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SCO position paper: full cost recovery tariffs for domestic water services in Tajikistan

Contents

1. Swiss position

a. Objective

Full cost recovery tariffs are accepted and promoted, with due consideration to local conditions, so that water services are sustainable, accessible and affordable for all.

b. Key messages: What the Swiss cooperation would like to change

Tariffs should recover the direct costs of operation and maintenance, and the capital costs (including the cost of depreciation). When they cannot cover these costs due to affordability concerns, subsidies should be considered, but it is difficult to secure subsidies in the long term.

Guidelines on tariffs were developed for Tajikistan by the UNDP in 2016. They were approved by the Anti-Monopoly Agency on September 25, 2019 and are now considered as an acting document (http://ams.tj/?p=1374)[1]. The key message is for government take ownership, disseminate and operationalise these guidelines, and to stipulate provisions to address affordability and pro-poor service delivery.

c. Summary of evidence

Full cost recovery tariffs are essential for water services to be sustainable, from a financial and environmental viewpoint, and to ensure resource efficiency. This must be done while ensuring the cost of water remains affordable to all, including the poorest.

Full cost recovery can be achieved through some or all of the following actions: (i) Increasing/ updating tariffs, or changing the tariff structure (ii) improving collection rates and billing. When this is not sufficient to cover the costs of water provision, the option to provide or increase subsidies (or facilitate cross-subsidies between different categories of users) to service providers should be considered.

When the cost of providing water services is not covered by the tariffs collected, this impacts negatively on (i) the financial sustainability of water services provision, with a detrimental effect on the health and well-being of the population[2], and (ii) the sustainability of water resources (can lead to water wastage).

It also means that financial resources need to be redirected, either to make up for the shortfall between the cost of water services provision in the form of subsidies, or to provide funds for systems that have broken down due to lack of funds. This presents an issue of resources efficiency, as these financial resources could instead be spent on increasing access rates or improving the quality of access to water services for others.

Full cost recovery is therefore a sound objective, but it needs to be weighed against issues of affordability and willingness to pay, particularly in places where the cost of water provision and poverty levels are high. This is an important consideration in rural areas as households typically rely on

[1] Available in Russian here.
[2] This position paper deals with water tariffs for domestic supply; water tariffs for industrial and agricultural use, and tariffs for sanitation services, should be examined separately.

alternative sources (which may be unsafe) to cope if they are unable to afford water from their main source. International experience suggests that affordable water services should not exceed 3% of a household's income. In Tajikistan, the top 60% of households typically pay around 3% of their income for water, but this figure goes up to 8% of income for the bottom 40% households (World Bank, 2018). **Any changes to the tariff structure or amount therefore needs to be accompanied by pro-poor measures (e.g. targeted subsidies or cross-subsidies) to ensure the poorest are not hit the hardest**. Access for poor people can be assured through intelligent, targeted, non-discriminatory and transparent subsidies in the tariff or through direct subsidies. Subsidizing the cost of connecting households to the network rather than the tariff paid by households might be more effective and differentiated service levels can give consumers a better choice.

2. Annex

a. Synthesis of analysis supporting the Swiss position on topic

Full cost recovery here is defined as the direct costs incurred by the service provider, i.e. the cost of operation and maintenance, as well as capital costs (including the cost of depreciation)[3].

Full cost recovery can be achieved through some or all of the following actions: (i) Increase tariffs (ii) Improve collection rates – while ensuring the tariffs remain affordable to all, including the poorest. When this is not sufficient to cover the costs of provision, the option to provide or increase subsidies (direct or indirect) to service providers should be considered.

Tariffs:

- No data on tariffs available at central level; guidelines on tariffs were approved in September 2019 and are in the process of being operationalised by Anti-Monopoly Agency. The guidelines includes procedures for setting economically justified tariffs and practical guidance on calculating all cost items. It includes a comprehensive list of documents required for submission by service providers for any request to justify tariff increase. This provides clarity on the process of tariff endorsement and agreement between the suppliers and regulators. It guides the supply organizations in improving information and data management with regards to its operations. To ensure AMA recognizes the importance of the setting differentiated tariffs for individual systems, UNDP designed a comprehensive training programme to train 12 rural service providers on the use of the methodology. More information on tariffs and collection rates can be found in the Case Study section below.
- Tariffs do not cover the costs of maintaining and operating the infrastructure; government subsidies are insignificant and insufficient to cover the costs of services provided by public authorities. As a result, the quality of the services provided is usually low *(National Water Strategy 2030)*
- While changing the water tariffs is always a politically sensitive topic, it can be done in several steps, for instance by changing the tariff structure from a flat rate to a volumetric rate depending on the volume consumed, especially in urban areas where metered connections are more common. (Only 15% of households have a water meter in Tajikistan, but this figure goes up to 46% in Dushanbe). However, pricing strategies should be cognisant of the need to provide affordable water to the poor, and not just to those who can afford it.
- No data on cost recovery, but evidence that regional water utilities have insufficient funds to cover the most basic operational costs and maintenance[4].
- Data from IBNET shows tariffs for Dushanbe only[5]. The data has not been updated since 2005. Back then the water tariff for residents of Dushanbe was a flat rate of 0.06 USD per m3. Since September 2018 the cost of water in Dushanbe is 2.34 Som per m3 or 0.24 USD per m3.

Collection rates:

- No updated data on collection rates from IBNET.

[3] We are not including here external costs such as the costs of environmental damages and the opportunity cost of raw water supply (as is the case in the EU Water Framework Directive).
[4] "Regional water utility firms do not have enough funds to update or maintain the infrastructure; in fact, service providers interviewed for this study suggested that this should be the responsibility of the consumers". (World Bank, 2018)
[5] https://database.ib-net.org/utility_profile?uid=23454

- Some data on collection rates from RWSS FV project (see Case study below) show that collection rates of cost-recovery tariffs increased from an average of 26% in 2011 to an average of 58% over three years, and in some villages has reached 70-95%.
- Some preliminary data on collection rates from SWSMT project suggests that a collection rate of around 50% in the first 6 months of the project but without full cost recovery tariffs (tariff only covers basic O&M). This is expected to increase somewhat over time with awareness raising
- Oxfam has data on tariff collection rate where it observed an average of 80% of collection rate from its 6 water supply systems. Interestingly, the gap between peri-urban and rural areas concerning collection areas is minor (on average 2-3% in favour of peri-urban areas)
- Data on collection rates from the 12 rural water service providers trained by UNDP show an increase in collection rates thanks to active community engagement. Within three years, all collection rates had increased with variations between communities from
- Billing systems and customer data are obsolete in some areas, which leads to underpayment[6] and insufficient cost recovery.

Subsidies:

- In Tajikistan, there is no clearly established system of direct and indirect government subsidies for the water sector. Preferential tariffs for electricity for pump stations in irrigation and drinking water supply are constantly increasing *(National Water Strategy 2030).*
- Rural water services are rarely able to cover the costs of provision in the CIS, with a few exceptions (see RWSS Project case study below). Without a state subsidy and/or solidarity mechanism in place, the sustainability -both infrastructure and financial – of the services will be compromised.

Affordability and willingness to pay:

Affordability is an issue for the poorest under current water tariff. Any changes towards full cost recovery is likely to impact more people and should therefore be accompanied by pro-poor mechanisms, including subsidies.

- The Anti-monopoly guidelines on tariffs do not yet include provisions for pro-poor service provision.
- With current tariffs, less than 4% of the population reports water being too expensive as the main barrier to accessing water. However, it is still an important consideration particularly in rural areas where (i) people have access to alternative sources, which jeopardizes the viability of the water scheme and (ii) the costs of service provision and poverty levels are high.
- In rural areas, only 47 percent of households indicate that they pay a fee for water. Among households that report that they pay for water, expenditures on cold water supply make up 5 percent of their total annual expenditure. However, this goes up to 8% for the 40% poorest households in Tajikistan (many of whom live in rural areas). (World Bank, 2018)
- In rural areas, people are often obliged to buy water from street vendors. They can spend big amounts of money for water of poor quality. Alternative sources are often open sources (water from canals, rivers or other surface water) that are cheap but of a very poor quality and have very bad consequences in terms of public health. The cost of use of these sources of water is, at

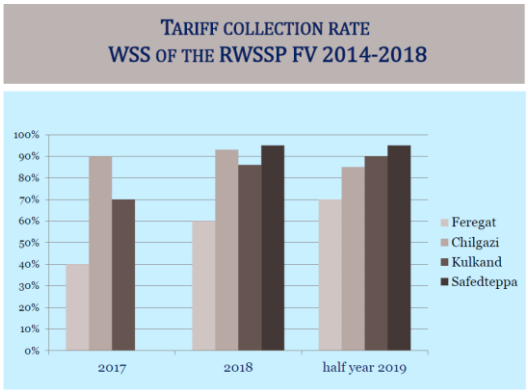
[6] From World Bank (2018): Service providers think that not all household members are registered officially, which leads to discrepancies between households' payment obligations and amounts paid. In Kurgan-Tube, a city of around 100,000 people, for example, water utility representatives estimated that 40,000 residents were unregistered. The representatives argued this gap leads to insufficient cost recovery for the operation and maintenance of the water supply infrastructure.

the end, extremely high, especially for women who are in charge of carrying, storing and cleaning water. The willingness to pay is usually there, either in cash or in exchange of services when there is no money.

- In the most remote mountain areas of Tajikistan in eastern Khatlon, GBAO, and Rasht Valley, communities will not always agree to pay full cost recovery tariffs, and direct subsidies by government will not be feasible due to budget shortages. However, if communities feel ownership of water supply systems, they will come together in the event of major damage to systems to mobilise resources (funds and labour) to repair the systems.

b. Evidence from Swiss projects and experience in Tajikistan

- In the RWSS FV project, the tariff covers all costs of the lifecycle, except the interest rate that could be charged if the villages was receiving a loan from a bank to finance its water system. Collection rates increased from an average of 26% in 2011 to an average of 58% over three years (see Case study below). Currently collection rates for four villages of the RWSS FV project hover between 70% and 95% - showing a marked increase in the past two years.



- In the most remote mountain areas of Tajikistan in eastern Khatlon, GBAO, and Rasht Valley, direct subsidies by government will not be feasible due to budget shortages. Communities will also not always agree to pay full cost recovery tariffs. However, if communities feel ownership of water supply systems, they will come together in the event of major damage to systems to mobilise resources (funds and labour) to repair the systems.
- Oxfam is about to writing about a case study on Tariffs in Tajikistan as part of its SDC-funded project. The document will be ready in March 2020 and will complement the present policy paper.

c. Evidence from international experience

Tariffs:

Generally, the water tariffs of services providers can be categorised as follows:

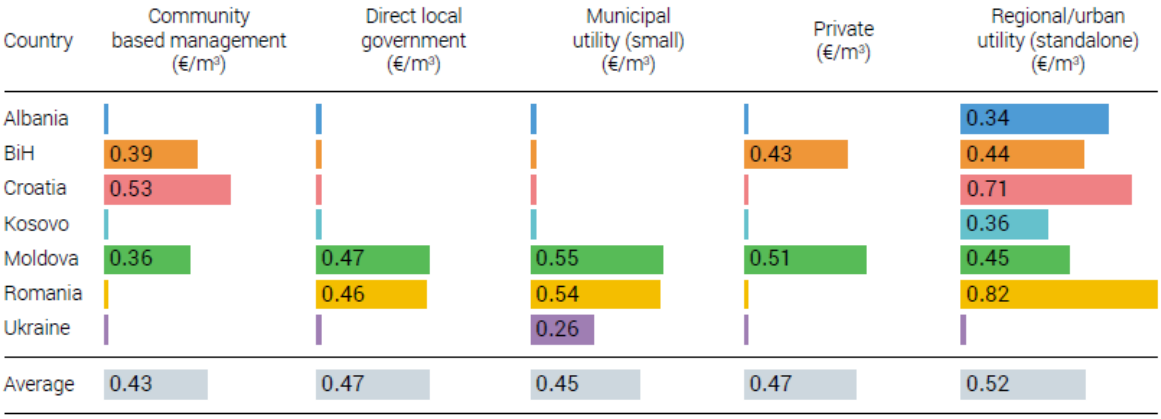
1. Tariffs *insufficient* to cover basic O&M costs
2. Tariffs *sufficient* to cover basic operating costs, and some maintenance costs
3. Tariffs *sufficient* to cover O&M and most investment needs.

The framework below gives a rough estimate of what this might mean in terms of tariffs worldwide. While it needs to be updated and adapted to the local context in Tajikistan, the evidence in the section above suggests that Tajikistan is currently in the first or second category (tariff insufficient to cover all operating and maintenance costs). *(Source: Foster & Yepes, 2006)*

	Developing countries
<US$0.20/m^3	Tariff *insufficient* to cover basic operating and maintenance costs
US$0.20-0.40/m^3	Tariff *sufficient* to cover operating and some maintenance costs
US$0.40-1.00/m^3	Tariff *sufficient* to cover operating, maintenance and most investment needs
>US$1.00/m^3	Tariff *sufficient* to cover operating, maintenance and most investment needs in the face of extreme supply shortages

For comparison, these are the tariffs charged in Eastern Europe by different services providers for water (*Source: Danube Water Programme, 2018).*

FIGURE 4.10: AVERAGE VOLUMETRIC WATER TARIFF REPORTEDLY CHARGED BY SERVICE PROVIDERS BY MANAGEMENT MODEL AND COUNTRY.



Collection rates

In Eastern Europe, collection rates differ depending on the type of service providers, with Community-Based Operators typically having the lowest collection rates. (Danube Water Programme, 2018).

Subsidies

Subsidies are prevalent around the world for water services . Recent research shows that they often fail to reach the poor, with the richest households receiving the lion's share (Andres et al, 2019). There are three predominant reasons for this:

- By-and-large, existing subsidies target networked services, which are largely unavailable in poor urban neighborhoods and in many rural areas.
- Even when poor households are in areas with access, they cannot afford to be connected to the network;
- Higher tariffs for consumption can benefit more the rich, who are less likely to be living with more people per household and to share water with neighbours.

In order to be effective, subsidies should be transparent, smart, targeted and implemented effectively.

Affordability and willingness to pay

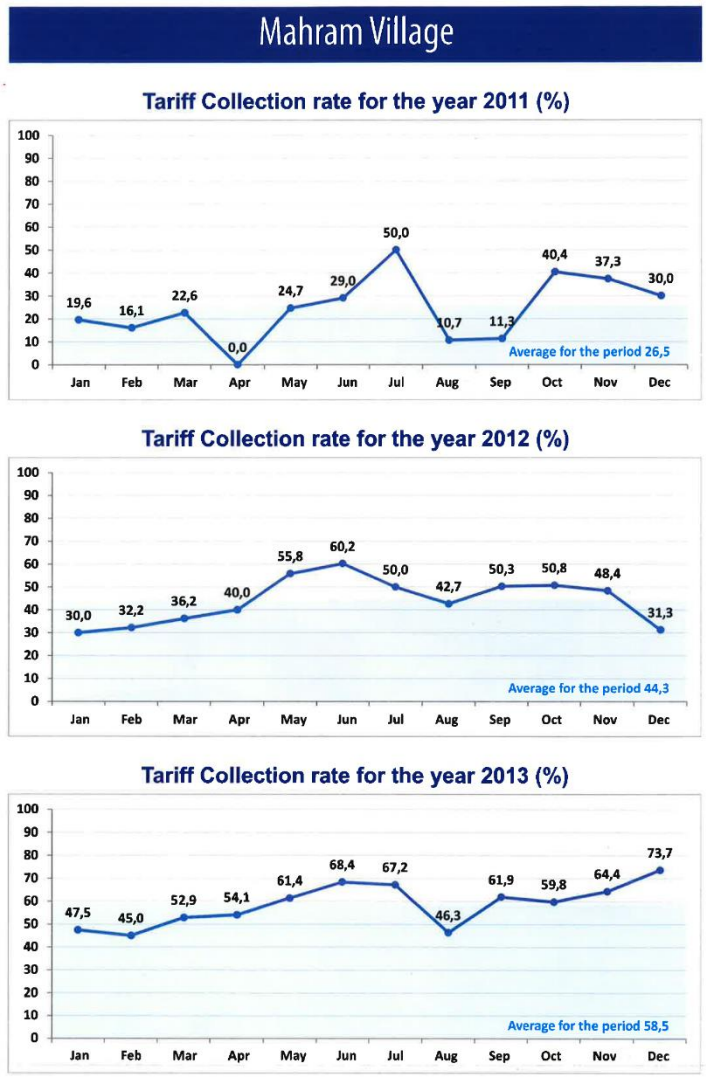
International experience suggests that affordable water services should not exceed 3% of a household's income. In Tajikistan, the top 60% of households typically pay around 3% of their income for water, but this figure goes up to 8% of income for the bottom 40% households (World Bank, 2018). Any changes to the tariff structure or amount therefore needs to be accompanied by pro-poor measures (e.g. targeted subsidies or cross-subsidies) to ensure the poorest are not hit the hardest.

d .Case studies from Swiss projects (if applicable)

1. RWSS FV (ISW/SDC): Collection rates

Context: Since February 2007, six villages representing 39'000 people have been supplied with safe drinking water. All the systems were managed locally by the population (community-based management) and four out of those six villages are interconnected and fed by one single source of safe water. All water associations are registered as legal entities.

Data: A full cost recovery tariff is designed for each water system and approved by the population. The regulations for the application of the tariff system take into account poor segments of the population. The collection rate is steadily increasing and slowly reaching the breakeven point fixed at 85% collection rate. (see examples for Mahram village.)



Tariff design is based on:

a) Running cost
   - Electricity
   - Water production (costs for water, chemicals, disinfectants, and other)
   - Management (office expenditure)¨
   - Maintenance (regular repair)
   - Salaries and social charges
   - Losses and risks
   - Taxes, royalties and bank fees

b) Investment cost
   - Replacement of valves, water meters, pumps, transformers and other accessories
   - Amortization of components of the water system building, pipes, borehole, water treatment structures, reservoir/tower and other)

Source: ISW/SDC (2014)

2. RWSS FV (ISW/ SDC): Conditions for cost recovery tariffs

Project: The case study below is based on the experience of the "Rural Water Supply and Sanitation" project led in Uzbekistan and Tajikistan, financed by the Swiss Development and Cooperation Agency (SDC) and implemented by the International Secretariat for Water (ISW). It was presented at the AGUASAN Workshop in 2016.

Context: By the end of 2015, more than 160,000 people in 32 villages in Tajikistan and Uzbekistan have benefitted from a sustainable access to drinking water. 32 Drinking Water Organisations (DWO), management structures established at the community-level for each village, have been legally registered.

Data: Full cost recovery has been demonstrated to be feasible in some communities if the following conditions are met: (i) a long-lasting commitment (ii) demographic criteria (communities should be between 2,000 and 10,000 residents) (iii) population mobilisation (iv) marketing strategies to get enough people ready to pay and (v) a competent and skilled service provider.

Challenges and way forward: The project found that collection rates should be higher than 85% in order for the tariffs set to enable cost recovery. It was implicit that the poorest did not pay any water tariffs, essentially creating a cross-subsidy between the richest and poorer members of the community. It is unclear whether there is a mechanism for reviewing the tariffs.

Source: SDC, 2016

3. RWSS FV (ISW/ SDC) and TajWSS Project (Oxfam/ UNDP): Tariff structure

Project: The case study below is based on the external review of SDC Rural Drinking Water Program, Tajikistan Water Supply and Sanitation Project (TajWSS) and Rural Water Supply and Sanitation FV project (RWSSP) financed by the Swiss Development and Cooperation Agency (SDC) and implemented by Oxfam/ UNDP and the International Secretariat for Water (ISW) respectively.

Data: The cost recovery policy and tariff definition have been one of the main elements of discussion with the communities during the establishment of WUAs. Cost recovery approach varies according decision made by the WUAs: the tariff in the TajWSS project is calculated to cover operation costs only while the RWSS FV project applies a full cost recovery (operation, maintenance, and renewal of investments). The new water system built in Muminabad center district is managed by KMK, which applied its national water tariff insufficient to cover the O&M costs. In Dushabesha and Khonatarosh villages (Muminabad district), where the system built by the project has been taken over by KMK, the tariff applied is the national one (0.8 TJS or 0.1 USD), which is largely insufficient to cover the O&M cost.

Challenges and way forward: The National Anti-Monopoly Agency has accepted the tariff structure proposed by the RWSS FV Project for all the 15 villages of the project. It has also recognised a tariff for the supply of water in bulk from main lines to which some villages are connected. This tariff structure in use is described below. In ordert to do keep tariffs affordable, the RWSS FV project always makes sure that the tariff decided by the village is under the 3% of the average HH income. In addition, a special tariff is set for the poorest families if needed.

Rural Water Supply and Sanitation Project, Fergana Valley, Tajikistan
WSS system in the village of Safedteppa of Spitamen District

Part A- Calculation of water demand

Total households in the village.	Nos
Total population.	Nos
Expected house connections (98%)	Nos
Expected population connected	Nos
Real population connected to the drinking water system (95%)	5% in migration
Expected per person demand	lit/person/day
Total domestic water demand	liters/day
Total domestic water consumption (tariff generating)	m3/month
Total water consumption including losses, 10%	m3/month

Part B - Expenditures

1. Electricity on pumping			
Pump discharge	lps		
Water demand	lpd		
Pumping duration	hr/d		
Power of pump	kWt		
Daily power consumption	kWt.hr		
Electricity tariff - Nov-Mar- 16,65 diram/kWth	TJS/kWt hr		
Apr-Oct - 5,10 diram/kWth			
Power cost	0,00	TJS	per day
	0,00	TJS	per month
Other power cost 20% of pumping	0,00	TJS	per month
Total energy cost per month	0,00	TJS	per month

2 - Maintenance Costs

Distribution network including reservoir			
Distrib line leaks repairs		TJS	every month
Chlorine (24% active Cl_2 18 somoni/kg and dose 0,50 mg/l)		TJS	per year
Valves and water meter		TJS	every two year
Maintenance of pump		TJS	per 2 year
Maintenance of electric line and equipments		TJS	per year
Reservoir cleaning		TJS	per year
Hiring of external specialists (electro-mechanical)		TJS	per year
Water analysis		TJS	every three month
Unforseen cost		TJS	per year
Total per month	**0,00**	TJS	**per month**

3 - Amortization/Replacement Cost

List of structures	**Life Span**	**Cost, somon**	**Am. per month, TJS**
Borehole and electric line	30		0,00
Pumps, transformer, bulk water meter and valves	8		0,00
Pipes, fittings and hydrants	30		0,00
Pipeline, reservoir, water tower, buildings, etc	30		0,00
Total		**0,00**	**0,00**

4 - Management Costs

Items	**Cost**		
Transportation		TJS	per month
Telephone charges		TJS	per month
Purchase and repair of tools		TJS	per year
Stationery and office supplies		TJS	per year
Office, san-zone: lighting, heating equipments		TJS	per year
Medical check-ups of staff -5person@ 60 TJS/person		TJS	per year

Dress for technician - 5 person @100 TJS/person		TJS	per year
Computer and printer maintenance		TJS	per year
Unforeseen costs		TJS	per year
Cash register mechine, 3 Nos		TJS	per 8year
Total per month	**0,00**	TJS	

5 - Salaries (per month)

List of personals	**Sallary**	**I.Tax 13% & P. Fund 1%**	**Cash in hand**	
WC Director - 1 person				TJS
Accountant -1 person (0,50 month)				TJS
Main operator-1 persons				TJS
San-technocian/operator-2 person				TJS
Security/cleaner				TJS
Lab technician/Cassier - 1 person (0,50 month)				TJS
Electrician- 1 person (0,50 month)				TJS
Tariff collectors, 3 persons (7% in hand)				TJS
Total per month				TJS
Add tax on salary for social security fund, 25%				TJS
Total of sallary and social securitry fund	**0,00**			TJS

Total of all headings "1-5" (for base year)		**0,00**	**Somoni per month**
Bank fee	2%	0,00	Somoni per month
VAT on turnover	18%	0,00	Somoni per month
State tax on land and property, yearly	0	0,00	Somoni per month
Total expenditures		**0,00**	**Somoni per month**

Part C: Calculation of tariff

Price of 1 m3 of water =	total expenditures	0,00		Somoni per m3
	revenuewable consumption	0,00		
	Tariff at 95% collection		0,00	Somoni per m3
	Proposed tariff		0,00	**Somoni per m3**

4. UNDP's process to review the tariff methodology with the Antimonopoly Agency (AMA)

Context: Financing, sustainability and the vicious cycle in rural water supply: In many low-income countries, there is so called a '*vicious cycle'* caused mainly by chronic underinvestment in rural water infrastructure. The given cycle looks very much as follows:

- Low water fee collection rates;
- Poor and postponed maintenance;
- Higher share of non-revenue water (water losses);
- Deteriorating service provision;
- Lower willingness to pay;
- Efficiency deterioration;
- Supply organizations demotivated and unable to bear the costs;
- Service failure.

Tajikistan is experiencing a similar vicious cycle of system failure. The sustainability of the rural water supply sector in Tajikistan depends foremost on two major sources – (1) the state support in any form (direct financing, subsidies, concessions, etc.), and (2) payments from water users in form of investments and water fees. While amount of state support is considered miniscule compared to the estimated needs, the role of water users and water consumers is becoming growingly important for at least some share of small and medium-scale systems left out in rural communities. Today, there are more local private entities and local communities participating in financing and management of rural water supply systems, i.e. financing rehabilitation, construction, maintenance and even part of future investment costs.

Project: At the onset of the UNDP project implementation, the main issue was whether the regulator for tariffs, the Antimonopoly Agency (AMA), was prepared to raise tariffs. Some service providers had presented their 'near' full-cost recovery tariffs to Antimonopoly Agency (AMA), but never got them approved. AMA had agreed on single rate tariffs for state owned service providers like SUE KMK and recommended that these should be applied for all other systems (both urban and rural). The challenge was that AMA did not have adequate knowledge that water supply systems' costs of management and operation were different not only from rural to urban, but even from community

to community.[7] An analysis was made about the state of tariff policy implementation in Tajikistan, which summarizes an over 20-year experience reported by various government and development partner sources.

Summary analysis - State of tariff policy implementation in Tajikistan

- **Legal aspects**: National laws and regulations do not pose any evident limitations on the choice of tariff schemes and tariff levels. The service providers, therefore, have the freedom to change tariff schemes and raise tariffs if necessary. Although, the Law on drinking water directly recognizes the water fees from consumers as one of source of financing, the legislation on the whole lacks references to principles of tariff setting in general (i.e. full-cost recovery, transparency and accountability, social responsiveness and pro-poor tariff setting, etc.);
- **Institutional aspects**: The State Antimonopoly Agency is the sole regulator of tariffs for drinking water supply and sanitation. Tariff schemes and proposals are developed by service providers and presented for official endorsement directly to the State Antimonopoly Agency. The Agency in turn is responsible to analyze the proposals on the subject of financial and economic viability, and then either provide official endorsement, or request further inquiries or audits in an effort to justify a particular tariff scheme.
- **Economic aspects**: Tariffs for drinking water supply and sanitation services remain critically low and for most systems by at least four or five times less than the full-cost recovery level.

Views of the different stakeholders

Service providers' main view:

- Service providers face **political reluctance** from national and local authorities with regards to any increases in tariffs for basic services. Payments for basic services (especially water fees) becomes highly sensitive issue for authorities especially during election cycles;
- Service providers face **procedural difficulties** from the regulatory agency "reluctant" to endorse required level of tariffs, and many providers end up proposing lower.

Regulator view:

- The regulator is prepared to endorse any level of tariff of scheme for a particular system, as long as the supplier meets the following criteria:
    - Economically justify the cost items and respective calculations are within 'reasonable' boundaries (although no boundaries are legally formulated);
    - Ensure the tariffs and its contents are discussed openly with consumers and participation of local authorities, and representatives of the Agency in order to achieve preparedness of consumers, while at the course of tariff increase;

[7] AMA followed Soviet type management when one state company managed all systems with single tariffs for all. The project has worked with AMA to raise awareness and knowledge about different types of systems (gravity vs pumped), components of the system infrastructure, and related costs to maintain them.

  - Suppliers must demonstrate that they are accountable to their clients on how the present water fees and new tariff schemes are translated to systems' functionality improvements before consecutive increases.

- It is the regulator's view that the service providers are not able to meet effectively the above-mentioned criteria, which most often results in unsatisfactory endorsements or complicated procedures.

National and local authorities' view:

- The tariff setting procedures must be **transparent** and **responsive** to the economic situation on the ground (poverty level and pro-poor strategies must be taken into account);
- Immediate shift to full-cost recovery level poses threats to socio-political stability, and therefore **moderate approach** must be taken to alleviate any unsatisfactory reactions from the consumer groups;
- Government is not yet able to provide sufficiently targeted subsidies to poor families or compensations to supplier organizations at the present due to state budget limitations. The state had to eliminate a chunk of social subsidies in 2012 and strengthen taxation discipline in part to compensate for consequences of the on-going financial crisis.

Consumer groups' view:

- The service providers must ensure water supply systems are functioning and service provision is relatively stable;
- The service providers must demonstrate accountability for collected fees, as to how the money is spent and invested;
- The service providers must demonstrate transparency and communicate more closely with the consumers on its operations, plans towards the system improvements and standing issues.

Evidently, one could clearly note conflicting views between the different stakeholders. Although, all sides recognized full-cost recovery tariff as the immediate target for future sustainability, development intervention must take into consideration the following policy implications that derive from the outcomes of the analysis:

- All principles of good governance must be incorporated in policy and implementation approaches, notably – transparency, accountability and consumer participation.
- Tariff principles must be defined in the legislative framework, and necessary unified mechanisms that guide the tariff setting procedures must be developed.
- A fully-fledged exercise must be launched to implement the approach involving all parties for a group of target rural systems. Such participatory approach if led to successful results should provide precedence for further replications in other communities across the country.

- All parties need more technical support to build capacities through training and learn-as-you-do approach towards achieving full-cost recovery tariffs, improving fee collection rates and consequently service delivery.

New tariff setting methodology for rural drinking water supply and sanitation

Both service providers and consumers lacked capacities that would allow proper understanding of water tariffs, cost items, structure and even lack awareness about special technical distinctions typical of various types of rural water supply systems. The immediate step was to elaborate a unified methodology for setting tariffs that would provide relevant concepts, definitions, principles, approaches, as well as a step-by-step guidance on each of the cost items that comprise a full-cost recovery tariff scheme. The methodology was primarily targeting rural water supply systems. The process was carried out under the joint leadership of the Antimonopoly Agency (regulator of water tariffs).

The methodology was designed with the following four purposes:

- Introduction of a unified tariff setting mechanism for water supply and sanitation systems;
- Prevention of monopolistically high tariffs for water supply and sanitation systems;
- Ensuring optimum combination of economic interests of supply organizations and consumers;
- Providing economic incentives for commercial entities that provide water and sanitation services in improving efficiency of resource use and reduction in costs of rendered services.

The methodology includes procedures for setting economically justified tariffs and practical guidance on calculating all cost items. Moreover, it includes a comprehensive list of documents required for submission by service providers for any request to justify tariff increase. This provides clarity on the process of tariff endorsement and agreement between the suppliers and regulators. It guides the supply organizations in improving information and data management with regards to its operations.

To ensure AMA recognizes the importance of the setting differentiated tariffs for individual systems UNDP designed a comprehensive training programme to train 12 rural service providers on the use of the methodology. The service providers were supported in developing new tariff schemes. UNDP also provided mediation support between the service providers and the Antimonopoly Agency towards final endorsement. All 12 service providers were able to determine their full-cost recovery tariffs, which provide targets to be achieved in the mid-term. Prior to agreeing on the new tariff schemes, the regulator requested the service providers to carry out public hearings within their service areas. Public hearings were carried out in five of the selected service areas in 2016, while in the other areas it was less necessary as Water Users Associations had already communicated tariff increases for smaller systems. The service providers presented the different costs associated with maintenance and management, as well as the investments needs. In the course of the discussions, a general understanding of tariff increase was established and that service improvement would depend on the level of tariffs communities are willing to pay.

The suggested full-cost recovery tariffs were between 150 per cent to almost 500 per cent increase in the target communities, and therefore majority of participants in the hearings voted against immediate shift to such level, but instead suggested a moderate increase in the course of a 2-3 year period at a time. Consequently, as brought in the table below the first step increase was between 21

per cent to 70 per cent in mentioned communities. The Antimonopoly Agency endorsed first stage increase for all of the 12 systems and agreed to allow moderate increases in tariffs over time towards reaching full-cost recovery level.

Improved tariff collection rates

All 12 rural water supply systems demonstrated improved collection rates compared to the baseline year. Differences are whether these improvements were consistent for both years or not. 2015 is the baseline year, and the year during which the project provided trainings on tariff setting in accordance to the developed methodology. 2016 and 2017 are the reporting years during which tariff collection rates had actually been monitored. While this period of two years is not long enough for accurate impact analysis, nonetheless, it provides an indication of the progress.

Water fee collection rates - rural drinking WS&S

#	**Water supply system** *(village, Jamoat, District)*	**Operating Entity**	**Tariff collection rates** *(in percentage %)*		
			2015	***2016***	***2017***
1	Navobod, Dovai Bolo, Dovai Rohati, Mekhatri and Nilkon villaes, Rohati Jamoat, Rudaki district	PO "Obi Bosafo"	44%	45%	48%
2	Balkhi village, Sultonobod Jamoat, Rudaki District	PO "Chashmai Balkhi"	57%	55%	63%
3	Delolo-2 village, Kulchashma Jamoat, Muminobad district	PO "Delolo-2"	70%	81%	75%
4	Shululu village, Balkhobi Jamoat, Muminobad district	PO "Obi Shifobakhsh"	24%	28%	34%
5	Gulshan, Davlatobod, Navobod, and Jayrali villages, Gulshan Jamoat, Farkhor district	LLC "Obi Nushoki"	74%	76%	65%
6	Barakat village, Sultonobod Jamoat, Rudaki district	PO "Chashmai Chanor"	55%	65%	71%
7	Tugul village, Chubek Jamoat, Hamadoni district	DF "Jomi"	82%	86%	79%
8	Obshoron and Binokor villages, Obshoron Jamoat, Shaartuz district	SUE KMK, Vodokanal	73%	74%	68%
9	Shaartuz sewerage system of urban type settlement, Shaartuz district	SUE KMK, Vodokanal	38%	54%	66%
10	Darai Kalon village, Esanboy Jamoat, Rudaki district	WUA "Darai Kalon"	74%	74%	76%
11	Anguli village, Esanboy Jamoat, Rudaki district	WUA "Anguli"	29%	39%	37%
12	Kahramon village, Kahramon Jamoat, Hamadoni district	DF "Kahramon"	65%	72%	68%

New endorsed tariffs for target WS&S systems

#	**Water supply system** *(village, Jamoat, District)*	**Operating Entity**	**Tariff improvement progress (TJS/m3)**					
			Baseline					*Full cost recovery**
			2011	*2012*	*2015*	*2016*	*2017*	
1	Navobod, Dovai Bolo, Dovai Rohati, Mekhatri and Nilkon	PO** "Obi Bosafo"	N/A***	*0.25*	*0.40*	*0.67*	*0.67*	*1.46*

	villaes, Rohati Jamoat, Rudaki district							
2	Balkhi village, Sultonobod Jamoat, Rudaki District	PO "Chashmai Balkhi"	0.60	0.70	0.85	0.85	0.85	1.76
3	Delolo-2 village, Kulchashma Jamoat, Muminobad district	PO "Delolo-2"	0.60	0.80	1.00	0.90	0.90	3.19
4	Shululu village, Balkhobi Jamoat, Muminobad district	PO "Obi Shifobakhsh"	0.60	0.66	0.85	0.85	0.85	1.92
5	Gulshan, Davlatobod, Navobod, and Jayrali villages, Gulshan Jamoat, Farkhor district	LLC "Obi Nushoki"	N/A***	0.50	0.85	0.85	0.85	2.30
6	Barakat village, Sultonobod Jamoat, Rudaki district	PO "Chashmai Chanor"	0.60	0.70	0.70	0.70	0.70	1.20
7	Tugul village, Chubek Jamoat, Hamadoni district	DF*** "Jomi"	0.60	0.60	0.63	0.63	0.63	0.63
8	Obshoron and Binokor villages, Obshoron Jamoat, Shaartuz district	SUE KMK, Vodokanal	0.60	0.75	0.83	0.83	0.83	1.12
9	Shaartuz sewerage system of urban type settlement, Shaartuz district	SUE KMK, Vodokanal	0.30	0.38	0.42	0.42	0.42	3.09
10	Darai Kalon village, Esanboy Jamoat, Rudaki district	WUA "Darai Kalon"	0.60	0.60	0.82	0.82	0.82	2.48
11	Anguli village, Esanboy Jamoat, Rudaki district	WUA "Anguli"	0.60	0.60	1.94	1.94	1.94	2.35
12	Kahramon village, Kahramon Jamoat, Hamadoni district	DF**** "Kahramon"	0.60	0.60	1.12	1.12	1.12	2.19

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