Water and Development Congress & Exhibition 2023

10-14 December 2023 | Kigali, Rwanda

the international water association

8th International Water Regulators Forum “Contextualizing water and sanitation regulation in different settings”

12/12/2023

inspiring change

STAY SAFE! PROTECT YOURSELF FROM COVID-19

Wear a face covering in crowded and enclosed spaces

Easy way
to prevent infection

Use hand sanitizer

HOUSEKEEPING RULES

- Check in at the registration desk upon arrival
- Wear your provided name tag for identification and feel free to introduce yourself to the person next to you
- Switch your phones to silent mode during the forum
  - If you need to take a call, please, move outside the room
- Arrive on time for the sessions and activities, avoiding any disruptive behavior during the event
- Respect other´s personal space during the forum, being respectful to speakers, organisers, and other participants
- Use recycling bins for disposables and be environmentally conscious in your actions
- Use event related hashtags for social media, being mindful of what you share online
- Stay calm and follow instructions in case of an emergency. Remember to familiarise yourself with emergency exist and procedures
- Seek assistance from event staff if needed
  - Communicate any special requirements in advance

AGENDA

- 10:15 – 10: 40 Welcome & Housekeeping rules
- 10:40 – 12:00 Session 1
  - The SDG 6 Global Acceleration Framework: Exploring Key Challenges and Strategies in Water and Sanitation Regulation for a Sustainable Future
  - Keynote Speaker: Bruce Gordon, WHO
  - Panel discussion
    - Balthazar Nganikiye, AREEN/ESAWAS
    - Federica Brenner, ERAS
    - Loga Sunthri Veeraiah, SPAN
    - Bruce Gordon, WHO
    - Moderator: Robert Bos, IWA
  - Wrap-up and group photo
- 12:00 – 13:00 Lunch break

AGENDA

- 13:00 – 13:10 2nd Welcome and Icebreaker Activity
- 13:10 – 15:00 Session 2
  - Navigating Accountability and Enforcement Challenges in Water and Sanitation Services: Insights from Diverse Contexts
  - Panel discussion
    - Robert Bos, IWA
    - Richard Cheruiyot, WASREB
    - Ahmad A. Alazzam
    - Moderator: Batsi Majuru, WHO
  - Open discussion
    - Moderator: Batsi Majuru, WHO
    - Rapporteurs: Young Water Professionals
  - Wrap-up
- 15:00 – 15:30 Break

AGENDA

- 15:30 – 15:40 Icebreaker Activity
- 15:40 – 16:20 Session 3
  - Climate Adaptation and Resilience in Water and Sanitation Regulation: Legal Frameworks, Synergies, and Planetary Health Perspectives
  - Panel discussion
    - Rob Cunningham, TNT
    - Peter Mutale, NWASCO, Zambia
    - Manuel Munoz, SUNASS, Peru
    - Nesbert Shirihuru, Zimbabwe
    - Moderator: Robert Bos, IWA
  - Open discussion
    - Moderator: Isabela Espindola, IWA
    - Rapporteurs: Young Water Professionals
- 17:05 – 17:15 Conclusion of the Forum

WELCOME REMARKS

Yvonne Magawa
IWRF Programme
Committee Chair

Tom Mollenkopf
IWA President

YWP RAPPORTEURS

Chataigne Kiza Djuma
IWA YWP DR Congo Chapter

Farokh Laqa Kakar
IWA YWP Canada Chapter

Krithika Iyer Shivakumar
IWA & Grundfos Youth Fellow

Abdurrahman Aliyu
IWA EWL Programme Committee

Cynthia Odili
IWA EWL Programme Committee

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The SDG 6 Global Acceleration Framework: Exploring Key Challenges and Strategies in Water and Sanitation Regulation for a Sustainable Future

SESSION 1

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Key Challenges and Strategies in Water and Sanitation Regulation for a Sustainable Future

BRUCE GORDON, WHO

inspiring change

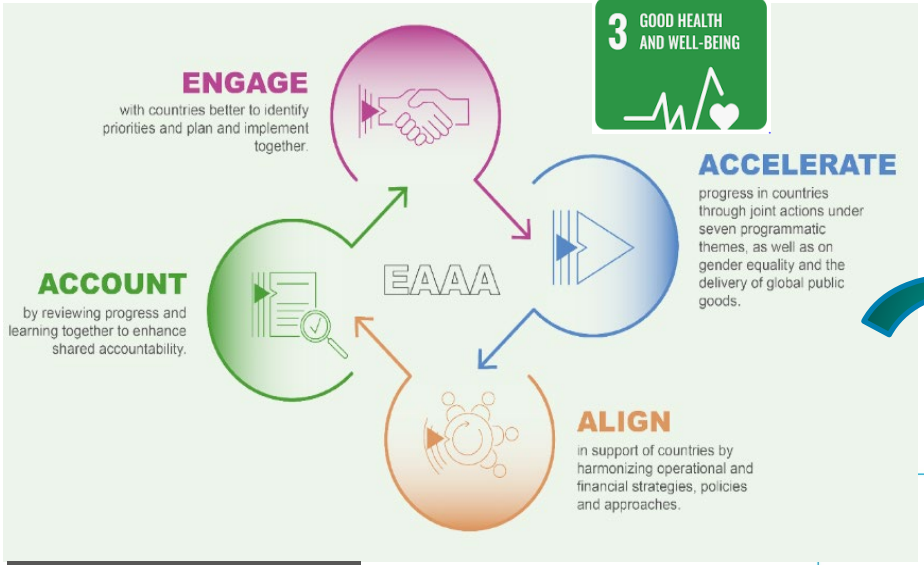
The SDG 6 Global Acceleration Framework

Exploring Key Challenges and Strategies in Water and Sanitation Regulation for a Sustainable Future

World Health Organization

Five SDG6 accelerators

1. **Governance** - collaboration across boundaries and sectors will make SDG 6 everyone's business..
2. **Financing** - optimized financing is essential to get resources behind country plans.
3. **Data and information** – data and information targets resources and measures progress.
4. **Capacity development** – a better-skilled workforce improves service levels and increases job creation and retention in the water sector.
5. **Innovation** – new, smart practices and technologies will improve water and sanitation resources management and service delivery.



Stronger Collaboration, Better Health

Global Action Plan for Healthy Lives and Well-being for All

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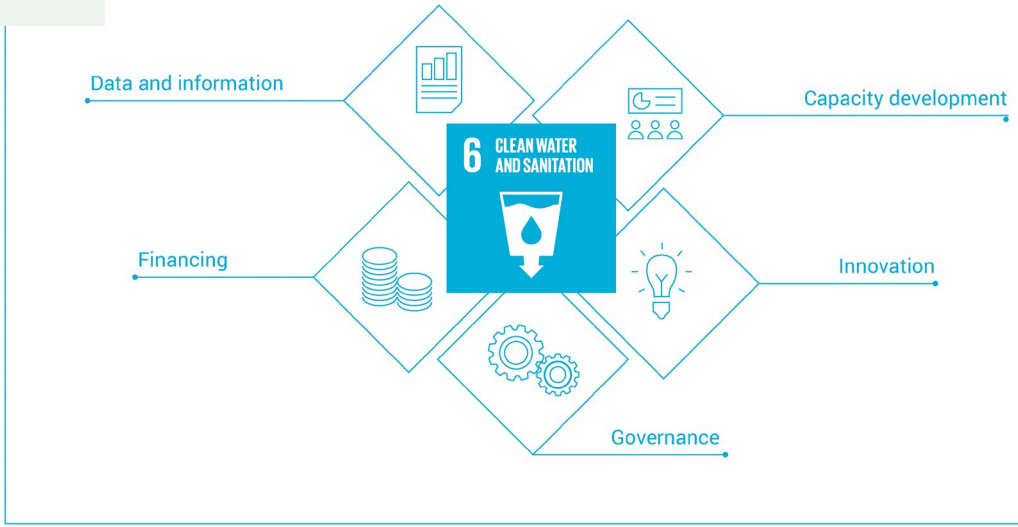
The Sustainable Development Goal 6 Global Acceleration Framework



SDG 6 Acceleration Framework

1. **Engage** – swift responses to country requests through leveraged expertise and mobilization,
2. **Align** – coordinated approaches across sectors and actors through unified strategies and initiatives,
3. ***Accelerate*** – *unlocked bottlenecks through five accelerators*
4. **Account** – strengthened accountability through joint review and learning.

SDG 6 Acceleration Framework

Through enhanced cooperation:

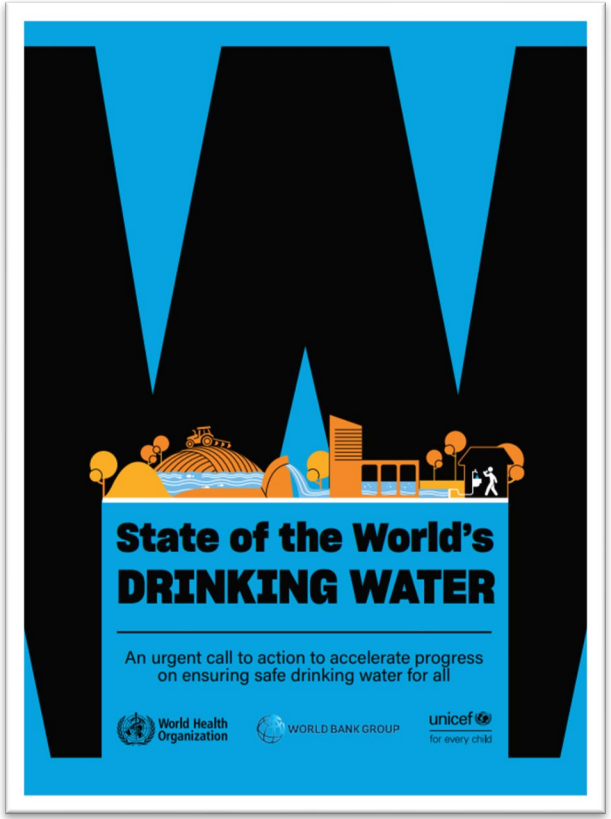
What can we do to promote an enabling environment for improved and extended water and sanitation regulation?

How can we use our collective voice to sensitize politicians?

Expressed voice of regulators: RegNet Kigali 10-12 Jan 2023 statement.

How to accelerate in each of the 5 themes?


State of the World's
SANITATION
An urgent call to transform sanitation for better health, environments, economies and societies
World Health Organization
unicef
for every child


State of the World's
DRINKING WATER
An urgent call to action to accelerate progress on ensuring safe drinking water for all
World Health Organization
WORLD BANK GROUP
unicef
for every child

Good governance begins with leadership, effective coordination and regulation

Governance

Regulators have a critical role to play in regulating at all steps of the sanitation service chain and across all types of water supplies, and need clear mandates and accountability mechanisms. Regulators must be professionalized and as autonomous as possible, have authority for enforcement, and freedom to publish results. Services should be regulated using risk-based approaches

Catalytic public finance unlocks effective household and private investment

Finance

Government investments must be used to attract and optimise other investments balancing new and maintain existing assets. Regulators have a key role in stimulating bankable institutions and systems that can attract and manage finance. Regulators can stimulate output-based budgeting for planning and performance indicators to effectively use available finance. There needs to be investment in regulatory authorities

Capacity development at all levels drives progress and sustains services

Capacity development

Strengthen regulators capacity to develop and administer effective regulations including to increase resilience to all shocks. Regulators need sufficient professionalized workforce to develop and administer effective regulations. Regulation of the water and sanitation workforce is also needed.

Reliable data and information support evidence-based decision-making and stronger accountability

Data and information

Robust regulatory monitoring systems are needed to track policy progress at the lowest administrative level. Accurate and verified regulatory data should be used for creating information, developing political will and accountability, and allowing governments to target investment, monitor progress and make timely course corrections.

Innovation leads to better approaches and meets emerging challenges

Innovation

Regulatory leadership is required to identify innovative approaches and bring them to scale via a flexible regulatory environment. Regulators can enable innovation through sound performance criteria and standards that reduce risk without stifling new ideas and entrepreneurship and regularly update.

National leadership – developing roadmaps to advance water and sanitation regulation

1. Establish the current legal basis for service regulation
2. Review and strengthen the institutional and regulatory framework
3. Develop effective (funded) accountability mechanisms, including for on-site sanitation
4. Establish and fund robust public data management systems to inform regulation and service improvements
5. Strengthen regulator, service authority, and service provider capacity and incentives
6. Review, iterate and adapt to emerging challenges

Next Steps towards acceleration

- Undertake a Call to Action campaign
- Harness and coordinate the growing efforts among external support agencies, financial institutions,
- Strengthen exchange and engagement among regulators' associations•
- Strengthen engagement between regulators and service providers.
- Track progress over time.

PANEL DISCUSSION

Balthazar Nganikiye
AREEN/ESAWAS, Burundi

Loga Sunthri Veeraiah
SPAN, Malaysia

Bruce Gordon
WHO, Switzerland

Federica Brenner
ERAS, Argentina

Robert Bos
IWA, Switzerland
(moderator)

the international water association

WRAP-UP

YVONNE MAGAWA, IWRF PROGRAMME COMMITTEE CHAIR

the international water association

LUNCH BREAK

12:00 – 13:00

REGULATORS AND UTILITIES RECEPTION

- Today, from 7-9 pm
- Venue: The Hut Restaurant and Boutique Hotel
- Register at:

IWA Water and Development Congress & Exhibition 2023 - Regulators and Utilities

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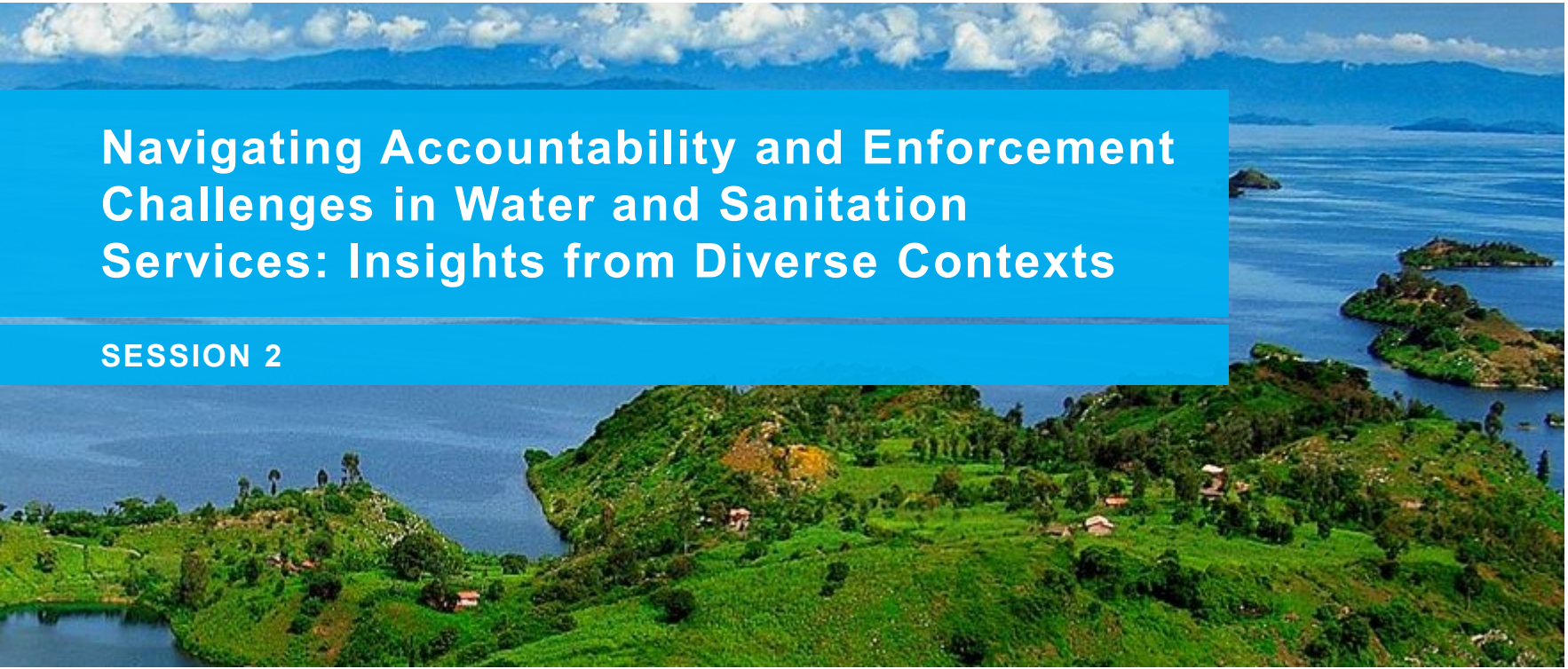

Navigating Accountability and Enforcement Challenges in Water and Sanitation Services: Insights from Diverse Contexts

SESSION 2

PANEL DISCUSSION

THE HUMAN RIGHT TO WATER AND SANITATION: REGULATION AND EXAMPLES ACROSS THE WORLD

Ahmad A. Alazzam
UPMU, Jordan

Robert Bos
IWA, Switzerland

Batsi Majuru
WHO, Switzerland
(moderator)

Richard Cheruiyot
WASREB, Kenya

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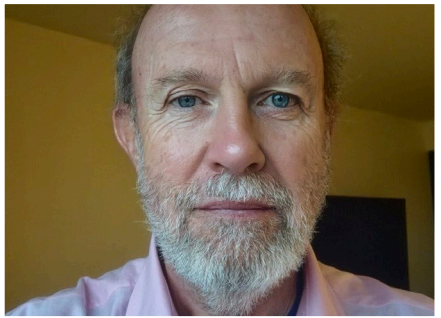
REGULATION AND THE REALIZATION OF THE HUMAN RIGHTS TO SAFE DRINKING WATER AND SANITATION IN LATIN AMERICA AND THE CARIBBEAN
A study supported by the IADB and IWA

ROBERT BOS, IWA ADVISOR



IN THE BEGINNING ….

… were recognized

The Human Rights to Safe Drinking Water and Sanitation

(On 28 July 2010, the United Nations General Assembly (UNGA) adopted Resolution A/Res/64/292)

… and were agreed by all UN Member States

The Sustainable Development Goals to achieve Agenda 2030, including SDG6, Ensure Access to Water and Sanitation for All

- **6.1** By 2030, achieve universal and equitable access to safe and affordable drinking water for all
- **6.2** By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations

(The SDGs were adopted unanimously by the United Nations General Assembly (UNGA) in September 2015)


PERU
NEW ZEALAND
NICARAGUA
PHILIPPINES

WHY ARE THE HRWS AND SDG6 OF SPECIAL RELEVANCE TO WASH REGULATORS ?

THE HRWS AND THE SDG6 TARGETS DEFINED NEW CRITERIA AND RE-DEFINED EXISTING ONES.

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Manual of the Human Rights to Safe Drinking Water and Sanitation for Practitioners

Lead Author: Robert Bos

Contributing Authors: David Alves, Carolina Latorre, Neil Macleod, Gérard Payen, Virginia Roaf & Michael Rouse

The Human Rights to Safe Drinking Water and Sanitation

Five criteria for the HRWS

- Accessibility
- Availability
- Quality and safety
- Acceptability, including for sanitation: privacy and dignity, and
- Affordability

In addition, they must include the general principles that cut across all human rights: equity and non-discrimination; economic, social and environmental sustainability; public participation and access to information; and, adequate accountability.

THE HRWS AND THE SDG6 TARGETS DEFINED NEW CRITERIA AND RE-DEFINED EXISTING ONES.

The Sustainable Development Goal 6

- Resulted in new parameters to be measured in the monitoring of progress in access to safe drinking water and sanitation: safely managed drinking water, safely managed sanitation, improved hygiene
- Boosted the monitoring of the enabling environment for WASH by sharpening criteria and focusing on correlations on issues like policy and legal frameworks, financial flows, the human resource base and institutional capacities
- Supported the development of a systems approach to WASH with a clear description of essential building blocks

THE STUDY - OBJECTIVES

In 2018, IWA and the IADB embarked upon a study aimed at

- exploring the relationship between the regulation of drinking water supply and sanitation (DWSS) services in the region of Latin America and the Caribbean (LAC) and the application of the Human Rights to Safe Drinking Water and Sanitation (HRWS), as part of efforts to achieve the SDGs;
- understanding the extent to which HRWS are being incorporated into the regulation of DWSS services, identifying the main trends, good practices and opportunities that support their full incorporation, avoiding possible regression.

THE STUDY - METHOD

The study was carried out by Alejo Molinari, who works for the WASH regulator in Buenos Aires, Argentina, with support from Robert Bos, Senior Advisor IWA

Alejo Molinari · 2nd
Experto en Agua Potable y Saneamiento - Auditor líder ISO 9001-2015
Certificado IQNet-IRAM
Argentina · Contact info

Ente Regulador de Agua y Saneamiento (ERAS)

Instituto de Altos Estudios Empresariales (IAE) de la Universidad Austral

THE STUDY - METHOD

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The study entailed:

- A comprehensive literature review
- The design of a questionnaire and its application through a region-wide survey
- A series of face-to-face interviews
- with regulators from the region

THE STUDY - METHOD

The questionnaire was distributed to 52 regulatory authorities and associations of regulators in 37 countries in the LAC region;
23 responses were received from 14 countries, with a population of 542,479,268, equivalent to 85% of the region's total population.

Representatives of 5 regulatory authorities and of one multilateral organization were interviewed

CONCLUSIONS

In general:

- Several countries have incorporated the HRWS into their Constitutions, several others into their legislation and jurisprudence – in the few remaining countries where the HRWS are not yet reflected in national legislation, regulators can play a key role in pushing the national debate on incorporation of human rights principles and criteria.

- In all LAC countries, regulators can seize the opportunity of using the SDG6 indicators to intensify the progressive realization of the HRWS in a bottom-up approach to legal reform.

CONCLUSIONS

- In most countries of LAC, regulatory frameworks for drinking water supply, sanitation and wastewater management services incorporate many of the HRWS criteria and the human rights principles, without specifically mentioning them.

  (e.g. drinking water quality, other aspects of service delivery quality, such as availability, continuity, acceptability, affordability, sustainability, public participation and accountability)

- Regulatory frameworks include more criteria related to drinking water than to sanitation. Sanitation criteria are more contextual and linked to public health and environmental regulations.

CONCLUSIONS

- Some of the HRWS criteria and principles fall outside of the boundaries of WASH regulatory frameworks. These boundaries can be
  - Spatial: the reach of WASH regulatory frameworks ends at the users' property demarcation
  - Resource-based: regulators lack the resources to carry out their mandate in peri-urban informal settlements and in rural areas, to address informal services and to focus on services for vulnerable groups
  - Institutional/Sectoral: some WASH regulators have limited mandates where other regulatory authorities exert their powers: public health regulators for drinking water quality, environmental authorities for wastewater management and control.
  - Political: with respect to affordability, tariff setting may be left to the political authorities, but regulators can provide the information base for decision-making, and design subsidy schemes, targeted discount systems or social tariffs.

CONCLUSIONS

- Under the HRWS, sanctioning drinking water users in response to non-payment of water bills remains a sensitive issue. In most countries of LAC, service providers are empowered to cut service delivery in response to non-payment.

- Regulators need assistance in the development of mechanisms and procedures that safeguard the HRWS acces and availability criteria.

CONCLUSIONS

- Regulators also need assistance in the design of subsidy programmes or even funding programmes to cover the costs of drinking water supply and sewerage connections, which for the poor tend to be a major obstacle to gain access to these services.

CONCLUSIONS

The surveys show that

- almost all regulatory frameworks in LAC countries provide for the formulation and approval of development plans for infrastructure improvement with medium- and long-term horizons.
- the practice of environmental impact assessment of planned infrastructure works is routinely applied in almost all cases.

Within the framework of the HRWS, progress could be made on the application of health impact assessment considering health risks and opportunities of infrastructure development.

Another type of assessment that could be applied to infrastructure renovation or modifications and to the creation of new infrastructure is human rights impact assessment for the affected population groups.

CONCLUSIONS

In the LAC countries, the human rights principles of participation and transparency offer a vast area of potential action from the regulatory point of view.

Public hearings on issues such as tariff setting or on the introduction of specific regulations, are a routinely used instrument, but there is room for improvement.

The principles of transparency and accountability are addressed in periodic reports of progress against performance indicators, such as the annual benchmarking exercise of ADERASA, allow users/clients to get to know better and in more detail the services they are paying for.

CONCLUSIONS

Survey outcomes indicate that the regulatory framework for sanitation services is weak or non-existent.

Sanitation services are linked to local circumstances, physically, culturally and institutionally, suggesting the need for a focused analysis that allows clarification of what are the site-specific obstacles to good sanitation regulation.

This could result in recommendations for the development of an appropriate regulatory framework for sanitation, adaptable to each country, region or even specific communities.

CONCLUSIONS

Institutional gaps impact on sanitation regulation. Bridging these gaps, in different national and local contexts, will contribute to providing an adequate service to users.

Adjusting the sanitation regulatory framework for services in public environments could be a starting point, with the application of the human rights principles and criteria in schools, hospitals and health centres, detention camps, camps for refugees and for workers in large infrastructure projects. These settings have common characteristics in most countries and cultures that would facilitate the development of more or less uniform regulations.

CONCLUSIONS

Many deficiencies are inherent to institutional fragmentation in the management of water resources, in the relationship between the basin and the provision of services.

The challenge is to achieve a coherent approach with the progressive realization of the HRWS.

The case of the regulator of the Federal District of Brazil, ADASA, which regulates the basin and the service, ranging from extraction permits to discharge authorizations is a key example.

Another example is the city of Quito, Ecuador, where, with the support of The Nature Conservancy, a Water Fund was established as a mechanism to facilitate the participation of the communities of the basin in the effort to conserve the resource base. These examples allow an assessment of how to implement the aspects of the HRWS that are applicable in the local context.

MORE INFORMATION

Clearly, this AIDB/IWA effort shows the value of analysing the links between regulation and the HRWS, in order to identify options and opportunities to strengthen national and local regulatory frameworks for WASH in line with HRWS and SDG criteria, principles and indicators. It is recommended similar analyses are done in other regions, in collaboration between IWA, regional regulators associations and other interested parties.

- For more information:
- www.iwa-network.org/publications/regulators-and-the-application-of-the-human-rights-to-drinking-water-and-sanitation-in-latin-america-and-the-caribbean/

AVAILABLE FOR FREE DOWNLOAD

- IWA Website:

- www.iwa-network.org/publications/regulators-and-the-application-of-the-human-rights-to-drinking-water-and-sanitation-in-latin-america-and-the-caribbean/

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The human right to water and sanitation:The Kenyan Context

RICHARD CHERUIYOT, KENYA

inspiring change

THE KENYA CONSTITUTION

- Framework for service provision anchored in the Constitution
- Defines water as a human right (through Bill of rights)
- Devolves governance framework through creation of National and County Governments
- Delegates governance responsibility - bringing services closer to consumers
- The Water Act establishes a clear institutional framework for water services provision
- Regulation established at the national level for both resources and the services

RIGHT TO WATER

Specific criteria apply

Accessibility

➢Physical accessibility (non-discriminatory) and information accessibility

Affordability

➢not more than 5% of the household income for water services

Quality/Safety

➢Meeting drinking water quality standards

Reliability

➢Available when needed

Transparency

- Access to sector information
- Public participation in the decision making process

Measuring is the only way the state ensures that it is observing, respecting , protecting and fulfilling the right – in line with Constitution

The Regulator's Focus

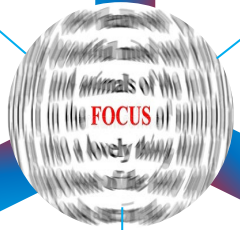
◊Access for all ◊ Minimum Service level

◊ Justified Tariffs ◊ Correct Information

◊ Awareness

Consumer Protection

✓ CUSTOMERS PAY FOR SERVICES



Sector Development

◊Avoid Capital Drain

◊ Fight Corruption

◊ Avoid Cartels

◊ Sector Transparency

◊ Self Financed Sector

◊ Promote Investment

◊ Promote Fair Competition

✓ NO INTERFERENCE OF MANAGEMENT OF THE PROVIDERS

Utility' Efficiency

◊Sustainability

◊Avoid Unjustified Costs

◊ Promote Efficiency & transfer Gains

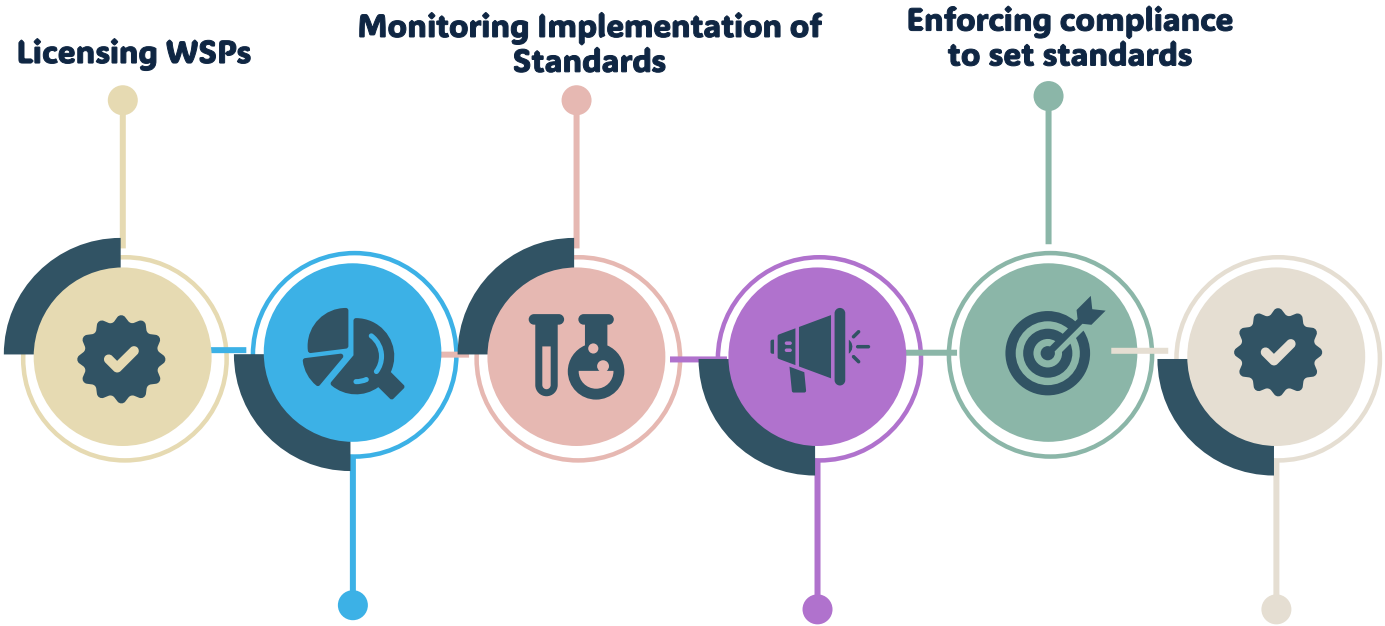
◊ Respect for Standards

◊ Optimize Investments

✓ NO SUBSIDIES IN THE LONG RUN

MANDATE OF THE REGULATOR IN WATER SERVICES PROVISION

Protecting the interest and rights of consumers in the provision of water services



PERFORMANCE – NATIONAL OUTLOOK

Key Performance Indicators	2020/21	2021/22	Trend
Water Coverage, %	60	62	↑
Drinking Water Quality, %	92	95	↑
Hours of Supply, hrs/day	16	17	↑
Non- Revenue Water, %	45	45	→
Metering Ratio, %	96	95	↓
Staff Productivity, Staff per 1000 Connections	7	7	→
Personnel expenditure as % of O+M Costs, %	50	47	↑
Revenue Collection Efficiency, %	94	94	→
O+M Cost Coverage, %	99	96	↓
Sewered Sanitation Coverage, % *	16	16	→
Sanitation Coverage, % *	93	93	→

Good | Acceptable | Not Acceptable | Benchmark Varies

CONCLUSION

- The right to water is best achieved in a sector operating under uniform norms and standard on governance, quality, service delivery, cost recovery and protection of consumers
- Good performance can only be ascertained if it is measured against agreed benchmarks, reported and audited regularly
- Prescribe appropriate model for regulation of Small scale water supply systems to ensure sustainability in service provision
- Water services sector is already commercialized for better service delivery. Counties should continue with commercialization
- Well performing utilities play a role in strengthening the constitutional mandate of the County governments in Water Service provision
- National Reporting and monitoring is critical in mapping progress to meeting the rights to water and sanitation

THANK YOU

WASREB
Water Services Regulatory Board

the international water association

Accountability in Jordan water and sanitation services from the Utilities Performance Monitoring Unit (UPMU's) perspective

Dr. Ahmad Abdellatif Alazzam, Director of UPMU-Jordan

OVERVIEW OF THE JORDAN WATER AND SANITATION

Water Utilities 3

NRW 50 %

Waste Water coverage 68%

Population 11.5 M

L/C/D <100

Water coverage 98%

CHALLENGES FACED BY THE JORDAN WATER AND SANITATION SECTOR

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- Water Scarcity
- Periodic Water Supply
- Climate Change Impact

- High Electricity Cost
- Ongoing Sector Reform
- High Treatment and Transport Costs

ACCOUNTABILITY MODELS

- Monitoring Performance of Water Utilities
- Water and Wastewater Quality Control
- External and Internal Audit
- Central Complaint Call Center
- Integrity and Anti-corruption Commission

SUCCESSES IN ACHIEVING ACCOUNTABILITY IN JORDAN WATER AND SANITATION SERVICES

- Utility Performance Monitoring Unit
- Commercialized Water Utilities
- Modernization Plan for the Water Sector
- Developing Strategic Plans
- Development of Norms and Guidelines
- Reclaimed Water Reuse Initiatives

ROOM FOR IMPROVEMENT

Water Scarcity Management

NRW Management

Collection Efficiency

Water Tariff

Renewable Energy

Thank you

DISCUSSION

INSTRUCTIONS

- 1st Part: World Café Style - participants are invited to discuss within their table colleagues.
- 2nd Part: Open Discussion
- Key points for discussion:
  - Successes and failures in water and sanitation services accountability, compliance and enforcement of regulatory norms and standards.
  - Compliance and enforcement of standards and norms in resource-poor settings.
  - Accountability models fit for purpose in different contextual settings.

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WRAP-UP

YVONNE MAGAWA, IWRF PROGRAMME COMMITTEE CHAIR

the international water association

BREAK

15:00 – 15:30

REGULATORS AND UTILITIES RECEPTION

- Today, from 7-9 pm
- Venue: The Hut Restaurant and Boutique Hotel
- Register at:

IWA Water and Development Congress & Exhibition 2023 - Regulators and Utilities

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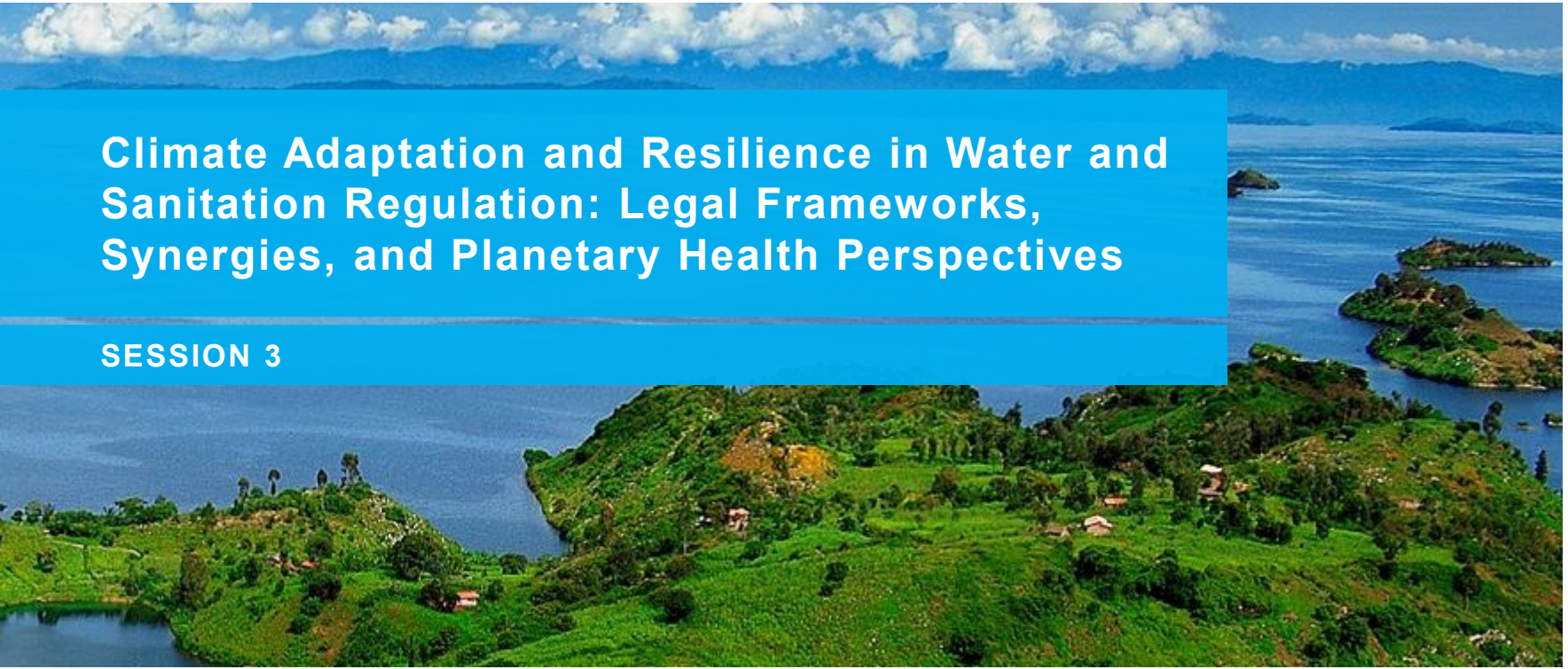

Climate Adaptation and Resilience in Water and Sanitation Regulation: Legal Frameworks, Synergies, and Planetary Health Perspectives

SESSION 3

PANEL DISCUSSION

ACCELERATING ADOPTION OF NATURE-BASED SOLUTIONS: LESSONS FROM REGULATORY FRAMEWORKS

Manuel Muñoz
SUNASS, Peru

Rob Cunningham
TNC, UK

Nesbert Shirihuru
Department of National Water, Zimbabwe

Peter Mutale
NWASCO, Zambia

Robert Bos
IWA, Switzerland
(Moderator)

Isabela Espindola
IWA, UK
(moderator)

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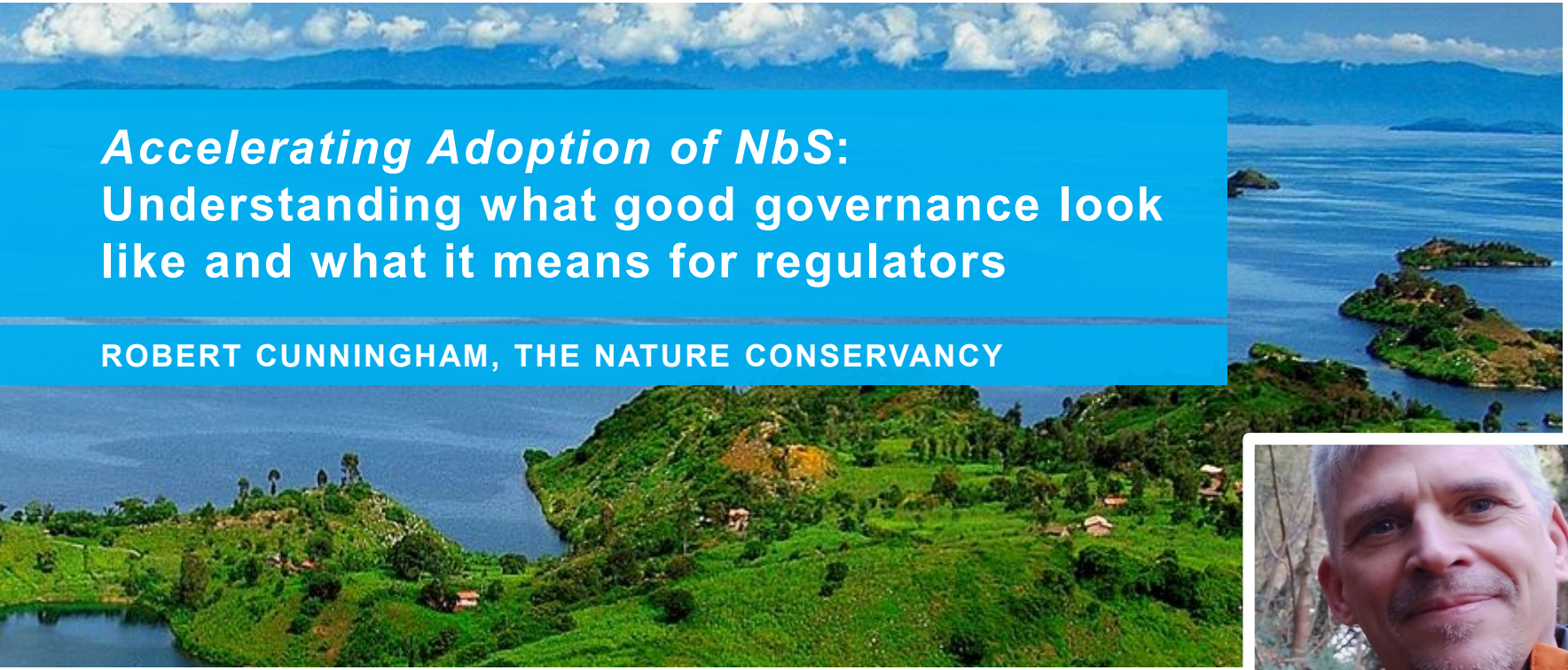

Accelerating Adoption of NbS: Understanding what good governance look like and what it means for regulators

ROBERT CUNNINGHAM, THE NATURE CONSERVANCY

The Nature Conservancy

IWA the international water association

A leading global conservation organization with a mission to protect the lands and waters on which all life depends

70+ YEARS

76 COUNTRIES AND TERRITORIES

900 SCIENTISTS

4,800 STAFF

1M+ MEMBERS

inspiring change

INVESTING IN WATERSHEDS AS ASSETS

WE ARE SUPPORTING OVER 50 WATERSHED INVESTMENT PROGRAMMES DEPLOYING NBS TO ADDRESS WATER SECURITY ISSUES

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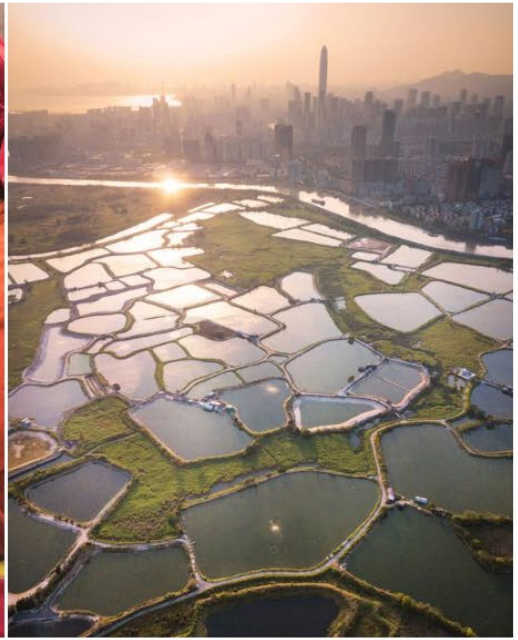
OUR APPROACH TO SCALING WATERSHED INVESTMENT PROGRAMMES

Demonstrate Nature-Based Solutions Work on the Ground

Equip Partners with Training, Tools, and Technical Support They Need to Succeed



Increase investment in nature-based solutions and remove barriers for their adoption

OUR APPROACH TO SCALING WATERSHED INVESTMENT PROGRAMMES

CHALLENGE FOR DELIVERING NBS UK TREATMENT WETLANDS

Knowledge

- Lack of design experience
- Few design standards
- Context specific

Risk Mitigation

- No process guarantees
- 3rd Sector / landowners unlikely to accept liability

Economic

- Total Value Frameworks are in their infancy

Financial

- NbS assets often in 3rd party ownership

Commercial

- Supply chain capacity
- Procurement policy / law

CHALLENGE FOR DELIVERING NBS UK TREATMENT WETLANDS

Knowledge

- Lack of design experience
- Few design standards
- Context specific

Risk Mitigation

- No process guarantees
- 3rd Sector / landowners unlikely to accept liability

Economic

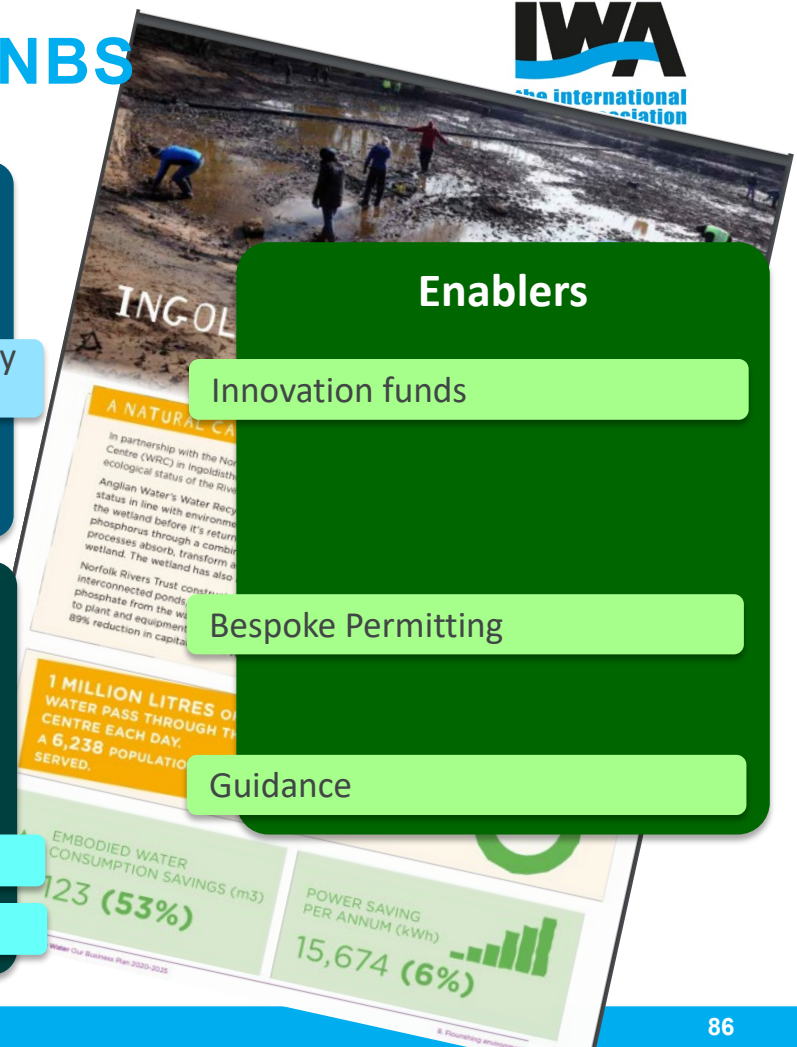
- Total Value Frameworks are in their infancy

Financial

- NbS assets often in 3rd party ownership

Commercial

- Supply chain capacity
- Procurement policy / law



Enablers

- Innovation funds
- Bespoke Permitting
- Guidance

CHALLENGE FOR DELIVERING NBS

Knowledge

- Lack of design experience
- Few design standards
- Context specific

Risk Mitigation

- No process guarantees
- 3rd Sector / landowners unlikely to accept liability

Economic

- Capturing Total Value vs Least Cost

Financial

- Opex heavy – limiting debt finance
- Accounting for NbS assets in 3rd party ownership
- Co-beneficiary contributions for best value

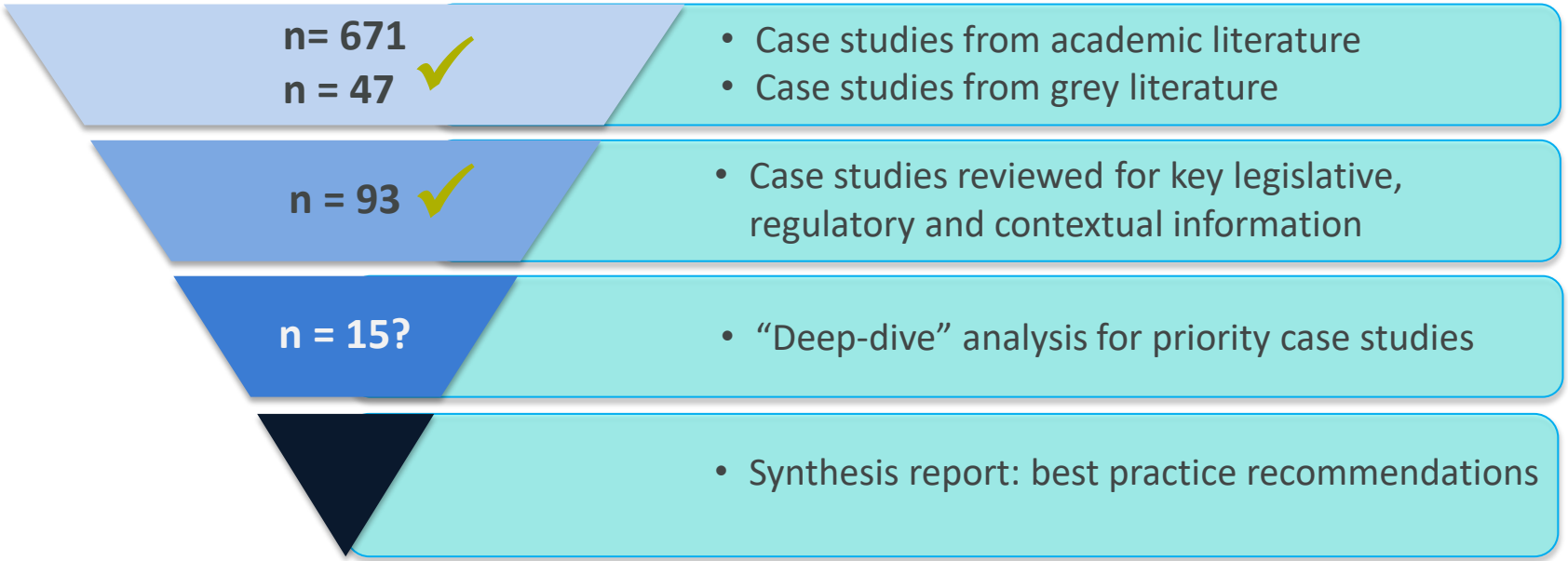
Commercial

- Can involve 10s-1000s of landowners
- Often require cooperation not competition
- Supply chain capacity
- Procurement policy / law

Enablers?

- Innovation funds
- Regulatory “Sandbox”
- Tariff design
- Bespoke Permitting
- Risk and Reward sharing
- Guidance

UNDERSTANDING WHAT'S WORKING:
TNC'S ENABLING REGULATION STUDY



WHAT DID WE FIND?

- Cooperation between utility companies and municipalities was critical to many NbS schemes.
- We found few Public Private Partnerships (possibly methodological).
- Case studies were dominated by large utilities
- High income countries tend to be better equipped to support NbS through tariffs.
- NbS schemes can be developed through interconnected and overlapping policy areas e.g. climate adaptation
- Environmental regulators played an active role in many case studies
- Cases studies were dominated by water quality incl. drinking water.
- Limited monitoring of outcomes or reporting of financial data.

Overall there is a lack of comprehensive information in the case studies, suggesting there is a clear gap for a high quality review

NEXT STEPS

- Phase 2 of our study will start early 2024
- We need **your** help
  - *What factors* do you see as important to NbS regulation?
  - *What approaches* have you, considered, adopted (or rejected) to support NbS in your work?
  - *What case studies* should we prioritise for inclusion?
  - *How can you* partner with us in Phase 2?

Share your thoughts

Contact us: EnablingNbS@TNC.org

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Climate Adaptation and Resilience in Water and Sanitation Regulation – Case of Zambia

PETER MUTALE, CHIEF INSPECTOR, NATIONAL WATER SUPPLY AND SANITATION COUNCIL

Nwasco
NATIONAL WATER SUPPLY AND SANITATION COUNCIL

inspiring change

BACKGROUND

- Droughts, flash floods, extreme temperatures, and dry spells in Zambia are increasing in frequency and intensity due to climate change.
- The impact on human and economic development is serious. It affects water and energy supply, health, wildlife, forestry, and agriculture.
- For 70% of the Zambian population who live in rural areas and rely on incomes from rain-fed agriculture, climate change undermines efforts to reduce poverty and enhance food security.

BACKGROUND

- Extreme weather events have started to be experienced in the region, for instance cyclone Idai in 2018 (affected Mozambique, Malawi, Zimbabwe and Madagascar).
- Also, other parts of the region have been characterized by below normal rainfall (droughts)… a challenge to adequate and safe service delivery.
- Projections are that the wet periods will shorten, while intense rainfall will increase (leading to flooding).
- WSS services affected in various ways (e.g. reduction in service levels, increased O&M costs) and calls for strategic response strategies.

BACKGROUND

Flooding; cyclone Idai

Droughts

Flooding in Lusaka- most households rely on OSS

COUNTRY'S CLIMATE

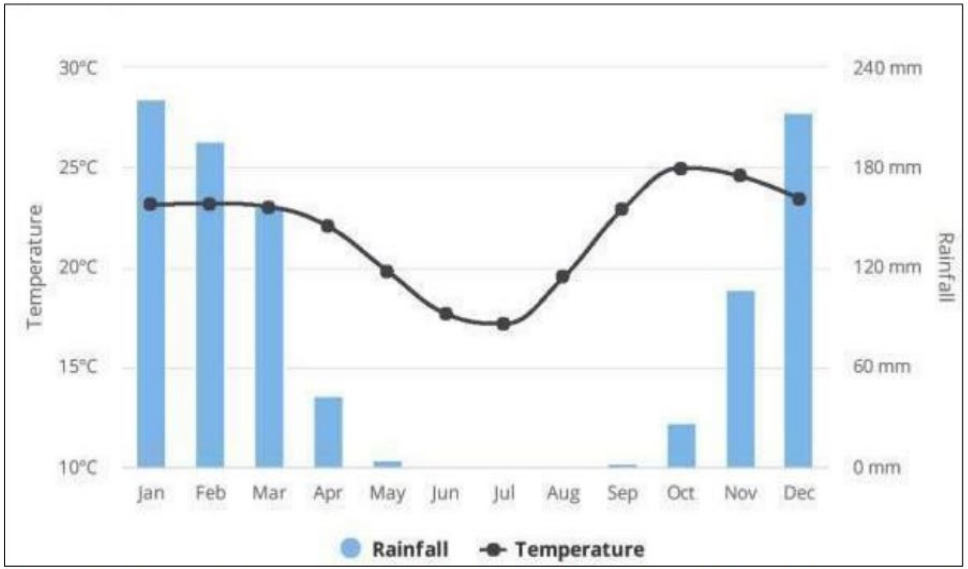

Figure 2.3Average Temperature and Rainfall of Zambia for 1901 to 2016 *Source: CRU TS 3.21. University of East Anglia, 2013*

FUTURE PROJECTION

- Mean annual temp to increase (already increased by about 1.3^{o}C since 1960).
- Mean annual precipitation projected to reduce by about 20mm/ decade (more droughts, potential for short, intense rainfall periods leading too floods)

EXPECTED CONSEQUENCES

- Compromised water quality
- Compromised water quantity
- Destruction to infrastructure
- Disturbance to livelihoods and general economy.
- Increase in disease vectors and disease burdens, etc.

PREMISE FOR RESPONSES TO CLIMATE CHANGE

- **WSS Act No. 28 of 1997 that established NWASCO emphasizes 'sustainability' and 'efficiency'.**
- **The National Policy on climate change calls for mainstreaming of climate change into policies, plans and strategies (Develop and implement codes/standards to promote adaptation and mitigation in infrastructure development).**
- **8th National Development Plan (8NDP) outlines strategies for climate change adaptation.**

ZAMBIA NATIONAL ADAPTATION PLAN (NAP) 2021 -2023

- In collaboration with Green Climate Fund and Global Water Partnership, Zambia has developed the National Adaptation Plan with the following goals:
  1) Strengthen institutional coordination and collaboration
  2) Establish a system of integrating climate change adaptation in plans and budgets
  3) Develop an overarching national plan that prioritizes medium to long term level adaption actions for key economic sectors affected by climate change
  4) Strengthen the institutional capacity for implementing the NAP
  5) Develop a strategy for mobilizing financial and other resources for NAP implementation in Zambia
  6) Climate change coordinating structures and institutions, develop tools for reporting, monitoring and reviewing.

ZAMBIA NATIONAL ADAPTATION PLAN (NAP) 2021 -2023 CONT'D

- The NAP is being implemented as part of and in coordination with, the broader Continental Africa Water Investment Programme (AIP)
- The AIP has as its goal to improve the investment outlook for climate-resilient water and sanitation projects on the Continent (US$30 billion per year up to 2030).
- In responding to AIP, Zambia developed in 2022 the Zambia Water Investment Programme (ZIP) – US$5.75 billion up to 2030.

REGULATOR INTERVENTIONS

- Developed a Climate Risks Screening Guideline in 2018 for WSS – ensures risks are identified and appropriate measures instituted at project conceptualization and adaptation to the existing infrastructure (revised in 2023)
- Energy Efficiency Guidelines – optimize operations and reduce carbon footprint.
- Annual emissions assessment and reporting through the ECAM tool
- Developing KPI & benchmarks for GHG and Energy Efficiency (and reporting in annual reports).
- Promoting the use of climate smart technologies (and reporting as per 8NDP requirement).
- Promoting water security initiatives

SPECIFIC SANITATION-RELATED INTERVENTIONS

- Urban OSS & FSM frameworks – extension of mandate and elaboration of roles and responsibilities.
- Code of practice – containment, emptying, treatment, disposal/ reuse
- Regulations on OSS & FSM – responsibilities, technology selection, emptying schedules etc.
- Trade effluent regulations – strengthening pre-treatment before disposal in public sewer systems and treatment works.
- CWIS-SAP tool – incorporate aspects of climate resilience in decision making.
- CWIS Guidelines – Ensure planning and safe sanitation

HOW ESAWAS ENVISAGES TO INCREASE CLIMATE RESILIENCE

- Promoting and fostering inclusion, resilience and emergency preparedness in WSS service provision has become a key focus for regulators in view of the negative impact of increased uncertainties on the status and progress of WSS services.
- In this regard, in 2020 ESAWAS initiated the development of a powerful and strategic tool as a climate resilience assessment methodology that would inform the status quo of climate resilience amongst WSS utilities and the actions that need to be taken further down the line to enhance resilience in particular utilities.
- The tool is intended to cover the full scope of WASH:
  - Off-site sanitation
  - On-site sanitation
  - Networked water supply
  - Off-grid water supply
  - Health and hygiene
  - Water resources

CONCLUSION

- National Policy and Plan key for climate change interventions
- Regulators are key in coordinating the interventions
- Strategic partnerships and collaborations are crucial

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Climate Adaptation and Resilience in Water and Sanitation Regulation – Case of Zambia

Peter Mutale

Thanks

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Climate Adaptation and Resilience in Water and Sanitation Regulation: Legal Frameworks, Synergies, and Planetary Health Perspectives

NESBERT SHIRIHURU, DEPARTMENT OF WATER, SANITATION AND HYGIENE, ZIMBABWE

BACKGROUND

BACKGROUND

- Climate change is primarily a water crisis. Climate hazards include:
  - worsening floods & cyclones: more frequent and intense
  - rising sea levels,
  - Rising temperatures shrinking ice fields,
  - wildfires and
  - Irregular rainfall and droughts.

- Climate change is happening in an era of increased demand for water, environmental degradation, demographic change and pollution. These hazards interact with existing threats, all of which impact on WASH in the following ways:
  - Reduced availability of water and increased concentration of contaminants
  - Increased rainfall, flooding and cyclones which can damage water supply and sanitation infrastructure posing a serious challenge to public health and places greater pressure on healthcare systems.
  - Climate change-induced sea level rises which contribute towards the increased salinity of coastal water resources, rendering ground and surface water unusable. Salinity can also destroy sanitation systems such as septic tanks and treatment plants.

NATURE BASED SOLUTIONS

- Regulators have a key role in creating the enabling environment to encourage transformation towards sustainable and resilient societies –optimizing resources while protecting and restoring water-related ecosystems.
- **Nature-based solutions** for both mitigation and adaptation serve as an integral piece of the required global response for climate action.
- NBS use or mimic natural processes to enhance water availability (e.g., soil moisture retention, groundwater recharge), improve water quality (e.g., natural and constructed wetlands, riparian buffer strips), and reduce risks associated with water-related disasters and climate change (e.g., floodplain restoration, green roofs). Nature-based solutions can address climate change in three ways:
- Decrease greenhouse gas emissions related to deforestation and land use
- Capture and store carbon dioxide from the atmosphere
- Enhance resilience of ecosystems, and as such support societies to adapt to climate hazards such as flooding, sea-level rise, and more frequent and intense droughts, floods, heatwaves, and wildfires.

HOW DOES WATER FIGHT CLIMATE CHANGE?

- However, water can fight climate change through sustainable water & sanitation management:
  - central to building the resilience of societies and ecosystems and to reducing carbon emissions.
  - helps society adapt to climate change by building resilience, protecting health and saving lives.
  - mitigates climate change itself by protecting ecosystems and reducing carbon emissions from water and sanitation transportation and treatment.

CLIMATE-RESILIENT WASH?

- Climate resilience refers to the ability of a system or community to quickly and efficiently anticipate, absorb and recover from the effects of climate change.
- Climate-resilient WASH, then, refers to WASH services and behaviours that continue to deliver benefits, or are appropriately restored, within a changing climate context and despite climate-induced hazards.
- Without access to basic services such as WASH people are vulnerable to water shortages, disease and malnutrition. But WASH services can improve people's resilience to climate change by:
  - Protecting people from disease meaning they can stay healthy and are better able to cope with climate-related challenges.
  - Providing a reliable and safe water supply so that clean water is available to people, even during dry periods.
  - Increasing water storage so it can be delivered when and where it is needed, providing a critical buffer in times of scarcity.
  - Reducing the risk of contaminating water supplies and the environment during floods.
  - Improving hygiene practices to provide protection against disease. This, in turn, reduces the risk of knock-on health crises and subsequent pressure on healthcare systems following flooding events, which ultimately makes communities more resilient.
  - Strong systems are needed to ensure that WASH services and improved hygiene behaviours are quickly restored and sustained after climate shocks. Building strong WASH systems should therefore form a central part of any climate change adaptation or resilience strategy.

REGULATION FOR CLIMATE RESILIENT WASH

- Regulators have a key role in ensuring climate resilient WASH by way of:
- **Understanding hazards** posed by climate change in a given area and the extent to which WASH and people are vulnerable and exposed to those hazards.
- **Designing responses** to those hazards into WASH services and improved behaviours.
- **Integrating WASH and water resource management**: The resilience and water security of households and communities can be improved by combining the delivery of WASH services with the principles and practices of Integrated Water Resources Management (IWRM). These are applied to address equity and inclusion, and issues of competition and conflict between different water users. The process also aims to strengthen the link between communities and government institutions and to ensure support is available to resolve disputes and leverage investment in service improvements.

- **Building more redundancy**, contingency and durability into service provision to increase reliability by drilling boreholes, providing more storage, managing aquifer recharge, implementing contingency planning, managing safely managed sanitation, increased oversight over implementation, ensuring WASH services can be managed and financed sustainably over the long-term

WASH & CLIMATE AT COP28

- In May 2023, the SWA Climate Taskforce submitted a joint contribution to UNFCCC's Global Goal on Adaptation whose content has also been used for proposing a WASH target under Sharm El Sheik Adaptation Agenda
- A "climate resilient WASH service" included in the UNFCCC submission, which refers to WASH services which are resilient to climate-related shocks and stresses and incorporate the following:
- **Climate risk analysis**: identification of impacts of climate variability and change (including extreme weather events) in the performance of water, sanitation and hygiene systems and associated behaviours.
- **Preventive measures**: infrastructure is designed to cope with and respond to climate-related shocks and stresses (e.g., elevated infrastructures in flood-prone areas, additional water storage capacities, additional treatment capacity etc.).
- **Resilient management/service delivery models**: are financially sustainable and sufficiently robust and flexible to cope with crisis, consider different climatic scenarios and thresholds, and incorporate redundancy (e.g., ready to provide alternative service solutions) to ensure continuity of the services (and reestablishment of services following extreme events), and to prioritize a risk-based approach (for instance, applying water/sanitation safety plans).

WASH & CLIMATE AT COP28…

- **Environmental considerations**: such as sustainable use, protection and management of surface and groundwater resources in the context of climate change, resilient waste management; and
- **Social considerations:** such as local and indigenous adaptation knowledge, differentiated impacts on different populations) are observed and standards/regulations in place followed.
- **Contributions to community resilience**: are considered in the design of water, sanitation and hygiene interventions through capacity development and by fostering additional contributions such as (but not limited to) income generation, food, energy and ecosystem resilience.
- **Greenhouse gas emissions**: the impact of the service/system is considered in terms of greenhouse emissions and (when feasible) use renewable energy sources and reduce energy demands.

WASH SYSTEMS STRENGTHENING?

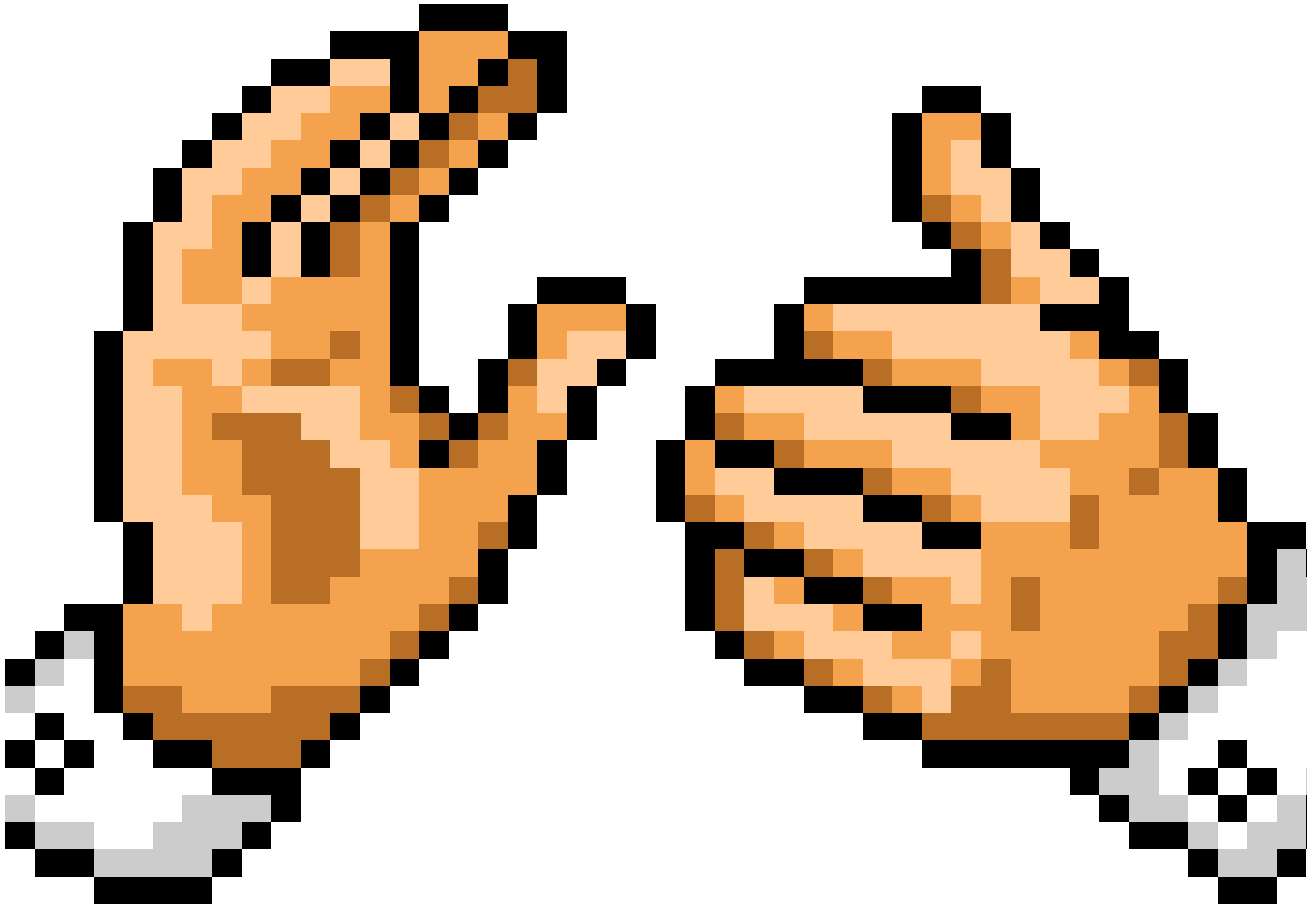
- SDG 6 dictates that by 2030 we:
  - achieve universal and equitable access to safe and affordable drinking water
  - achieve access to adequate and equitable sanitation and hygiene for all and end open defaecation, paying special attention to the needs of women and girls and those in vulnerable situations
  - improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and at least doubling recycling and safe reuse globally

IMPLICATIONS FOR REGULATION?

- Enabling framework for regulation required
  - NAP
  - NDCs
  - Policy
  - Acts and Statutory Instruments
- Institutional reform, clarity, coordination accountability
  - Framework for engagement, accountability
  - Collaboration & partnerships-JSR, sector actors forum, service provider platforms
- Development of guidance and tools:
  - data systems strength index, costed investment plans, GIS, sanitracker
  - Consumer engagement strategy
  - Tariff guidelines
- Capacity development of service providers:
  - technical trainings,
  - regulator-service provider platforms
- Service level delivery
  - Agreed service level standards for performance benchmarking (outputs & service quality)
  - Climate resilient infrastructure/green growth

IMPLICATIONS FOR REGULATION…?

- Intergrated monitoring:
  - National monitoring framework with agreed KPI's (including SMOS)
  - SLB
- Economic regulation
  - Tariff guidelines
  - Pricing of services to respond to vulnerable socio-economic groups
  - Contract administration



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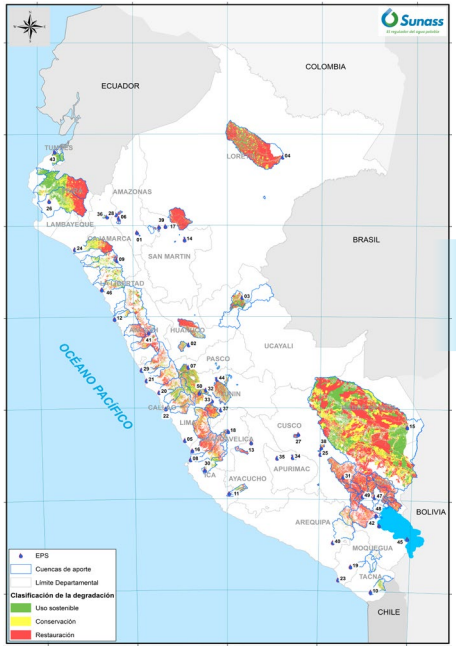
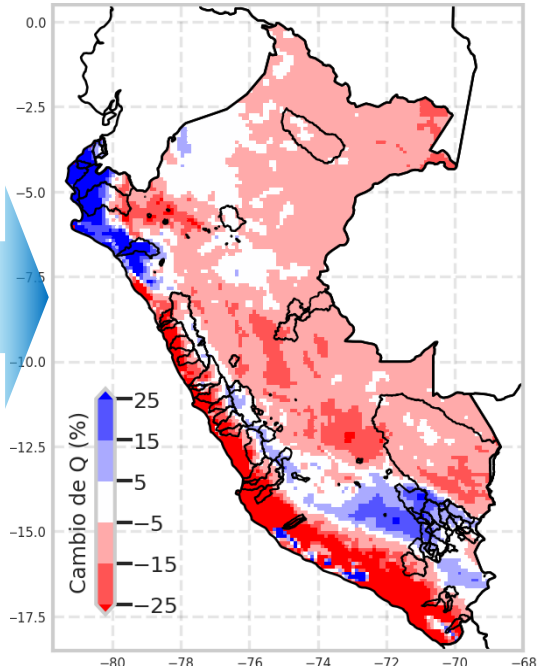
Adaptation and Climate Resilience in the Regulation of Water and Sanitation in Latin America – Peru Case

MANUEL MUÑOZ, SUNASS

Status of the contributing basins and future scenario…

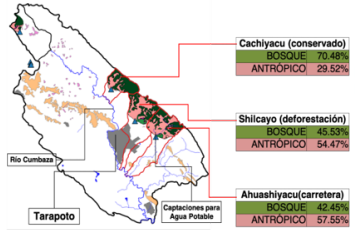


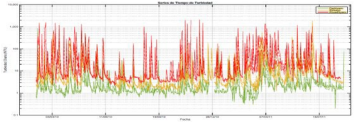
Status of ecosystems of water interest



Flow estimates (Scenario 2030 - 2060)

Relationship between ecosystems and sanitation





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Current context – Heavy rains and water deficit

P E R U C A S E

Changes in rainfall patterns

Extreme events

Water deficit

Events like “**NIÑO**” occur with greater frequency and intensity…

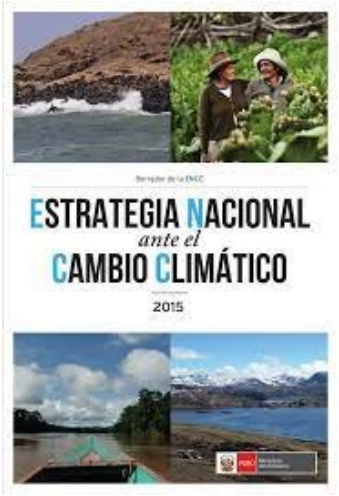
U R U G U A Y C A S E

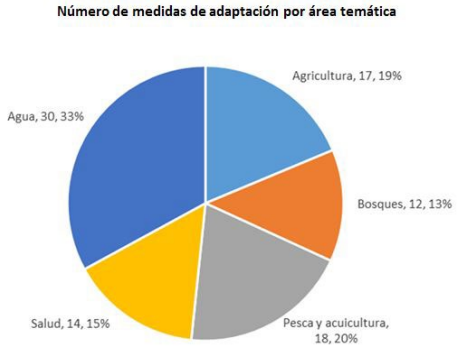
Regulations related to risk management and adaptation to climate change

- Framework Law on Climate Change (Law No. 30754).
- Law No. 29664, Law that creates the National Disaster Risk Management System (SINAGERD).

Actions at the national level

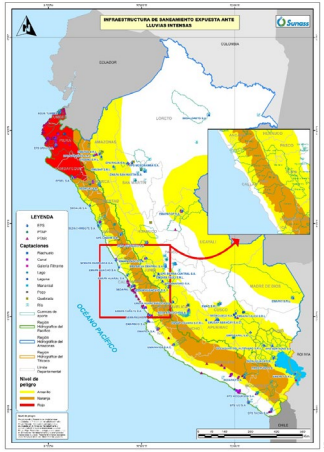
- Nationally Determined Contributions: 91 adaptation measures corresponding to 46 products were defined
- National Strategy for Climate Change (ENCC) to 2050.





Adaptation and mitigation measures from nationally determined contribution

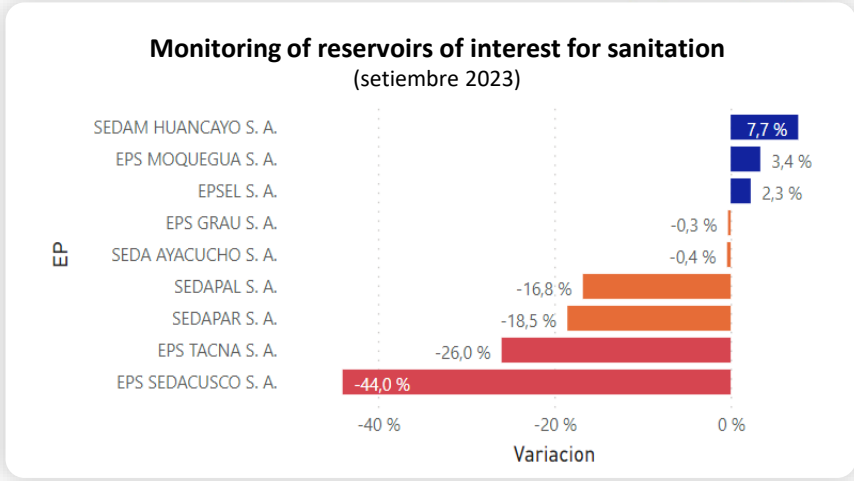
Advances in the framework of DRM and CCA

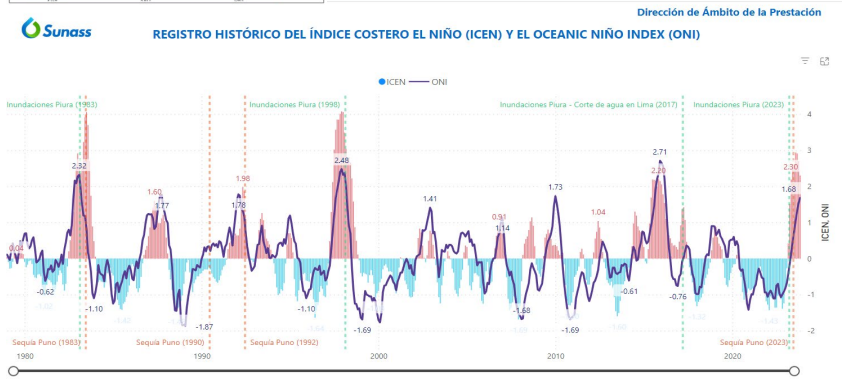


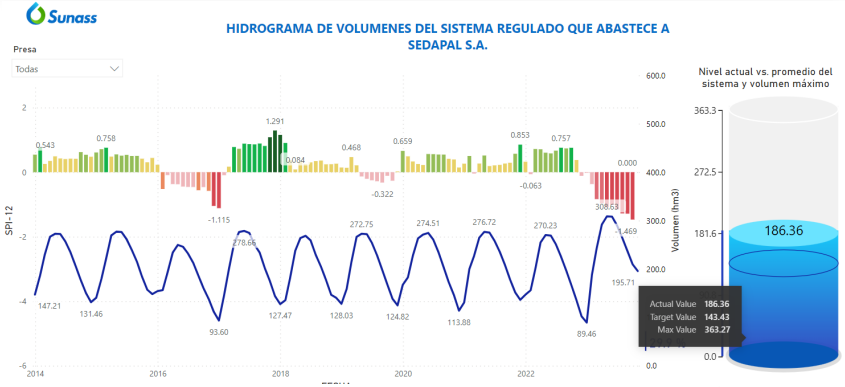
At SUNASS level

In this last year, SUNASS has formulated different technological tools to report:

- Infrastructure exposed to rain.
- Follow-up to FEN monitoring
- Reservoir monitoring.







Fuente: Dirección del Ámbito de la Prestación - SUNASS

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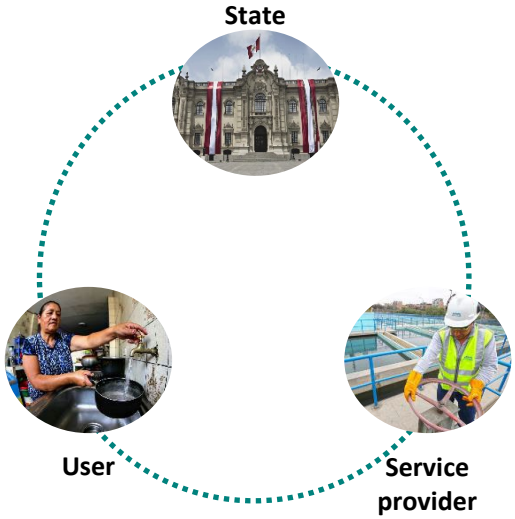
New SUNASS approach compatible with the concept of water security that goes beyond current demand and ensures that future demand is met



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Peruvian case on nature-based solutions – MERESE

The Retribution Mechanism for Water Ecosystem Services (MERESE – H) allows EPSs to conserve their water sources through nature-based solutions.

- 45 of 50 EPS with MRSE rate (urban area).
- 20 EPS executing nature-based solutions projects.

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ADERASA

18
Partner members

Argentina Asociación Federal de Entes Reguladores de Aguas y Saneamiento	Belize Public Utilities Commission	Bolivia Autoridad de Fiscalización y Control Social de Agua y Saneamiento Básico	Brasil Asociación Brasilera de Agencias de Regulación
Colombia Comisión de Regulación de Agua Potable y Saneamiento Básico	Chile SISS Superintendencia de Servicios Sanitarios	Costa Rica Autoridad Reguladora de los Servicios Públicos de Costa Rica	Ecuador Empresa Municipal de Agua Potable y Alcantarillado de Guayaquil
Ecuador Agencia de Regulación y control del Agua	El Salvador Administración Nacional de Acueductos y Alcantarillados	Honduras Ente Regulador de Servicios de Agua Potable y Saneamiento	Nicaragua Ente Regulador de Servicios de Agua Potable y Saneamiento
Panamá Autoridad Nacional de los Servicios Públicos	Paraguay Ente Regulador de Servicios Sanitarios	Perú Superintendencia Nacional de Servicios de Saneamiento	Portugal Entidad Reguladora de Servicios de Agua y Resíduos
República Dominicana Instituto Nacional de Aguas Potables y Alcantarillados	Uruguay Unidad Reguladora de Servicios de Energía y Agua		

Presidency 2023-2024:
Superintendencia Nacional de los Servicios de Saneamiento (SUNASS) - Lima, Perú

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Headquarters:
Asunción, Paraguay

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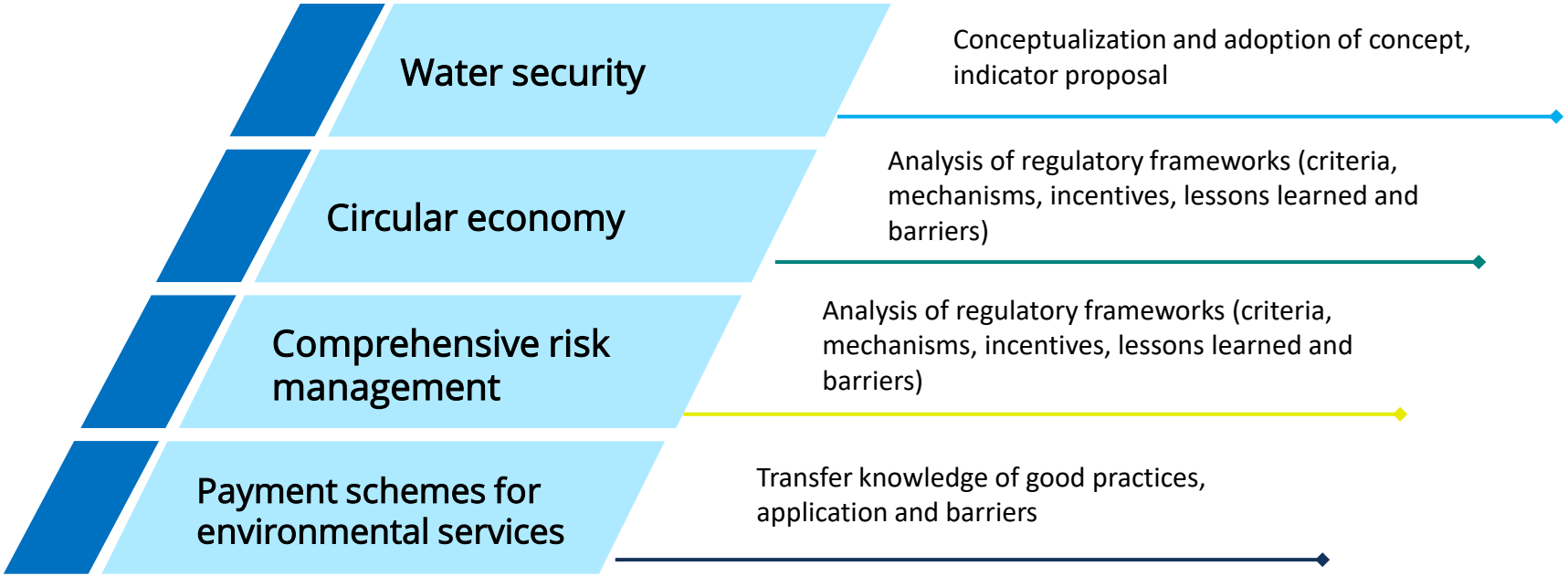
ADERASA

STRATEGIC PARTNERS:

4 THEMATIC WORKING GROUPS

- Benchmarking
- Financial & Economic Sustainability
- Environmental Sustainability
- Water quality

ADERASA work agenda – Environmental Sustainability Group



Iberoamerican Regulation Forum – FIAR 2023 – Lima, Peru

- Strengthen the Benchmarking project
- Focus on tariff regulation models
- Prepare for climate change impact on the region
- Build a Strategic Plan for 6 years

"Adaptation and Climate Resilience in the Regulation of Water and Sanitation in Latin America – Peru Case"

MANUEL MUÑOZ

Water and Development Congress & Exhibition 2023
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DISCUSSION

INSTRUCTIONS

- 1st Part: World Café Style - participants are invited to discuss within their table colleagues.
- 2nd Part: Open Discussion
- Key points for discussion:
  - What legal frameworks for climate adaptation and what strategies for resilience are in place that can serve as the basis for enhanced water and sanitation regulation? What are the experiences in different environmental and economic contexts?
  - In the context of climate adaptation and resilience development, what are potential synergies between drinking water and sanitation regulation, environmental regulation and economic regulation?
  - What are the (context-specific) criteria and procedures that can be used by regulators of drinking water and sanitation services in the face of climate change and extreme weather conditions?
  - How is regulation as a concept addressed at the COP28 (if at all)?
  - What legal frameworks for climate adaptation and what strategies for resilience are available?
  - Are regulatory sandboxes essential for the necessary adaptation?

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Closing remarks

YVONNE MAGAWA, CHAIR

REGULATORS AND UTILITIES RECEPTION

- Today, from 7-9 pm
- Venue: The Hut Restaurant and Boutique Hotel
- Register at:

IWA Water and Development Congress & Exhibition 2023 - Regulators and Utilities


Thank You
Merci
Obrigado
Dyakuyu
Arigato
Salamat
Spasibo
Grazie
Kiitos
Dank Je
Asante
Multumesc
Mamana
Maake
Vinaka
Juspaxar
Kiitos
Grazie
Mamana
Dankon
Mochchakkeram
Spasibo
Obrigado
Multumesc
Kia Ora
Chokrane
Nirringrazzjak
Cam on ban
Raibh Maith Agat
Matur Nuwun
Terma Kasih
Welalin
Ua Tsaug Rau Koj
Matondo
Salamat