a proclamation in 2007, followed by Benishangul Gumuz and Afar regions in 2008, and Oromia region in 2009. SNNPR issued its first regulation and directive in 2012, without issuing a proclamation. Benishangul Gumuz Region issued a proclamation to establish water user associations in 2011. Amhara Region issued a proclamation to establish rural utilities in 2019, followed by SNNPR in 2021. Somali Region issued a proclamation in 2023. These proclamations have been amended, and new proclamations have been issued for all regions. Figure 11 shows the timeline for these proclamations, regulations and directives.

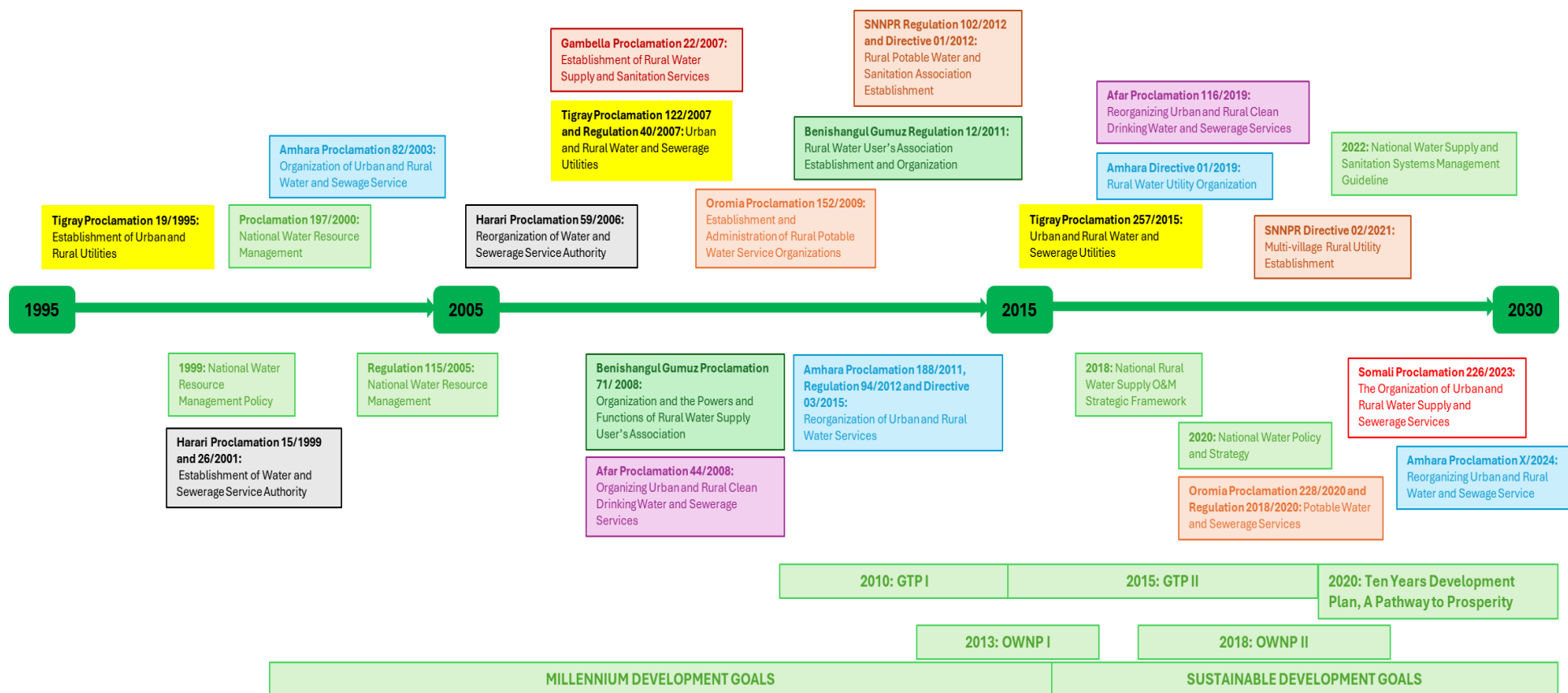


Figure 11: Timeline of national policies and proclamations and regional proclamations, regulations and directives

The regional governance structures for rural water supply in Ethiopia are shaped by national policies, which emphasise decentralized management and community participation. While all regions operate under Ethiopia's federal water resources management policy, which promotes decentralized governance, the specific roles and responsibilities of regional entities differ significantly. Each region has developed its own set of proclamations, regulations and directives, reflecting their local contexts. Table 1 shows the similarities and differences in the regional frameworks regarding rural water supply management, and operation and maintenance.

Table 1: Similarities and differences between regional frameworks

	Amhara	Oromia	Tigray	Somali	Afar	National Policy
Community Engagement	Woreda-led, with distinct roles for WUAs and utilities. Water committees manage rural schemes and collect tariffs.	Decentralized, emphasizing local control and community participation.	Strong woreda-level oversight and support for weaker WUAs. Strong accountability mechanisms to users and woreda.	Focus on regional water bureau aligning with federal strategies. Community-led management encouraged.	Gradual restructuring with clear mandates for utilities and WUAs. Rural utilities accountable to woreda offices.	Community and utility management structures.
Financial Management and Cost Recovery	Rural utilities and Water Committees / WUAs operate on operation and maintenance cost recovery principles with subsidies for poor communities.	Rural utilities operate on full cost recovery and Water Committees / WUAs operate on operation and maintenance cost recovery principles with subsidies for poor communities.	Rural utilities and Water Committees / WUAs operate on operation and maintenance cost recovery principles with subsidies for poor communities.	Tariffs based on community capacity but must cover operation and maintenance costs.	Rural utilities and Water Committees / WUAs operate on operation and maintenance cost recovery principles with subsidies for poor communities.	Operation and Maintenance cost recovery for rural setting. But also states partial capital recovery and operation and maintenance recovery for rural utilities.
Technical Support and Capacity Building	Strong regional role in training and technical support.	Bureau trains and certifies federations for technical independence.	Focus on capacity building for WUAs and utilities.	Moderate emphasis on technical training for committees.	Emphasis on building technical capacity for utilities.	Technical support from woreda, zone and region.
Private Sector Engagement	Encouraged.	Actively involved in maintenance and spare part supply.	Limited involvement and mostly dependent on public systems. Spare part supply facilitated by the government.	Minimal.	Increasing focus on private sector for spare parts and maintenance.	Focus on PPP and encourages professionalization of operation and maintenance activities including spare part supply.

Community engagement

A common theme across the regions is the importance of community participation for the management of water supply systems through water committees and rural utilities. For example, in Afar, the proclamation outlines the roles of water committees and utilities, emphasizing community involvement in daily operations. Similarly, in Amhara, the proclamation mandates that rural water supply and sewerage stations are to be managed by committees. This participatory approach is intended to improve community ownership. Additionally, in Afar, the establishment of WUAs is a recent development, while in Amhara, WUAs have been mandated by

earlier proclamations. In Oromia, the establishment of rural potable water supply service organizations reflects a structured approach to decentralization, allowing for more tailored management based on local conditions. These committees oversee daily operations, set tariffs, and ensure service continuity. Yet challenges persist in achieving financial self-sufficiency and addressing the non-functionality of schemes.

Financial management and cost recovery

The emphasis on cost recovery is evident across all regions. Oromia, Amhara and Benishangul Gumuz emphasise and adopt a principle of full cost recovery for utility-managed schemes and partial cost recovery for community-managed systems. Tigray and Benishangul Gumuz follow similar models but incorporate flexible tariffs that consider socioeconomic factors.

Most proclamations indicated that tariffs for community-managed systems should be set by the user community to cover operation and maintenance, but these costs need to be determined based on set criteria to ensure they cover the intended expenses. Despite this, many of the tariff set are still not able to cover the intended expenses, which represents a significant gap.

Technical support and capacity building

Capacity building and technical support are essential for the successful management of rural water supply systems. Regions like Oromia and Amhara have robust systems for providing technical support, with woreda offices playing a significant role in capacity building and handling major repairs. Benishangul Gumuz and Somali rely more heavily on regional bureaus for technical assistance, as local entities often lack the capacity for complex maintenance tasks. This shows that there is an institutional framework that supports capacity building, but maintenance be it minor or major, still relies heavily on woreda, zonal and regional interventions.

When it comes to operation and maintenance, the regional proclamations state different things. The proclamations of Afar and Benishangul Gumuz state that if an issue is beyond the capacity of the committee, the woreda is responsible for resolving the maintenance issues, while the proclamations mandate that major maintenance is the responsibility of the woreda and region. The Amhara, Oromia, Somali and Tigray proclamations state that operation and maintenance is the responsibility of the WUAs, with close technical and capacity support from the woreda water offices. However, rural utilities are expected to operate on a full cost recovery principle. In addition, the proclamation states that the Woreda Water and Energy Office is responsible for constructing new schemes, expanding existing ones, pipeline construction, major maintenance and handling maintenance tasks that exceed the capacity of WUAs or rural utilities. If the issue of maintenance is beyond the capacity of the woreda or the zone, the region is given the responsibility of maintenance. Tigray stands out with its revolving fund for spare parts, ensuring a steady supply for maintenance.

Emphasizing that technical support and infrastructure development are critical for improving rural water supply systems, the Ethiopian Water Technology Institute, established through a national regulation, plays a vital role in facilitating technology transfer and training across the regions.

The issue of non-functionality rates in rural water supply systems is a significant challenge across Ethiopia. Regions like Amhara have reported a decrease in non-functionality rates due to effective community management structures. However, other regions, such as Sidama and Somali, continue to struggle with higher non-functionality rates, indicating the need for targeted interventions to enhance the sustainability of water supply schemes.

Amhara and Oromia have consistent training programmes for WASHCOs and utilities, often supported by regional bureaus and external partners. Afar and Benishangul Gumuz focus more on initial capacity building, while Tigray integrates ongoing training with technical and financial management support.

Private sector engagement and professionalization of operation and maintenance

Private sector engagement and the professionalization of operation and maintenance activities are emerging as critical factors in spare part supply and the maintenance of water supply systems. Although private sector engagement is promoted in all regions, it varies by region. Amhara, Oromia and Tigray regions have made significant strides by engaging private service providers for maintenance and spare part supply. Afar, Benishangul Gumuz and Somali are focusing on fostering private sector participation and creating an enabling environment through woreda and regional support. There is a need for a spare part supply chain, along with professional maintenance and financial support in each region, to facilitate the operation and maintenance of schemes, ensuring they can serve the community sustainably.

Conclusion and recommendations

Conclusion

Ethiopia's water governance policies have transitioned from a centralized model to a decentralized framework aligned with international goals. While policies exist to promote community management and sustainability, significant gaps remain in their implementation. Challenges persist, including financing, technical capacity, and community ownership. The insights gathered from both the literature review and key informant interviews underscore the need for targeted interventions to address funding challenges, enhance financial management and capacity of service providers and service authorities, encourage private sector engagement, and improve collaboration among stakeholders.

The focus on decentralization is a key theme, allowing regional states to create legal frameworks that are locally contextualized. The approach is crucial given the diverse geographical and socioeconomic conditions across Ethiopia. This is reflected in the various proclamations and regulations that provide different frameworks for water management in the regions.

Many regions emphasise community participation in water management, with structures such as WUAs and water committees designed to enhance local governance and accountability. This approach aims to foster a sense of ownership among community members, which is vital for the sustainability of water supply systems. The necessity for full cost recovery in rural water supply is a recurring theme. There is a need for ongoing training and capacity building for community members involved in water management. This is essential for ensuring that local committees can effectively operate and maintain water supply systems. There are also significant challenges in rural water supply systems related to sustainability and functionality. High non-functionality rates remain a critical issue, driven by inadequate post-construction support, limited availability of spare parts, and insufficient technical and financial capacity at the local level. Regions with strong community management structures, like Amhara, have seen improvements, while others continue to struggle, indicating the need for targeted interventions.

These findings will inform subsequent discussions and recommendations aimed at improving rural water supply management in Ethiopia.

Recommendations

Defined roles and responsibilities

Revising legal frameworks to clarify the roles and responsibilities of various stakeholders in rural water supply management is crucial. Clear guidelines on the establishment and operation of WUAs, as well as the relationship between the WUAs, woreda, zone, and region will support communities in taking ownership of their water supply systems. All regions should follow the lead of regions such as Amhara, Oromia and Tigray, where these roles and responsibilities have been clearly stated and defined.

Improved coordination

To enhance the effectiveness of rural water supply operation and maintenance, improved coordination between regional and national authorities is essential. Regions face challenges in tracking the functionality of rural water schemes. Establishing a national monitoring and reporting system that captures functionality rates, community engagement, and the performance of service providers is critical. This would enable regions to learn from one another's successes and challenges, fostering a collaborative approach to water management. Facilitating cross-regional learning platforms could also enable regions with limited capacity to learn and adopt these best practices.

Private sector engagement

The private sector remains underutilized in most regions. Encouraging small-scale private enterprises to handle spare part supply and maintenance, with proper follow-up and technical support, could create supply chains and reduce non-functionality rates of rural water schemes. Regions should explore public-private partnerships to leverage resources and expertise, potentially lessening the burden on community management and improve service delivery.

Strengthening financial capacity

Strengthening the financial capacity of the WUAs and rural utilities for rural water supply systems is vital to ensuring sustainability. While cost recovery is a common goal, regions struggle to balance affordability and revenue generation. Introducing innovative financing models, such as blended finance combining public, private, and community contributions, could address financial gaps. The revolving fund approach seen in Tigray could be scaled up nationally to ensure reliable funding for spare part supply and maintenance.

In addition, there is a need for different financing models, including targeted subsidies, to address the needs of underserved and disadvantaged communities.

Policy recommendations

Regular assessments of operation and maintenance practices, along with user satisfaction surveys, could provide valuable insights into the effectiveness of existing policies and inform future interventions. This continuous feedback loop would ensure that policies remain relevant and responsive to the needs of communities.

Establishing and institutionalizing post-construction support units at regional, zonal, and woreda levels, which can specifically provide technical and financial support to service providers, is critical to ensuring the sustainability of schemes and the availability of tools and spare parts for the operation and maintenance of rural water supply systems.

Finally, establishing a comprehensive monitoring framework for rural water supply systems is critical for assessing performance and identifying areas for improvement.

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