Institutionalization of WDM in Municipal, Agricultural, and Industrial water

Adel Alobeiaat

Water Policies and Land Use Planning Specialist

USAID - WEC

Adel.Alobeiaat@tetratech.com

Overview

- Introduction: Importance of Water Demand Management and Its challenges
- Framework of Water Demand Management
- The Market System Approach for Water Conservation
- Regulatory tools and Roles for improved Water Demand management, In Municipal, Irrigation, and Industrial water uses
- Water Saving Technologies and Practices
- Conclusions and Recommendations

Importance of Water Demand Management

Resource Conservation

- Efficient water demand management preserves this crucial resource for future generations
- It improves Water Security conditions

Financial Savings

- Reduction in water demand leads to cost savings for utilities
- WDM reduces cost of water on consumers as it reduces water bills

Sustainability

- Managing water demand supports environmental sustainability and reduces the carbon footprint.
- WDM is part of efficiency of resources utilization which leads to enhancing product's competitiveness and compliance with regulations

Challenges of WDM

Infrastructure Limitations

Aging infrastructure may hinder efficient water distribution and demand management.

Awareness & Participation

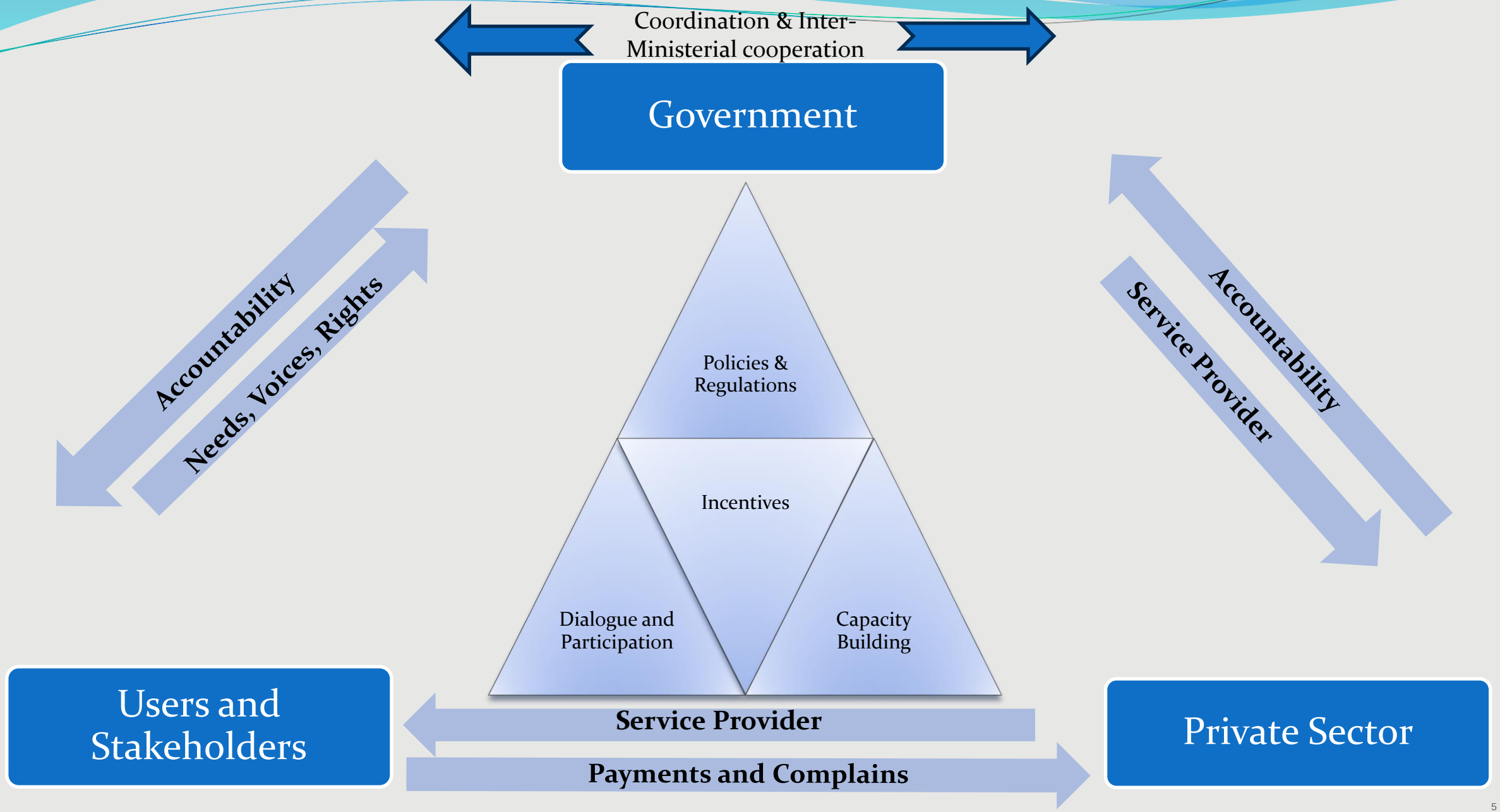
Lack of Knowledge about efficient water practices and technologies, Challenges in shifting from the knowledge to adoption, and poor coordination among institutions are main challenging aspects of WDM

Technological Innovations

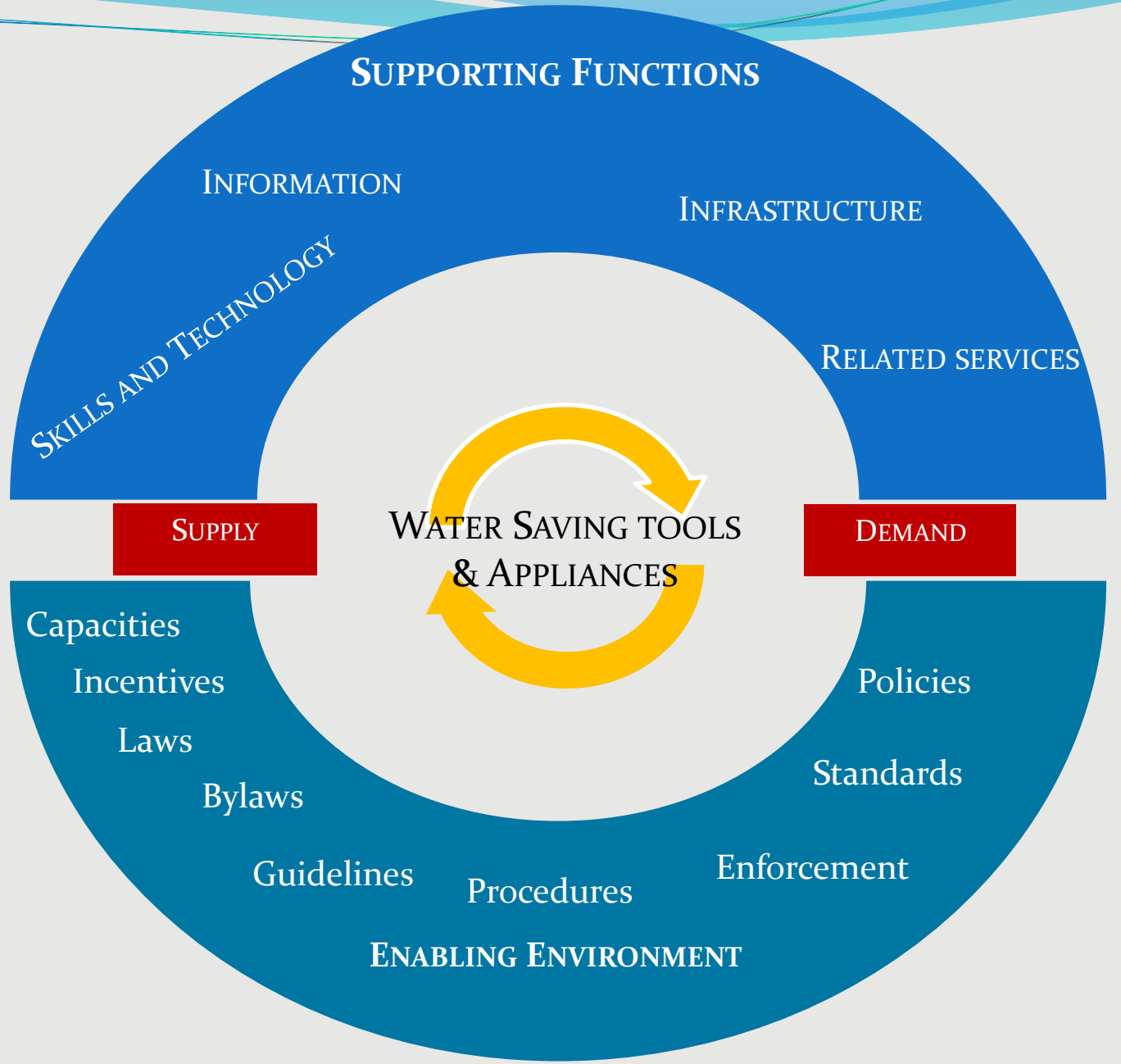
Slow Adopting advanced technologies such as efficient water appliances, IoT and AI for efficient water demand monitoring and management.

Policy and Regulations

Weak Laws, Bylaws, Guidelines, and Standards, as well as low level of enforcement and monitoring are hindering successful WDM.


Coordination & Inter-Ministerial cooperation
Government
Accountability
Needs, Voices, Rights
Policies & Regulations
Incentives
Dialogue and Participation
Capacity Building
Service Provider
Accountability
Users and Stakeholders
Service Provider
Payments and Complains
Private Sector

The Key Drivers for Market System Approach in WDM



Regulatory tools and Roles for improved WDM in Municipal Uses

Partnerships

Encourage major water consumers to reduce consumptions through partnerships that include conducting water Audits

Water Audits

Institutionalizing the water Audit service through regulations that standardize it.

Public Engagement

Implementing educational campaigns and incentives to promote water conservation among consumers in addition to make progress in Behavioral Change aspects

Standards

Availability of Water Appliances and Tools quality should be controlled by enforced standards

Ecolabeling

Eco Labels helps consumer to select water appliances and tools of higher quality and proven efficiency

Incentives

- Knowledge: Best Practices guides
- Financial Mechanisms for Supporting WDM(**Tax and Customs Exemptions**) Information Systems WDM
- Social & environmental responsibility of private sector

Regulatory tools and Roles for improved WDM in Irrigation

Standards

- Standards for irrigation technologies should be in place to guarantee efficiency and sustainability
- Standards od TWW reuse should consider best practices in crop selection and safe reuse

Incentives

- Efficient Farms Awards
- Zero Interest or Soft loans
- Water Audit Services and Demonstrations of technologies

Capacity Development

- E agricultural extension services
- Best Irrigation Practices guides
- Farmers Field Schools
- Crop Water Requirement information
- Private sector extension services

Groundwater Regulations

Regulatory frameworks for GW consumptions should incorporate irrigation efficiency incentives, avoid perverse incentives and proper monitoring of consumption through smart metering

Regulatory tools and Roles for improved WDM in Industry

Benchmarks

- Standardized benchmarks for water consumption in each industrial category
- Enforcement mechanisms through, EIAs, Licensing, Environmental and Water Audits

Capacity Development

- Knowledge sharing platforms between industries (Community of Practice)
- Best Practices Guides
- Information on nonconventional water use opportunities
- Water Audits

Incentives

- water efficiency excellency certification
- Financing mechanisms for efficiency and innovation in water efficiency technology

Water Saving Technologies and Practices in Municipal Water Use

Low Flow Fixtures Market

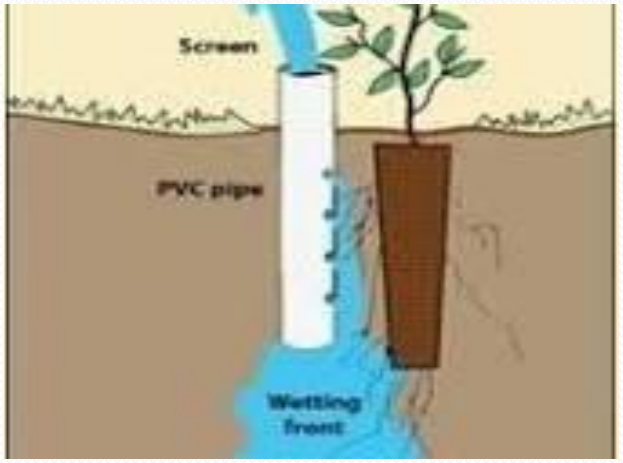
Social Behavioral Change

Water Audit

Nationally Disseminated and/or Enforced Best Practices and Innovation Guides / Manuals for Water Conservation

Water Saving Technologies and Practices in Irrigation

Deep Irrigation



Ponds Cover

Tape Irrigation

Water Saving Technologies and Practices in Industry

Water Audit

Enforced Water Benchmarks

Community of Practice

Conclusions and Recommendations

Policy and Regulation Advocacy

Roles and Responsibilities of Water Utilities

Enforcement Mechanisms

Public Private Partnership

Incentive Programs

Capacity Building & Best Practices Guides

Leadership and Sustainability

Financial Mechanisms