DESIGNING SUSTAINABLE WATER SUPPLY SYSTEMS IN TAJIKISTAN

A step-by-step guide to design, construction and ownership

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Oxfam Great Britain in Tajikistan
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<tr>
<td>KMK</td>
<td>Khojagii Manziliyu Kommunali</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-government organisation</td>
</tr>
<tr>
<td>SDC</td>
<td>Swiss Agency for Development and Cooperation</td>
</tr>
<tr>
<td>SUE</td>
<td>State Unitary Enterprise</td>
</tr>
<tr>
<td>TajWSS</td>
<td>Tajikistan Water Supply and Sanitation</td>
</tr>
<tr>
<td>TJS</td>
<td>Tajik somoni</td>
</tr>
<tr>
<td>WASH</td>
<td>Water, sanitation and hygiene</td>
</tr>
<tr>
<td>WUA</td>
<td>Water Users Association</td>
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</table>
EXECUTIVE SUMMARY

Tajikistan is often described as the poorest country in Central Asia, with GDP per capita consistently lower than any of its regional neighbours. Its water and sanitation infrastructure is severely dilapidated, suffering from decades of underinvestment and the failure to address widespread damage suffered during the country’s civil war (1992–1997).

While great strides have been made in recent years, the pace of change remains slow, and approximately one-third of the rural population still lacks access to improved water sources.

Efforts to ensure everyone has improved access to adequate water and sanitation services are characterised by contradictory legislation and blurred responsibilities between state agencies. Reform of the sector and roll-out of improved infrastructure have been slow, requiring strong accountability mechanisms to ensure that the rights of the most vulnerable people are adequately protected.

Oxfam’s water, sanitation and hygiene (WASH) programme (launched in 2009 under Swiss Agency for Development and Cooperation (SDC) funding) is therefore based on a theory of change that aims to improve the health status of Tajikistan’s population through the delivery of long-lasting WASH services, while addressing market systems and strengthening institutions. This theory of change is based on the following key pillars:

**OXFAM’S WASH STRATEGY (2012-2022)**
Theory of change

1. **BUILDING DEMAND**
   for and supply of WASH services at household level

2. **IMPROVED WATER GOVERNANCE SYSTEM**
   through capacity-building and effective institutional set-up

3. **SECURING FINANCING**
   of water supply and sanitation services through blended funding

4. **POLICY ADVOCACY AND INFLUENCING**

   - **Technology & services**
   - **Skills and management**
   - **Co-financing**
   - **Water sector reform**

Improved, sustainable and equitable access to safe drinking water and sanitation, and adoption of better hygiene behaviours in Tajikistan through stakeholder engagement.
INTRODUCTION

TAJIKISTAN – A COUNTRY RICH IN WATER, BUT POOR IN INFRASTRUCTURE

Tajikistan is a small landlocked country in Central Asia, with a population of over 9 million. Although Tajikistan’s poverty rate declined from 47% in 2009 to 31% in 2017, this rate remains the highest among the former Soviet countries and is concentrated mainly in rural areas – where 73% of poor people live.

93% of Tajikistan’s territory is covered by mountains, glaciers and windswept plateaus. Consequently, solely the remaining 7% is habitable, 5% of which is arable. The glaciers contribute 10–20% to the total runoff of all major rivers in the region, which in turn constitute 40–60% of all water resources in Central Asia. Tajikistan is therefore rich in hydrological resources and has strong hydropower potential, but only 5% of the latter is in use, providing over 90% of the country’s electricity. This dependence on hydropower makes the country vulnerable to fluctuations in rainfall and climate change, which have adverse effects on energy and food security, poverty and human health.

Of the country’s 9M PEOPLE, in 2020 only 55% had access to SAFELY MANAGED DRINKING WATER. In rural areas – which are home to 73% of people EXPERIENCING POVERTY – 77% of people use BASIC WATER SERVICES.
Since the collapse of the Soviet Union, there has been little investment in basic infrastructure and social services in Tajikistan. Moreover, Tajikistan’s civil war left the economy in ruins, further delaying the establishment of public services and investment in the country. Most of the water supply and sewerage systems built during that period have rapidly deteriorated due to poor public maintenance and lack of investment.

Although Tajikistan enjoys abundant freshwater, access to improved drinking water and sanitation services remains significantly lower than in other Central Asian countries. Rural areas are particularly affected, and progress in achieving sustainable services has been frustratingly slow for the rural population. In 2020, only 55% of the population of Tajikistan had access to safely managed drinking water. And in rural areas, which are home to 73% of poor people, 77% of people use basic water services.6

Access to improved drinking water and sanitation services in Tajikistan is lower than in other Central Asian countries. Photo credit: TajWSS
A MARKET-BASED APPROACH TO WASH

Despite widespread poverty, dilapidated infrastructure and an economy highly dependent on remittances and external shocks, there has been general recognition among the international donor community and international NGOs operating within the country that humanitarian solutions to the country’s water problems are not sustainable.

As such, during the initiation phase of its WASH programme, Oxfam designed and followed a market-based approach that focused on three key variables:

1. **BEFORE CONSTRUCTION**
   Early financial buy-in from the government

2. **DURING CONSTRUCTION**
   Community ownership via co-financing and active engagement

3. **POST-CONSTRUCTION**
   Provision of access to finance for water operators to manage the system sustainably

Designing and constructing water supply systems is time-consuming and often conflict-heavy due to the number of parties involved, including both national and district governments, and the communities themselves. Oxfam’s leadership and expertise therefore played a crucial role in negotiating between all parties to support access to finance and ensure that all infrastructure would remain sustainable.

To facilitate this, the project relied on a holistic approach, focused on several key technical priorities (listed on the following page), to ensure that “no one was left behind” in its project delivery.

What is a market-based approach?

Oxfam in Tajikistan launched a market-based WASH programme with a focus on customer-oriented payment systems and engagement with the private sector to ensure financial and operational sustainability.

The key to designing a market-based programme is to establish a working relationship with both relevant market actors and the government to transform the market into a conducive environment for WASH service delivery and goods production/sale.

The feasibility of such a programme is highly context-related and market-driven as achieving service delivery for WASH heavily depends on:

- the level of local demand
- the readiness of the supply chain
- the availability of non-sector-specific support markets
- the market regulatory environment.
### OXFAM’S WASH PROJECT DELIVERY CONCEPT

<table>
<thead>
<tr>
<th>Key technical priorities</th>
<th>Focus</th>
</tr>
</thead>
</table>
| **MARKET-BASED PROGRAMMING** | ▪ Market assessment, intervention analysis and programme implementation  
▪ Holistic WASH approach – WASH for all  
▪ Innovative finance models for WASH (supply + demand)  
▪ Private sector engagement for new technological applications and management |
| **WATER QUANTITY** | ▪ Designing systems with access to water in sufficient quantity  
▪ Installation of private connections  
▪ Identification of affordable tariff scheme for households |
| **WATER QUALITY** | ▪ Water treatment at point of supply or water collection  
▪ Household water treatment (affordable and easy to use)  
▪ Household water containers or jugs  
▪ Water quality testing kits |
| **SANITATION** | ▪ Advances in toilet design technologies and faecal waste collection, treatment and disposal  
▪ Participatory methodologies to increase involvement of different aged and gendered user groups in the design of appropriate sanitation solutions for households and institutions  
▪ Sanitation marketing |
| **HYGIENE (HAND WASHING)** | ▪ Promotion of handwashing at household and institutional level  
▪ Installation of handwashing basins  
▪ Hand washing kit  
▪ Hand washing behaviour change methodologies  
▪ Hygiene education at schools |
| **COMMUNITY ENGAGEMENT** | ▪ Community engagement framework  
▪ Multi-sector approaches to promote health lifestyle (water-nutrition-environment)  
▪ Social accountability approach in promoting community ownership in decisions related to WASH |
| **INSTITUTIONAL DEVELOPMENT** | ▪ Capacity-building activities for water operators and local governments  
▪ Designing water management and business plans  
▪ Developing water and sanitation safety plans  
▪ Establishing value chain models with the private sector for supply of spare parts and technical support  
▪ Technological advancements: data-driven management information communication technology/ICT, key performance indicator analysis and customer feedback |
STAGES OF WATER SUPPLY CONSTRUCTION

The construction of water supply systems in Tajikistan followed eight key stages over the course of approximately two years. All stages were sequential and dependent on the progress level of the previous stage.

This paper discusses each of these stages in turn, with a focus on recommendations and lessons learned.

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Village Pre-selection</td>
<td>1 month</td>
</tr>
<tr>
<td>2</td>
<td>Village Applications</td>
<td>1 month</td>
</tr>
<tr>
<td>3</td>
<td>Village Selection</td>
<td>1 month</td>
</tr>
<tr>
<td>4</td>
<td>Technical Design</td>
<td>3 months</td>
</tr>
<tr>
<td>5</td>
<td>Water Management Model</td>
<td>3 months</td>
</tr>
<tr>
<td>6</td>
<td>Finance Mechanism</td>
<td>3 months</td>
</tr>
<tr>
<td>7</td>
<td>Construction</td>
<td>9 months</td>
</tr>
<tr>
<td>8</td>
<td>Handover &amp; Ownership</td>
<td>3 months</td>
</tr>
</tbody>
</table>

Note: This is an indicative timeline; in practice the duration of individual stages can vary.

Stages 5 and 6 could be started in parallel. Stage 6 activities could stretch into Stage 7.
Access to water
Clean water is a basic human need and right, and one that should be easily accessible to all. People should have equitable and affordable access to a sufficient quantity of safe water to meet their needs.

Proximity to water source
Location of water points should be sufficiently close to households, preferably on premises, to limit exposure to any protection risks.

Availability of water when needed
The water supply should be available at all times, day and night, for drinking, hygiene and domestic use. Depending on the context the water supply timetable should be communicated and agreed with the consumers.

Safe and drinkable water quality
Water should be palatable and of sufficient quality for drinking and cooking, and for personal and domestic hygiene, without causing a risk to health. When commissioning a water supply system, the water source should be protected and water should be treated for physical, bacteriological and chemical parameters to ensure its safety prior to distribution.

“We needed water to live, but I didn’t know what to do. We would wait for days. I didn’t have a voice.”
Female community member (on regular disruptions to water supply)

“I’m happy to pay the fee as the service is good and the water is safe and so useful.”
Female community member (on the value of service and safety)
By conducting rapid feasibility studies, Oxfam was able to understand whether the project could indeed have a sustainable impact on the potential villages. When pre-selecting these for final selection, five key factors were considered:

**Health factors**
- Water-borne diseases
- Vulnerability to water-related health risks

**Socio-economic factors**
- Readiness to financially contribute *(income)*
- Availability of technical expertise to monitor the process *(capacity)*
- Community engagement level *(social unity)*

**Environmental factors**
- Water source
- Geographical conditions
- Soil permeability
- Availability of old infrastructure

**Financial factors**
- Project budget limitations
- Feasibility of additional financial support from government or donors

**Scalability**
- Proximity of neighbourhood villages
- Potential to extend services

Oxfam’s global experience with rural water supply service providers demonstrates that the primary factor affecting water supply sustainability is the financial capacity of communities, something these communities do not expect the government to soon resolve. As such, opportunities for solutions are instantly recognised and appreciated.

Throughout the implementation of the TajWSS project, it became increasingly clear that those communities who were most engaged in the decision making process, then demonstrated a greater willingness to contribute to the construction process and management of the water supply systems, thereby enabling a more sustainable water supply service.

**Lessons learned**

Strong community engagement led to the most sustainable water supply services.

*Photo credit: TajWSS*
Water Trust Funds were established by Oxfam within district government bodies. Their aim was to improve the financial sustainability of water supply and sanitation systems, to strengthen local capacity in management and decision making, to promote local ownership, and to advance transparency in decision making regarding construction, management and monitoring of water supply systems.

The Board of a Water Trust Fund brings together a wide range of stakeholders who are active in the rural drinking water and sanitation sector at district level and establishes a coordination/decision making body, organised under the authority of the Chairpersons of District Hukumats *.

Members include representatives of the local governments, the private sector, community members (or civil society organisations) and Oxfam.

*District Hukumats
A government body at district or city level responsible for administration of government duties and allocation of funds in their respective administrative territories.
Once all target villages had been selected, the project announced a tender for private companies to design the water supply systems. The main purpose of the selection process was to develop rosters of potential bidders for the project’s tenders so that they may prequalify for participation in future tenders.

Given the scale, complexity and quality required for the construction process of water supply systems, Oxfam ensured that all construction requirements, skills and experience were met by all bidders. Prequalified participants were included on the project’s roster of potential bidders and were invited to participate in the tenders.

The selection process was rigorous and ensured compliance with all technical, financial and legal requirements by assessing strict criteria (see list on right).

Since Oxfam prioritises market-based WASH programming in its project delivery, its main specifications for water supply and sanitation system design is based on customer demand, sustainable management and potential for scaling. To achieve this, Oxfam considers UN Sustainable Development Goal (SDG) 6 on clean water and sanitation as integral to all technical design and follows two key parameters:

1. **Safely managed drinking water and sanitation**
2. **Improved facility located on premises, available when needed, and free from contamination**

Management of the systems is key to their sustainability so from the outset, the project ensured that all users understood how the system serves them, who owns it, and who is responsible for managing it moving forwards.

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**Selection criteria for bidders**

- Licences for the construction and repair work of water systems
- Previous experience and volume of completed work (minimum 5–7 years)
- Experience of staff
- Equipment and technical base
- Financial status and bank warranty (absence of debt)
- References

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**Sustainable Development Goal (SDG) 6**

**Ensure access to water and sanitation for all**

The UN’s SDG 6 seeks to ensure safe drinking water and sanitation for all, focusing on the sustainable management of water resources, wastewater and ecosystems, and acknowledging the importance of an enabling environment. The 2030 Agenda for Sustainable Development established a commitment from countries to engage in a systemic follow-up towards all goals and targets, using a set of global indicators to ensure effective review.
Once the technical design for the water supply system was complete and a tentative budget approved, Oxfam discussed all options for a management model with both the community and district government. Management models tend to differ according to service availability and community preferences, but in general, the project has opted for different decentralised management models. The most appropriate of these was then agreed through a Water Trust Fund meeting with the district government and national stakeholders. The following models were established for populations in rural and peri-urban areas:

**MANAGEMENT OF WATER SUPPLY SYSTEMS** (private connections)

<table>
<thead>
<tr>
<th><strong>Service Availability</strong></th>
<th><strong>Community Preference</strong></th>
<th><strong>Lessons Learned</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Peri-urban location</td>
<td>Hand over the system to Tojikobidehot</td>
<td>Lower service quality, supply disruption, and lower customer feedback, due to:</td>
</tr>
<tr>
<td>Close to centralised water services</td>
<td>Tojikobidehot reporting to SUE KMK and undertaking less responsibility for the service quality</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mandatory payments for the upkeep of central administration</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inadequate capacity ratio per assigned water networks</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Water tariff: doesn’t cover most operation and maintenance costs</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Service Availability</strong></th>
<th><strong>Community Preference</strong></th>
<th><strong>Lessons Learned</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Remote location</td>
<td>More responsibility</td>
<td>Perform more responsibly and sustainably due to:</td>
</tr>
<tr>
<td>Far from centralised water services</td>
<td>Their own decentralised and autonomous system</td>
<td>Agility of the system</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Active community engagement in decision making</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sense of ownership over the system — group acts in unity as a community-based entity</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Water tariff:</strong> relatively higher to cover at least operation and maintenance cost</td>
</tr>
</tbody>
</table>

Each of these factors was also influenced by the nature of the asset. In most cases, under Tajikistan law, the water supply asset belongs to the government and they have a right to decide on ownership types and operational models. In the case of this project, all water supply systems were state-owned but handed over to either Tojikobidehot or WUAs through Mahalla Committees who now operate the system.
The final stage before the construction process involved negotiating the co-financing terms and responsibilities between all stakeholders. According to government recommendations, the government and the community should respectively contribute 25% and 5% to the financing of water projects, with the remaining 70% covered by investors. Based on this division, Oxfam took a lead in sub-dividing the design and construction process and all corresponding costs, as follows:

<table>
<thead>
<tr>
<th>Component</th>
<th>Government Contribution</th>
<th>Community Contribution</th>
<th>Investors Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rehabilitation or restoration of well and pump or piping of spring</td>
<td>25%</td>
<td>5%</td>
<td>70%</td>
</tr>
<tr>
<td>Construction or rehabilitation of water reservoirs</td>
<td>25%</td>
<td>5%</td>
<td>70%</td>
</tr>
<tr>
<td>Installation of treatment equipment</td>
<td>25%</td>
<td>5%</td>
<td>70%</td>
</tr>
<tr>
<td>Fencing and protection of the point of water collection</td>
<td>25%</td>
<td>5%</td>
<td>70%</td>
</tr>
<tr>
<td>Distribution pipes</td>
<td>25%</td>
<td>5%</td>
<td>70%</td>
</tr>
<tr>
<td>Welding and connection work</td>
<td>25%</td>
<td>5%</td>
<td>70%</td>
</tr>
<tr>
<td>Road pavement</td>
<td>25%</td>
<td>5%</td>
<td>70%</td>
</tr>
<tr>
<td>Purchase of spare parts</td>
<td>25%</td>
<td>5%</td>
<td>70%</td>
</tr>
</tbody>
</table>

**Local Government**

The local government should take their parts for financing. As per Oxfam experience, local government mostly finances the following:

- Rehabilitation of water reservoirs
- Fencing and protection of the point of water collection
- Road pavement

**National Government**

Unfortunately, there have not been any cases where national government has co-financed Oxfam’s water projects. 

*Only in one case, SUE KMK rehabilitated the existing reservoir with only 2% contribution against the total cost.*
All agreements were cemented by memoranda of understanding between Oxfam and the district government, in which all percentage contributions and obligations were clearly outlined.

- Depending on the nature of the work, Oxfam ensured that the co-financing work was delivered on time and within quality standards.
- Oxfam engineers conducted technical monitoring of the work and only once the quality had been approved.
- Oxfam then requested official documentation from the district government on financial contributions and active engagement in the construction process and beyond.

This documentation is part of the Water Trust Fund work. Construction progress is reported on a quarterly basis with the participation of the district chairperson, government representatives, the construction company itself, community representatives and Oxfam.

Together, stakeholders agreed on the co-financing terms and responsibilities before construction began.

Photo credit: TajWSS
Once all memoranda of understanding were signed, the construction process began. Detailed construction costs, beneficiary outreach and cost per capita are illustrated in the following tables:

**PHASE 1**

*Construction cost in Phase 1 (2011-2013)*

<table>
<thead>
<tr>
<th>Project</th>
<th>Total cost (TJS)</th>
<th>Number of beneficiaries</th>
<th>Cost/capita (TJS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rohati WUA</td>
<td>1,120,274</td>
<td>7,642</td>
<td>143</td>
</tr>
<tr>
<td>Delolo WUA</td>
<td>876,397</td>
<td>627</td>
<td>1,395</td>
</tr>
<tr>
<td>Shululu WUA</td>
<td>212,696</td>
<td>649</td>
<td>327</td>
</tr>
<tr>
<td>Barakat WUA</td>
<td>603,341</td>
<td>464</td>
<td>1,300</td>
</tr>
<tr>
<td>Balkhi WUA</td>
<td>732,224</td>
<td>1,281</td>
<td>571</td>
</tr>
<tr>
<td>Darai Kolon village</td>
<td>264,377</td>
<td>384</td>
<td>688</td>
</tr>
<tr>
<td>Anguli village</td>
<td>498,424</td>
<td>320</td>
<td>1,557</td>
</tr>
<tr>
<td>Muminabad Vodokanal</td>
<td>3,813,071</td>
<td>12,689</td>
<td>300</td>
</tr>
<tr>
<td><strong>TOTAL COST</strong></td>
<td><strong>8,120,804</strong></td>
<td><strong>24,056</strong></td>
<td></td>
</tr>
</tbody>
</table>

Between 2009 and 2022, the project has built 15 water supply systems for 26 villages and one town (Muminabad) across the districts of Rudaki, Kulob and Muminabad.
PHASE 2

For Phase 2, the total construction cost increased due to the size and density of the population, the need to cover multiple villages, and various technical specifications. Unsurprisingly, the average total construction cost almost doubled to TJS 2.5 million (or $223,180). However, the investment cost per capita decreased, with an average of TJS 594 ($53) – ranging from a minimum of TJS 148 to a maximum of TJS 873 ($13 to $77) – mostly due to increased population coverage and density.

<table>
<thead>
<tr>
<th>Project</th>
<th>Total cost (TJS)</th>
<th>Number of beneficiaries</th>
<th>Cost/capita (TJS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delolo WUA</td>
<td>260,000</td>
<td>1,755</td>
<td>148</td>
</tr>
<tr>
<td>Dushanbecha WUA</td>
<td>1,735,018</td>
<td>1,918</td>
<td>905</td>
</tr>
<tr>
<td>Dahana SUCE</td>
<td>3,536,889</td>
<td>4,048</td>
<td>873</td>
</tr>
<tr>
<td>Ziraki SUCE</td>
<td>1,151,893</td>
<td>2,512</td>
<td>458</td>
</tr>
<tr>
<td>Choryakkoron WUA</td>
<td>6,360,029</td>
<td>11,800</td>
<td>538</td>
</tr>
<tr>
<td>Tezgari Poyon WUA</td>
<td>2,037,387</td>
<td>3,148</td>
<td>647</td>
</tr>
<tr>
<td><strong>TOTAL COST</strong></td>
<td><strong>15,081,216</strong></td>
<td><strong>25,181</strong></td>
<td></td>
</tr>
</tbody>
</table>

PHASE 3

In Phase 3, Oxfam built one water supply system in the Rudaki district, serving four different villages. In this phase, half the cost was shared between the government and international donors (other than SDC). The total construction cost was TJS 4,612,055 ($409,470) and per capita investment was TJS 701 ($63) – a slight increase from Phase 2. However, in fact, the project spent TJS 2,783,915 and the remaining part came from Japan Embassy, OSCE, Rudaki Hukumat, SUE KMK and community members.

<table>
<thead>
<tr>
<th>Project</th>
<th>Total cost (TJS)</th>
<th>Number of beneficiaries</th>
<th>Cost/capita (TJS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rudaki Tojikobidehot</td>
<td>4,612,055</td>
<td>6,791</td>
<td>710</td>
</tr>
<tr>
<td><strong>TOTAL COST</strong></td>
<td><strong>4,612,055</strong></td>
<td><strong>6,791</strong></td>
<td></td>
</tr>
</tbody>
</table>
PRIVATE VS PUBLIC CONNECTIONS

Overall, the project built nine private and six public schemes. Although the price of private connections was seven times higher, the per capita investment cost was in fact not that different – TJS 320 ($28) and TJS 550 ($48) for public and private connections respectively, despite the coverage being almost four times higher.

<table>
<thead>
<tr>
<th>Projects</th>
<th>Total cost (TJS)</th>
<th>Beneficiaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public (6)</td>
<td>3,431,336 (320/capita)</td>
<td>10,740</td>
</tr>
<tr>
<td>Private (9)</td>
<td>24,382,739 (550/capita)</td>
<td>45,288</td>
</tr>
<tr>
<td>TOTAL (15)</td>
<td>27,814,075</td>
<td>56,028</td>
</tr>
</tbody>
</table>

STAGE 8
Handover & Ownership

To complete the construction process, the government conducted a technical verification to approve completion and ensure asset ownership was established. Once approved, the private contractor was then contractually bound to provide technical support for one year post-completion.

To duly finalise the process, as per the “Construction Norms and Standards” (GNIP) of the Republic of Tajikistan, a technical passport of the system was provided for inventory and governmental registration. This passport acts as the certificate of state registration, ensuring the right to communal facilities and describing the following key technical parameters:

- Source of water (type, facilities, protection) and number of sources
- Certificate of the well
- Executive scheme of the facility
- Drawings and maps
- Quantity and parameters of equipment uses, length of pipelines, number of outlets etc.

This document is critical for the water operator to undertake asset inventory and enables an accurate audit, when required.
KEY LEARNINGS

1. The inclusive, participatory, and transparent approach used during the selection process of villages was appreciated by all stakeholders (including women), enabling them to feel heard and providing them with a genuine sense of ownership throughout all phases of the process.

2. The quality of construction must be monitored continuously, by qualified specialists (and preferably by women too), to avoid the risk of hidden defects remaining undetected.

3. The commitment and cooperation of the Hukumat staff during all district level activities was crucial to the project’s success. The Hukumat played a central role in the project site selection and design process, the permit acquisition procedures, the selection of appropriate contractors, and the monitoring and evaluation of the project’s implementation.

4. The commitment and enthusiasm of the WUAs was key to smooth implementation of the project, including maintaining a constant dialogue with the relevant local authorities, the daily monitoring of construction activities, and the collection and management of community contributions.

5. Both design and implementation should take into consideration specific disaster risk reduction mitigation measures. Communities should understand the risks involved and be prepared with appropriate mitigation actions.

6. Contractors and operators alike were the most resistant to behaviour change. It was repeatedly demonstrated that quality of work could only be guaranteed by the direct involvement of Oxfam’s Engineers. Without the latter, construction quality was too often considered “better than nothing, and therefore sufficient”.

7. The contribution of the local administration is the most difficult to secure and was often significantly delayed, thus affecting both the schedule of implementation and the final quality of work and materials.

8. The construction process – from selection through to transfer of ownership – requires a high level of community engagement and participation. The intensity of their involvement guarantees a continued interest in the functionality of the system while also ensuring that all knowledge (both technical and administrative) is transferred throughout the process.

9. Experience dictates that even the most sturdy water systems have a high degree of failure during the first months of operation. It is therefore critical, particularly during the early stages, to have funds and spare parts available for emergency repairs. Water operators should be trained and guided accordingly for at least a full year post construction.
NOTES


7. SUE KMK is the state-owned holding company for the delivery of municipal services including water supply and wastewater services in Tajikistan


9. The water supply operators have designed water safety plans to mitigate environmental and man-made risks.

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