Presentation

Regional Report
Development of Sustainable Water and Sanitation Systems in Rural Areas of CAREC Region with focus on China, Mongolia, Tajikistan, and Uzbekistan

Content of the presentation

- Methodology and Outline
- General overview of the WASH challenges
- Regional overview and regional recommendations
- National recommendations
- Case studies: general overview

Methodology

Focus: 4 CAREC countries - China, Mongolia, Tajikistan and Uzbekistan.

Research methodology: *due to COVID-19 restrictions* in all target countries research was prepared remotely - desk reviews, on-line and phone interviews, only a few face-to-face interviews.

The report's regional part was generated based on the country profiles, review of the WASH projects and literature review of international experience.

The national reports: based on literature review, experiences in implementing international WASH projects; national reports on WASH; national and/or local plans and strategies and semi-structured interviews with project operators.

Outline of the report

- **Main goal:** To ***analyse current situation*** with drinking water supply and sanitation services in rural areas of study countries, to ***identify the critical challenges*** of rural communities in accessing the WASH services and ***provide recommendations*** for future development of WASH sector considering the most vulnerable population i.e. women, children and their communities.
- Three main parts of the report:
  - **Regional overview** - policies, institutions and practices; financial and economic aspects; community-based water schemes; knowledge, technology and experience sharing; regional recommendations
  - **National parts** – China, Mongolia, Tajikistan and Uzbekistan: 4 chapters on: policies, institutions and practices; financial and economic aspects; community-based water schemes; knowledge, technology and experience sharing; national recommendations
  - **Case studies –** 8 case studies: 3 from China, 2 from Mongolia, 1 from Tajikistan, 2 from Uzbekistan about application of innovations, innovation and changes in financial mechanisms, change in maintenance system, change in management system.

General overview of the WASH challenges

- ***Poor technical condition of WASH infrastructure*** due to the lifetime of more than 50 years (Tajikistan, Uzbekistan);
- ***Population growth requires construction of new systems*** to provide access to drinking water;
- ***Level of living standards is decreasing in rural areas*** due to the inequitable access to WASH between urban and rural areas;
- ***Lack of human capacity*** for proper operation of WASH systems;
- ***Insufficient financing*** of WASH systems' O&M and development of new WASH systems (low tariffs and low service fee collection rates)

Detailed information on the access to WASH systems in selected countries (JMP full report, 2019)

Country / Main indicators	China	Mongolia	Tajikistan	Uzbekistan
% of population with access to safely managed drinking water:				
- urban	92,3%	No data	no data	86.1%
- rural	No data	No data	no data	31.1%
- total	No data	23,7%	47.9%	58.9%
% of population connected to piped systems				
- urban	92,2%	34,5%	90,8%	88%
- rural	53,8%	5%	54,5%	52%
- total	76,1%	25,1%	64,3%	70%
% of the rural population using improved sanitation facilities by types:				
- Latrines and other	38%	62%	99,1%	55%
- Septic tanks	5,5%	0%	0,1%	less than 1%
- Sewer connections	38,5%	3,1%	0,2%	45%
% of total population using hygiene facilities:	No data			
- with basic conditions		71%	72,7%	90%
- with limited conditions (without water or soap)		7%	22,6%	29%
- no facilities		22%	4,7%	less than 1%.

*jmp-2019-full-report. (https://www.unwater.org/publications/whounicef-joint-monitoring-program-for-water-supply-sanitation-and-hygiene-jmp-progress-on-household-drinking-water-sanitation-and-hygiene-2000-2017)

Current law and policies

- **National WASH policies and plans:** High political will in all countries on improving access to water supply, sanitation and hygiene;
- **Access to WASH services in urban and rural areas:** The gap between rural and urban populations on WASH services;
- **Institutional basis for WASH introduction:** While introducing more effective WASH management models, countries still pay more attention to drinking water supply and less to sanitation.
- **Inter-agency coordination:** Water resources are used by different sectors of economy and it requires constant inter-agency coordination and application of the NEXUS approach.

Financial and economic aspects

- **WASH sector financing:** Available financial support of the sector is still not enough. Countries pay more attention to application of different financial mechanisms for WASH sector development;
- **Water supply and sanitation tariffs:** Water supply tariffs does not fully cover M&O of the water supply systems
- **Governments pay more attention to innovative approaches and new financial instruments:**
  - ✓ Government subsidies and loans – are more developed in the countries
  - ✓ Bonds – China plans to apply (during the "14th Five-Year Plan" (2021-2025))
  - ✓ Revolver funds – new mechanism, not fully applied yet in the countries (Water Trust Funds in Tajikistan, some elements in Uzbekistan)

- **Public-private partnership:** Countries pay more attention to involvement of private sector to maintenance and development of the WASH systems. **BUT** this approach is still not developed enough.
- **Attracting investment:** International investments are still needed in all countries**.**

Community- based WASH schemes

- **Bottom-up approach:** Involvement of the local communities to decision-making process can support development of the WASH sector, especially in rural areas;
- **Introduction of different schemes:** There are several different management schemes implemented in the countries (centralized and decentralized schemes). But there is no unified model, which can be applied in all countries and under different conditions equally effectively.
- **Capacity building for WASH systems management:** Capacity building of the local communities is one of the main conditions for development of WASH systems on local level;
- **Dissemination of the best practices:** Most of the community-based approaches and practices are piloting on local level as part of the international development projects.

Knowledge, technology, and experience sharing

- **Human resources:** Countries have national development strategies and try to develop constant capacity building and retraining systems;
- **Awareness raising:** Countries do not have a wide information campaigns, which can help to implement WASH reforms and promote WASH approaches;
- **Scientific base for introducing innovations:** For now, among the study countries, China is the only country, where the necessary science and research infrastructure exists and operates. Such scientific base can support identification and introduction of innovative approaches considering peculiarities of different territories;
- **Establishing the platform for technologies exchange:** There are no unified resources allowing exchange information on the most effective available technologies at the regional level.

Country overview: China

Legal and institutional basis for WASH sector development – China have strong political will and long term strategy to increase access to WASH services (Five-Year-Plans) **BUT** still faces the urban-rural gaps and regional development disparities.

Financial aspects of WASH sector development – Crucial task is to involve non-state capital to construction and O&M of WASH systems. Plans to introduce new financial mechanisms such as bonds.

Development of community based schemes: Community-based schemes development is a priority (5 types of local community-based schemes). **BUT** still there is a need to identify several easily replicable schemes to maximize replication.

Knowledge and information sharing: Rural Drinking Water Safety (RDWS) Centre established in 2006 for macro-policy research on RDWS **BUT** still more investment should aim at scientific research and especially on technology promotion.

Country overview: Mongolia

Legal and institutional basis for WASH sector development – The main development tool is the Water Resources Protection Strategy **BUT** still need to enhance coordination within key stakeholders (both governmental and non-governmental);

Financial aspects of WASH sector development – Available financial support is not enough for implementation of WASH development plans – only up to 50% of the required amount. **Thus**, attracting investors and creating and enhancing effective WASH public financial management are extremely important;

Development of community based schemes: The WASH program in Schools is very good example on involving educational sector and local community **BUT** still there is a need to increase local community participation and involvement of private sector.

Knowledge and information sharing: Knowledge-, technology- and experience-sharing are most necessary due to the location of settlements and climate peculiarities.

Country overview: Tajikistan

Legal and institutional basis for WASH sector development – Major water laws and policies are amended to support the Water Sector Reform **BUT** still the implementation mechanisms are missing.

Financial aspects of WASH sector development – Attracting financing resources beyond the state budget is a priority **BUT** still need to develop and promote full-cost recovery tariffs, metered water connections and elaborate economic instruments in details. Water Trust Funds can be promoted.

Development of community based schemes: There are several community-led WASH schemes (WUAs, WUCs, village or communal organizations under jamoats, LLCs) for O&M **BUT** still capacity building of local communities is crucial for more effective WASH services development.

Knowledge and information sharing: There are several policy dialogues and coordination platforms to promote necessary sector reforms and share knowledge, technologies and experiences **BUT** still there is a need to establish a special technology-transfer platform for practitioners.

Country overview: Uzbekistan

Legal and institutional basis for WASH sector development – WASH policies are currently under revision, Conceptual Directions of WASH Development for 2020-2035 are ready for implementation **BUT** still need to improve regulatory and institutional frameworks, effective regulatory compliance mechanisms and other aspects.

Financial aspects of WASH sector development – Financial modeling and cost-benefit analysis is needed to support implementation of the country goals. **BUT** more attention is needed to rise water supply tariffs and it's collection.

Development of community based schemes: The number of community-based water schemes is quite small and mostly implemented under the different projects.

Knowledge and information sharing: Capacity building on various techniques and approaches is critical to improve and foster WASH sector. There is a need to support research and innovations on WASH and wastewater treatment and improve training programs.

China case study: Use of new energy in water supply system of Gangcha County (Under the program of China' Institute of Water Resources and Hydropower Research (IWRHR) and Qinghai Institute of Water Resources (QIWR))

Location: Gangcha County of Huaibei Tibetan Autonomous Prefecture, China.

Main challenges: pasturing area with a relatively dispersed population, drinking water is supplied mostly via decentralized systems (wells).

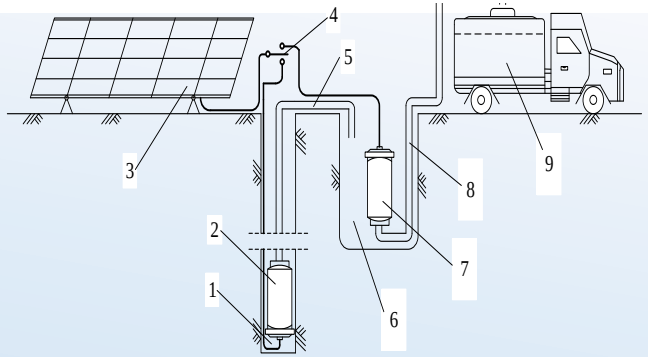
Main goal: Provide access to drinking water supply for the villagers of 3 remote settlements by using advanced alternative water sources.

Main approach: 3 different water supply technologies using new (renewable) energy: (a) solar-powered motor-pumped well, (b) shafts using solar-powered water pumps and (c) motor-pumped wells using solar and wind power.

Financial aspects: Supported by the Research and Application Special Fund (RASP) of Qinghai Province and the central finance. The costs are:

- *Solar-powered motor-pumped well* (can operate with insufficient sunlight) = 1028 USD/family
- *Solar-Powered Water Pump Shaft* (cannot operate without sufficient sunlight) = 785 USD/family
- *Motor-Pumped Wells Using Solar and Wind Power (have* possibility of switching between solar and wind power) = 10 019 USD/family .

Main results: Each project covers 3-10 households. The described technologies allows saving up to 4,873.5 l per year – equaling to 10.7 ton reduction of carbon dioxide emissions annually. For 25 years of operation (equipment service life) it could decrease the emission up to 267.5 tons.



Solar-powered motor-pumped well system: 1 - water source, 2 - main water pump, 3- solar power system, 4-control system, 5-upstream piping, 6 -reservoir, 7- secondary water pump), 8- downstream piping, and 9 - water tanker

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Mongolia case study: School WASH in rural Mongolia (with the financial and other support of ACF, UNICEF, ADB and Australian Aid)

Location: School WASH projects were implemented in 17 aimags of Mongolia

Main challenges: insufficient water supply in schools, unsafe and unhygienic latrines (based on 2007 survey of school dormitory conditions).

Main goal: Address the issues in schools and kindergartens without piped water supply and improve WASH in schools of Ulaanbaatar City and rural areas of Mongolia.

Main approach: Three-steps approach (started in 2014):

Step 1. Identifying the Schools with needs in WASH improvements and potential financing sources.

Step 2. Construction and reconstruction works

Step 3. Establishing O&M mechanisms

School management committees are responsible for day-to-day management of WASH facilities.

Financial aspects: Financial support was provided by international development partners (ACF, UNICEF, KOICA, ADB), state budget and private sector (Mobicom LLC).

Main results: In total of 65,200 children in 105 schools and kindergartens in 101 *Soums* of 17 *Aimags* received access to improved WASH facilities during 2014-2020.

Tajikistan case study: Human rights based approach (HRBA) to water governance – from unbundling systemic underperformance towards financial sustainability (SDC-funded projects: TajWSS, RRWSSP, RWSSP FV, SDWSMP)

Location: 45 villages (around 125,000 rural residents) in 13 districts across all regions of Tajikistan

Main challenges: Tariffs for drinking water are critically low, for most systems it is at least 3-4 times less than full-cost recovery.

Main goal: To demonstrate the influence of the Human Rights Based Approach (HRBA) application on achieving full-cost recovery tariffs and improvements in fee collection rates.

Two-steps approach:

1. Development of an improved tariff policy along with pilot implementation actions
2. Assisting in the development and application of good governance and consumer rights protection mechanisms, promote adequate consumer behavior, and introduce feedback mechanisms.

Financial aspects: Supply organizations are supported to: (a) determine their full-cost recovery tariff schemes, (b) develop a strategy for consecutive moderate tariff improvements, and (c) implement rights-based approaches aiding improved fee collection.

Main results: 12 WASH schemes are established in Khatlon and DRD Regions (supported by Oxfam and UNDP), and 25 more schemes are replicated in other regions of Tajikistan (supported by ISW, MSDSP, and IFAD).

Uzbekistan case study: Water supply and sanitation practices (Supported by the Swiss Agency for Development and Cooperation (SDC) projects)

Location: Villages in Okhunbabayev, Rishton, Pakhtabad, Makhamat, and Ulugnor Districts of Ferghana and Andijan Provinces, Uzbekistan.

Main challenges: Deficit of drinking water supply (15-20 l/capita/day before getting yard/house connections).

Main goal: Increase access to water supply and sanitation services in villages of Uzbekistan

Main approach: Setting up village own water supply system management, established the Drinking Water Organizations (DWOs) for O&M of water supply system, and organization of wide information campaigns for villagers on hygiene.

Financial aspects: A full cost-covering tariff was calculated as 0.40 USD per m3, which is high for water supply service only, but up to 35 times cheaper than water delivered by truck vendors.

Main results: 15,000 rural residents are provided with water distribution system corresponding to WHO standards

Main recommendations

- Identification of **optimal systems of the WASH governance and management** and strengthening the institutional structures is needed;
- Development of **long-term strategies/plans/schemes** and dividing country into the different **WASH zones** according to (i) suitable water sources, and (ii) sanitation systems and (iii) geographic conditions of the settlements;
- Establishment of **intersectoral and interdepartmental platforms** should become the basis for more effective and transparent decision-making and management of WASH related projects;
- Development of **WASH financial plans** identifying potential funding and introducing **nation-wide pro-poor full-cost recovery mechanisms**, special emphasis should be laid on supporting vulnerable communities;
- Development of **regulations and rules**, as well as forging mechanisms allowing easy access to subsidies and tax incentives especially for rural areas;
- **Role and rights of the private sector** players in WASH have to be clearly outlined in legal documents;
- Countries need to pay more attention to **constant coordination between different sectors** (NEXUS approach), using water for dual or multi-purpose systems and to identify benefits for each sector;
- Development of **regular capacity building programs**, staff planning for WASH schemes should be a priority for the governments. **Awareness campaigns** and promoted innovations should bring benefits to vulnerable population
- Establishing **regional knowledge and experience exchange** centers.

Recommendations to next steps

- **Legal support:** Identifying legislation lacunae at national level and supporting countries in drafting laws, by-laws and other legal tools for improving access to WASH;
- **Scientific support:** Supporting countries in establishment of scientific centers aimed at the development, adaptation and promotion of technologies, know-how and best practices for introduction of the WASH systems (Regional knowledge hub on WASH);
- **Capacity support:** Assisting countries in designing permanent capacity-building and re-training programs for specialists and technical staff involved in managing and operating of WASH systems;
- **Knowledge and experience exchange:** Helping countries in molding a platform for exchanging experiences, knowledge and lessons learnt, as well as for detecting the required technical, management and operation knowledge;
- **Financial support:** Assisting countries in development and testing of innovative financial mechanisms to sustain WASH services as well as to involve private sector to operation and maintaining of WASH systems.

Thank you!

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