



Lessons from establishing and operationalising women and youth-led Micro and Small Enterprises in Ethiopia's rural WaSH sector





In Ethiopia, despite improvements in access to rural water supply services in recent years, the long-term viability of investments is hampered by poor operation and maintenance services at water schemes level. Many water utilities lack skilled personnel and equipment and struggle to access essential spare parts.

This note highlights the experience of the Technical Assistance Project (TAP), a UK-funded project. The project aims at strengthening the management of rural multi-village water supply schemes and establishing and strengthening women and youth-led Micro-and Small Enterprises (MSEs) for water supply maintenance services and sale of spare parts.

About TAP

The 'Strengthening Climate Resilient Systems for Water, Sanitation and Hygiene Services' (SCRS-WaSH) Programme, which has been funded by the UK government since 2019, supports the implementation of the Climate Resilient (CR) pillar of Ethiopia's One WaSH National Programme. NIRAS, in partnership with WaterAid, has been executing the Technical Assistance Project (TAP). The initiative focuses on improving the management of 30 rural multi-village water supply schemes in CR-WaSH areas across 12 regions. TAP has also facilitated the establishment of 30 micro and small enterprises (MSEs) for maintenance of water supply schemes and spare parts supply, developed a WaSH Sector Finance Strategy, and improved access to menstrual hygiene for 150 schools, benefiting 35,000 adolescent girls in programme areas.

1. INTRODUCTION

In Ethiopia, rural water, sanitation, and hygiene (WaSH) services face significant challenges as a result of water supply schemes' non-functionality. The non-functionality rate of schemes range between 17% and 47% in some regions¹, showing a need for sustainable solutions to meet the demand for improved WaSH services, which involve the supply of spare parts and maintenance of WaSH facilities.

To address this need, the government has encouraged enterprise development.² However, the MSEs established in many regions face obstacles that hinder their capacity to generate demand for WaSH products and services. These include the lack of reinforcing adequate demand-creation strategies, low capacity among private operators, limited access to financing and insufficient local business support.³

While there have been a few notable successes in MSE development in Ethiopia's WaSH sector, replicating these outcomes more broadly is not straightforward. Establishing women- and youth-led MSEs to provide spare parts and Operations and Maintenance (O&M) services in rural Ethiopia is especially complex. Barriers such as institutional hurdles, financial constraints and logistical challenges in sparsely populated and remote areas complicate the process. Furthermore, pervasive gender norms and cultural constraints on female leadership exacerbate these difficulties, indicating the need for tailored, context-specific interventions to unlock the potential of MSEs.

Despite these challenges, TAP set out to establish and support the operationalisation of MSEs led by women and youth to help reduce the non-functionality rate of rural water supply

1. Ministry of Water, Irrigation, and Energy (2021). Draft Report on National WaSH Inventory II & MIS. Water Development Commission. January 2021.

2. Ministry of Urban Development and Housing: Micro and Small Enterprise Development Policy & Strategy, April 2016, Addis Ababa

3. Addisu, B.M. Business landscape and growth determinants of micro- and small enterprises working in WaSH sector: evidence from Ethiopia. J Innov Entrep 13, 79 (2024). <https://doi.org/10.1186/s13731-024-00427-y>

schemes. In collaboration with woreda (district) government agencies and vocational training centres, a total of 30 MSEs were established from September 2022 to September 2024 across 11 regions and one city administration. By late 2024, majority of the MSEs were operating, except for five MSEs in Amhara Region that were not functional due to the ongoing conflict and security issues.

This document outlines the process followed in establishing MSEs, the challenges experienced, lessons learned and key recommendations that will inform the design of similar programmes aimed at supporting local private sector involvement in the supply of spare parts and maintenance services.

Key messages:

1. The MSE model of private sector involvement in the maintenance of water supply schemes and sale of spare parts is an alternative approach to reduce the non-functionality rate of schemes. When duly supported at the establishment stage, the MSEs were found to be viable.
2. There is great demand for rural water supply maintenance services and the supply of spare parts. However, MSEs face challenges such as weak demand creation, financial constraints and socio-cultural barriers, hindering their ability to meet the demand sustainably.
3. A lack of operational start-up funds and limited access to microfinance options hinder the ability of MSEs to cover initial costs, secure premises and restock spare parts.
4. Water utilities and WASHCos are accustomed to relying on in-house teams or government services for maintenance. These entities are often reluctant to switch to engaging MSEs, especially when the cost of doing so is perceived to be higher. In addition, most water management bodies lack financial or operational incentives to collaborate with MSEs. Despite efforts to establish formal contractual agreements between MSEs and WASHCos/utilities or Water User Associations, it was difficult to operationalise these agreements formally. Moreover, conflicting maintenance roles among Woreda Water and Energy Office staff was a critical challenge to MSEs. According to the agreement made, however, the Woreda Water and Energy Offices are expected to support and oversee the work of MSEs. This dual role of the Woreda has led to a conflict of interest.
5. Transitioning service delivery responsibilities from government offices to MSEs is often slow, leaving MSEs with limited opportunities to engage in the market.
6. Successful MSEs, such as those in Harari and Tigray regions, demonstrate the critical role of motivated leadership, prior experience and community trust in driving these start-up businesses forward.
7. To overcome existing challenges and empower MSEs to take advantage of untapped demand, conducting thorough feasibility studies is recommended to ensure a conducive business environment. Other recommendations include providing start-ups with funding, strengthening supply chains, offering continuous business support and facilitating market linkages to ensure the sustainable growth of MSEs in the rural WaSH sector.

2. MSE ESTABLISHMENT PROCESS

At the start of implementation, TAP conducted a comprehensive assessment of the successes, challenges and opportunities associated with maintaining water supply systems and selling spare parts across six regional states: Oromia, Amhara, Benishangul Gumuz, Somali, Afar and Dire Dawa. The assessment aimed to understand the situation on the ground, as well as the strengths and gaps, of water supply infrastructure and related service chains. Moreover, it evaluated the presence and functionality of MSEs involved in WaSH activities in these regions. The assessment indicated that the concept of “a single MSE for a single woreda orientation” emerged as a significant challenge in places where efforts were made to establish MSEs. This is because the number of schemes or the market in a woreda is insufficient to sustain an enterprise with ten or more members. Furthermore, the absence of early-stage revenue generation in MSEs led to dissatisfaction among the youth, contributing to an increase in their search for alternative employment opportunities. Given these findings, TAP collaborated with regional stakeholders to establish criteria for determining the optimal number and locations of MSEs. These criteria were designed to maximise MSEs’ effectiveness and sustainability by considering factors such as regional clustering⁴, dynamics in the market and the potential for creating strong urban-rural linkages. The clustering approach was applied to ensure that MSEs are strategically placed to serve densely populated urban areas and dispersed rural communities, fostering a network that supports consistent water supply maintenance and spare parts availability. Insights from this assessment also informed the ten-step process subsequently adopted for establishing new MSEs, shown in Figure 1 below. The first four steps focused on the establishment of the enterprises while the remainder are related to operationalisation processes.



4. Adjacent woredas are grouped into a single cluster for administration, and leveraging this structure could enhance MSEs by expanding their sales and service areas.

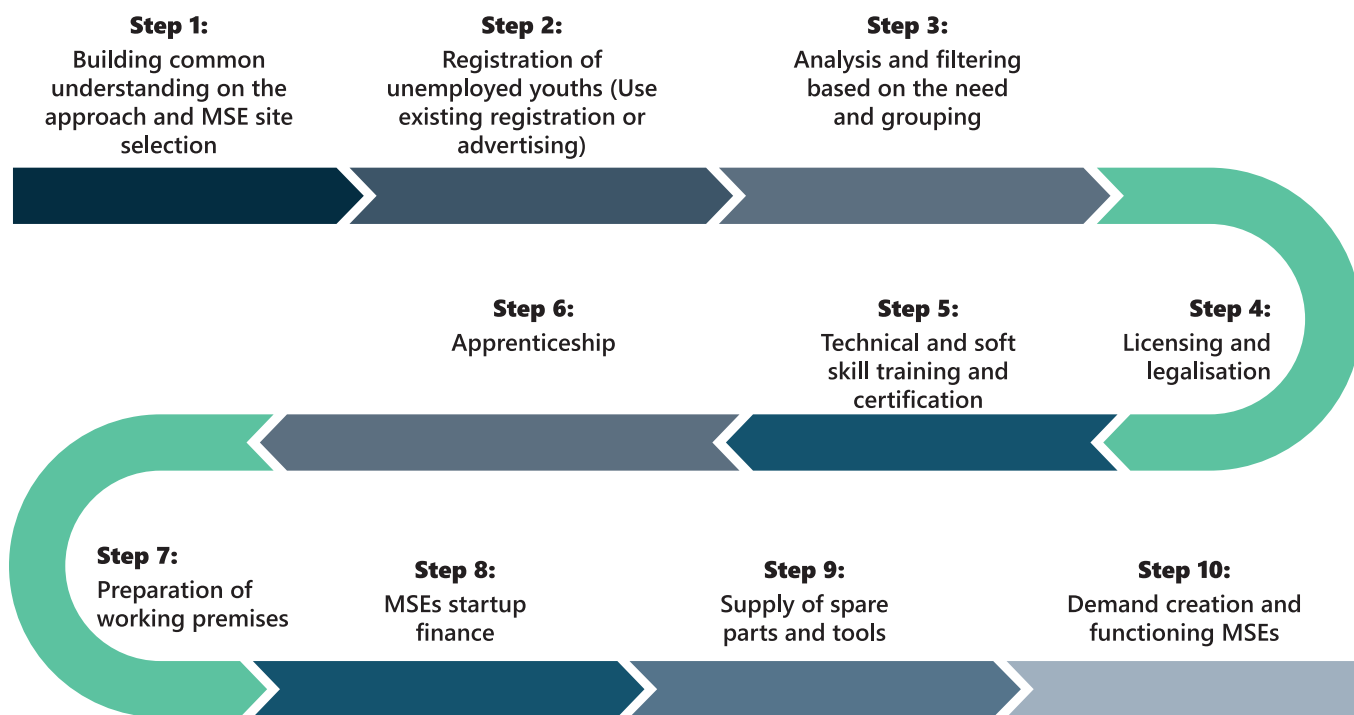


Figure 1. Steps in MSEs establishment and operationalisation process

STEP 1:

Building common understanding and MSE site selection

This initiative was a collaboration between TAP, the Ministry of Water and Energy (MoWE), Regional Water and Energy Bureaus and Woreda Offices of Water and Energy, Job Creation and Skills, and Women and Social Affairs, plus Technical and Vocational Education and Training Centres (TVETs). At the start of the project, TAP organised workshops with stakeholders to establish a common understanding of objectives and core processes for establishing MSEs. Following consensus, TAP signed MOUs with these government stakeholders in each region, defining the roles and responsibilities of each player, from establishment to operationalisation. MSE site locations were chosen by the respective regional Water and Energy Bureaus using selection criteria developed by TAP.

STEPS 2-3:

Member selection and registration

The following criteria were adopted for selecting MSE members in line with the project design:

- The MSE should be women-led and comprise unemployed women, should have a team comprising at least 60% women members, must have members in the age category of 18 - 35 and must have at least one team member with a disability;
- One or two individuals with prior experience in water supply maintenance should be included to facilitate knowledge and skills transfer among members; and
- Each member must be a graduate of the TVET College, with skills in water scheme maintenance or accounting, to ensure a minimum level of competence.

Based on the national definition of micro-enterprises and depending on the scale of opportunities in the targeted woredas the optimal number of members was agreed to be between nine and 12. TAP designed the MSE organogram and oriented regional and woreda level government stakeholders on the selection criteria and their respective responsibilities, as shown in Figure 2. Meanwhile, selection of MSE members was carried out by the Woreda Water and Energy Offices and Job Creation and Skills Offices as part of their mandated responsibility, in collaboration with the woreda Women and Social Affairs Office to ensure women's representation.



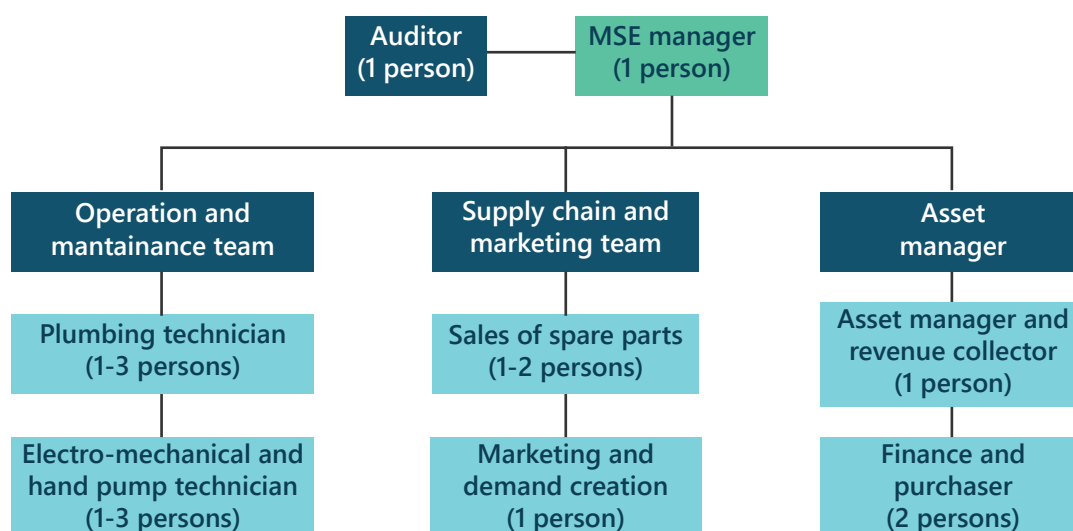


Figure 2. Model MSE structure

STEP 4:

Licensing and legalisation

This step involves the formal registration of a business, obtaining a business licence and opening a bank account. Each MSE was considered operational once this process is completed. The licence allowed the MSE to operate only in specified woreda(s) and only to provide water supply maintenance services and sell spare parts.

STEP 5:

Training and certification

The MSE establishment process was facilitated in three batches. Soon after establishment and legalisation, TAP organised basic training for members of each batch in collaboration with Woreda Water and Energy Offices, Job Creation and Skills Offices and TVETs. Doing so was essential since most MSE members, except for technical staff members, had no prior experience in water supply maintenance or business management.

TAP collaborated with the Ethiopian Water Technology Institute (EWTI) to develop training modules on water scheme operation, maintenance and business management. A 15-day training course was organised for each batch of MSEs at EWTI in Addis Ababa. Moreover, EWTI also provided a Training of Trainers course for selected TVET centres, with the intention of enabling them as local capacity-building hubs to support MSEs existing in various locations.

In total, 353 MSE members were trained, 220 of which were women (62%) while 20 of which were persons with disabilities (5.6%). For each course, participants were categorised into two groups: (1) maintenance and (2) sales and management. Customised training was also provided for each group as outlined below:

Maintenance teams

The training focused on technical competencies essential to businesses, such as:

- Maintenance of pipes, valves and fittings;
- Electro-mechanical maintenance (pumps, motors and control systems); and
- Maintenance of solar-powered water pumps.

Sales and management teams

Here, the focus was on:

- introduction of spare parts to water supply systems and electro-mechanical equipment;
- spare parts supply chains, procurement and quality assurance;

business management, including entrepreneurship, marketing and customer service and asset and financial management.



Figure 3. MSE Member taking training

STEP 6:

Apprenticeships

Shortly after completing basic training, MSE members assigned to work in maintenance underwent 15-day mini-apprenticeships at nearby urban water utilities to enhance their practical skills. Accordingly, a total of 184 members (68 or 37% of which were female) attended the apprenticeship programme where participants were linked to nearby urban utilities. Experienced local trainers facilitated the training sessions and staff from TAP and government water sector offices were involved in monitoring the sessions and providing technical advice.



Figure 4. MSE members during apprenticeship: Sofi (Top) and Kucha (Bottom)

STEP 7:

Working premises

Except for the supply of tools and spare parts by TAP, MSEs had no capital at the outset, making them dependent on the woreda administration for access to work premises. Most MSEs were offered space in sheds owned by the woredas, but in such cases where no space was available, the MSEs accessed premises by renting.



Figure 5. MSE spare parts shop in one of the working premises (Jeldesa MSE)



Figure 6. MSE spare parts shop in one of the working premises (Sokoru MSE)

STEP 8:

Start-up finance

Given that spare parts are not fast-moving goods, it became clear that MSEs needed some start-up capital. Although it was crucial at the start-up phase, TAP did not provide seed funds as these were not within the project's scope. The assumption was the MSEs will access funds from selling spare parts the project provided. Hence, MSEs had to explore alternative solutions. One option considered was to secure commercial loans, but this proved impossible since the enterprises were new and could not get collateral that financial institutions demanded. Funding from Microfinance Institutions (MFIs) was also explored and, while this route appeared more promising, MSEs were still too early in their development to qualify. As a result, the project's focus shifted towards consumer financing⁵ and enhancing the market for MSEs to boost their sales turnover, as well as enable them to save for future loan opportunities.

STEP 9:

Supply of spare parts and tools

TAP provided each MSE with basic tools and a start-up supply of spare parts worth approximately 1.1 million Ethiopia Birr (ETB) for sale, with the intention that the proceeds would be used to increase stocks and ensure supply continuity. TAP consulted MSEs and government partners, especially the Woreda Water and Energy Offices and the Regional Water and Energy Bureaus, to identify locally needed tools and spare parts; supply was made on the basis of need.

STEP 10:

Demand creation

Once MSEs secured working premises and had tools and spare parts, they began marketing their services. TAP supported the MSEs to develop marketing strategies and provided some promotional materials. A task force was also established by

5. This type of financing typically involves offering affordable loans or credit options to help families invest in necessary infrastructure and services including WaSH products - mostly designed for low income families.

MOU signatory offices in each project woreda to facilitate opportunities for promoting the business to potential clients like WASHCo, utilities, health institutions, schools and households. MSE members visited potential customers and participated in marketing events organised by government offices (see Figure 5) to raise public awareness about their service and product offerings, as well as network with potential clients.



Figure 7. Dale MSE conducting promotion at Bazar

Post-establishment support

Once they secured working premises and TAP stocked their start-up tools and spare parts, MSEs began marketing their services to the community. To support this phase, TAP provided tailored on-the-job training and mentoring to enhance business operations, advising MSEs to price spare parts with a profit margin of 25% and supporting their identification of new business opportunities. The process entailed comprehensive orientation on effective customer service, product knowledge and technical skills necessary for maintaining water supply systems. The project paid special attention to equipping MSE operators with skills in financial management, including record-keeping, budgeting and pricing strategies to ensure their enterprise is sustainable.

TAP also played an important role in helping MSEs develop robust marketing strategies to promote their services. The project provided promotional materials including brochures and banners to assist with outreach efforts.

The project placed a strong emphasis on promoting female leadership within these enterprises, encouraging women entrepreneurs to take active roles in managing and representing their MSEs during a series of engagements. This approach not only aimed at addressing gender disparities in business leadership but also empowered women to play a central role in the WaSH service sector. These efforts, combined with capacity-building initiatives and community outreach were pivotal in strengthening MSEs as credible providers of WaSH-related products and services in their respective areas.

3. SUCCESS STORIES

Establishing enterprises, as well as making them viable, is challenging. Such private sector involvement especially in the WaSH sector has not been common in Ethiopia. TAP took on this initiative to demonstrate the viability of engaging MSEs to enhance post-construction maintenance and establish a reliable supply of spare parts, thereby improving the quality and sustainability of water supply systems in rural communities. The MSEs initiated by TAP are generally at early-stage development, given the time they were established.

Despite challenges faced throughout the process, some MSEs started demonstrating encouraging progress showcasing potential for sustainable growth and impact in some parts of the country. For example, the MSE at Raya Azebo Woreda, Tigray Region and MSE at Sankura Woreda, Central Ethiopia Region (established in November 2023 and May 2024 respectively) emerged as successful providers of spare parts and maintenance services. Their success underscores the possibility of creating functional and impactful enterprises despite systemic hurdles. It also emphasises the importance of continued support, innovation and strategic partnerships, enabling enterprises to flourish in rural settings where they are most needed.

This section outlines some of the emerging results from the 25 active MSEs supported by the project, highlighting key factors that have contributed to their success.

3.1 REVENUE GENERATION

Revenue generation has been selected as one indicator of an MSE's development. The cumulative revenue generated by MSEs from the sale of spare parts and maintenance services at the end of December 2024 amounted to ETB 3,214,273, reflecting a 131% increase from the previous quarter. The general trend in increasing sales across the majority of MSEs shows progress as they continue to mature. The main source of income for MSEs is from spare parts sales, with limited income from maintenance services. The difference across regions and woredas in the amount of revenue generated reflects the diverse and dynamic performance of MSEs. Some MSEs, however, showed real promise due to strong and motivated leadership, and have laid a strong foundation for growth as their businesses mature.

Examples below are of Sofi and Raya Azebo MSEs: See Boxes 1 and 2.



BOX 1.

Sofi MSE, Harari Region

Sofi MSE, established in Harari Region, comprises of 11 members (5 male and 6 female) including six graduates in water resource engineering-related fields and others with relevant college diplomas. They were unemployed before joining the enterprise.

This MSE's strength has been built on the commitment and prior work experience of its members. The manager had actively invested in her leadership development through in-person and online training on leadership and women's empowerment, which she took of her own volition. Before joining the MSE, she was an active member of the Harari Region's Youth Council. In addition, the MSE's accountant had over three years of experience in a factory providing valuable expertise in financial management and administration.

Whilst Sofi MSE is still in its early stage, the strength of its leadership has been instrumental in driving the business forward, demonstrated by the manager's ability to motivate her colleagues through knowledge transfer, introducing incentive schemes, effective communication and strong management. MSE members explained that: 'She encourages other members. She shares the concepts she learned from the training she participated in for MSE members during our meetings.' (Female MSE Member).



Figure 8: Mekfira, Sofi MSE Manager July 2024

An innovation appreciated by members is the introduction of an incentive scheme whereby members of the spare parts sales team each received a 2% bonus if monthly sales exceeded ETB 4,000; meanwhile, maintenance team members received a 5% bonus if the monthly maintenance revenue exceeded ETB 2,000. Another innovation was production of a spare parts and tools catalogue containing pictures and prices for ease of reference.

The Sofi MSE also exhibited strong internal communication and team collaboration. Regular bi-weekly meetings helped effective decision-making. Moreover, the MSE actively

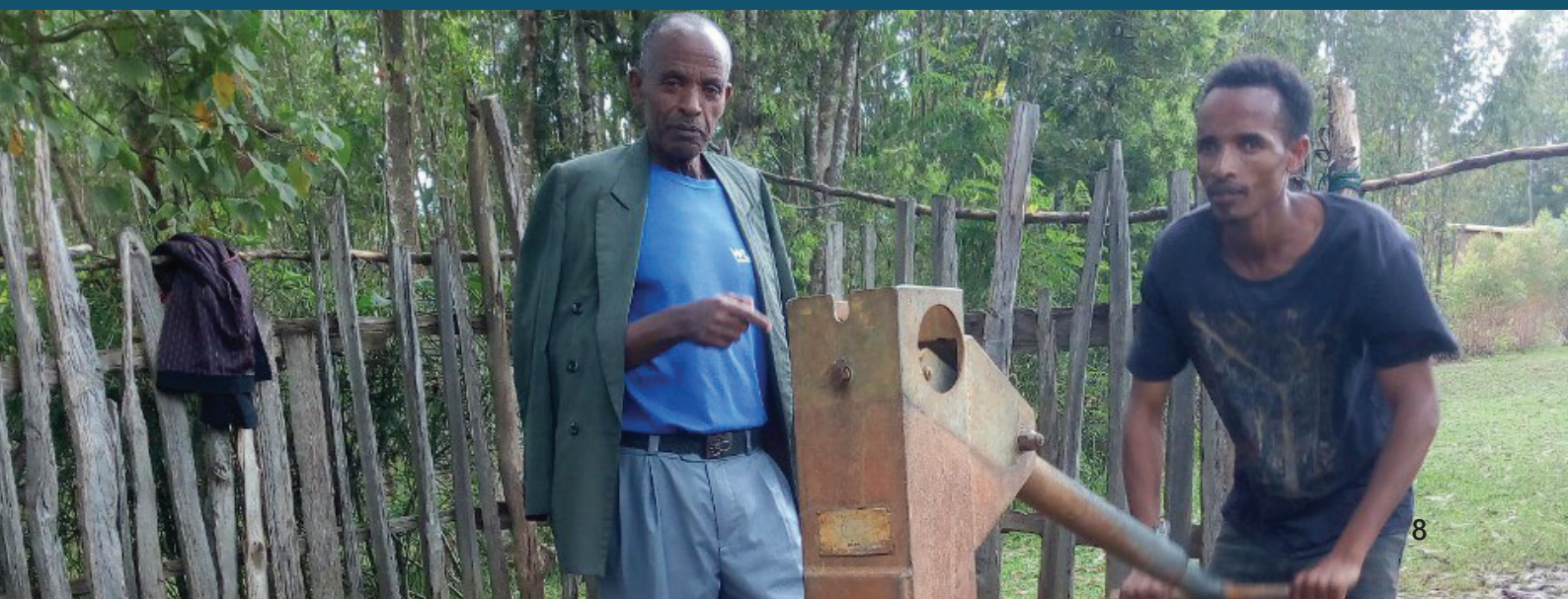
engaged in marketing and promotion activities, including the use of promotional materials and social media platforms such as Telegram groups to promote their business. These efforts laid a promising foundation for future growth.

The MSE also created positive relationships with relevant government offices, particularly with the Harar Water Supply and Sewerage Authority, which facilitated the identification of potential work opportunities such as pipeline excavation work.

Sofi MSE demonstrated strong supply chain management practices by establishing good relationships with local suppliers in Harari and Dire Dawa areas, ensuring a steady supply of spare parts through restocking. Moreover, the MSE implemented good financial management practices including daily record-keeping, regular asset inventory, and the use of digital Telebirr payment systems. These practices contributed to its good financial management and operational efficiency.

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BOX 2.

Amdi Raya MSE, Tigray Region

The Amdi Raya MSE was established in Raya Azebo Woreda, Tigray Region, comprised of 13 members (6 of whom are women). In just one year of operation, this MSE achieved good progress, showcasing the potential for local businesses to drive positive change. By leveraging strong teamwork, skills development and community trust, the MSE became a noted actor in the local water spare part retail and maintenance services.

Despite being a newly established enterprise, Amdi Raya MSE made significant achievements:

- Over 300 households now have direct water supply installation in their yards via the MSE.
- The team carried out several maintenance tasks, contributing to sustaining the service of water systems in the woreda.
- The enterprise generated a total of ETB 538,032 revenue to December 2024 and restocked its inventory five times, indicating better sales and growing demand.
- The team, led by a woman, exemplifies inclusive leadership. Four of its members focus on technical maintenance, while others are engaged in sales, promotion and market linkages.

Key Drivers of Success

- The proactive support of woreda government offices, particularly the Water and Energy Offices and Job Creation and Skills Offices, has been instrumental in creating an enabling environment for the MSE.
- Some of the members have prior experience in the water sector, giving the enterprise an advantage in understanding and addressing community needs and creating a good customer base that has enabled the MSE to establish trust and obtain maintenance and related service contracts.
- The MSE cultivated strong trust within the community, leveraging existing relationships to establish a loyal customer base.
- The existence of multi-village schemes, irrigation projects and water user associations in the woreda provided a good foundation for the MSE's sustainable growth.

The success of the Amdi Raya MSE demonstrates the significance of integrated support, prior experience and community trust in establishing successful enterprises. By replicating this model, other regions and MSEs can unlock their potential and drive sustainable development.



4. CHALLENGES

Establishing viable WaSH enterprises in rural Ethiopia presents significant challenges, highlighting the complexity of building sustainable businesses in this essential sector. The slow-moving nature of the WaSH market, coupled with competing interests from individuals and entities such as WASH Committees, WASHCos and Woreda Water offices maintenance teams further complicates the endeavour. The limited operational time for these new enterprises emphasises the need for patient and persistent effort required to achieve visible results. In addition, accessing transportation to distant kebeles makes the service line of the business difficult.

Over the course of project implementation, TAP faced challenges that can provide valuable lessons for similar, subsequent projects.

4.1. ESTABLISHMENT PROCESS

The establishment process is a key step in laying the foundations for MSEs to have the best possible chance of success. TAP encountered challenges at this stage, which undermined business viability:

1. Composition of MSE members

Selection criteria for MSE members were drafted by TAP, then discussed and agreed upon by signatories of the MOU (Government stakeholders) at start of the process. However, local Government stakeholders selected one person from each kebele as a quota to ensure equitable spread. In running the business, it became clear that it was difficult for members living far from the woreda centre to travel to the business office and shop given the time and transport costs incurred. This prevented MSE team members from meeting regularly, which negatively impacted group cohesion, team motivation and focus towards common objectives to drive the business forward.

Another finding that emerged was not all members fully understood the implications of joining an MSE. Some expected a job with regular salary and were surprised to find that they had to generate work if they were to receive an income. This indicates that MSE members need to be fully aware of the nature of the business during the onboarding process.

In addition, most members were new graduates seeking employment. They expected incomes despite the business being in its nascent stage and unable to cover the cost of all members, which led to some frustration.

2. Registration costs

New MSEs had no start-up capital and, hence, struggled to pay fees associated with registration. This caused delays in the registration process. Members needed to contribute personally to manage the process.

3. Gender balance

TAP committed to making MSEs women-led, at least 60% of the members being female; this target was met. However, the project design did not take into account the socio-cultural constraints on female leadership in some regions (such as Somali and Afar), including the challenges women face when

travelling to remote work sites. To overcome this, MSEs decided to assign male members to be more engaged on maintenance activities, which required travelling to distant sites. As a result, women primarily engaged in spare parts sales and marketing responsibilities.

4.2. OPERATIONALISATION PROCESS

4. Training

While offering valuable hands-on learning opportunities to MSE members, TAP encountered several issues that compromised the effectiveness of apprenticeship programmes. In some cases, the lack of essential tools and equipment at utilities, which were expected to be provided by Woreda Water and Energy Offices, hindered apprentices from engaging fully in practical tasks to gain comprehensive technical experience. Absence of reliable transportation to work sites further restricted members' access to diverse learning and ability to accomplish on-site assignments effectively. Moreover, the duration of apprenticeships was only 15 days due to budget constraints. This reduced apprentices' ability to develop in-depth skills, apply theoretical knowledge to real-world scenarios and build confidence in performing tasks independently. To maximise the impact of future apprenticeship programmes, addressing these gaps through better resourcing, logistical support and extended training periods is important.

5. Spare parts supply and costs

For the first batch of MSEs, TAP relied heavily on the types of spare parts and tools proposed by the Regional Water and Energy Bureaus, and some direct requests from MSEs were overlooked. It later emerged that there was no local demand for some of the spares supplied by TAP, an issue that was rectified by reallocating spare parts with low demand to other MSEs. Demand from the MSEs and woreda Water and Energy Offices played a bigger role in identifying locally required spare parts for subsequent batches of MSEs.

After undertaking product quality checks, TAP procured spare parts that had higher a retail value than the spare parts available in local markets. The latter were of poor quality; however, buyers tended to prefer them in some areas because of the price. Thus, TAP advised MSEs to assess the market and adjust some item prices to align with market trends for restocking. This was straightforward for the first stock of spare parts supplied by the project, but MSEs started procuring the succeeding stocks independently to remain competitive.

6. Conflict of interest - Limited business opportunities

Most Woreda Water and Energy Offices had their own staff carrying out maintenance services to WASHCOs and Water User Associations and Water Committees. Their service is said to be free, but in reality, they often charge for it. Woreda Water and Energy Office maintenance workers also showed resistance to involving MSE members in maintenance work. Moreover, utilities have no incentive to switch to hiring MSEs as these charged commercial rates for their service. Some locations selected by the Regions during the establishment of MSEs were also located in sparsely populated areas with limited potential for the business.

7. Lack of business capital

MSE members lack initial capital as they are unemployed youth. TAP only provided spare parts and tools on top of training and did not provide any seed funds. The lack of start-up financing to cover transport and other operational costs was a major obstacle at the onset of the business. Efforts were made to link MSEs with MFIs, but this was not possible because the enterprises were new and had no collateral or track record demonstrating their ability to service loans.

8. Weak financial and asset management

Six MSEs kept the revenue from maintenance services for themselves instead of depositing it into the business account. Furthermore, storage facilities for tools and equipment were insecure in some cases, and inventory management was weak. TAP closely worked with the MSEs and Woreda Water and Energy and Job Creation and Skills Offices to address these problems.

9. Quality of spare parts

It was difficult for TAP to procure spare parts that passed quality checks, particularly water meters and distribution pipes. This delayed provision of spares parts to the first MSE batch; the same problem was encountered when MSEs needed to restock using their own funds. The high cost of good quality (often imported) spare parts also made it difficult for MSEs to compete with other local businesses that supplied spare parts at lower prices.

10. Security challenges

The conflict in Amhara Region and risks posed by armed groups in Oromia Region severely affected project implementation. On top of the inability to provide technical support, on-the-job coaching and monitoring at ground level, it was not possible to supply spare parts and tools to MSEs in Amhara before the end of the project period.

5. RECOMMENDATIONS

Establishing and strengthening MSEs aims to reduce the non-functionality rate of water supply schemes through an entrepreneurship model involving the private sector, which then creates job opportunities to women and youth. In this regard, TAP's experience offers learning opportunities for any future initiative.

Based on lessons drawn from TAP's implementation, the key recommendations are:

- 1. Assess a business' viability in a location before forming an MSE:** In the assessment process, it is essential to consider not only the number and scale of water supply schemes in the locality but also potential competition and other barriers to MSEs winning and implementing maintenance contracts. These might include security constraints.
- 2. Employ effective MSE membership selection process:** It is advised to consider agreed selection criteria as much as possible. Ideally, it is better to consider MSE establishment proposals from self-motivated groups rather than nominating individuals. This will help ensure that applicants know each other and are motivated. Moreover, it is good to make space for existing local entrepreneurs and artisans by relaxing the requirement for all members to be unemployed women and youths. Members should also live close to the intended service area to avoid extra costs of movement and ensure easy access to meet the demand. Above all, members should understand the nature of the business before establishing MSEs.
- 3. Provision of start-up funds:** MSE businesses require having start-up finance either in the form of grants or personal contributions. Without these, it will be very difficult for MSEs comprised of unemployed individuals to cover initial costs for registration, establish shed and shop for storing and marketing materials and bear transport costs when visiting potential clients. Such initial funds will help MSEs start the business and leverage loans from MFIs.
- 4. Provision of post-establishment support and coaching:** The MSE model in WaSH is a relatively new venture. Hence, it requires facilitating introduction to water service providers, helping resolve challenges MSEs face and providing coaching and further training where necessary.
- 5. Business diversification:** Without losing its focus on the repair and maintenance of water supply schemes and spare parts supply, MSEs could potentially offset some operational costs by offering additional services or products. For example, they can engage in collecting bill payments for utilities or offer welding and electro-mechanical services to clients beyond the water sector. They can also engage in supplying sanitation materials alongside spare parts. This would, however, depend on the content of the business licences.



6. Resolve the conflict of interest: MSEs face resistance and lack of cooperation from maintenance workers at Woreda Water and Energy Offices in some woredas. But while these Offices are mandated to provide maintenance services to rural water schemes, some Woreda Water and Energy Offices provide support to MSEs so that they are strengthened. In the future, Offices should proactively support MSEs so that these enterprises are given opportunities to engage in maintenance services with the broader aim of contributing to reduce the non-functionality rate of water schemes in Ethiopia. Finally, private sector involvement in such services must depend on government direction and support. This calls for purposive, ongoing action by the Government to encourage such a development.

7. Promoting women empowerment: TAP committed to make MSEs women-led; as a result, more than 50% of MSE members are women as they are the most vulnerable groups affected by water schemes' non-functionality. Moreover, women are effective in running and leading businesses. The project has achieved this target. However, empowering them to achieve such levels requires proactive support to tackle socio-cultural barriers.

6. CONCLUSION

Establishing women and youth-led MSEs in Ethiopia's rural water supply sector has shown promising potential in addressing operational and maintenance challenges of water supply schemes to reduce non-functionality rates. TAP successfully established 30 MSEs across various regions, and while MSEs are at their earliest level of development, several have proven to add value to the broader objective of WaSH.

In order to see MSEs grow as viable business entities in the WaSH sector, key challenges require attention, including the selection of MSE members, limitations in providing training because of time and resources, inconsistent and low support from local government, a lack of start-up capital, conflict of interest and security constraints. It also requires creating market linkages to ensure MSEs' long-term sustainability.

While latent demand for spare parts sales and maintenance services exists in rural areas, making MSEs viable and successful is highly dependent on active support from relevant woreda offices in creating a fertile business environment. By providing targeted support, fostering strong partnerships and working with the public and private sector to create a conducive environment, MSEs can play an important role in reducing water supply schemes' non-functionality rate and enhance access to spare parts outlets.

