# Can integration of local water users bring us closer to achieving the SDGs 6.1, 6.2 and 6.3?

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### Introduction

#### Old Question (1):

•How to provide people with safe drinking water?

#### **MDG** answer:

To build pipelines and provide centralized water system

#### SDG (target 6.1) answer:

■To provide safely managed drinking water system: both are accepted – centralized and decentralized

#### Old Question(2):

•How to provide people with safe sanitation?

#### MDG answer:

To build/install flashed toilets

#### SDG (target 6.2) answer:

■To provide safely managed sanitation facility (not shared) where excreta is disposed in-situ/off-site (stored temporarily and then emptied and transported to treatment off-site; transported through a sewer with wastewater and then treated off-site)

#### No one thought question (3):

•What to do with single household waste water?

#### MDG answer:

Not considered directly

#### SDG (target 6.3) answer:

■To treat or reuse waste water in situ or off-site (Target 6.3)

#### •New Question:

■How to implement safely managed drinking water and sanitation systems according to SDGs? Proposed multidisciplinary solution:

■To collaborate the sustainable development model into the process of water and sanitation provision where especially social factors are considered.

•Aim of the poster: to assess the perceived level of responsibility for managing rural centralized and decentralized water and sanitation systems; and investigates the access to drinking water (SDG 6.1), sanitation services (SDG 6.2) and wastewater treatment (SDG 6.3) among rural citizens in one of the donor regions in Kazakhstan –Atyrau region.

**An existing literature**: the current literature shows a shift from engineering solutions towards multidisciplinary approach. Public acceptance and shared responsibility and their capacity building is the key to achieve full coverage with SDGs 6.1, 6.2, 6.3.

Hypothesis: The presence of water and sanitation facilities does not guarantee the safeness of the systems. The water user involvement, public attendance, environmental aspects and economical affordability should be considered in water provision. Stakeholder perceived responsibility for decentralized water supply and sanitation systems is important to safely manage those systems and to build the capacity.

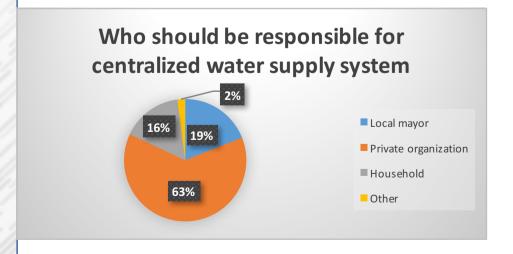
**Contribution:** involvement of people and assessing the perceived responsibility level for different water and sanitation services may help better shape the safely managed systems and thus, build the capacity to assure long-term sustainable access.

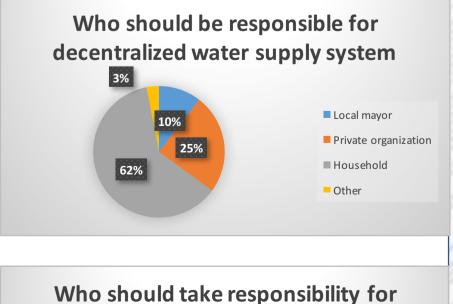
#### **Methodology:**

1360 questionnaires were collected based on online survey conducted in 153 villages in Atyrau region – naturally dry and arid area with poor water resources – during September 2022.

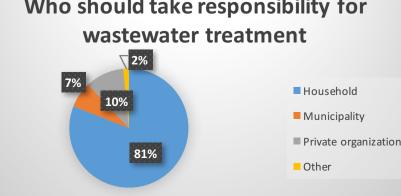
#### Integrated Water Resources Management C1 – UNDERSTANDING B - INSTITUTIONAL C5 – COMMUNICATION A1 – POLICIES WATER ENDOWMENTS ARRANGEMENTS A1.01 Preparation of a B1.01 Regulatory Bodies lational Water Resources and Enforcement Agencies C1.01 Demand and Supply C5.02 Consensus Building B1.02 Local Authorities A1.02 Policies with Relation C5.03 Conflict Managemen C1.02 Data Collection o Water Resources B1.03 Monitoring and C1.03 Monitoring and .03 Climate Change C6 – EFFICIENCY IN WATER **Evaluation Bodies Evaluation Systems** MANAGEMENT aptation Policies C2 - ASSESSMENT **B1.04** Impact Assessment **INSTRUMENTS** 5.01 Demand Efficiency A2 – LEGAL FRAMEWORKS C2.01 Risk Assessment C6.02 Supply Efficiency B2 – WATER SUPPLY AND A2.01 Elements of Water **SANITATION SERVICES** 2.02 Vulnerability C6.03 Recycle and Reuse B2.01 Public Sector Water A2.02 Implementation and C2.03 Social Assessment Enforcement C7 - ECONOMIC C2.04 Ecosystem **INSTRUMENTS** B2.02 Private Sector Water .03 The Role of C7.01 Pricing for Water and Service Providers omary Law in IWRM C2.05 Environmental Impact Water Services 7.02 Water Markets A2.04 Integrating Legal ater Supply and C2.06 Economic Assessmen Frameworks for IWRM 7.03 Tradable Pollution C3 – MODELLING AND B3 – COORDINATION AND A3 - INVESTMENT AND **DECISION-MAKING FACILITATION** FINANCING STRUCTURES C7.04 Pollution Charges C3.01 Geographic **B3.01** Transboundary A3.01 Investment nformation System C7.05 Subsidies Organisations rameworks C3.02 Stakeholder Analysis A3.02 Strategic Financial **B3.02 National Apex Bodies** vironmental Services C3.03 Shared Vision C8 - PROMOTING SOCIAL 3.03 Civil Society **C3.04 Decision Support** A3.03 Generating Basic CHANGE levenues for Water C4 – PLANNING FOR IWRM C8.01 Youth Education A3.04 Repayable Sources of **B3.04 Basin Organisations** C4.02 Basin Management **B4 – CAPACITY BUILDING** .03 Water Footprint C4.03 Groundwater B4.01 Information .04 Virtual Water Gathering and Sharing C4.04 Coastal Zone Management Plans Fully present 4.02 Training Water C4.05 Integrated Urban Water Management Plans Present, but needs .06 Integrated Disaster B4.03 Building Partnerships improvement 4.07 National Adaptation 1.04 Water Integrity and Methodology- Global Water i-Corruption Partnership

# Results

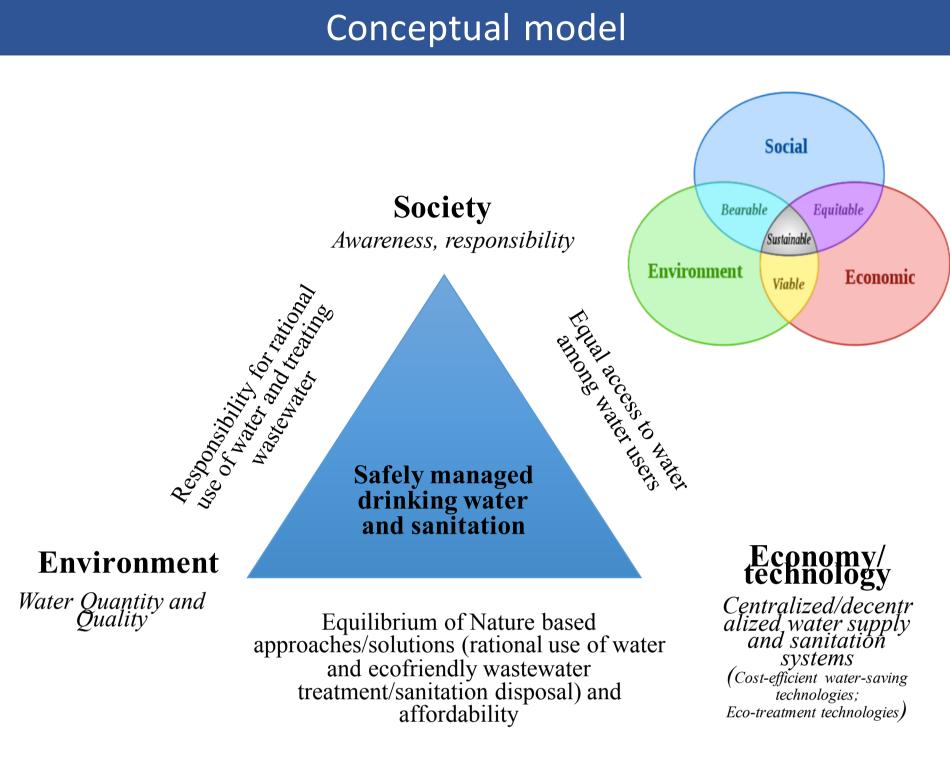




# Who takes responsibility for disposal Household Municipality ■ Private company



# Water Quantity and Quality Equilibrium of Nature based and ecofriendly wastewater treatment/sanitation disposal) and affordability



# Summary and Conclusion

# **Findings:**

### Access to water (SDG 6.1)

Both centralized and decentralized water sources are used; Centralized piped water system perceived to be responsibility of local municipality (19%) and private organization (63%);

Decentralized water supply systems are perceived to be household responsibility (62%) shared with private organizations (25%)

# Acces to sanitation (toilet) and Disposal of feaces (SDG 6.2)

Mainly pit laterine is used (80%), sewer system is used every 10<sup>th</sup> household:

Bakefilling is the main feaces disposal method, septic tank cleaning and no cleaning are the next options;

Feaces disposal is precieved as full responsibility of household

#### Treatment of waste water (SDG 6.3)

Majority use septic tank (65%) or no specific collection point and no treatment for wastewater (17%);

Perceived responsibility for wastewater treatment is on household (82%) and private organizations (10%)

Lack of community-based water supply and sanitation services function at local and governmental level

### **Conclusion:**

Community is ready for shared responsibility;

Capacity building for local villagers is required via introducing community-based decentralized water supply and sanitation related government and local municipality functions



Chemical treatment

65%

Used for agricultural