OECD Studies on Water

Water Governance in Latin America and the Caribbean

A MULTI-LEVEL APPROACH

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BETTER POLICIES FOR BETTER LIVES

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Foreword

The 6th World Water Forum (Marseille, France, 12-17 March 2012) showed that the "water crisis" the world community faces today is largely a governance crisis. Securing water for all, especially vulnerable populations, is often not only a question of hydrology and financing, but equally a matter of good governance. Managing water scarcity and water-related risks such as floods or natural disasters requires resilient institutions, collaborative efforts and sound capacity at all levels.

The real challenges are to fully implement already existing solutions, to tailor them to local contexts, and to ensure all stakeholders participate, including governments, agencies, regulators, community associations and end users. Accountability mechanisms need to bring actors together, share the risks and tasks, and achieve equitable and sustainable water and sanitation outcomes. There is no one-size-fits-all answer that covers every aspect of the water governance challenge, but home-grown and place-based policies that take territorial specificities into account can help in many cases.

Key water governance implementation challenges include: the high degree of territorial and institutional fragmentation; the lack of capacity of local actors; poor legislative, regulatory, integrity and transparency frameworks; questionable resource allocation; patchy financial management; weak accountability; unclear policy objectives, strategies and monitoring mechanisms; as well as an unpredictable investment climate. Such challenges are particularly acute because of the intrinsic characteristics of the water sector which is often more vulnerable than other natural resource areas or infrastructure sectors to "governance gaps".

Concrete and pragmatic tools can help diagnose governance challenges *ex ante* and design adequate responses to address the complexity in the water sector. Meeting new global challenges requires innovative policies that "do better with less" and allow the emergence of co-ordination and consultation mechanisms at all levels. Some of these tools already exist but need to be better applied and used by countries. Some still need to be developed and strengthened by taking stock of recent experiences, identifying good practices and developing pragmatic tools to assist different levels of governments and other stakeholders in engaging effective, fair and sustainable water policies.

Following an assessment of 17 OECD countries undertaken in 2010-2011 and published as *Water Governance in OECD Countries: A Multi-level Approach* (OECD, 2011), this report provides a platform of comparison and practices for 13 Latin American and Caribbean countries: Argentina, Brazil, Chile, Costa Rica, Cuba, the Dominican Republic, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama and Peru. It investigates water policy making in the LAC region, in order to understand better who does what and at which level of government. And it examines how this region's water policy is designed, regulated and implemented. This work does not aim to rank countries' "water performance", but rather to identify the main multi-level water governance challenges, common gaps and policy responses in the LAC region, and to

provide a typology for Latin American countries facing similar challenges. Given that there is no "optimal way" in water governance, this report is a way for LAC countries to identify others dealing with similar issues and, above all, a means for them to benchmark themselves against peers and to identify possible and desirable improvements. The report's conclusions must be understood in the wider context of water policy making, including environmental, and of cultural, economic and social factors, all of which are decisive in the way water is managed. The report is thus a preliminary step in providing practical and place-based guidance to local and national governments on how to improve their water governance systems.

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This report was written and co-ordinated by Aziza Akhmouch of the Regional Development Policy Division of the OECD Public Governance and Territorial Development Directorate. It was elaborated under the direction of Claire Charbit and the supervision of Joaquim Oliveira-Martins, respectively Deputy Head and Head of the Regional Development Policy Division. The report has benefited from comments and inputs from William Tompson, Claire Charbit, Monica Brezzi, Delphine Clavreul and Céline Kauffmann within the OECD Secretariat, as well as from the LAC countries surveyed. Carlos Augusto Olarte Bacares was instrumental in the production of statistical data. It was edited by Caitlin Connelly. Jennifer Allain and Erin Byrne prepared the manuscript for publication.

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Acronyms and abbreviations

ARG	Argentina
BRA	Brazil
CHI	Chile
COS	Costa Rica
CUB	Cuba
DOM	Dominican Republic
ELS	El Salvador
GUA	Guatemala
HON	Honduras
MEX	Mexico
NIC	Nicaragua
PAN	Panama
PER	Peru
ANA	National Water Agency – Brazil
ANA	National Water Authority – Nicaragua
ANA	National Water Authority – Peru
ANAM	National Environment Authority (*Autoridad Nacional del Ambiente*) – Panama
ANEAS	National Association of Water and Sanitation Utilities (*Asociación Nacional de Empresas de Agua y Saneamiento*) – Mexico
ANEEL	Brazilian Electricity Regulatory Agency – Brazil
ARESEP	Regulatory Authority for Public Services – Costa Rica
ASEP	Public Service Authority (*Autoridad Nacional de los Servicios Públicos*) – Panama
BA	Basin authority – Mexico
BC	Basin council – Mexico
BOT	Build-operate-transfer
CAASD	Santo Domingo Aqueducts and Sewer Systems Corporation – Dominican Republic
CAPS	Drinking Water and Sanitation Corporations (CAASD; CORSAASAN; CORAAMOCA; CORAAPLATA; COAAROM) – Dominican Republic

CBHs	River basin committees – Brazil
CCT	Conditional cash transfer
CIGI	Centre for International Governance Innovation
COAAROM	Romana Aqueducts and Sewer Systems Corporation – Dominican Republic
CODIA	Network of Ibero-American Water Directors (*Conferencia de Directores Iberoamericanos del Agua*)
COCHILCO	Chilean Copper Commission, Ministry of Mining – Chile
CONAFOR	National Forestry Commission – Mexico
CONAGUA	National Water Commission – Mexico
CORAAMOCA	Moca Aqueducts and Sewer Systems Corporation – Dominican Republic
CORAAPLATA	Puerto Plata Aqueducts and Sewer Systems Corporation – Dominican Republic
CORSAASAN	Santiago Aqueducts and Sewer Systems Corporation – Dominican Republic
ECLAC	Economic Commission for Latin America and the Caribbean (*Comisión Económica para América Latina y el Caribe*)
END	National Development Strategy – Dominican Republic
EU	European Union
FONADIN	National Infrastructure Fund – Mexico
GEA	Water Specific Cabinet – Guatemala
GTI	Inter-institutional Technical Group – Honduras
GWP	Global Water Partnership
HDI	Human Development Index
IDB	Inter-American Development Bank
IFRC	International Federation of the Red Cross and Red Crescent Societies
IMTA	Mexican Institute of Water Technology (*Instituto Mexicano de Tecnología del Agua*) – Mexico
INDRHI	National Institute of Water Resources – Dominican Republic
INRH	National Institute of Water Resources – Cuba
IWRM	Integrated water resource management
LAC	Latin America and the Caribbean
LANBO	Latin American Network for Basin Organisations
MARENA	Ministry of Environment and Natural Resources – Nicaragua

MARN	Ministry of Environment and Natural Resources – Guatemala
Mcidades	Ministry of Cities – Brazil
MDG	Millennium Development Goal
MEPyD	Ministry of Economy, Planning and Development – Brazil
MINECO	Ministry of Economy – Chile
NBO	International Network of Basin Organisations
NGO	Non-governmental organisation
NWL	National Water Law
ODA	Official development assistance
OECD	Organisation for Economic Co-operation and Development
PPP	Public-private partnership
PRODDER	Water Rights Tax Rebate Programme (*Programa de Devolución de Derechos*) – Mexico
PROFEPA	Environmental Protection Federal Attorney's Office – Mexico
PROMAGUA	Programme for Water Supply, Sewerage and Sanitation in Urban Areas (*Programa para la Modernización de los Organismos Operadores de Agua*) – Mexico
RBA	River basin authority
RBC	River basin council/committee
RBO	River basin organisation
SAGARPA	Ministry of Agriculture, Livestock, Rural Development, Fishing and Food Supply – Mexico
SEDESOL	Ministry for Social Development – Mexico
SEMARNAT	Ministry of Environment and Natural Resources – Mexico
SENER	Ministry of Energy – Mexico
SFP	Ministry of Public Administration – Mexico
SHCP	Ministry of Finance and Public Credit – Mexico
SISS	Superintendant's Office of Sanitation Services – Chile
SIWI	Stockholm International Water Institute – Sweden
SSRH	Sub-Secretariat for National Water Resources – Argentina
UN	United Nations
UNDP	United Nations Development Programme
UNRISD	United Nations Research Institute for Social Development
WIS	Water Information System
WUA	Water users' associations

Executive summary

Water governance as a driver for poverty alleviation in Latin America and the Caribbean

Access to water is a cornerstone for development and a strong engine for reducing inequalities. It is a key determinant of economic growth and social well-being. Access to water influences basic aspects of human well-being, such as health, sanitation, nutrition and housing. It is also intrinsically linked to food production, with 70% of the world's water use devoted to agriculture. Successful water policy is critical for achieving global food security and poverty alleviation. Securing universal access to water for all is thus a matter of human security and a leading indicator of a government's commitment to delivering basic services.

Public governance in the water sector is critical to poverty alleviation but is often overlooked. This stems in part from lack of integration when formulating water and poverty alleviation policies, and is a root cause of the current global water and poverty crises. Good governance is as important to water security – in particular, to secure access for the most vulnerable populations – as hydrology and financing. This is also the case for poverty alleviation, where reduction in poverty depends on more than just financial resources and official development assistance flows. It requires building and maintaining resilient institutions, encouraging collaborative efforts and strengthening capacity at all levels.

Improving water governance can support the achievement of the water and sanitation Millennium Development Goals (MDGs). The global economic crisis and recession, climate change and increasing water scarcity are expected to reinforce inequalities and increase poverty, particularly in developing countries. The limited public funds are likely to undermine MDG commitments by constricting public spending and investment targeting poverty alleviation. In parallel, increasing water scarcity may threaten access to water in specific areas and populations, as shown by recent national studies conducted in Chile about the impacts of climate change on water resources in different sectors.

Given these two trends, it is essential to make the best possible use of increasingly limited resources and to move from traditional conditional cash transfer programmes to access to in-kind services such as water. In this regard, the role of institutions and their co-ordination is essential when it comes to designing and implementing integrated water policies to meet efficiency, equity and environmental concerns.

Key findings from the report

The report examines water governance issues in 13 Latin American and Caribbean countries (LAC): Argentina, Brazil, Chile, Costa Rica, Cuba, the Dominican Republic, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama and Peru.

It argues that four tools can help identify the underlying problems that weaken water governance: *i)* institutional mapping; *ii)* governance gap diagnosis; *iii)* co-ordination and capacity-building instruments; and *iv)* guidelines for effective management of multi-level governance. These provide a starting point for improving water governance.

The institutional organisation of the water sector varies widely across and within LAC countries

Before improving water governance in LAC countries, or in any country or region, decision makers need a clear picture of *who* does *what*. This can be done by carrying out a mapping exercise to inventory the actors, roles and responsibilities.

A mapping of roles and responsibilities in water policy in LAC showed great diversity in the allocation of responsibilities across ministries and levels of government in the water sector, but common trends across LAC countries can be identified:

- LAC countries have decentralised some water functions: service delivery (water and wastewater) is usually devolved to the local level, while responsibilities associated with resources management are met by higher-tier local governments (e.g. regions, provinces).
- There is no systematic relationship between a country's constitutional structure and the institutional mapping of water policy. Institutional organisation of water policy is diverse across LAC federal and unitary countries. Some federal countries still retain significant powers at central level (e.g. Mexico) while some unitary countries are moving towards further decentralisation in the sector (e.g. Peru).
- Half of the LAC countries surveyed set up river basin organisations (RBOs) depending on institutional factors, hydrological considerations, incentives or regulations. The maturity of these systems varies widely; some have been created recently while others date back to decades ago. Their efficiency in contributing to integrated water resource management is intrinsically dependent on the regulatory, planning and financing prerogatives allocated to them.

Three broad models of water governance, reflecting the constellations of central and sub-national actors involved, can be identified in LAC countries; however, all of these models face governance challenges, and none is an ideal model. Model 1, with multiple actors at the central level and few implementers at the sub-national level, reveals the need for co-ordination across ministries and between levels of government (e.g. Chile, Costa Rica, El Salvador). Model 2, with multiple actors at both central and sub-national levels, shows the need for co-ordination across ministries, between levels of government and across local actors (e.g. Brazil, Mexico, Peru). Model 3, with few central government actors and multiple sub-national authorities (e.g. Argentina, Mexico, Panama), indicates the need for co-ordinating across sub-national actors and between levels of government. Whatever the challenge, implementing an integrated and placed-based approach to water policies at the territorial level (Model 1), integrating the involvement of different actors at

central and sub-national levels (Model 2), or integrating multi-sectoral and territorial specificities in strategic planning and design at the central level (Model 3), it is crucial to manage mutual dependencies between levels of government in water policy making.

Multi-level governance gaps in water policy affect all LAC countries, but to varying degrees

The mapping and gap exercises provide information that informs the next step: identification of governance instruments to bridge gaps. This additional analysis of the interdependencies among institutions is needed to diagnose barriers to effective co-ordination of public actors across the full range of policy functions (administrative, funding, informational, infrastructural, etc.) to promote shared strategies for more effective water policies.

In LAC countries, the degree to which effective co-ordination and implementation of integrated water policy may be hindered by multi-level governance gaps varies widely across and within LAC countries, but common challenges have been identified.

- Almost half of the LAC countries surveyed (92%) pointed to the **policy gap**, i.e. the over-fragmentation of roles and responsibilities, as the main obstacle to effective water policy. Even if most LAC countries have set up national water agencies, the multiplicity of interlocutors at the central level still impedes coherent water policy design and implementation on the ground and has significant impact on local and regional actors.
- The **accountability gap** is likewise considered an important obstacle to inclusive water policy in more than 90% of the LAC countries surveyed. Generally, the main issues relate to a lack of public concern and low involvement of water users' associations in policy making, pointed out as an important gap in more than two-thirds of countries surveyed. The absence of monitoring and evaluation of water policy outcomes were considered important obstacles to water policy implementation at the territorial level in almost all of the LAC countries surveyed (11 out of 13).
- Interestingly the **funding gap**, though important, was not considered the principal obstacle to integrated water policy in LAC countries. Nevertheless, the mismatch between ministerial funding and administrative responsibilities is still a significant challenge in 58% of countries surveyed. The absence of stable and sufficient revenues at sub-national level is an important challenge for co-ordinating water policy between levels of government and for building capacity at the sub-national level. A more detailed analysis of this topic would require a clear separation between the different water cycles (services, ecosystems and natural resources), since they do not raise the same financing challenges. But in some cases (water resources and services), identifying and assessing financial mechanisms for sustainable water policies is critical.
- The **capacity gap** was perceived as a major obstacle for effective implementation of water policy in two-thirds of the LAC countries surveyed. This refers not only to the technical knowledge and expertise, but also to the lack of staff (at central and sub-central levels) as well as obsolete infrastructure. On average, in LAC countries some skill sets are in good supply (e.g. mechanical engineering) while others may still be in need of reinforcement (e.g. planning, hydrology, climatology, financing) to implement integrated management.

- The **information gap** remains a prominent obstacle to effective water policy implementation in two-thirds of the LAC countries surveyed (9 out of 12). In particular, adequate information generation and sharing among relevant actors, as well as scattering and fragmentation of the generated primary water and environmental data, are important bottlenecks across ministries, agencies and levels of government involved in water policy. In addition, significant problems with data inhibit integrated water policies in several ways (including jargon, a mix of terminologies, unclear definitions, overlapping meanings of terms related to water).
- The **administrative gap** is an important governance challenge for half of the LAC countries surveyed, despite the existence of river basin organisations. Several countries pointed out the lack of fit between administrative zones and hydrological boundaries, even after creation of river basin organisations. Often, municipalities take only their own perspectives and plans into account in executing their budgets, and the lack of an integrated approach and territorially customised water policy compromises the efficiency of budget execution. A closer look at the missions of river basin organisations in LAC shows that the lack of regulatory and financing prerogatives, as compared to OECD countries, may explain the remaining mismatch between administrative and hydrological boundaries.
- LAC countries also experience an **objective gap** in striking a balance between the often conflicting objectives in financial, economic, social and environmental areas for collective enforcement of water policy. Policy coherence across sectors is therefore crucial, as regional development, land management, agriculture and even energy policies also affect water demand. An objective gap can also occur between rural and urban areas, and upstream and downstream states. Such conflicting interests ineluctably undermine effective implementation of responsibilities at central government level in collective enforcement of water policies, especially when legislation is outdated.

LAC countries are making increasing efforts to co-ordinate water policy across ministries, levels of government, and sub-national actors

A wide variety of mechanisms and instruments – hard and soft, formal and informal – are in place across and within LAC countries to co-ordinate water policy across ministries and public agencies, between levels of government and across local and regional actors.

- All LAC countries surveyed have adopted institutional mechanisms for upper horizontal co-ordination of water, primarily in the form of line ministries, followed by inter-ministerial bodies, committees and commissions, which act, in two-thirds of the LAC countries as platforms for dialogue and action among public actors in charge of water policy at the central government level. Formal co-ordinating bodies, such as *ad hoc* high-level structures and a central agency, are also frequently used as a forum for aligning interests and timing across ministries and public agencies (e.g. CONAGUA in Mexico), and many LAC countries have set up national water agencies including Brazil, Cuba, the Dominican Republic, Guatemala, Panama and Peru. Inter-agency programmes are also a means to foster co-ordinated strategic planning of water policy at central government level, and significant efforts have been undertaken to co-ordinate water with regional development, agriculture and energy.

- Co-ordinating water policies between levels of government and across local and regional actors takes different forms in LAC countries. These include the consultation of private actors (including citizens' groups, water users' associations and civil society) and financial transfers and incentives across levels of government (e.g. earmarked versus general-purpose grants for financing infrastructure). Other instruments they can consider are co-ordination agencies, contractual arrangements, (multi-)sectoral conferences, performance indicators, regulations, shared databases, river basin organisations, regulation and performance indicators, and capacity building. Some LAC countries have chosen to use all these mechanisms, while others have not, due to centralised water policy and limited involvement of sub-national actors.

Despite the efforts to foster integrated water policies, LAC countries still report significant challenges in co-ordinating water policy action across ministries and between levels of government. The adoption of all possible co-ordination instruments does not necessarily guarantee effective water governance, as such tools may overlap and ultimately neutralise each other. To respond to changing circumstances and to enable incremental evolution rather than occasional major overhauls, administrative flexibility should be promoted (e.g. through the use of task forces or commissions with specific mandates). No governance tool can offer a panacea for integrated water policy, and no systematic one-to-one correlation exists between tools and gaps. A given tool can solve several gaps, and solving a specific gap may require the combination of several tools.

Taking solutions forward

While many potential solutions to the water challenge do exist and are relatively well-known, the rate of take-up of these solutions by governments in LAC countries has been uneven. Some countries have undertaken very innovative and sophisticated reforms (e.g. Chile, Mexico, Brazil) while others seem to be hindered by significant obstacles. A major challenge lies in the implementation of identified solutions, tailoring them to local contexts, overcoming obstacles to reform, and bringing together the main actors from different sectors to join forces and share the risks and tasks.

OECD suggests (OECD, 2011) guidelines for policy makers to diagnose and overcome multi-level governance challenges of water policy design. Such guidelines are interdependent and should not be considered in isolation. They can help enhance the prospects for crafting successful water reform strategies in the future. They are intended as a step towards more comprehensive guidelines based on in-depth policy dialogues on water reform with countries and principles of water policy, economic bases and good governance practices.

OECD guidelines for effective management of multi-level governance in the water sector

- Diagnose multi-level governance gaps in water policy making across ministries and public agencies, between levels of government and across sub-national actors. This will help to clearly define the roles and responsibilities of public authorities.
- Involve sub-national governments in designing water policy, beyond their roles as implementers, and allocate human and financial resources in line with responsibilities of authorities.

- Adopt horizontal governance tools to foster coherence across water-related policy areas and enhance inter-institutional co-operation across ministries and public agencies.
- Create, update and harmonise water information systems and databases for sharing water policy needs at basin, country and international levels.
- Encourage performance measurement to evaluate and monitor the outcomes of water policies at all levels of government, and provide incentives for capacity building.
- Respond to the fragmentation of water policy at the sub-national level by encouraging co-ordination across sub-national actors.
- Foster capacity building at all levels of government. This involves combining investment in physical water and sanitation ("hard") infrastructure and investment in institutions that directly influence water outcomes to ensure more effective and co-ordinated implementation ("soft" infrastructure).
- Encourage a more open and inclusive approach to water policy making through public participation in water policy design and implementation.
- Assess the adequacy of existing governance instruments for addressing identified challenges and fostering co-ordination of water policy at horizontal and vertical levels.

Chapter 1

A multi-level governance approach to address complexity in the water sector

This chapter explores how improving multi-level governance can contribute to effective design and implementation of water policies in LAC countries. It emphasizes the scope, rationale and methodology structuring the analysis in the report. It also highlights the instrumental role of good governance in addressing territorial and institutional fragmentation in the sector and in meeting the Millennium Development Goals.

Introduction

Many Latin American countries have undergone major water reforms over the past three decades to increase water management efficiency, but several water governance challenges have risen following the decentralisation of water responsibilities to lower levels of government (e.g. regions and provinces) in a period of economic recession (1980s). Sustainable public action in the water sector raises cross-sectoral and multi-level co-ordination and capacity challenges, and public action is instrumental to designing place-based water policies that reduce poverty and territorial disparities.

Water as a cornerstone for development

The scope of environmental sustainability in Latin America and the Caribbean presents a great challenge. With a population of 596 million (Population Reference Bureau, 2011), growing faster than the world average, the region is experiencing increasing pressure on its natural resources due to population growth, intensification of land use, increasing urbanisation, climate change and natural disasters. Trend indicators point to a very serious deterioration of the environment and depreciation of natural capital, such as water resources, which have significant impacts on health, productivity and income, physical vulnerability and quality of life. The main demands that the region is facing in terms of the environment have been amply documented in various regional sources (IDB, 2005; ECLAC, 2008). The region has devoted considerable efforts to reducing environmental pressures, but governments, the private sector and civil society must intensify their actions to attenuate the negative effects of development and reverse the water resources depletion trend.

Water is part of the Millennium Development Goals (MDGs) to be achieved by 2015. As agreed by 23 international organisations and 192 countries in 2000, MDGs include 8 goals and 18 concrete targets that support sustainable development. MDG 7c seeks to halve, by 2015, the proportion of people worldwide without sustainable access to drinking water (1.2 billion people) and basic sanitation (2.6 billion people). Accomplishing this goal would help to tackle most development issues. Access to water is a vehicle to eradicating poverty and hunger, addressing gender equality (women's empowerment and girls' education), and reducing child mortality and major water-related diseases. Water accessibility cuts across sectors and is affected by policy decisions in multiple areas; lack of access to water can result in many cumulative impacts. Access to water is thus an initial condition for economic and social development for individuals and households, as well as the places where these groups live and develop.

Meeting water and sanitation MDGs in LAC countries could lift 118 million people out of poverty, including 53 million out of extreme poverty, but specific attention needs to be devoted to rural areas. LAC is very close to meeting its MDG 7c target, categorised in 2011 as having high coverage in this area (Table 1.1). This progress is due to the implementation of policy frameworks, guidelines and programmes to promote provision of water and sanitation services. The region is doing well on this front compared to other regions, and if the prevailing trends continue, the continent will reach its target on sanitation by 2015.

Table 1.1. **Millennium Development Goals progress chart (2011)**

Goal 7: Ensure environmental sustainability

Goals and targets	Africa		Asia				Oceania	Latin America and Caribbean	Caucasus and Central Asia
	Northern	Sub-Saharan	Eastern	South-Eastern	Southern	Western			
Reverse loss of forests	Low forest cover	Medium forest cover	Medium forest cover	High forest cover	Medium forest cover	Low forest cover	High forest cover	High forest cover	Low forest cover
Halve proportion of population without improved drinking water	High coverage	Low coverage	Moderate coverage	Moderate coverage	Moderate coverage	High coverage	Low coverage	High coverage	Moderate coverage
Halve proportion of population without sanitation	Moderate coverage	Very low coverage	Low coverage	Low coverage	Very low coverage	Moderate coverage	Low coverage	Moderate coverage	High coverage
Improve the lives of slum-dwellers	Moderate proportion of slum-dwellers	Very high proportion of slum-dwellers	Moderate proportion of slum-dwellers	High proportion of slum-dwellers	High proportion of slum-dwellers	Moderate proportion of slum-dwellers	Moderate proportion of slum-dwellers	Moderate proportion of slum-dwellers	—

Already met the target or very close to meeting the target.

Progress insufficient to reach the target if prevailing trends persist.

No progress or deterioration.

Missing or insufficient data.

Notes: The progress chart operates on two levels. The words in each box indicate the present degree of compliance with the target. The colours show progress towards the target according to the legend. The available data for maternal mortality do not allow a trend analysis. Progress in the figure has been assessed by the responsible agencies on the basis of proxy indicators.

Source: United Nations (2011), "Millennium Development Goals: 2011 progress chart", Statistics Division, Department of Economic and Social Affairs, UN, *www.un.org/millenniumgoals/pdf/(2011E)_MDReport2011_ProgressChart.pdf*.

Although the national rates of access in LAC countries are high, an estimated 36.8 million people will continue to lack access to safe sources of drinking water, and approximately 68.6 million people will not have access to improved sanitation by 2015, with citizens in rural areas disproportionately underserved. At the regional level, there is still a 17 percentage point gap between urban and rural access to improved sources of drinking water, and a 31 percentage point gap in improved sanitation (IDB, 2011). In addition, 60% of urban and rural dwellings with access to water do not have continuous water service, and some 116 million people (13% urban and 52% rural) do not have access to sanitation services.

Because of their territorial dimension, water policy design and implementation need to take into account local concerns and actors. Achieving water MDGs thus requires: *i*) the adoption of a customised and territorialised approach, including local specificities in local planning and decision-making processes, as the outcomes of public policies heavily rely on them; *ii*) the improvement of the coherence and synergies between water and development policies in all areas of government; *iii*) the evaluation of how collective actions can be used to reduce exposure to risk of certain groups in the short term and break down the vicious circle of poverty in the long term; *iv*) the understanding of how institutions and organisations evolve and function, what determines inclusive and place-based policies and the extent to which they contribute to poverty reduction.

Better public governance for sustainable water policies: A rationale for a multi-level approach

Analyses on water governance are not new to LAC; the first research on the topic dates back ten years (Rogers, 2002) and highlights the lack of governance strategy in the LAC water sector and the resulting management and policy crisis. Some of the governance gaps pointed out since then include the absence of integrated water-use planning; dispersed and uncoordinated multi-lateral, bilateral and international donor agencies; lack of transparent and effective institutions for arbitrating conflicts over water use; and lack of vision of what is actually necessary to effectively govern water. In addition, a quick literature review on water governance in the LAC region further reveals why most LAC countries lag behind in sustainable water management: lack of political leadership, inadequate legal frameworks, poor utilities management structures, insufficient stakeholder involvement, shortage of financial resources to meet responsibilities; and inadequate provision for resolving conflicts between water supply and sanitation needs and interests. Lack of social cohesion is also a challenge, and action is necessary to overcome social inequalities.

Due to intrinsic characteristics, the water sector, unlike other natural resources or infrastructure sectors, usually combines several “governance gaps”. Water is both a local and global issue, both a human right and an economic good. It both affects and is affected by property rights. Water requires large sunk investment costs to build, operate and maintain infrastructure; is a key driver of sustainable development; and generates multiple externalities in other policy areas (agriculture, health, education, economy and finance, gender, poverty alleviation, etc.).

Water involves a plethora of stakeholders at basin, municipal, regional, national and international levels. In the absence of effective public governance to manage interdependencies across policy areas and between levels of government, policy makers inevitably face obstacles to effectively designing and implementing water reforms. Key challenges include institutional and territorial fragmentation, poorly managed multi-level

governance, limited capacity at the local level, unclear allocation of roles and responsibilities, and questionable resource allocation. Insufficient means for measuring performance has also contributed to weak accountability and transparency. These obstacles are often rooted in misaligned objectives and poor management of interactions among stakeholders.

The trend over the past decades towards decentralisation of water policies in LAC countries has resulted in a dynamic and complex relationship among public actors across levels of government. To varying degrees, LAC countries have allocated increasingly complex and resource-intensive functions to lower levels of government, often in a context of economic crisis and fiscal consolidation. Despite these greater responsibilities, sub-national actors were not given the financial resources to carry out their duties properly. Co-ordination failures between sub-national and national governments and sub-national budgetary constraints have led to policy obstruction in Latin America. Furthermore, in many LAC countries infrastructure is usually funded by the central government (OECD/ECLAC, 2012). Throughout the 1990s, the water sector was an emblematic testing ground for decentralisation processes and PPPs.

Improving water governance is high on the political agenda for many countries and is a prerequisite for sustainable and innovative water policies that can do better with less. Effective public governance is critical for the mix of economic instruments, including pricing, subsidies or compensation mechanisms, which offer incentives to different groups of users to engage in sustainable water practices and to agree on water reforms. It is also crucial to reconcile the long-term financial needs of the sector with available revenue streams (combination of taxes, transfers and tariffs [3Ts]), taking into account the need for efficient use of funds and the importance of strategic financial planning. Finally, integrated public governance is also necessary to overcome the typical disjuncture between water policies and planning on the one hand, and engineering and infrastructure investments on the other hand, both of which affect water quantity and quality.

There is no one-size-fits-all answer to water sector governance challenges. Solutions will be found by combining home-grown and place-based policies that integrate territorial specificities and concerns. The institutions in charge of water management are at different developmental stages in different LAC countries, but common challenges, including in the most advanced countries, can be diagnosed *ex ante* to provide adequate policy responses. Although common problems can be identified, there is no universal solution. Institutional architecture, prerogatives and local conditions must be taken into account in the policy design. To do so, there is a pressing need to take stock of recent experiences, identify good practices and develop pragmatic tools across different levels of government and stakeholder groups to engage in shared, effective, fair and sustainable water policies.

Multi-level governance addresses issues of interdependencies of policy making at multiple government levels (local, regional, provincial/state, national, international, etc.) and across government sectors. The multi-level approach developed in this report examines how public actors articulate their concerns, decisions are taken and policy makers are held accountable. It sees water governance as the political, institutional and administrative framework for water resource management. National, regional and local level decision making and actions taken are studied to provide insight on the ability to: *i)* design public policies that support the sustainable development and use of water resources; *ii)* mobilise resources; and *iii)* ensure that the different actors involved in the process implement them successfully.[1]

This report highlights the key governance challenges confronting water policy reform in LAC, focusing on the issues arising from the multi-level governance structure that characterises water resources and services management. While identifying effective policies that contribute to poverty alleviation through better access to water, this report emphasises the range of governance issues critical to strengthening institutional coherence, fostering capacity development (particularly at the local level), enhancing collective action, and encouraging innovative approaches in water resource management and service delivery (Box 1.1).

It reviews water governance arrangements in 13 LAC countries[2] (Argentina, Brazil, Chile, Costa Rica, Cuba, the Dominican Republic, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama and Peru – see country profiles in Chapter 5) and provides guidance on how to overcome critical co-ordination and capacity gaps in water policy. Like the 2011 report for OECD countries *Water Governance in OECD Countries: A Multi-level Approach* (OECD, 2011), the purpose of this report is to provide the LAC region a platform of comparisons, while investigating the black box of water policy making to identify the main multi-level governance challenges hindering sustainable water policy for poverty alleviation, as well as governance instruments adopted in response.

Box 1.1. **Definitions of water governance**

The Global Water Partnership (GWP) defines water governance as "the range of political, social, economic and administrative systems that are in place to develop and manage water resources, and the delivery of water services, at different levels of society". Many other agencies, including the World Bank, have subsequently adopted the same definition.

GWP proposes two broad sets of principles that underpin effective water governance:

- Approaches should be transparent, inclusive, equitable, coherent and integrative.
- Performance/operations should be accountable, efficient, responsive and sustainable (Rogers and Hall, 2003).

According to the United Nations Development Programme (UNDP), water governance addresses:

- Principles such as equity and efficiency in water resource and services allocation and distribution, water administration based on catchments, the need for integrated water management approaches, and the need to balance water use between socio-economic activities and ecosystems.
- The formulation, establishment and implementation of water policies, legislation and institutions.
- Clarification of the roles of government, civil society and the private sector and their responsibilities regarding ownership, management and administration of water resources and services.

Water governance is therefore the set of systems that control decision making with regard to water resources development and management. It is therefore more about the way in which decisions are made (i.e. how, by whom and under what conditions) than about the decisions themselves (Moench et al., 2003). It covers the manner in which roles and responsibilities (design, regulation and implementation) are exercised in the management of water and broadly encompasses the formal and informal institutions by which authority is exercised.

The emphasis on the politics of water is reinforced by the Stockholm International Water Institute (SIWI), which states that water governance "determines who gets what water, when and how" (Tropp, 2005).

OECD (2011) defines multi-level governance as the explicit or implicit sharing of policy making authority, responsibility, development and implementation at different administrative and territorial levels, i.e. *i*) across different ministries and/or public agencies at the central government level (upper horizontally); *ii*) between different layers of government at local, regional, provincial/state, national and supranational levels (vertically); and *iii*) across different actors at the sub-national level (lower horizontally).

OECD Multi-level Governance Framework: A tool to diagnose water governance challenges

The OECD Multi-level Governance Framework provides a tool for diagnosing seven key co-ordination gaps in the water sector. It was originally developed as a tool to address the interdependencies across levels of government in decentralised public services contexts (Charbit, 2011). It has already been tested to appraise water governance challenges in 17 OECD countries (OECD, 2011), as well as in other public policy areas of OECD interest, such as regional development in the framework of territorial, metropolitan and rural development reviews, innovation and public investment. The multi-level analytical framework argues that regardless of the institutional organisation of the water sector, common co-ordination gaps occur across ministries, between levels of government, and across sub-national players in federal and unitary countries, as well as water-scarce and water-rich regions. The way in which governments address and fill existing gaps varies in degree and type. Application of the OECD Multi-level Governance Framework helps understand the major bottlenecks in LAC water policy design and implementation and shed light on existing water governance issues to be addressed.

An **information gap** occurs when there is an asymmetry of information – across ministries, between levels of government and across local actors involved in water policy – that undermines the decision-making process. An asymmetry of information may occur when national and sub-national authorities do not actively share their knowledge of what is happening on the ground; authorities can create win-lose situations by using information unknown to the other party. The sub-national and central government must work together to keep information flowing freely between the two levels. Both levels are dependent on each other to develop public policy that addresses the country's broader needs. In practice, however, communication does not always flow smoothly. In many cases, sub-national governments have more information about local needs, preferences, policy implementation and cost, which they do not always communicate to the central government on a timely basis. This can result in an information gap or lag that leaves the central government with only a partial view of issues, excluding specific area and territory concerns, for supporting a broader vision of public policy objectives. Flow of information across decision-making levels also helps to identify information and correct capacity deficiencies, which is critical to supporting good governance in the water sector.

The **policy gap** refers to the sectoral fragmentation of water-related tasks across ministries and public agencies. Silo approaches in water policy result in incoherence between sub-national policy needs and national policy initiatives, and reduce the possibility of success for implementation of cross-sectoral policy at the sub-national level. If individual ministries or public agencies operate independently, rather than undertaking cross-sectoral initiatives, the opportunity for "whole government" approaches is minimised. At the same time, possibilities for maximising efficiency and effectiveness in cross-sectoral public services may be lost, adversely affecting sub-national development. In the past few decades, this trend has been exacerbated by the increasing involvement of local and supranational actors whose concerns for water differ. Policy initiatives designed at the central level and implemented at the sub-national level are symbolic of the co-ordination needed among ministries to reduce the impact of sectoral fragmentation on sub-national actors

Table 1.2. **OECD Multi-level Governance Framework: Seven key co-ordination gaps**

Administrative gap	Geographical mismatch between hydrological and administrative boundaries. This can be at the origin of resource and supply gaps. **=> Need for instruments to reach effective size and appropriate scale.**
Information gap	Asymmetries of information (quantity, quality, type) between different stakeholders involved in water policy, either voluntary or involuntary. **=> Need for instruments for revealing and sharing information.**
Policy gap	Sectoral fragmentation of water-related tasks across ministries and agencies. **=> Need for mechanisms to create multidimensional/systemic approaches and to exercise political leadership and commitment.**
Capacity gap	Insufficient scientific, technical, infrastructural capacity of local actors to design and implement water policies (size and quality of infrastructure, etc.), as well as relevant strategies. **=> Need for instruments to build local capacity.**
Funding gap	Unstable or insufficient revenues undermining effective implementation of water responsibilities at sub-national level, cross-sectoral policies and investments requested. **=> Need for shared financing mechanisms.**
Objective gap	Different rationales creating obstacles for adopting convergent targets, especially in case of motivational gap (referring to the problems reducing the political will to engage substantially in organising the water sector). **=> Need for instruments to align objectives.**
Accountability gap	Difficulty ensuring transparency of practices across different constituencies, mainly due to insufficient user commitment, lack of concern, awareness and participation. **=> Need for institutional quality instruments.** **=> Need for instruments to strengthen the integrity framework at the local level.** **=> Need for instruments to enhance citizen involvement.**

Source: Adapted from OECD methodology presented in Charbit, C. (2011), "Governance of public policies in decentralised contexts: The multi-level approach", *OECD Regional Development Working Papers*, 2011/04, OECD Publishing, Paris, *http://dx.doi.org/10.1787/5kg883pkxkhc-en*; and Charbit, C. and M. Michalun (2009), "Mind the gaps: Managing mutual dependence in relations among levels of government", *OECD Working Papers on Public Governance*, No. 14, OECD Publishing, Paris, *http://dx.doi.org/10.1787/221253707200*.

A **capacity gap** is generated by insufficient scientific and technical expertise (soft capacity) and infrastructure (hard capacity) for designing and implementing water policies. Capacity gaps occur at both the national and sub-national level. At the national level the gaps are related to managing multi-level relations, allocating responsibilities and funds, and ensuring co-ordinated, coherent policy approaches among actors at central level. At the sub-national level, local and regional authorities often do not have the knowledge (skills, staff, expertise) to manage water services and resources. Capacity can also be shared between the two levels of government. For example, lessons learnt from innovative water policy approaches piloted at the sub-national level are sometimes transferred to the central level; peer-to-peer capacity exchange between levels of government may also result in knowledge transfer. The local level should have the resources to manage water responsibilities, but in reality this level may lack the organisational, technical, procedural, networking or infrastructure capacity. This disconnect inevitably impacts the implementation of national water policies at the local level. Latin America experienced this mismatch during the 1980s after decentralisation of public utilities in the region. Evidence shows that the regions and provinces that were given water management responsibilities lacked the capacity to effectively operate and maintain services.

The **funding gap** refers to insufficient or unstable revenues to implement water policies across ministries and levels of government. It is represented by the difference

between sub-national revenues and the expenditures required for sub-national authorities to meet their responsibilities in the water sector. The funding gap reflects a mutual dependence between levels of government: sub-national authorities often depend on higher levels of government for funding water policies and central governments depend on the sub-national authorities to deliver water policies and meet both national and sub-national policy priorities. This interdependence is even more crucial when government funding has been slashed in times of economic and financial crisis. The cost of construction and maintenance of water and sanitation infrastructure is increasing and requires long-term large sunk investment, which often cannot be met by public funds alone.

The **objective gap** occurs when diverging or contradictory objectives between levels of government or ministries compromise long-term targets for integrated water policy. It underscores governments' challenges in fostering strategic and territorialised water policy planning. Frequently, when priorities are not clearly formulated at the highest political level, conflicting interests in water use, quality, energy efficiency and pricing policy prevent consensus on aligned targets. For example, at sub-national level, urban flood controls and ecological preservation or restoration of urban waters often conflict. In the past, exclusive emphasis on structural methods of flood control led to the destruction of habitat as well as the deterioration of water quality. When the objectives of flood control, ecological preservation and spatial planning converge, the impact on other policy areas can be minimised. This requires long-term commitment from relevant stakeholders that extends beyond political changes and electoral calendars. But water reforms are frequently long-term endeavours that involve planning, *ex ante* evaluation and consultation, several stages of implementation and *ex post* evaluation. Short-term considerations and vested interests can result in potentially counter-productive action; inversely, long-term planning and commitment can face strong bottlenecks on the ground because of political discontinuity. It is therefore important that strategic plans consider timing and political discontinuity in relation to water policy.

The **accountability gap** refers to a lack of transparency, institutional quality and integrity in water policy making. Ensuring transparency across different constituencies is essential for the effective implementation of water policies. The process is not always transparent and certain measures, such as shortening of the decision-making process, increase the risk of capture and corruption, especially when local governments lack the capacity to monitor investment and civil society is not fully engaged. In the 1990s, Latin America saw a decrease in government provision of public goods and an increase in private sector participation in the water sector. To fill the accountability gap, governments in LAC must consider whether public interest in water policy implementation has a role to play.

Box 1.2. **Institutional mapping of water policy: Key highlights from OECD countries**

An analysis of the allocation of roles and responsibilities in water policy in 17 OECD countries[1] resulted in a matrix that permits institutional mapping of water policy. The analysis suggests the following observations:

- There is wide variation in the assignment of competences across ministries and levels of government in the water sector, but common trends are noticeable, especially regarding sub-national actors and their responsibilities. Most OECD countries have largely decentralised their water policy making.
- There is no systematic relationship between a country's constitutional structure and the organisation of water policy. Geographical, environmental and economic factors have a considerable impact on the institutional organisation of the water sector.
- River basin management has been encouraged in federal and unitary countries, by institutional factors but also by hydrological parameters and international incentives or regulations (e.g. European Union [EU] directives).

Key findings led to a preliminary typology of three models of the institutional organisation of the water sector with different governance challenges for developing and implementing coherent water policies. This typology and its possible relevance for Latin America will be discussed in Chapter 2. Then, it identifies the principal co-ordination and capacity challenges across ministries and public agencies, between levels of government, and across local actors involved in water policy, based on the OECD Multi-level Governance Framework.

The relative importance of different governance gaps varies from country to country; however, common trends do exist across OECD countries:

- In two-thirds of the OECD countries surveyed, the **funding gap** is seen as the main obstacle to vertical and horizontal co-ordination of water policies.
- Despite well-developed infrastructure and the regular transfer of expertise, the **capacity gap** is the second most important challenge in OECD countries – especially at the sub-national level.
- Two-thirds of respondents still face a **policy gap**, owing to fragmentation of responsibilities at national and sub-national levels and the lack of incentives for horizontal co-ordination.
- The **administrative gap** (mismatch between hydrological and administrative boundaries) affects water policy implementation, even after the adoption of river basin management principles.
- **Information** and **accountability gaps** are major obstacles to integrated water policy in half of the OECD countries surveyed.

OECD countries have adopted a wide range of governance instruments for building capacity and co-ordinating water policies at horizontal and vertical levels. All countries surveyed have set up co-ordination tools at the central government level. These mainly consist of line ministries, inter-ministerial bodies or mechanisms, or specific co-ordinating bodies. Most countries have also made efforts to co-ordinate water with other policy domains, including spatial planning, regional development, agriculture and energy. Performance measurement, water information systems and databases, financial transfers, inter-municipal collaboration, citizen participation and innovative mechanisms (e.g. experimentation) are important tools for co-ordinating water policy at the territorial level and between levels of government. Where they exist, river basin organisations are a powerful tool for addressing vertical co-ordination challenges and interactions at the local level.

Note: 1. Responses to the OECD Survey on Water Governance (2009-2010) were received from 17 countries: Australia, Belgium (Flanders and Wallonia), Canada, Chile, France, Greece, Israel, Italy, Japan, Korea, Mexico, the Netherlands, New Zealand, Portugal, Spain, the United Kingdom and the United States.

Source: OECD (2011), *Water Governance in OECD Countries: A Multi-level Approach*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264119284-en.*

Diagnosing the co-ordination gaps represents one of the primary challenges in multi-level water policy governance. LAC countries may experience each gap to a greater or lesser degree; but given the dependence that arises from decentralised contexts and the network-like dynamic of multi-level governance relations, countries are likely to face them simultaneously. Chapter 3 provides evidence on LAC countries' main co-ordination and capacity challenges across levels of government in the design and implementation stages of water policy.

Box 1.3. **OECD guidelines for effective management of multi-level governance**

- Diagnose multi-level governance gaps in water policy making across ministries and public agencies, between levels of government and across sub-national actors. This will help to clearly define the roles and responsibilities of public authorities.
- Involve sub-national governments in designing water policy, beyond their roles as implementers, and allocate human and financial resources in line with responsibilities of authorities.
- Adopt horizontal governance tools to foster coherence across water-related policy areas and enhance inter-institutional co-operation across ministries and public agencies.
- Create, update and harmonise water information systems and databases for sharing water policy needs at basin, country and international levels.
- Encourage performance measurement to evaluate and monitor the outcomes of water policies at all levels of government, and provide incentives for capacity building.
- Respond to the fragmentation of water policy at the sub-national level by encouraging co-ordination across sub-national actors.
- Foster capacity building at all levels of government. This involves combining investment in physical water and sanitation ("hard") infrastructure and investment in institutions that directly influence water outcomes to ensure more effective and co-ordinated implementation ("soft" infrastructure).
- Encourage a more open and inclusive approach to water policy making through public participation in water policy design and implementation.
- Assess the adequacy of existing governance instruments for addressing identified challenges and fostering co-ordination of water policy at horizontal and vertical levels.

Source: OECD (2011), *Water Governance in OECD Countries: A Multi-level Approach*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264119284-en*.

Conclusion

In order to deliver tangible and measurable results, water policies need to be designed with a comprehensive approach that considers challenges holistically. Achieving the MDGs in the water sector is a shared responsibility among multiple stakeholders from various sectoral and institutional backgrounds – ministries, public agencies, sub-national authorities and private actors (including citizens and not-for-profit organisations) – that are mutually dependent. In some cases, these different actors have conflicting priorities and interests, which may create obstacles for adopting convergent targets. Therefore, identifying incentives and bottlenecks for sustainable water policies implies listening to this wide variety of stakeholders, increasing respect for local community input, and working across governmental sectors and levels of government.

Notes

1. For an overview of water governance definitions, concepts and initiatives see Chapter 1 of OECD (2011).

2. The 39 LAC countries are Antigua and Barbuda, Aruba, Argentina, the Bahamas, Barbados, Belize, Bolivia, Brazil, the Cayman Islands, Chile, Colombia, Costa Rica, Cuba, Dominica, the Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Montserrat, Nicaragua, Panama, Paraguay, Peru, Saint Knits and Navies, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, Turks and Caicos Islands, UK Virgin Islands, Uruguay, US Virgin Islands, and Venezuela.

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Chapter 2

Mapping institutional roles and responsibilities

This chapter outlines the roles and responsibilities of actors in the design, regulation, budget and implementation of water policy, as well as the modalities for allocating roles and responsibilities in the water sector at central government and sub-national level. It offers a preliminary typology of LAC countries based on the institutional organisation of their water sector and it identifies key features and trends within the region in terms of allocating roles and responsibilities. Information was collected from the responses of 13 LAC countries to an OECD questionnaire.

Introduction

Unclear, overlapping and fragmented roles and responsibilities across policy areas and between levels of government are often considered to be a major obstacle to effective design and implementation of water policies. The water sector is affected by numerous external drivers and generates important externalities in various policy domains, hence the multiplicity of mutually dependent actors and the inherent risks of confusion, efficiency costs and conflicts in both water resource management and water services delivery. In this context, it is crucial to understand how roles and responsibilities are divided in terms of strategic planning, priority setting, allocation of uses, economic and environmental regulation, information, monitoring, evaluation, and level of government (national, regional, local); and how such responsibilities are defined (by a specific law on water, by the Constitution, etc.).

Methodology

To respond to this need, the OECD conducted a survey on water governance that was sent to water directors from the Network of Ibero-American Water Directors (CODIA – *Conferencia de Directores Iberoamericanos del Agua* [Conference of Ibero-American Water Directors]) (Box 2.1).

Box 2.1. **Methodological note on the OECD Survey on Water Governance**

Thirteen LAC countries participated in the OECD 2011 Survey. Most respondents held positions in ministries of environment and national water agencies.

Argentina	Sub-secretariat for National Water Resources – *Subsecretaría de Recursos Hídricos de la Nación* (SSRH)
Brazil	National Water Agency – *Agência Nacional de Águas* (ANA)
Chile	Directorate of Public Works - *Dirección de Obras Hidráulicas*
Costa Rica	Ministry of Environment and Energy – *Ministerio de Ambiente y Energía*
Cuba	National Institute of Water Resources – *Instituto Nacional de Recursos hidricos* (INRH)
Dominican Republic	National Institute of Water Resources – *Instituto Nacional de Recursos Hidráulicos* (INDRHI)
El Salvador	Ministry of Agriculture and Livestock –*Ministerio de Agricultura y Ganadería*
Guatemala	Ministry of Environment and Natural Resources – *Ministerio de Ambiente y Recursos Naturales* (MARN)
Honduras	Ministry of Natural Resources and Environment – *Secretaría de Recursos Naturales y Ambiente*
Mexico	National Water Commission – *Comisión Nacional del Agua* (CONAGUA)
Nicaragua	Ministry of Environment and Natural Resources – *Ministerio del Ambiente y los Recursos Naturales*
Panama	National Environment Authority – *Autoridad Nacional del Ambiente* (ANAM)
Peru	National Water Authority – *Autoridad Nacional del Agua* (ANA)

This sample includes a wide range of countries with diverse institutional and geographical backgrounds and varied levels of income and environmental features. It allows comparisons among areas where water is scarce and plentiful and where water policy is decentralised versus centralised.

Box 2.1. **Methodological note on the OECD Survey on Water Governance** (*cont.*)

The level of difficulty of making comparisons between countries depended on the number and quality of responses to the questionnaire. In some cases, questions were left unanswered, which provided less data for comparison. Institutional features and the division of responsibilities vary across and within countries. In addition, most quantitative data rely on perception indicators based on subjective judgments on a 1 to 3 scale (not important, important, very important). Therefore, some comparisons should be made with caution.

Areas of water policy covered by the institutional mapping:

- water resource management;
- water supply (domestic, agriculture, industrial uses);
- wastewater treatment.

Roles and functions targeted in the institutional mapping:

Policy design and implementation

- strategy, priority setting and planning (including infrastructure);
- policy making and implementation;
- information, monitoring and evaluation;
- stakeholder engagement (creating citizen awareness, etc.);
- implementation of central government policies at the territorial level.

Regulation

- allocation of uses;
- quality standards;
- compliance of service delivery commitment;
- economic regulation (tariffs, etc.);
- existence of a specific regulatory agency in the water sector;
- monitoring of regulatory enforcement at the sub-national level.

Source: Based on results from OECD (2011), "OECD Survey on Water Governance 2010-2011", OECD, Paris, survey conducted in 2011, *www.oecd.org/dataoecd/37/39/44689618.pdf*.

Main features and observations of central government institutional mapping

A hyper-fragmented sector

Institutional mapping in unitary countries shows common general features. As shown in Table 2.1,[1] the central government (via ministries or deconcentrated national agencies) still plays a significant role in water policy making in all LAC countries surveyed. This is the case even in countries that have largely decentralised the responsibilities for water resource management and service delivery (Argentina, Brazil and Mexico). In most cases, central government prerogatives include strategic planning,

priority setting and environmental regulation, whilst economic regulation is often carried out at the sub-national level.

Table 2.1. **Methodological note on the OECD Survey on Water Governance**

Country	Unitary or federal country	Number of principal actors in design and implementation	Number of actors in regulation	Role of central government (dominant actor, joint role with local actors, none)	Means of defining roles	Specific water regulatory agency
Argentina	Federal	5	3	Joint	Constitution Law *Ad hoc*	No
Brazil	Federal	7	5	Joint[1]	Constitution Law	Yes
Chile	Unitary	12	10	Dominant[2]	Law *Ad hoc*	Yes
Costa Rica	Unitary	7	6	Dominant	Constitution Law	Yes
Cuba	Unitary	6	6	Dominant	Constitution Law	No
Dominican Republic	Unitary	4	9	Dominant	Law	Yes
El Salvador	Federal	4	5	Dominant	Constitution Law *Ad hoc*	Yes
Guatemala	Unitary	5	3	Joint	Constitution Law	No
Honduras	Unitary	7	7	Joint	Constitution Law	Yes
Mexico	Federal	4	4	Dominant	Constitution Law *Ad hoc*	Yes
Nicaragua	Unitary	7	6	Joint	Constitution Law	Yes
Panama	Unitary	4	7	Dominant	Constitution Law	Yes
Peru	Unitary	13	10	Dominant	Constitution Law *Ad hoc*	Yes

Notes: 1. "Joint role" refers to a situation where roles and responsibilities regarding water policy are evenly distributed across central and sub-national governments. 2. "Dominant role" refers to a situation where the central government retains the majority of roles and responsibilities related to water policy

Source: Based on results from OECD (2011), "OECD Survey on Water Governance 2010-2011", OECD, Paris, survey conducted in 2011, *www.oecd.org/dataoecd/37/39/44689618.pdf.*

Mapping the allocation of roles and responsibilities in federal countries (Box 2.2) provides an overall picture of the national government's involvement in water policy making. It is difficult to produce a comprehensive institutional map because the roles and responsibilities in the water sector are so widely distributed across national and sub-national levels. The results would produce an institutional map full of generalisations that could obscure the diversity, fragmentation and omissions in the systems.

Box 2.2. **The challenge of mapping roles and responsibilities in water policy: The case of Brazil**

In Brazil, each level of government (the union, states, the federal district and municipalities) has the authority to legislate over nature conservation, soil and natural resources management, environmental protection and pollution control. Thus, it is complicated to properly identify the roles and mission of each actor in water policy design and implementation.

Overall, the central government is the primary policy-making authority. The Secretariat of Water Resources and Urban Development, within the Ministry of the Environment, is in charge of proposing water management plans, laws and strategies for water resource management. The Ministry of Cities is in charge of water and sanitation service policies. The National Water Agency (ANA), established in 2000, is a federal institution dedicated to the implementation of the national water resources policy and the regulation of access to water. At the regional level, river basin committees, state agencies for water resources planning and management, state water resources councils and states' regulatory agencies are also engaged in water resources policy implementation. In some cases, especially regarding metropolitan areas, states are also in charge of water and sanitation services provision. However, in most of the country, this responsibility falls on municipalities or water users' associations in rural areas.

In both water policy design and implementation, although agencies and authorities are well-identified, their roles and responsibilities remain unclear. In spite of the National Water Law enacted in 1997 as a common legal framework, the institutional organisation within the water sector lacks structure, common organisational ground and global strategy making. Therefore, co-ordination and monitoring instruments are very hard to implement. The National Water Resource Management System (SINGREH) adopted in 2000 involves public organisations, private entities and civil society representatives. Even with this instrument in place, there is still a need for co-ordinated and complementary water management actions across levels of government. The complexity of the system (needs; number of agencies at federal, state, and local levels; and overlapping roles) poses a considerable challenge to water resource management.

Source: Data received from the Brazilian National Water Agency (ANA) in April 2012.

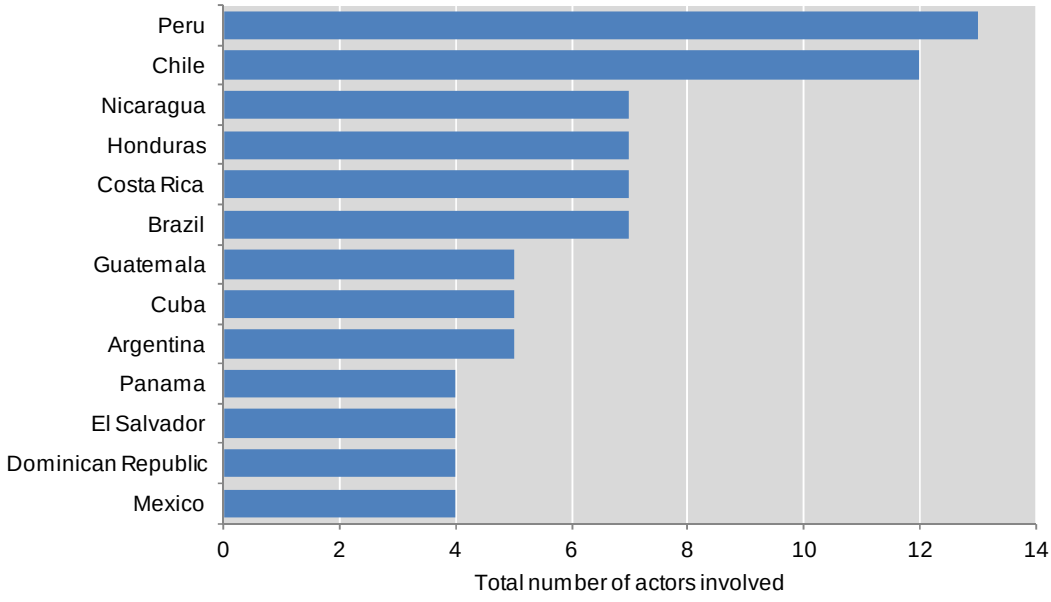
Multiple central authorities (ministries, departments, and public agencies) in all LAC countries surveyed are involved in water policy making and regulation at central government level. The multiplicity of actors varies according to the area of water policy considered. On average, domestic water services usually involve the highest number of ministries, public agencies and departments because of the externalities of water supply on other policy areas (e.g. education, health, etc.), while wastewater treatment usually involves the lowest number of central government authorities.

The degree of institutional fragmentation at the central government level varies across countries and is not systematically correlated to the institutional context. As shown in Figures 2.1 and 2.2, the number of central authorities (ministries, departments, public agencies) involved in water policy making ranges from 4 in Mexico to 13 in Peru, and the number of authorities in charge of regulatory issues ranges from 3 in Argentina to 10 in Peru. This is an interesting indicator for measuring the fragmentation of roles and responsibilities based on the assumption that the more actors there are, the more complex the situation will be. However, such indicators have limitations that also need to be taken into account. In some cases, the number of actors may seem larger if the ministry is in charge of more than one area of competence. For instance, in Mexico, the situation appears less complicated, since only two ministries (SEMARNAT – Ministry of Environment and Natural Resources, and the Ministry of Health) and two deconcentrated bodies of SEMARNAT (CONAGUA and PROFEPA) are in charge of water policy making. A closer look at their prerogatives shows that such ministries embrace a wide diversity of areas, which may in fact be equivalent to having several ministerial

departments or agencies, with a silo approach not only between but also within ministries if co-ordination tools are not put in place. An inverse relationship is observed between the institutional setting of the country (federal versus unitary) and the number of central government agencies involved in water policy. Figures 2.1 and 2.2 illustrate that big federal countries such as Argentina, Brazil and Mexico have fewer authorities involved in policy making compared to unitary countries (Chile, Peru), which tend to have a higher number of central agencies involved in water policy making. The high degree of actors involved in water policy at the central government level is an indicator of complexity to align visions and objectives, and suggests that pressures for fragmentation of policy responsibility are at work, whatever the institutional context.

Figure 2.1. **Number of authorities involved in water policy making at central government level**

13 LAC countries surveyed



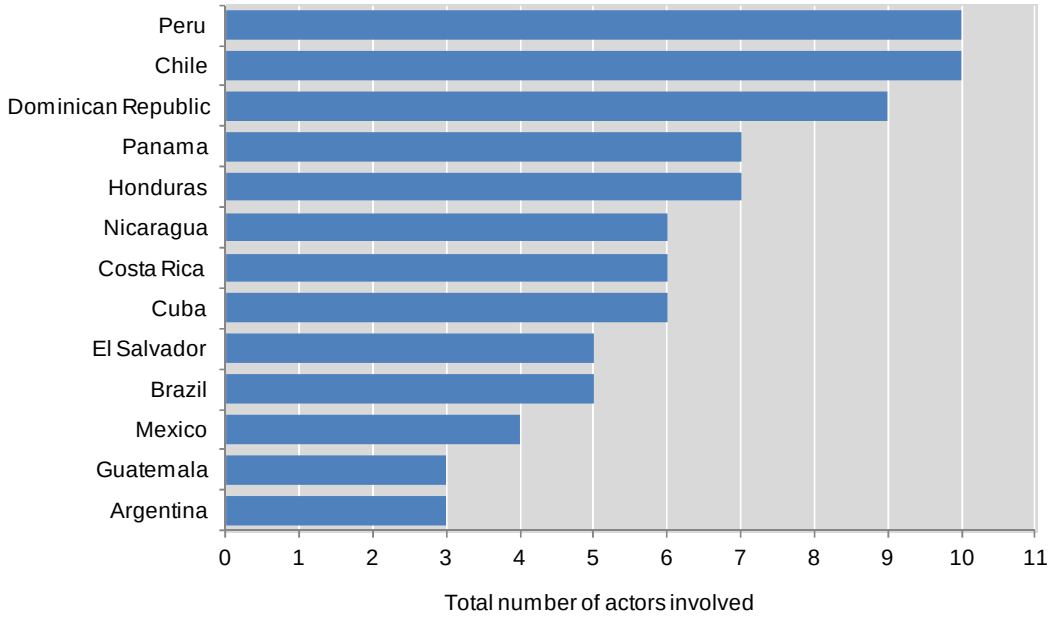
Source: Based on results from OECD (2011), "OECD Survey on Water Governance 2010-2011", OECD, Paris, survey conducted in 2011, *www.oecd.org/dataoecd/37/39/44689618.pdf*.

Mapping the allocation of responsibilities within the water sector provides the rationale for the adoption of governance tools to overcome the institutional complexity of water policy. However, using the number of actors as an indicator of fragmentation can be misleading; there are several examples of highly fragmented policy-making contexts (e.g. federal countries such as Argentina and Brazil) where the multiple actors and layers usually perceived as obstacles to policy coherence are compensated for by sound co-ordination mechanisms that reduce the level of fragmentation (see Chapter 3).

Half of the LAC countries surveyed reported that non-traditional actors at the central government level are involved in the design and implementation of water policy. A relevant example is Chile (Box 2.3), where eight central agencies are involved in water policy design and implementation. The role of such agencies in addressing institutional fragmentation will be further developed in Chapter 4.

Figure 2.2. **Number of authorities involved in water regulation at central government level**

13 LAC countries surveyed



Source: Based on OECD (2011), "OECD Survey on Water Governance 2010-2011", OECD, Paris, survey conducted in 2011, *www.oecd.org/dataoecd/37/39/44689618.pdf*.

A heavily regulated sector

The water sector has many intrinsic characteristics which require sound regulatory frameworks. These characteristics consist of the following: predominance of natural monopolies, territorial anchor at the local level, large sunk infrastructure investment needs, high distribution and transport costs, many externalities in different policy areas and high demand for technological know-how and expertise. Regulatory frameworks provide architecture to safeguard water sector policy design and implementation and to enable the public sector to carry out long-term policy objectives. They can also help to balance the interest of all parties, prevent opportunistic behaviours, protect customers from private sector abuses, and shield the private sector from politically driven decisions.

There are three country categories associated with water sector allocation of environmental and economic regulatory powers at the national level. In a first category of countries these functions are carried out by ministerial departments and/or public agencies; in a second category of countries such duties rely on specific regulatory agencies in the water sector; and in a third category of countries, in the middle of the continuum, significant regulatory powers are granted to specific actors at national level. Institutional mapping of LAC countries shows that these different models occur simultaneously within a country. This combination of categories is possible because environmental regulation is often carried out by ministerial departments or agencies, while economic regulation is undertaken either at the territorial level (states, provinces, municipalities) or by specific regulatory agencies.

Box 2.3. **Multiple central agencies involved in water policy: The case of Chile**

In Chile, a high number of central agencies are involved in water policy design, implementation and monitoring:

- The Ministry of Health is responsible for overseeing water quality standards and environmental regulations in the industrial sector.
- The General Office of Waters is responsible for water resources administration and management for sustainability, public interest, efficient allocation and information dissemination.
- The Water Works/Infrastructure Office provides water infrastructure to efficiently exploit water resources and protect populations against floods and other extreme events.
- The Superintendent's Office for Sanitation Services decides on tariffs for drinking water and sanitation services. For concessions, the Superintendent's Office works with the private sector service provider to assure service quality and monitor industrial sites producing liquid wastes.
- The National Commission for the Environment works closely with other ministries and agencies in developing environmental laws and criteria, particularly on natural resources (including water) management, use and exploitation.
- The Rural Potable Water Programme, developed by the Ministry of Public Works, aims at supplying drinking water to rural areas.
- The National Commission on Irrigation is responsible for all irrigation issues, from policy design to infrastructure provision.
- The Chilean Commission on Copper develops, implements and supervises natural resources' exploitation policies, including for water management in the mining sector.

Table 2.2. **Allocation of regulatory powers at the central level**

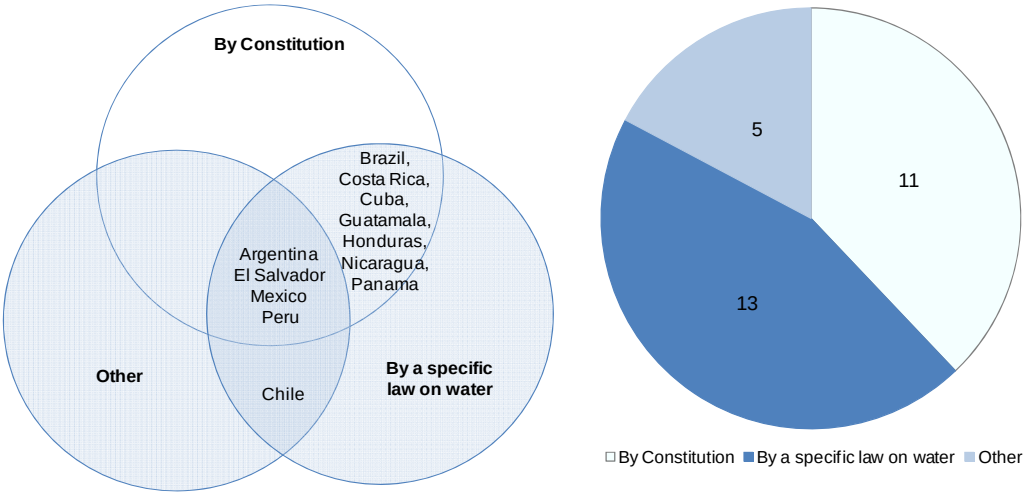
	Examples
Regulatory functions at ministry level	Cuba (INRH), Guatemala (MARN), Mexico (COFEPRIS)
Specific regulatory agency in the water sector	Chile (SISS), Costa Rica (ARESEP), Dominican Republic (INDRHI)
Public agency with specific regulatory powers	Brazil (ANA), Mexico (CONAGUA), Peru (ANA)

Source: Based on results from OECD (2011), "OECD Survey on Water Governance 2010-2011", OECD, Paris, survey conducted in 2011, *www.oecd.org/dataoecd/37/39/44689618.pdf*.

In almost all of the LAC countries surveyed (12 out of 13), the allocation of roles and responsibilities in water policy at central government level is primarily (but not only) defined by a specific water law. As Figure 2.3 illustrates, most LAC countries (11 out of 13) have enshrined the allocation of water policy design, implementation and regulatory roles in their national Constitution. For example, Argentina's federal structure is based on the duties assigned in Article 121 of the National Constitution, according to which "provinces hold all power not delegated to the federal government by this Constitution, and that which is expressly reserved by special agreements at the time of its incorporation". The 1994 constitutional reform added Article 124 of the charter and expressly stated that "provinces have original ownership of natural resources existing in their territory".

Figure 2.3. **Definition of central governments' roles and responsibilities**

13 LAC countries surveyed



Source: Based on results from OECD (2011), "OECD Survey on Water Governance 2010-2011", OECD, Paris, survey conducted in 2011, *www.oecd.org/dataoecd/37/39/44689618.pdf*.

Even when there is a clear allocation of roles and responsibilities under a specific "water law", co-ordination is still an imperative. Beyond the determination of **who does what**, the challenge lies in managing the overlapping of responsibilities generated by interpretation and implementation of water policy on the ground. Ministries, public agencies and other central government actors are required to co-operate given the interdependence of water-related issues and the need to address them collectively.

Main features and observations of institutional mapping at the sub-national level

Contrary to OECD countries, not all LAC countries surveyed involve sub-national governments in water policy design (OECD, 2011b). While local and regional actors play a joint role with central government authorities in many countries (Argentina, Brazil, Guatemala, Honduras, Mexico, Nicaragua and Peru), their contribution is almost non-existent in the Caribbean islands (Cuba, the Dominican Republic and Costa Rica).

In general, municipal and regional authorities are well-positioned to develop policy and programmatic solutions that best meet specific geographic, climatic, economic and cultural conditions. They are equally well-placed to develop innovative policy solutions that can be scaled up into regional or national programmes, or to provide an incubator for national pilot programmes at the urban level. Local governments respond to a variety of water policy goals that aim to: *i)* reduce water consumption; *ii)* reduce energy demand of water delivery systems; *iii)* prevent water system infiltration (into sanitary sewer systems) of groundwater due to flooding; and *iv)* prevent disruption to the water system due to drought. In addition, local governments provide a direct contact point for residents on questions of water conservation. In this sense, they have a greater ability to adjust policies to adapt to changing behaviour and are more likely to influence popular water habits than higher levels of government.

Table 2.3. **Water policy at the sub-national level in LAC countries: A diversity of situations**

Country	Unitary or federal country	Type of involvement (dominant role, joint role with CG, no competence)	Water resources	Water supply (domestic)	Water budget	Water users' associations	River basin organisations
Argentina	Federal	Joint role	Provinces	Provinces, municipalities	CG, SNG, RBO	Yes	Yes
Brazil	Federal	Joint role	CG, water-specific bodies, RBO	Municipalities	CG, SNG, RBO	Yes	Yes
Chile	Unitary	None (except municipalities for sanitation in rural areas)	n/a	n/a	CG, SNG	Yes	No
Costa Rica	Unitary	None (except municipalities for sanitation)	n/a	Municipalities	n/a	No	n/a
Cuba	Unitary	None	Regions, municipalities, RBO	Regions, municipalities	CG, SNG, RBO, others (NGOs)	No	n/a
Dominican Republic	Unitary	None	n/a	n/a	CG	Yes	Yes
El Salvador	Federal	None	None	Municipalities, inter-municipal bodies, water-specific bodies, RBOs	CG, SNG	No	n/a
Guatemala	Unitary	Joint role	RBOs	Municipalities	CG, SNG, RBOs	Yes	Yes
Honduras	Unitary	Joint role	Municipalities, inter-municipal bodies, water-specific bodies	Municipalities, inter-municipal bodies, water-specific bodies	CG, SNG	No	n/a
Mexico	Federal	Joint role	Regions, municipalities, inter-municipal bodies, RBOs	Regions, municipalities, inter-municipal bodies, RBOs	CG, SNG	Yes	Yes
Nicaragua	Unitary	Joint role	Regions, municipalities, inter-municipal bodies, water-specific bodies, RBOs	Regions, municipalities, RBOs	CG, SNG	Yes	Yes
Panama	Unitary	None (except municipalities for domestic water supply)	None	Municipalities, others (water committees)	CG, SNG	No	n/a
Peru	Unitary	Joint	Regions, municipalities, water-specific bodies, RBOs	Regions, municipalities, water-specific bodies, RBOs	CG	Yes	Yes

Note: CG (central government), SNG (sub-national government), RBO (river basin organisation), NGO (non-governmental organisation).

Source: Based on results from OECD (2011), "OECD Survey on Water Governance 2010-2011", OECD, Paris, survey conducted in 2011, *www.oecd.org/dataoecd/37/39/44689618.pdf.*

Modalities for defining roles and responsibilities at the sub-national level

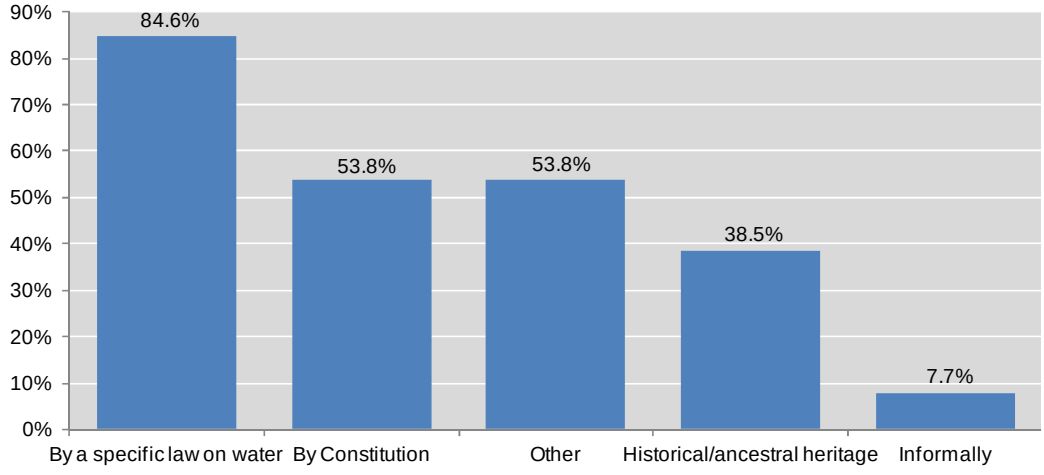
In most of the LAC countries surveyed (83%), the allocation of roles and responsibilities at the sub-national level is primarily defined by a specific law dedicated to water, with a range of practices that vary from one country to another. While each province of Argentina has its own set of laws outlining water roles and responsibilities, most LAC countries have a national water law to allocate roles and competences in water to lower levels of government. More than half of the LAC countries surveyed have also enshrined sub-national responsibilities in the water sector in their constitutional arrangements. Finally, some countries have *ad hoc* mechanisms outside legislative frameworks for allocating responsibilities. For instance, in Mexico, there are villages where routine daily activities, such as the organisation of drinking water assemblies, do not fall under the jurisdiction of municipalities and are subject to customary law. Latin American countries also count on a specific water court or "tribunal".[2] The Latin America Water Tribunal is an autonomous, independent and international organisation of environmental justice created to contribute to the solution of water-related conflicts in Latin America. It is an ethical institution committed to preserving and guaranteeing access to water for current and future generations. It also serves as a judicial setting for finding solutions to water conflicts.

Overall involvement of sub-national actors in water policy design and implementation

Two categories can be distinguished with respect to the allocation of responsibilities in water policy making to sub-national actors: a first category of countries where local and regional authorities, together with the central government, play an important role in the design and implementation of water policies; and a second category of countries where the sub-national government's role in water policy making is either restricted to implementation or non-existent.

Figure 2.4. **Definition of sub-national governments' roles and responsibilities**

13 LAC countries surveyed



Source: Based on results from OECD (2011), "OECD Survey on Water Governance 2010-2011", OECD, Paris, survey conducted in 2011, *www.oecd.org/dataoecd/37/39/44689618.pdf.*

Table 2.4. **Involvement of sub-national actors in water policy design and implementation**

Level of involvement	Examples
Joint role with central government	Argentina, Brazil, Guatemala, Honduras, Mexico, Nicaragua, Peru
Main role (implementer)	Chile, Costa Rica, Cuba, Dominican Republic, El Salvador, , Panama

Source: Based on results from OECD (2011), "OECD Survey on Water Governance 2010-2011", OECD, Paris, survey conducted in 2011, *www.oecd.org/dataoecd/37/39/44689618.pdf*.

Other actors involved in water policy at the sub-national level

Beyond sub-national governments, several LAC countries have involved other types of actors in policy design and implementation at the territorial level, mainly water users' associations (WUA) and river basin organisations. WUAs usually consist of groups such as irrigators who pool their financial, technical, material and human resources to operate and maintain a water system. A WUA often elects leaders, handles internal disputes, collects fees and carries out maintenance. In most areas, WUA membership depends on relationship to a water source (such as groundwater or a canal). Water users' associations are widespread, but in some cases they are active only in specific areas (e.g. rural areas). In addition, where they exist, river basin organisations and water-specific bodies also play a significant role in water policy implementation at the territorial level. Examples can be found in several LAC countries (see Chapter 4 on co-ordination mechanisms).

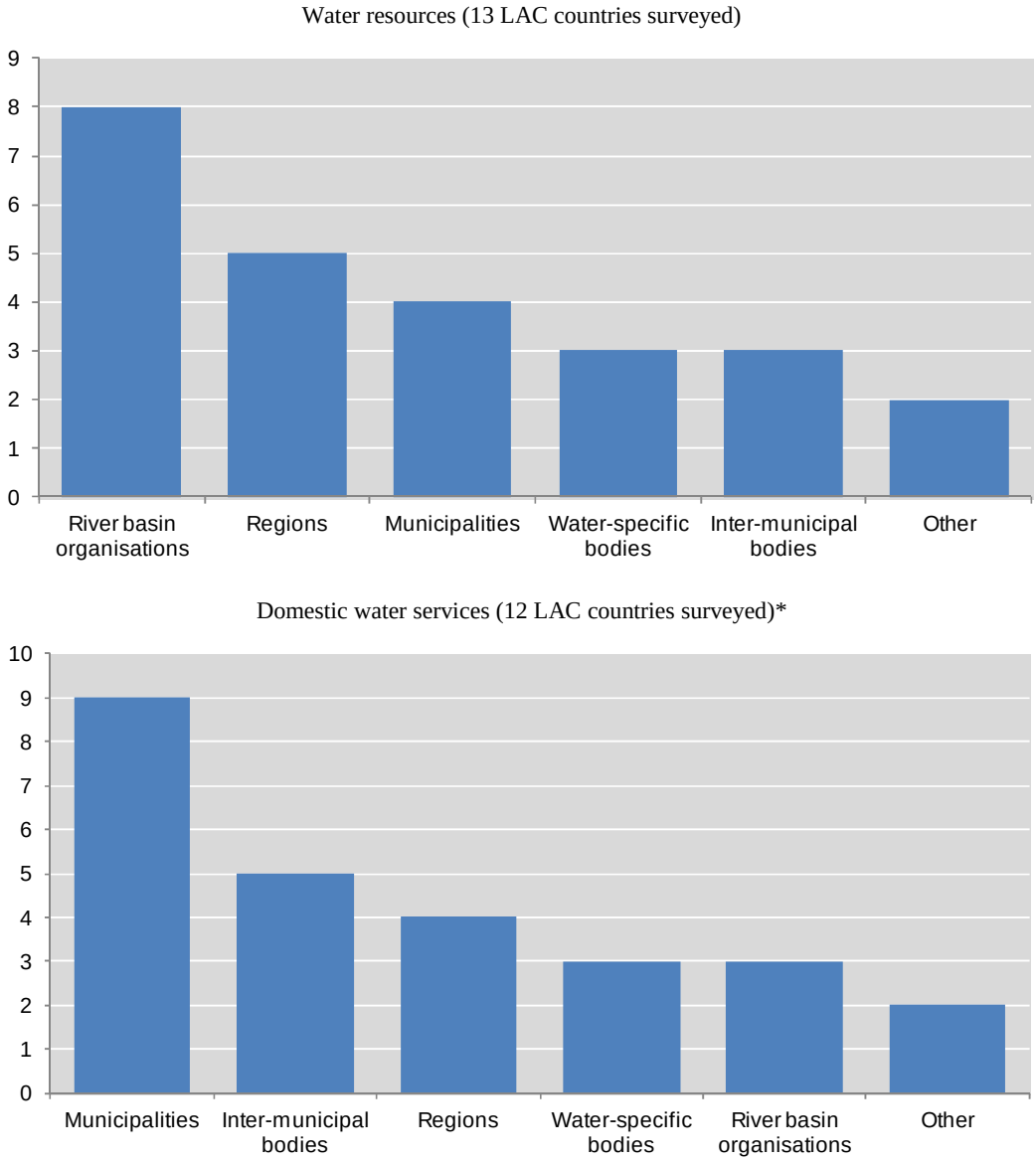
A closer look at the prerogatives of sub-national actors involved in water policy making reveals common trends. River basin authorities are the primary sub-national authority responsible for (co-)designing and implementing policies for water resource management in half of the LAC countries surveyed. The second type of sub-national authority involved is the region, followed by water-specific bodies such as regional water authorities in Chile, as well as municipalities and inter-municipal bodies. As for water services, and specifically drinking water for domestic use, municipalities are the primary sub-national authorities in charge of (co-)designing and/or implementing policies in two-thirds of the LAC countries surveyed (9 out of 13). They are followed by regions and inter-municipal bodies. The trend is similar in areas of water supply to industrial users and wastewater treatment. As water is a local resource with strong territorial characteristics, the explanation for sub-national actor involvement lies mainly in theories related to local public goods, and the need for decentralised mechanisms to achieve optimal allocation. But in practice, the implementation of such an optimal water allocation scheme varies widely across countries and rarely involves a full delegation of responsibility to lower levels of government. Water management is generally a shared responsibility across levels of government.

Actors involved in the water policy budget are similar in LAC and OECD countries. In most of the LAC countries surveyed (91.7%), central government is the main actor in the water policy budget, followed closely by sub-national governments (75%) and river basin organisations (33%). Sub-national governments involved in water financing include a wide variety of authorities, ranging from local and regional offices of deconcentrated bodies (e.g. CONAGUA in Mexico) to regional water authorities in Chile and provinces in Argentina. The involvement of the central government in water policy budgets is very high in most LAC countries. In Mexico, for example, the federal government's contribution takes the form of transfers via federal programmes to lower levels of government (mainly state governments). In the case of CONAGUA, the Mexican National Commission of Water, additional federal resources are allocated to specific

programmes such as PROMAGUA (by the FONADIN, the national fund for infrastructure), and PRODDER (*Programa de Devolución de Derechos*), a programme based on the payment of fees for the use and exploitation of national water resources by service operators. In 2008, investments from the Mexican federal government in the water sector were estimated at MXN 29 536 million, of which MXN 23 508.4 million were allocated to CONAGUA.

Sub-national actors in water policy at the territorial level

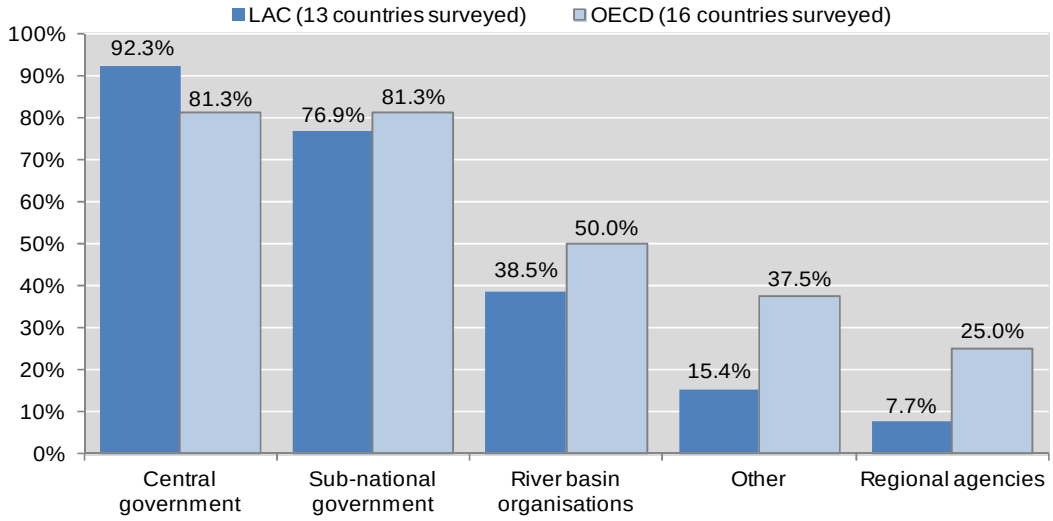
Figure 2.5. **Design and implementation of water policies**



Note: * On this specific aspect, the Dominican Republic did not answer.

Source: Based on results from OECD (2011), "OECD Survey on Water Governance 2010-2011", OECD, Paris, survey conducted in 2011, *www.oecd.org/dataoecd/37/39/44689618.pdf*.

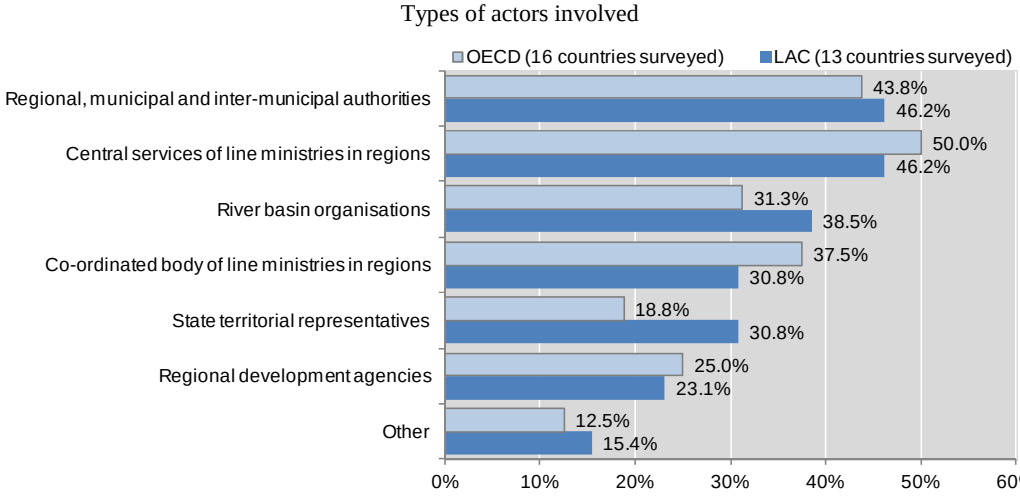
Figure 2.6. **Actors involved in water policy budgets**



Source: Based on results from OECD (2011), "OECD Survey on Water Governance 2010-2011", OECD, Paris, survey conducted in 2011, *www.oecd.org/dataoecd/37/39/44689618.pdf.*

Despite the diversity of situations at the sub-national level governing the implementation of water policies designed by the central government, two categories of countries can be distinguished. A first category includes countries where implementation of water policies at the sub-national level essentially relies on a single type of actor (i.e. representatives of central government in regions); and a second category includes countries with a combination of several sub-national authorities with responsibilities at the implementation stage. As Table 2.5 shows, the first category includes rather centralised countries whilst the second category comprises federal countries (Argentina, Brazil and Mexico) as well as large and less centralised countries (Peru). The institutional organisation of water policy is thus linked to the broader constitutional context of the country as well as its geo-physical characteristics.

Figure 2.7. **Local level implementation of national water policies**



Source: Based on results from OECD (2011), "OECD Survey on Water Governance 2010-2011", OECD, Paris, survey conducted in 2011, *www.oecd.org/dataoecd/37/39/44689618.pdf.*

Table 2.5. **Implementation of central government water policies at the territorial level**

Responsibility for implementation	Examples
A few types of actors, mainly state territorial representatives or deconcentrated bodies/services	Chile, Costa Rica, Cuba, Dominican Republic, El Salvador, Nicaragua
A multiplicity of actors, municipalities, inter-municipal bodies, regions' RBOs, etc.	Argentina, Brazil, Guatemala, Mexico, Panama, Peru

Source: Based on results from OECD (2011), "OECD Survey on Water Governance 2010-2011", OECD, Paris, survey conducted in 2011, *www.oecd.org/dataoecd/37/39/44689618.pdf*.

Conclusion

No master plan exists for assigning competences across ministries and levels of government in the water sector, but common trends across countries can be noted. Environmental responsibilities are often managed at the local level, which raises co-ordination and capacity challenges across local actors and between levels of government. Municipalities are generally responsible for providing and managing service delivery (water and wastewater), while higher tier local governments (e.g. regions, provinces) are responsible for competences associated with resources management. A holistic approach is called for in designing the institutional mapping of the water sector, because some roles and responsibilities can complement or neutralise each other at central and sub-national levels.

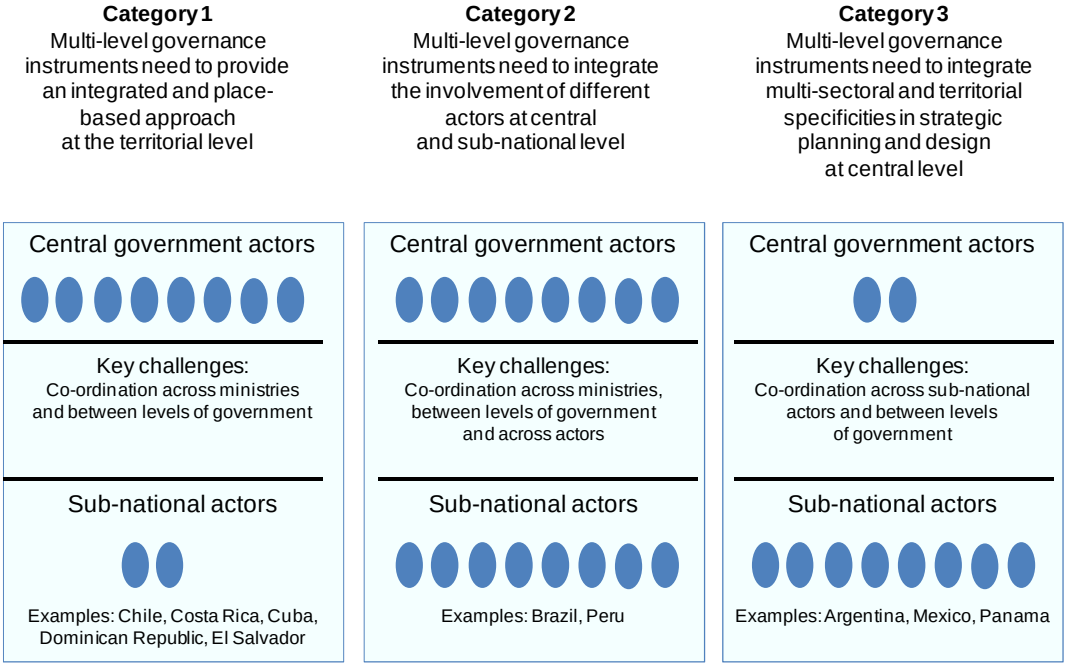
No systematic correlation can be drawn between a given country's institutional organisation (unitary versus federal) and the institutional mapping of water policy. There is a diversity of situations across LAC federal and unitary countries in terms of the institutional organisation of water policy. On the one hand, some federal countries (Argentina, Brazil, Mexico) have delegated many water responsibilities to lower levels of government, but on the other hand, contrary to what happens in most OECD federal countries (Belgium, Canada, the United States), the central government in LAC countries still plays a very strong role (e.g. strategic planning, regulation, etc.) in ongoing water policy reforms, not only in terms of design but also at implementation levels given limited sub-national resources and capacities. In addition, while the Caribbean islands and Costa Rica still retain significant water responsibilities at the central government level with highly centralised water policy making (Costa Rica, Cuba, the Dominican Republic), most LAC unitary countries (Chile, Guatemala, Nicaragua, Peru) have *de facto* delegated many responsibilities to lower levels of government.

River basin organisations have been set up in half of the LAC countries surveyed, federal and unitary countries alike, depending on institutional factors, hydrological considerations and international incentives or regulations. All the federal countries surveyed (Argentina, Brazil, Mexico) have created river basin organisations, but more detailed study of these experiences reveals a diversity of situations, which reflect the varying degrees of "maturity of decentralisation" in water policy making. Argentina seems to be a pioneer country in river basin management in the LAC region; some federal countries have only recently moved in this direction (Mexico).

Based on the comparison of the allocation of roles and responsibilities at the central and sub-national level in a series of OECD countries, Figure 2.8 tentatively defines three models of water policy organisation. These models raise different governance challenges related to the frequent trade-off of decentralisation (i.e. the need to manage the relationship between diversity), customisation of water policy according to territorial

specificities, and coherence (i.e. the need to adopt a holistic and integrated approach to water policy). These models are not intended as normative in the sense that one would be better than the other, but they highlight different co-ordination challenges raised by a given institutional organisation of water policy even if – within a given category – the degree to which governance challenges have an impact on the performance of water policy may vary from one country to another. In most cases, countries have developed a series of mechanisms to address the institutional challenges mentioned below. In addition to outlining the challenges to co-ordination, they could be enriched by adding other dimensions (e.g. capacity gaps, variety of tools in use, etc.), to produce a more elaborate matrix linking each model with policy objectives and desired outcomes. This would support the hypothesis that regardless of the model adopted (which is often dependent on institutional legacy and not always under government control) the same policy goals are achievable with a combination of different governance instruments.

Figure 2.8. **Preliminary categories of LAC countries**



Source: Based on results from OECD (2011), "OECD Survey on Water Governance 2010-2011", OECD, Paris, survey conducted in 2011, *www.oecd.org/dataoecd/37/39/44689618.pdf*.

It is widely acknowledged that fragmentation of administrative and legal water frameworks should be avoided. To do so, detailed roadmaps should be defined for each step, from the definition of water policy objectives, constraints and outcomes in general, to standards and tariff setting and subsidies allocation, risk analysis and distribution, as well as the identification of legal and institutional frameworks. In practice, the multiplicity of actors across ministries and public agencies, between levels of government, and at the sub-national level intrinsically raises multi-level governance challenges. At the central government level, there is a wide diversity of policy areas related to water policy making (e.g. energy, agriculture, territorial development, health, public works/infrastructure, economy, finance, etc.). Because of the sectoral fragmentation of water-related tasks across ministries and public agencies, policy makers

constantly face conflicting objectives and the temptation of retreating into silo approaches. At the sub-national government level, a range of local actors is involved in water policy making (municipalities, inter-municipal bodies, regions, river basin authorities, regional development agencies, water users' associations, etc.). This may generate obstacles in managing the interface between different local actors and building capacity at the sub-national level. Finally, because many LAC countries have decentralised or are in the process of decentralising their water policy making, joint action is required between central government and sub-national actors in the design, regulation and implementation stages of water policy. This requires overcoming obstacles related to co-ordination across levels of government. The following chapter introduces such challenges, through the OECD Multi-level Governance Framework, for diagnosing capacity and co-ordination gaps in water policy.

Notes

1. Information presented in the following tables was collected from responses to the 2010 OECD Survey on Water Governance, regarding the ministries, public agencies, levels of government and sub-national actors involved in specific areas of water policy. Detailed institutional mappings of the 13 LAC countries surveyed can be found within the country profiles in Chapter 5.

2. For additional information, see the Latin American Water Tribunal Official website at *www.tragua.com/index_english.html*.

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Chapter 3

Multi-level governance challenges in the LAC water sector

This chapter identifies the main obstacles preventing the design and implementation of integrated and coherent water policies in LAC countries. Taking a close look at the interplay between different public actors involved in water policy making, the chapter diagnoses seven major multi-level governance gaps, based on selected indicators and data collection from the OECD Survey on Water Governance.

Introduction

There is a global acknowledgement that institutions matter in the water sector and that good governance is a key condition for success, but there is little research to measure the level of fragmentation and related governance challenges experienced by countries when designing and implementing water policies in a non-prescriptive way. Taking stock of existing principles, guidelines, indicators, indexes and checklists for good governance in the water sector, the OECD has designed a framework that identifies seven common multi-level governance gaps. These have been used to assess, based on selected proxies, the relative importance of the different multi-level governance challenges in the water sectors of 17 OECD countries (OECD, 2011). This chapter uses the same framework, to appraise the level of territorial and institutional fragmentation in the 13 LAC countries covered by this study. The overall objective is neither to rank countries nor to determine an optimal model of governance, but rather to identify categories of countries facing similar challenges in order to facilitate peer review dialogues and to learn from experiences within the LAC region when seeking appropriate policy responses.

Methodology for evaluating multi-level governance challenges in water policy making

The assessment of LAC countries' water multi-level governance challenges proposed in this section is based on the OECD Multi-level Governance Framework and data collection from the 2011 OECD Survey on Water Governance. In the 13 countries surveyed, respondents from central administrations (most often from water directorates) were asked to rank a series of water governance challenges from 1 (not important) to 3 (very important), according to a set of indicators attempting to illustrate each of the multi-level governance gaps. Though several elements contribute to the seven broad governance challenges previously described, one proxy indicator per gap was selected to facilitate the analysis. Table 3.1 summarises the main proxy indicators that were selected for the different gaps in order to design categories of water governance challenges in LAC countries.

Table 3.1. **Proxies for measuring multi-level governance gaps in water policy**

Multi-level governance gaps	Proxy indicator
Policy gap	Overlapping, unclear allocation of roles and responsibilities
Administrative gap	Mismatch between hydrological and administrative boundaries
Information gap	Asymmetries of information between central and sub-national governments
Capacity gap	Lack of technical capacity, staff, time, knowledge and infrastructure
Funding gap	Unstable or insufficient revenues of sub-national governments to effectively implement water policies
Objective gap	Intensive competition between different ministries
Accountability gap	Lack of citizen concern about water policy and low involvement of water users' associations

The assessment of each gap is based on a single proxy indicator considered likely to raise co-ordination challenges. In practice, such an evaluation should also be complemented by other criteria and factual data.

- Respondents' perceptions of a mismatch between hydrological and administrative boundaries is a key element for evaluating the **administrative gap**, but additional elements should also be considered, such as the type and number of sub-national

governments involved in the design, regulation and implementation of water policies.

- While the perception of overlapping, unclear or non-existent allocation of responsibilities is crucial to measure the **policy gap**, other types of information are also enlightening. These include processes for defining the allocation of roles and the type and number of central government authorities involved in water policy design, regulation and implementation.
- Regarding the **funding gap**, respondents' opinions on the impact of unstable or insufficient revenues of sub-national governments on the implementation of water policies is an interesting indicator. A closer look at the types of actors (central, sub-national) involved in water policy budgets is also critical.
- Respondents' opinions on the impact of the lack of citizen involvement in water policy implementation is clearly relevant for measuring the **accountability gap**, which in addition can be approached via the interference of lobbies in water policies.
- A final example is the **objective gap**, which is measured here by respondents' opinions on the intensive competition among different ministries, but could also be approached by the possible contradiction between the national organisation and supranational recommendations and directives.

A preliminary classification of LAC countries

Table 3.2 provides an overview of where multi-level governance co-ordination gaps appear to be important or very important in the LAC region, based on responses to the 2011 OECD Survey on Water Governance. The objective is to produce stylised features that are analysed in the light of existing co-ordination tools, allowing for a customisation and integration of water policy.

The degree to which effective co-ordination and implementation of integrated water policy may be hindered by multi-level governance gaps varies in the LAC region, but common challenges have been identified. A closer look at each of these gaps is provided in order of importance, starting with the **policy gap**, which was considered as the most important gap by countries surveyed (12 out of 13), followed by the **accountability gap** (11 out of 13) and the **funding gap** (10 out of 13).

The policy gap

Almost all of the LAC countries surveyed pointed out the high impact of the over-fragmentation of roles and responsibilities on water policy implementation at the territorial level. Sectoral fragmentation across ministries and between levels of government is considered as an important or very important obstacle to integrated water policy in 92% of countries surveyed. Even if most LAC countries have set up national water agencies (among them Argentina, Brazil, Mexico, Panama and Peru), the multiplicity of interlocutors at the central level still impedes coherent water policy design and implementation on the ground and has a significant impact on local and regional actors.

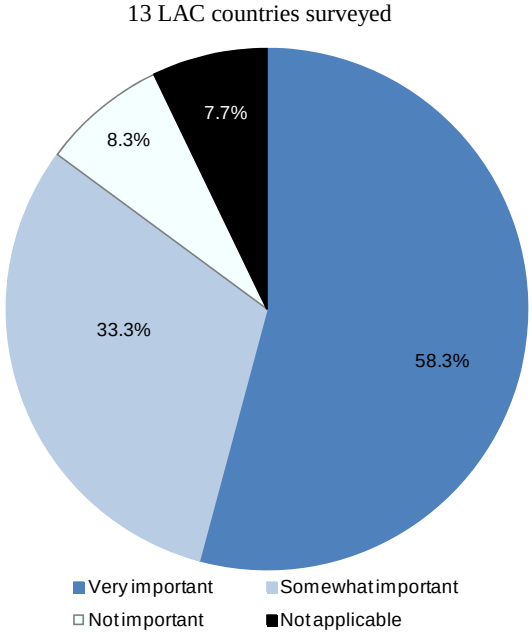
Table 3.2. **Key multi-level governance challenges for water policy making in LAC countries**

"Important" or "very important" gap	Number of countries	Examples
Policy gap	12 out of 12	Argentina, Brazil, Chile, Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Peru
Accountability gap	11 out of 12	Argentina, Brazil, Chile, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Peru
Funding gap	10 out of 12	Argentina, Chile, Dominican Republic, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Peru
Capacity gap	9 out of 12	Chile, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Peru
Information gap	9 out of 12	Argentina, Brazil, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama, Peru
Administrative gap	6 out of 12	Brazil, El Salvador, Guatemala, Honduras, Nicaragua, Peru
Objective gap	4 out of 12	Costa Rica, Guatemala, Honduras, Nicaragua

Note: Only 12 LAC countries were taken into account since Cuba did not answer this specific question.

Source: OECD (2011), "OECD Survey on Water Governance 2010-2011", OECD, Paris, survey conducted in 2011, *www.oecd.org/dataoecd/37/39/44689618.pdf*.

Figure 3.1. **Policy gap: Sectoral fragmentation across ministries and public agencies**



Source: Based on results from OECD (2011), "OECD Survey on Water Governance 2010-2011", OECD, Paris, survey conducted in 2011, *www.oecd.org/dataoecd/37/39/44689618.pdf*.

Water policy coherence is highly dependent on the design of institutions and the allocation of roles and responsibilities at central and sub-national levels. However, often countries experience a **policy gap** because water responsibilities are scattered across several ministries. These can range from the ministry of environment to the ministries of agriculture, health, fisheries, industry, finance, transport, public works, rural

development, infrastructure, housing, spatial planning, etc. These policy areas relate to different organisational cultures and have different constituencies (farmers, trade unions, voters, private companies, etc.), as well as different degrees of sensitivity to lobbies. Unless co-ordination is encouraged, this multiplicity of actors is likely to favour segmented working methods and complicate decision-making processes even further. Narrow sectoral perspectives and silo approaches then prevail, instead of cross-cutting agendas tailored to specific issues. Setting up a comprehensive institutional map that clearly identifies **who does what** in terms of managing water resources and services is therefore key for identifying possible overlaps or grey areas in water policy.

A series of indicators can explain the causes of the policy gap and its impact on effective co-ordination and implementation of water policy in the LAC region. Such indicators are described in Table 3.3, which also lists LAC countries considering them as important or very important obstacles to effective co-ordination and implementation of water policies at the horizontal level. As Table 3.3 shows, the first three explanatory factors relating to the **policy gap** are the lack of national level political leadership and commitment in water policy, the absence of strategic planning and sequencing of decisions, and the problematic implementation of central government policies at local and regional levels. On the latter point, in Chile, the absence of strategic planning and a common frame of reference for water policy, especially in terms of property rights, is problematic and requires permanent consensus across ministries and agencies. Two additional obstacles to effective co-ordination at central government level (Figure 3.2) are the absence of monitoring and evaluation of water policy outcomes, and the lack of staff and time. In Brazil, there is no co-ordination, regulatory framework nor integrated planning among the several ministries and agencies whose actions are related to water resources. Thus, actions are often disarticulated, especially in terms of infrastructure investments.

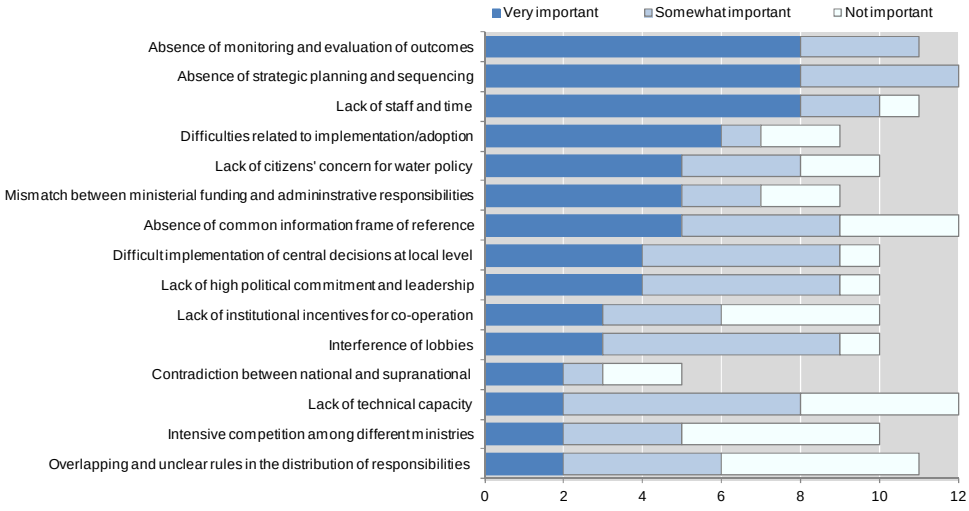
Table 3.3. **Indicators to measure the policy gap in the water sector**

Main obstacles to horizontal co-ordination of water policies	Number of countries	Examples of countries
Problematic implementation of central government decisions at local and regional level	10	Brazil, Chile, Costa Rica, Dominican Republic, Guatemala, Honduras, Mexico, Nicaragua, Panama, Peru
Lack of national-level political commitment and leadership in water policy	10	Brazil, Chile, Costa Rica, Dominican Republic, El Salvador, Honduras, Mexico, Nicaragua, Panama, Peru
Absence of strategic planning and sequencing decisions	10	Argentina, Brazil, Chile, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Peru
Interference of lobbies	8	Argentina, Brazil, Chile, Costa Rica, El Salvador, Honduras, Nicaragua, Panama
Lack of institutional incentives for co-operation (objectives, indicators)	7	Argentina, Brazil, Guatemala, Honduras, Mexico, Panama, Peru
Overlapping, unclear, non-existent allocation of responsibilities	7	Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Nicaragua, Peru
Difficulties related to implementation of/adaptation to recent reforms	7	Chile, Costa Rica, Guatemala, Honduras, Nicaragua, Panama, Peru
Competition among different ministries (political rivalries)	4	Costa Rica, Guatemala, Honduras, Nicaragua

Source: OECD (2011), "OECD Survey on Water Governance 2010-2011", OECD, Paris, survey conducted in 2011, *www.oecd.org/dataoecd/37/39/44689618.pdf*.

Figure 3.2. **Obstacles to effective co-ordination at central government level**

12 LAC countries surveyed*



Note: * On this specific aspect, Cuba did not answer.

Source: Based on results from OECD (2011), "OECD Survey on Water Governance 2010-2011", OECD, Paris, survey conducted in 2011, *www.oecd.org/dataoecd/37/39/44689618.pdf*.

Difficulties in implementing central government decisions at local and regional levels create tensions between ministries with conflicting interests at the sub-national level and call for a customisation of water policy at the territorial level. In Mexico, CONAGUA programmes seek to respond to increasing water demand from the different users, especially those that have fewer water resources. But there is a general acknowledgement of the need for a co-ordination agreement or convention between state and federal governments to encourage decentralisation of hydrological programmes. No real co-ordination exists at central government level to match up the actions of public agencies and demands from civil society, especially in terms of water resources and environmental protection. A lack of dialogue at national level as well as a lack of consensus on water tariffs (metering, full-cost recovery, etc.) and strong political commitment at all levels, make it a challenge to design sustainable and financially viable water policies. The Mexican 2030 Water Agenda launched in 2011 is a starting point to meet these challenges. In the Dominican Republic, institutions' budgets depend on the Ministry of Housing or other central government bodies' decisions. Budget gaps and the difficult implementation of a pluri-annual budget programme and planning are pointed out as important obstacles. The implementation of the different water projects is not necessarily co-ordinated across administrative bodies (according to water availability in the river basins for example) but rather work on a case-by-case basis. Projects are improvised, approved and financed without any water resource management strategy. This represents a challenge to overcome, and overlaps across

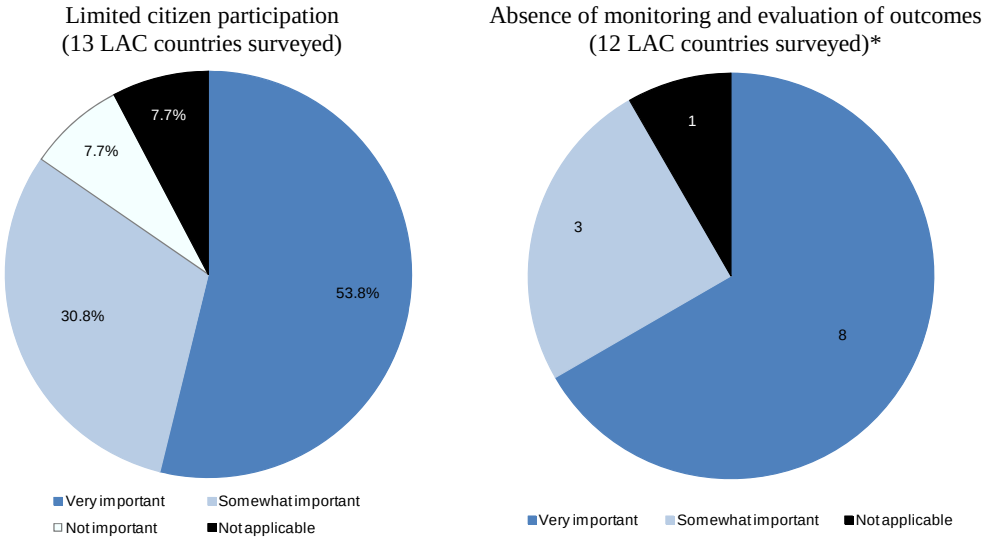
administrative bodies, in particular for fluvial regulation utilities and water storage projects, need to be tackled. A significant obstacle to effective co-ordination in Guatemala is the disconnection between top-down designed policies and their implementation. The Water Specific Cabinet (GEA) is the line authority, but many operational technical levels are neither managed nor assessed and therefore do not follow national policies, but rather sub-level engineers'/technical recommendations. Many decisions are taken by ministry departments or the vice-minister without any co-ordination with the GEA.

LAC countries also pointed out a series of obstacles to co-ordinating water with other policy areas. The integration of water and regional development policies, for example, presents several major challenges because of the absence of common database and information systems, the lack of monitoring mechanisms or performance indicators, the confusing allocation of roles and the lack of co-operation among the agencies engaged in these sectors. For the water-energy nexus, as for the co-ordination between water and agriculture policies, the major challenge lies in the mismatch between ministerial funding and administrative responsibilities. As central agencies seem to define missions and objectives but do not invest the necessary means to achieve them, little co-ordination is possible between these policy areas. In addition, intensive competition between different ministries is common in water, energy and agricultural policy co-ordination in several LAC countries. In Chile, water policies in the agricultural sector are designed by two separate ministries with different interests: the Ministry of Public Works, through its Office of Water Infrastructure (dams, irrigation, etc.) and the Ministry of Agriculture's National Irrigation Commission, whose main constituencies are farmers and local irrigation organisations' members, both strong lobbyists. Lastly, unclear allocation of roles and a lack of institutional incentives for co-operation are also cited as common concerns for both water-energy and water-agricultural policy coherence.

The accountability gap

The accountability gap is likewise considered an important obstacle to inclusive water policy in more than 90% of the LAC countries surveyed. Generally, the main issues relate to a lack of public concern and low involvement of water users' associations in policy making. Indeed, limited citizen participation was pointed out as an important gap in more than two-thirds of countries surveyed. But challenges related to the evaluation of water policies at central and sub-national level are also crucial to reducing the accountability gap. Inadequate monitoring, reporting, sharing and dissemination of water policy performance also prevent policy coherence at horizontal and vertical levels. Periodic assessment of progress toward established policy goals is vital to understanding whether the applied efforts are effective and for adjusting policy where necessary. But feasibility is often limited due to political, financial and capacity considerations, and this complicates the implementation of central government decisions at the sub-national level. The absence of monitoring and evaluation of water policy outcomes were considered important obstacles to water policy implementation at the territorial level in almost all of the LAC countries surveyed (11 out of 13).

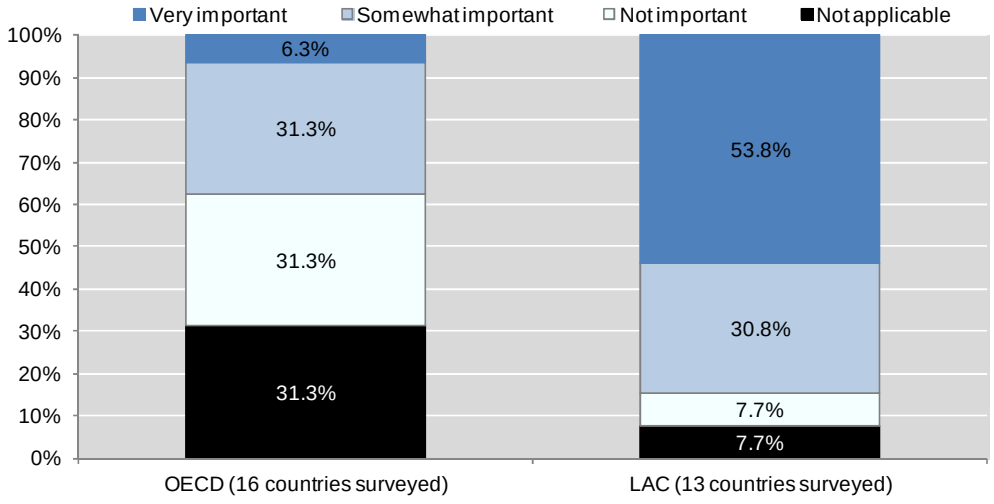
Figure 3.3. **Accountability gap: Limited citizen participation and absence of monitoring and evaluation of outcomes**



Note: * On this specific aspect, Cuba did not answer.

Source: Based on results from OECD (2011), "OECD Survey on Water Governance 2010-2011", OECD, Paris, survey conducted in 2011, *www.oecd.org/dataoecd/37/39/44689618.pdf*.

Figure 3.4. **Public participation challenges in OECD and LAC countries**



Source: Based on results from OECD (2011), "OECD Survey on Water Governance 2010-2011", OECD, Paris, survey conducted in 2011, *www.oecd.org/dataoecd/37/39/44689618.pdf*.

The funding gap

Interestingly the funding gap, though important, was not considered the principal obstacle to integrated water policy in LAC countries. Nevertheless, the mismatch between ministerial funding and administrative responsibilities is still a significant challenge in 58% of countries surveyed. The absence of stable and sufficient revenues of sub-national actors is an important challenge for co-ordinating water policy between levels of government and for building capacity at the sub-national level. A more detailed analysis of this topic would require a clear separation between the different water cycles (services, ecosystems and natural resources), since they do not raise the

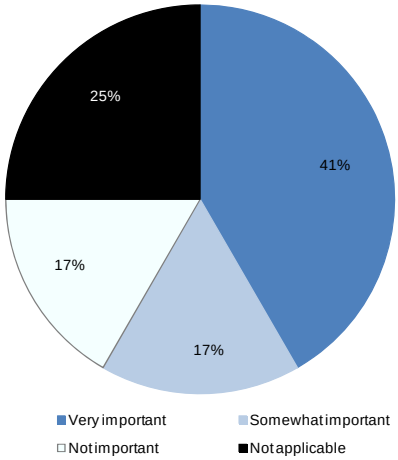
same financing challenges. But in some cases (water resources and services), identifying and assessing financial mechanisms for sustainable water policies is critical. Well-functioning institutions underpin increased and more effective investments in water development, hence the importance of the governance-financing nexus. Poor institutions constitute amplified investment risk and affect the competitiveness of countries in global markets. Sustainable water management (and cost recovery) can only be achieved through stable policy and regulation, institutions with clear responsibilities, co-ordination of national, local and "outside water box" actors (multi-level governance).

Decentralisation has impacts on access to and the cost of funding, and investment programmes need to be based on long-term strategy, achievable targets, realistic goals, and appropriate governance tools. The water crisis is widely recognised as a complex interaction of multiple causes and effects. At its core, governance deficit, mismanagement and under-financing play a major role, inducing and reinforcing each other. In many developing countries, despite the flow of funding in the form of ODA, loans or otherwise, governments struggle and usually fail to meet the financial requirements that water-related strategies and plans entail. The lack of basic elements of a sound governance framework in many of the countries, including absorption capacity at both national and local levels, impedes the efficient use of available funding and the mobilisation of much needed additional sources of finance, particularly from the private sector.

In addition to co-ordination between levels of government, the funding gap can also hinder co-ordination across ministries, thus affecting the implementation of water policies. Asymmetries of revenue and funding are also likely to undermine the co-ordination of water policies across ministries and public agencies. A ministry with a higher budget will have more ability to tilt policy towards its own agenda, which may be problematic if that agenda is not coherent with that of the other ministry. Often, ministries of finance and economy are not directly involved in making decisions during water policy reforms, which can raise implementation challenges at a later stage. The finance arrangements of ministries may hinder the adoption of more coherent policies.

Figure 3.5. **Funding gap: Mismatch between ministerial funding and administrative responsibilities**

10 LAC countries surveyed*



Very important	Argentina, Brazil, Dominican Republic, Honduras, Mexico, Panama, Peru
Somewhat important	Chile, Nicaragua
Not important	El Salvador

Note: * On this specific aspect, Cuba and Guatemala did not answer.

Source: Based on results from OECD (2011), "OECD Survey on Water Governance 2010-2011", OECD, Paris, survey conducted in 2011, *www.oecd.org/dataoecd/37/39/44689618.pdf*.

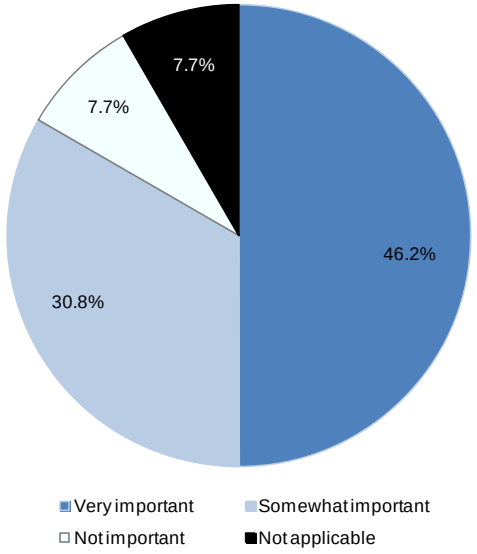
The capacity gap

The *capacity gap* was pointed out as a major obstacle for effective implementation of water policy in two-thirds of the LAC countries surveyed. This refers not only to the technical knowledge and expertise, but also to the lack of staff (at central and sub-central levels) as well as obsolete infrastructure. In addition, the new technologies and innovative water processes introduced in response to cost-effectiveness objectives, water scarcity and climate change (desalination, nanotechnologies, spatial technologies, recycling of water use, etc.) require transfers of know-how at the sub-national level, especially when service delivery is not managed by the private sector. More generally, in LAC countries, some skill sets are in good supply (e.g. mechanical engineering) while others may still be in need of reinforcement (e.g. planning, hydrology, climatology, financing) to implement integrated management.

In many LAC countries, the lack of expertise and competent staff is a major threat to the implementation of the water reform agenda. In Honduras, one of the main difficulties for co-ordination at the central level is the lack of sustainable water resources policies, projects, strategies and actions due to the fact that there is not any stability in the water sector's workforce. Each new government hires a new staff, which often lacks adequate capacities and requires time to achieve some continuity with the previous processes. Currently, water managers deal with a wider range of issues than in the past, and catchments have been subject to more modification and are more ecologically fragile than they used to be. Discrepancies in knowledge, information, technical expertise and enforcement capacity across ministries and between levels of government can create obstacles to integrated water policy as Figures 3.6 and 3.7 show.

Figure 3.6. **Capacity gap: Resources and infrastructure for local and regional governments**

12 LAC countries surveyed*

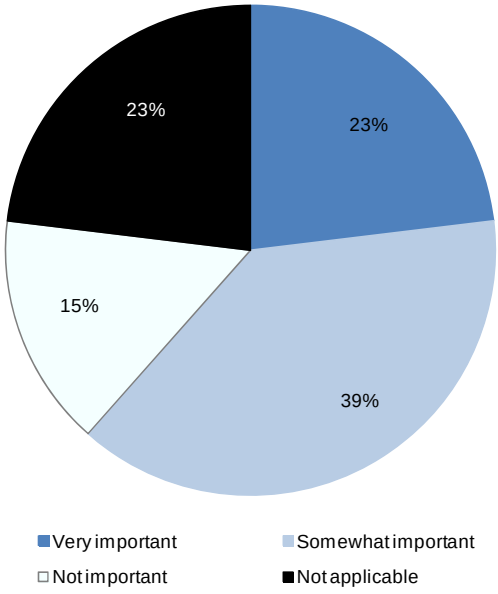


Note: * On this specific aspect, Cuba did not answer.

Source: Based on results from OECD (2011), "OECD Survey on Water Governance 2010-2011", OECD, Paris, survey conducted in 2011, *www.oecd.org/dataoecd/37/39/44689618.pdf.*

Figure 3.7. **Obstacles to vertical co-ordination: Insufficient knowledge and infrastructure**

13 LAC countries surveyed



Source: Based on results from OECD (2011), "OECD Survey on Water Governance 2010-2011", OECD, Paris, survey conducted in 2011, *www.oecd.org/dataoecd/37/39/44689618.pdf.*

Table 3.4. **Co-ordination and capacity challenges: Insufficient knowledge capacity**

12 LAC countries surveyed*

Very important	Costa Rica, El Salvador, Guatemala, Honduras, Panama
Somewhat important	Chile, Nicaragua, Peru
Not important	Argentina, Brazil, Dominican Republic, Mexico

Note: * On this specific aspect, Cuba did not answer.

Source: Based on results from OECD (2011), "OECD Survey on Water Governance 2010-2011", OECD, Paris, survey conducted in 2011, *www.oecd.org/dataoecd/37/39/44689618.pdf.*

In several LAC countries, capacity challenges have been exacerbated by the decentralisation processes in the early 1990s. More generally, countries willing to decentralise their water policy face a fundamental sequencing question: at what point is the sub-national level ready or sufficiently mature to assume the responsibilities associated with devolved or decentralised tasks in water policy making? Will learning by doing be sufficient, or is it essential to build capacity before it is possible to properly deliver on assigned competences? There is no right or wrong answer to these questions. Capacity development needs vary with the pre-existing levels of administrative infrastructure. Established sub-national governments with well-developed institutions may need little capacity building when faced with new responsibilities. But where sub-national governments or related institutions must be created or have historically had a limited role, the difficulties will be greater.

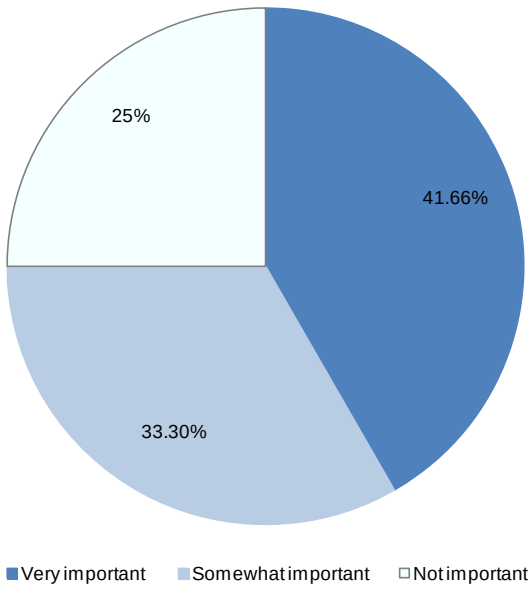
In focusing on capacity building needs, one may recall the guidance provided by the Dublin Statement on Water and Sustainable Development.[1] It invites countries to identify, as part of their national development plans, training needs for water resource management. It also suggests they take steps internally, if necessary with technical co-operation agencies, to provide the required training and working conditions to retain trained personnel. The statement notes that governments must assess their own capacity to equip their water and other specialists to implement the full range of activities for integrated water resource management. This requires providing an enabling environment, that is, institutional and legal arrangements for effective water-demand management. In addition, raising awareness is a vital part of a participatory approach to water resource management. Information, education and communication support programmes must be an integral part of the development process.

The information gap

The information gap remains a prominent obstacle to effective water policy implementation in two-thirds of the LAC countries surveyed (9 out of 12). In particular, inadequate information generation and sharing among relevant actors, as well as scattering and fragmentation of the generated primary water and environmental data, are important bottlenecks across ministries, agencies and levels of government involved in water policy. In addition, substantive problems with data inhibit integrated water policies in several ways (including jargon, a mix of terminologies, unclear definitions, overlapping meanings of terms related to water).

Figure 3.8. **Absence of a common information frame of reference**

12 LAC countries surveyed*



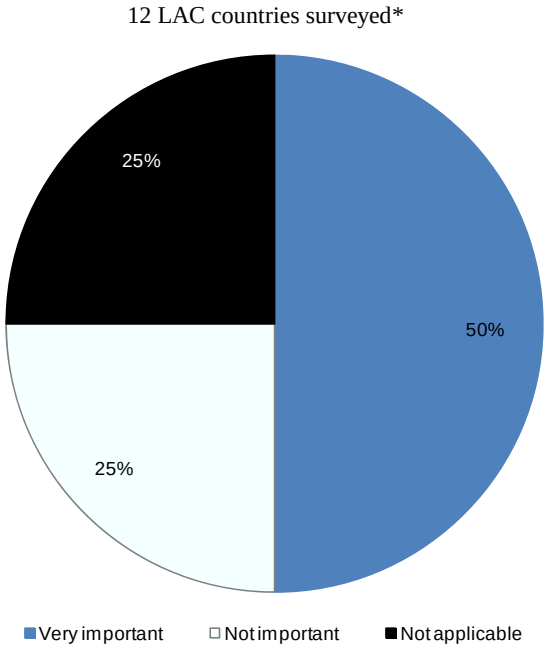
Note: * On this specific aspect, Cuba did not answer.

Source: Based on results from OECD (2011), "OECD Survey on Water Governance 2010-2011", OECD, Paris, survey conducted in 2011, *www.oecd.org/dataoecd/37/39/44689618.pdf.*

The administrative gap

The administrative gap is an important governance challenge for half of the LAC countries surveyed (Figure 3.9), despite the existence of river basin organisations. Indeed, several countries pointed out the lack of fit between administrative zones and hydrological boundaries, even after the creation of river basin organisations (Peru). Often, municipalities take only their own perspectives and plans into account in executing their budgets, and the lack of an integrated approach and territorially customised water policy compromises the efficiency of budget execution. A closer look at the missions of river basin organisations in LAC shows that the lack of regulatory powers, as compared to OECD countries, may explain the remaining mismatch between administrative and hydrological boundaries.

Figure 3.9. **Administrative gap: Mismatch between hydrological and administrative boundaries**



Note: * On this specific aspect, Cuba did not answer.

Source: Based on results from OECD (2011), "OECD Survey on Water Governance 2010-2011", OECD, Paris, survey conducted in 2011, *www.oecd.org/dataoecd/37/39/44689618.pdf.*

The objective gap

LAC countries also experience difficulty in striking a balance between the often conflicting objectives in financial, economic, social and environmental areas for the collective enforcement of water policy. One significant example is the design of water-pricing policies, which is often complicated by the need to balance financial and social objectives. Historically, water has been significantly under-priced, so price increases can pose a political challenge. Conversely, if tariff structures are not properly designed with social considerations in mind, price increases may disproportionately affect poorer households. Policy coherence across sectors is therefore crucial, as regional

development, land management, agriculture and even energy policies also affect water demand. In addition, water outcomes are often driven by decisions made in policy areas over which water managers have little or no say. For example, irrigation water users respond to water prices, but also to energy and output prices and to the support they receive from governments. Besides, agriculture is the largest consumer of water and source of water pollution. Support for agricultural production and subsidies for variable inputs continue to misalign incentives to farmers and aggravate the overuse and pollution of water. In the context of climate change, the water-energy nexus is also emerging as a critical policy area. The development of non-fossil fuel energy sources, such as hydropower and biofuels, has put serious pressure on water resources. Furthermore, the development of alternative water sources (such as desalination and reuse) consumes large quantities of energy; and water scarcity may force the closure of power plants that require fresh water for cooling. An **objective gap** can also occur between rural and urban areas, and upstream and downstream states. Such conflicting interests ineluctably undermine effective implementation of responsibilities at central government level in collective enforcement of water policies, especially when legislation is outdated.

Water management cuts across many strategic directions and a lack of real recognition of conflicts between different government policies (e.g. energy and water) regularly creates difficulties for local and regional authorities. A holistic perspective is therefore needed from the centre, which acknowledges the conflicts undermining successful water management and sets clearer direction in certain areas. In addition, the prospects of success are greater when the timeframe for one policy aligns with activities in another policy. In theory, time scales are relatively easy to co-ordinate. For instance, regulatory and budget cycles can be synchronised over time (e.g. multi-annual budgeting) so that decisions that require coherence can be taken independently of political calendars and agendas, which vary from one ministry to another. Strategic planning is more difficult to design if policies, legislation and institutions on the water environment are questioned from one government to another. It essentially requires a public relations effort to manage the expectations of those who have a vested interest in previous policies, so that they can be engaged in policy changes and build flexibility towards policy coherence at the central and local level.

Conclusion

The degree to which effective co-ordination and implementation of integrated water policy may be hindered by multi-level governance gaps varies widely across and within LAC countries, but common challenges have been identified. The primary obstacle pointed out by almost all LAC countries surveyed is the policy gap[2] (12 out of 13), followed by the accountability gap[3] (11 out of 12) and the funding gap[4] (10 out of 12). Information and capacity gaps are also crucial in two-thirds of the LAC countries surveyed (9 out of 12), followed by the administrative gap (6 out of 12) and the objective gap (4 out of 12).

Understanding multi-level governance challenges in water policy requires a holistic approach to co-ordination gaps because they are inter-related and can exacerbate each other. For instance, any country facing a sectoral fragmentation of water roles and responsibilities across ministries and public agencies (policy gap) may also suffer from the conflicting goals of these public actors (objective gap). Because of silo approaches, policy makers may not willingly share information (information gap). This in turn undermines capacity building at the sub-national level (capacity gap) because local

actors, users and private actors have to multiply their efforts to identify the right interlocutor in the central administration. Hence, the need to identify the mutual interdependencies among different institutions involved in water policy making at local, regional and central levels. This implies recognising the impediments to effective co-ordination of public actors at the administrative, funding, knowledge, infrastructural and policy levels, to address water information and data gaps and promote shared strategies for more effective water policies.

Notes

1. For the entire Dublin Statement on Water and Sustainable Development, see *www.gdrc.org/uem/water/dublin-statement.html*.
2. i.e. unclear allocation of roles and responsibilities.
3. i.e. lack of citizen concern about water policy and low involvement of water users' associations.
4. i.e. unstable or insufficient revenues of sub-national governments to effectively implement water policies.

Bibliography

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Chapter 4

Multi-level co-ordination instruments for water policy making: Evidence from the LAC region

This chapter identifies the policy instruments used by governments to bridge multi-level governance gaps considered to be bottlenecks in the co-ordination and implementation of water policy. An in-depth focus on instruments fostering horizontal co-ordination across ministries, horizontal co-ordination across local actors, and vertical co-ordination between levels of government, shows the variety of practices adopted by LAC countries for multi-level co-ordination of water policies and capacity building at sub-national level.

Introduction

Encouraging co-ordination and capacity-building is a critical step toward bridging multi-level governance gaps in water policy. Meeting water governance challenges calls for a mix of well-integrated policy measures. This can be difficult to achieve in a context of fragmented responsibilities among various public actors as decisions are made at different territorial levels (international, national, regional, municipal, basin, etc.). Greater policy coherence is called for, both horizontally and vertically, among different institutions. This does not mean uniformity, but an attempt to create synergies among customised approaches, and it requires mutually reinforcing actions across government, departments and agencies for achieving the agreed-upon policy objectives, defining long-term strategies and adapting them to different contexts. Transparency, flexibility, rapid adaptation to a changing environment, early warning of any incoherence and mechanisms for dialogue and solving disputes among different communities are all crucial ways of achieving integrated policy.

Overview of governance instruments for managing mutual dependencies in the water sector

Table 4.1 provides an overview of existing water policy co-ordination and capacity building tools in LAC countries, ranging from "hard" (legal arrangements, contracts, etc.) to "soft" mechanisms (voluntary industry agreements, stakeholders' information measures, consultations, etc.) and formal to informal ones. A more detailed view of their objectives, use and references in the different countries is available in the country profiles in Chapter 5.

Table 4.1. **Co-ordinating water policies at horizontal and vertical levels**

Upper horizontal co-ordination tools		
Gap(s) targeted	Tool	Examples of countries
Information gap Objective gap Policy gap	Multi-sectoral conferences between central government actors and between sub-national players	Argentina, Brazil, Chile, Cuba, Mexico, Panama, Peru
	Co-ordination group of experts	Argentina, Costa Rica, Cuba, Honduras, Mexico, Panama
	Inter-agency programmes	Argentina, Costa Rica, Dominican Republic, Guatemala, Mexico
	Inter-ministerial body or commission	Argentina, Chile, Costa Rica, Cuba, Dominican Republic, El Salvador, Guatemala, Mexico, Nicaragua, Panama, Peru
	Ad hoc high-level structure	Argentina, Brazil, Chile, Costa Rica, Guatemala, Mexico, Nicaragua, Panama, Peru
	Central agency	Argentina, Brazil, Chile, Costa Rica, Dominican Republic, Mexico, Panama, Peru
	Line ministry with specific water prerogatives	Brazil, Chile, Costa Rica, Dominican Republic, El Salvador, Honduras, Mexico, Nicaragua, Panama, Peru
	Ministry of Water (exclusively)	Cuba, Nicaragua

Table 4.1. **Co-ordinating water policies at horizontal and vertical levels** (*cont.*)

Vertical and lower horizontal co-ordination tools		
Gap(s) targeted	Tool	Examples of countries
Administrative gap Capacity gap Funding gap Information gap Objective gap Policy gap	Water agency or river basin organisation	Argentina, Brazil, Cuba, Honduras, Mexico, Nicaragua, Peru
Accountability gap Funding gap Objective gap Policy gap	Regulations for sharing roles between levels of government	Argentina, Cuba, El Salvador, Mexico, Panama, Peru
Administrative gap Information gap Objective gap Policy gap	Co-ordination agency or commission	Brazil, Mexico
Accountability gap Capacity gap Funding gap Information gap Objective gap Policy gap	Contractual arrangements	Argentina, Brazil, Chile, Cuba, El Salvador, Guatemala, Mexico
Accountability gap Capacity gap Funding gap Information gap	Financial transfers/funds	Chile, Cuba, Mexico
Accountability gap Capacity gap Funding gap Information gap	Performance indicators and experimentation at the territorial level	Cuba, Mexico, Panama, Peru
Information gap Capacity gap Objective gap Policy gap	Shared databases and water information systems	Argentina, Brazil, Cuba, Dominican Republic, Mexico, Panama, Peru
Administrative gap Capacity gap Funding gap Information gap Objective gap	Inter-municipal co-operation or specific bodies	Argentina, Brazil, Costa Rica, Cuba, Dominican Republic, El Salvador, Guatemala, Honduras, Mexico, Nicaragua
Accountability gap Administrative gap Capacity gap Funding gap Information gap Objective gap Policy gap	Citizen engagement	Brazil, Chile, Costa Rica, Cuba, Dominican Republic, El Salvador, Honduras, Mexico, Nicaragua, Panama, Peru
Capacity gap Funding gap Information gap Objective gap	Private sector participation	Chile, Cuba, Dominican Republic, Mexico, Panama, Peru

Source: Based on results from OECD (2011), "OECD Survey on Water Governance 2010-2011", OECD, Paris, survey conducted in 2011, *www.oecd.org/dataoecd/37/39/44689618.pdf*.

Tools for improving water governance: Main trends and features in LAC countries

There are several options for co-ordinating water policies – including within a given country – and incentives for adopting them proceed from a variety of parameters. Co-ordination instruments across ministries, between levels of government and across local actors are more or less binding, more or less formal and more or less flexible. Most of them aim to create a framework for combining tools, funds and organisations or establishing a multi-stakeholder platform for dialogue for integrated water policy at all levels. Their creation relies on several factors, ranging from scarcity concerns, which is usually a driver for effective water management, to institutional mismatch or equity and efficiency objectives, even in developed and water-rich countries.

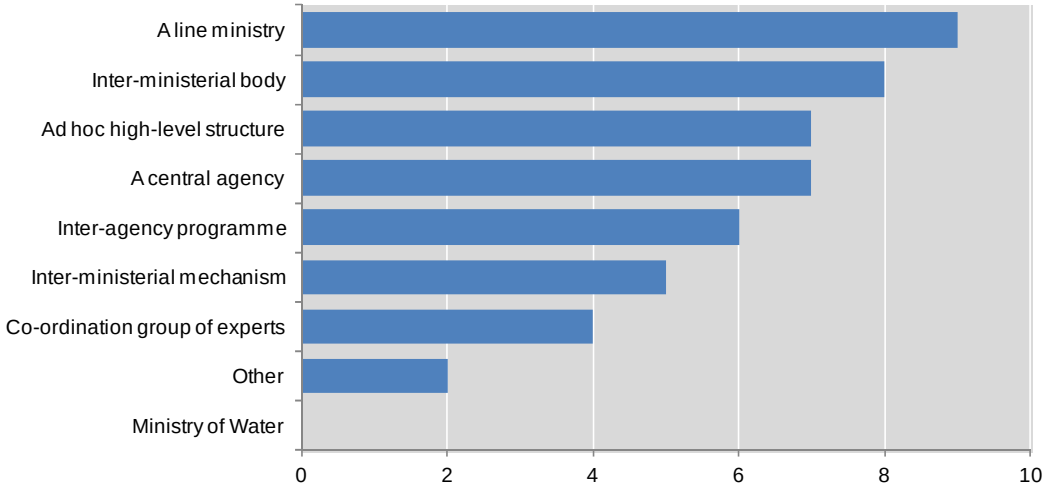
Each co-ordination mechanism can help bridge different gaps, and each specific gap may require the combination of several tools. All LAC countries surveyed have set up some co-ordination mechanisms at horizontal level, but countries where sub-national actors play merely an "operational" role in water policy (Costa Rica, Cuba, the Dominican Republic) have not necessarily adopted vertical co-ordination mechanisms. The following section offers closer scrutiny of a selection of tools, showing examples of countries using them. However, the interaction among different governance instruments, as well as their performance in terms of co-ordination and capacity building, can only be assessed holistically, within the framework of a policy dialogue and a more in-depth approach at different territorial levels.

Institutional mechanisms for upper horizontal co-ordination in water policy making

Central governments willing to move away from a sectoral approach to water policy face the issue of how to organise their actions to embrace an integrated perspective. The distribution of water responsibilities among several national administrative bodies often results in a fragmentation of these functions and frequent conflicts in decision-making processes and resources distribution. A concerted effort is needed to encourage the various institutional and managerial systems that formulate and implement water policy to work together. Consistency is also needed to ensure that individual policies are not contradictory, and that they converge in a coherent strategy. This demands a strong political will to overcome silo tendencies, and to stimulate and co-ordinate formal agreements within the public administration.

All LAC countries surveyed have co-ordination mechanisms at central government level, but none of them has created a ministry specifically and **exclusively** dedicated to water. The water sector therefore differs from other policy areas such as health and energy, where there is frequently a specific ministry to ensure central co-ordination. Given the externalities of water on other policy areas, a totally clear-cut responsibility for water devoted exclusively to a single actor at central government level does not appear to be a panacea for co-ordinating water policy. Several countries have ministries that explicitly include "water" in their prerogatives, but also embrace other policy areas such as rural affairs or agriculture.

Figure 4.1. **Existing co-ordination mechanisms at central government level**



Source: Based on results from OECD (2011), "OECD Survey on Water Governance 2010-2011", OECD, Paris, survey conducted in 2011, *www.oecd.org/dataoecd/37/39/44689618.pdf.*

The line ministry that has a specific responsibility for water is the first instrument adopted for ensuring inter-departmental and inter-ministerial co-ordination in LAC countries. In most cases, these have wide responsibilities over a broader set of areas than water policy. Positive implications in the concentration of different water-related responsibilities within the same line ministry include a more open, coherent view for water policies, the concentration of technical and administrative skills, and the possibility for a more integrated programming approach. Examples of line ministries in water policy making can be classified into three main categories: a first category where water policies are encompassed within broader environmental issues; a second category where water policies are included with infrastructure and public works; and a third category where water policies are grouped with environmental challenges and specific rural concerns. This categorisation does not necessarily imply that the allocation of water responsibilities will generate a situation where one sector plays the dominant role in water policy making, although the assumption can be made. Providing an adequate response to the needs of water policy therefore requires an association of the **how** (which ministry? which sector? which policy area?) to the **what** (what price? what regulations?).

Table 4.2. **Categories of line ministries**

Categories of line ministries	Examples of countries
Water policy with broader environmental issues	Brazil: Ministry of Environment Costa Rica: Ministry of Environment, Energy and Telecommunications Dominican Republic: Ministry of Environment and Natural Resources El Salvador: Ministry of Environment and Natural Resources Honduras: Ministry of Natural Resources and the Environment Mexico: Ministry of Environment and Natural Resources Nicaragua: Ministry of Environment and Natural Resources
Water policy with infrastructure and public works	Argentina: Ministry of Public Works Chile: Ministry of Public Works
Water policy with rural affairs	El Salvador: Ministry of Agriculture and Livestock Peru: Ministry of Agriculture

Source: Based on results from OECD (2011), "OECD Survey on Water Governance 2010-2011", OECD, Paris, survey conducted in 2011, *www.oecd.org/dataoecd/37/39/44689618.pdf.*

Inter-ministerial bodies, committees and commissions are the second type of governance tools used in upper horizontal co-ordination of water policy. Two-thirds of the LAC countries surveyed have created these platforms for dialogue and action among public actors in charge of water policy at the central government level.

Formal co-ordinating bodies, such as *ad hoc* high-level structures and a central agency, are also frequently used by governments for horizontal co-ordination of water policy. These are often government agencies or specific government offices that help promote co-operation and collaboration. They are a key force for building capacity and sharing good practices, as well as overcoming sectoral fragmentation of water-related tasks across ministries. They act as a forum for aligning interests and timing across ministries and public agencies. A prominent example of a high-level structure acting as co-ordinating body is CONAGUA, the national water commission in Mexico (Box 4.1) and many LAC countries have also set up national water agencies, including Brazil, Cuba, the Dominican Republic, Guatemala, Panama and Peru (Box 4.2).

Box 4.1. **High level structures to co-ordinate water policy: The case of CONAGUA in Mexico**

CONAGUA was established in 1989 as an administrative, normative and consultative decentralised agency of the Ministry of Environment and Natural Resources (SEMARNAT). It follows previous water-related administrations such as the Direction for Water, Land and Colonization (1917); the Nation Irrigation Commission (1926); the Ministry of Water Resources (1946); and the Ministry of Agriculture and Water Resources (1976).

Its role is to manage and preserve national waters and their inherent goods in order to achieve sustainable use, with joint responsibility of the three tiers of government (federal, state and municipal), thus requiring co-ordination initiatives. This decentralised agency of SEMARNAT is the highest institution for water resource management in Mexico, including water policy, water rights, planning, irrigation and drainage development, water supply and sanitation, and emergency and disaster management (with an emphasis on flooding).

CONAGUA enjoys considerable *de facto* autonomy, employs about 12 000 professionals and has 13 regional offices and 32 state offices. The 2004 amended National Water Law (NWL) restructured CONAGUA's key functions through the transfer of responsibilities from the central level to sub-national entities. These are playing an increasing role in the water sector, limiting CONAGUA's role to the administration of the NWL, the co-ordination of water policies, the conduct of national water policy, and planning, supervision, support and regulatory activities.

The Technical Council of CONAGUA is an inter-ministerial body in charge of approving and evaluating CONAGUA's programmes, projects, budget and operations, as well as co-ordinating water policies across departments and public administration agencies. It is composed of the highest representatives from SEMARNAT; the Ministry for Social Development (SEDESOL); the Ministry of Agriculture, Livestock, Rural Development, Fishing and Food Supply (SAGARPA); the Ministry of Finance and Public Credit (SHCP); the Ministry of Energy (SENER); the Ministry of Public Administration (SFP); the National Forestry Commission (CONAFOR); and the Mexican Institute of Water Technology (IMTA).

Box 4.2. **National central agencies for co-ordinating water policies**

Several LAC countries have created national water agencies (ANA).

In Brazil, the ANA is a federal institution created in 2000, under the Ministry of the Environment, as part of the National Water Resource Management System. With administrative and financial autonomy, it is responsible for implementing the National Water Resources Policy and the principles of integrated water resource management, granting and providing funds, regulating access to water, promoting its sustainable use and arbitrating conflicts among users. ANA acts as an executive-regulatory agency and plays a number of management and co-ordination roles, and consists of ten functional superintendencies with implementing and administrative functions. Providing a managerial structure, an authority and the means to implement and co-ordinate the National Water Law, ANA-Brazil has brought a general improvement of water resource management in Brazil.

In Peru, the National Water Authority (ANA) is the highest technical and normative authority of the country's water resource management system, created in 2008. It is in charge of the multi-sectoral and sustainable use of water resources and promotes the IWRM principles. It must also assure the environmental quality at the national level and develop co-ordination strategies among central, regional and local levels. Its missions are to administrate and protect water resources in all river basins, to recognise and assure the economic, social and environmental values of water and to involve all levels of government and the civil society. To do so, the ANA-Peru works in partnership with the Ministry of Education to educate the population on water-related subjects, raise awareness on the rational and sustainable use of resources and encourage a change of behaviour and culture in the country.

In Nicaragua, the National Water Authority's (ANA) missions are to manage and preserve the country's water resources with an integrated approach and in collaboration with central government's institutions involved in the water sector as well as civil society. ANA-Nicaragua is independent from the Ministry of Environment and Natural Resources (MARENA) and formulates the National Water Resources Plan and river basin management plans. The agency also carries out scientific research, technical development and publishes weekly studies on the economic and financial assessment of the water sector.

In Cuba, the National Institute of Water Resources (INRH) was created in 1989 to manage, implement and control the National Water Resources Policy. In 2000, it underwent a reorganisational process and changed its structure, functions and role allocation at the central level. Today, the INRH has created multiple decentralised agencies (15 provincial delegations) responsible for: *i)* water resources protection and quality control; *ii)* necessary regulations to reach the financial, social and environmental objectives for water resources; *iii)* water infrastructure management and safety; *iv)* collection of data on the water cycle, and surface and ground water characteristics; *v)* storm water management; and *vi)* the organisation of the national water resource registry.

In the Dominican Republic, the 1962 Law establishing the General Directory of Irrigation was closely followed by the creation of the National Institute of Water Resources (INDRHI) to manage the protection and sustainable exploitation of water resources, and assure the quality and quantity of water, especially for the irrigation sector. The INDRHI's missions encompass the management of all water and irrigation infrastructures and utilities in co-ordination with the Ministry of Agriculture and the users, the protection of water resources with the Ministry of Environment and Natural Resources, and technical and scientific studies on water resources.

In Guatemala, a Water Specific Cabinet (GEA) was created in 2008 to co-ordinate all governmental efforts in policy design, management, plan and financing of the water sector in order to contribute to the national development goals and objectives. To do so, the GEA: *i)* advocates for and implements IWRM principles; *ii)* co-ordinates actions among the government, civil society and private companies for the sustainable use of water; *iii)* allocates human and financial resources; and *iv)* promotes institutional strengthening and citizen participation to foster good governance. It provides monitoring instruments, multi-level dialogue mechanisms, regulation and co-ordination plans among sectors (transport, energy and marine resources).

Panama has a National Environment Authority (ANAM – created in 1998) to achieve the national vision: "Build a country with a healthy environment and a culture of sustainability in order to reach high levels of human development." ANAM has autonomy to manage all natural resources, including water, to implement the National Environment Policy and encourages a cultural change towards more participation of all sectors to improve the quality of life.

Inter-agency programmes are also a means to foster co-ordinated strategic planning of water policy at central government level. Some LAC countries have designed their national water plans or programmes jointly among several ministries and public agencies (Argentina, Brazil). Often inter-agency programmes have been used as a support for this collective task of setting strategic planning in water policy making. In Honduras, the Inter-institutional Technical Group (GTI) is a national co-ordination mechanism working on project planning, inter-institutional co-ordination and discussions on Integrated Management of Water Resources mainly to co-ordinate the national actions for the implementation of the Convention of the Fight against Desertification and Drought. The GTI considers each group as a network of institutions and organisations. Under the Ministry of Natural Resources and the Environment's authority, it has been in place since 2004, through the General Office of Water Resources and gathers several governmental institutions, NGOs, civil society, international co-operation, etc. Currently, the GTI does not have terms of office nor rules and the institutions' participation is only voluntary. Barring any obstacle, the GTI should be soon formalised.

Box 4.3. **Mexico's 2030 Water Agenda**

The 2030 Water Agenda aims to consolidate sustainable water policy and hand over to the next generation a country with: *i)* clean water bodies; *ii)* balanced supply and demand for water; *iii)* universal access to water services; and *iv)* settlements safe from catastrophic floods. The Agenda sets strategic lines and 38 initiatives covering a wide range of issues, and requires an overall investment of MXN 51 billion a year. It is grounded in sound technical prospective analysis, and a one-year nation-wide consultation of key stakeholders at local, state and national level. Numerous working groups, with particular territorial or thematic perspective, have focused on identifying the necessary changes to make all components of the 2030 Water Agenda feasible. Progress on each of these areas will be reported annually in the Agenda's updates.

For each of the 38 initiatives that make up the 2030 Water Agenda, one or more organisations have committed to seeing through the necessary changes and measures to support their initiatives and thus the overall objectives of the agenda. Furthermore, hundreds of organisations, groups and individuals have contributed to these efforts and have stated their commitment to this national engagement. They are committed to make the necessary efforts for changes to take place and to implement the 2030 Water Agenda initiatives on a daily basis.

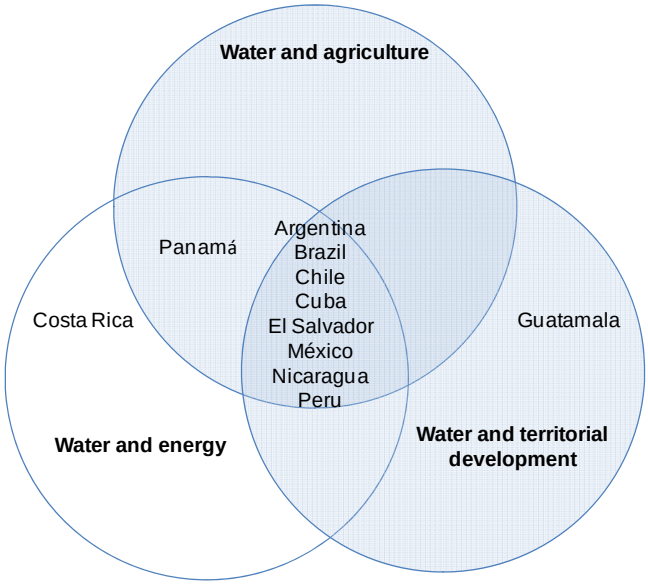
The ongoing OECD-Mexico Water Policy Dialogue aims to identify the challenges and good practices in bridging a series of governance gaps to the implementation of the agenda, in improving the enabling investment and regulatory framework for water service delivery, and in ensuring financial sustainability through an appropriate mix of revenues.

Source: CONAGUA (2011), "2030 Water Agenda – 2011 edition", Mexico D.F.

Most LAC countries have engaged in efforts to co-ordinate water and other policy areas such as regional development, agriculture and energy (Figure 4.2). These efforts take different forms, ranging from political commitment at a high level to joint action of ministries and agencies at the sub-national level, sound legislative mechanisms and regular meetings of relevant stakeholders. Improving coherence between water and other policy areas requires government-wide decision making. Quite apart from issues of international equity and commitment to the Millennium Development Goals, achieving some measure of policy coherence has increasingly become advantageous and in LAC countries' own self-interest. They, as well as developing countries, can benefit, given the interdependence of the world economy and the global markets in food and energy. Decision makers need to be well-versed in the relevant policy options before they

disburse public funds or adopt regulatory policies that could negatively affect water policy in developing countries. Co-ordination with agricultural policy is of particular importance – and, at times, particular complexity. A number of other LAC countries have also put in place specific arrangements to address the water-energy nexus (Box 4.5) and the relationship between water and territorial development (Box 4.6).

Figure 4.2. **Co-ordination across policy areas**



Source: Based on results from OECD (2011), "OECD Survey on Water Governance 2010-2011", OECD, Paris, survey conducted in 2011, *www.oecd.org/dataoecd/37/39/44689618.pdf.*

Box 4.4. **Co-ordination between water and agriculture policies at the central government level**

Most often, efforts to co-ordinate water and agriculture policies are carried out through strategies and programmes at the ministerial level. For example, in Nicaragua the Ministry of Environment and Water Resources co-ordinates with the Ministry of Agriculture and Livestock on matters of irrigation and water reuse (Azucareros engineers).

The Dominican Republic's National Development Strategy promotes the Ministry of Economy, Planning and Development's role and includes an upcoming strategy for the farming sector to tackle the limited consultation between water policies and agricultural policies in the actual strategy.

In Argentina, the Natural Resources Federal Plan promotes inter-sector co-ordination at national and regional level, especially for irrigation, drainage and land-use issues.

Peru has recently implemented a capacity building programme funded by the Ministry of Agriculture (through a sub-sector irrigation programme) to strengthen the National Board of Irrigation District Users organisations so that they can adequately match new norms and promote the efficient management of water. In addition, to limit conflicts of use arising among small farmers, the National Water Agency (ANA) has launched a programme to settle water rights use and to this date, it has granted 365 000 rights to farmers in different parts of the country.

Box 4.4. **Co-ordination between water and agriculture policies at the central government level** (*cont.*)

In Chile, co-ordination mechanisms exist between the General Office of Waters, the Ministry of Agriculture (Irrigation National Commission's Executive Secretary, Farming Development Institute) and the Ministry of Public Utilities' Water Utilities Office.

In Brazil, water and agriculture co-ordination is also promoted through events. The National Water Agency has organised workshops to discuss water use in the agricultural sector. Previous thematic meetings included "Present and Future of Irrigated Agriculture in Brazil from the View Point of Water Resources Management", "State of the Art Irrigated Agriculture in Brazil – The Point of View of Water Resources Management" as well as a Permanent Forum on Irrigated Agriculture Development, provided by the Ministry of National Integration. Additionally, the ANA has signed a term of technical co-operation with the Ministry of Agriculture, Livestock and Food supply in 2006, in order to articulate water resources, agricultural and irrigation policies towards rational use of water. ANA has the authority to regulate and inspect, when it involves: *i)* bodies of water under federal jurisdiction; *ii)* the provision of public services in irrigation; *iii)* concessions regime; and *iv)* the raw water conveyance. It is also responsible for the normative discipline to provide such services and the setting of efficiency standards and the establishment of rates (when applicable), and the management and auditing of all aspects of their concession agreements (when they are proposed).

Box 4.5. **Co-ordination between water and energy policies at the central government level**

In Mexico, the Technical Committee on Water Utilities Operation is composed of the National Water Commission (CONAGUA), the Federal Commission on Electricity, the Mexican Institute of Water Technology and the National Autonomous University of Mexico's Engineer Institute. During its weekly meetings, the committee, with representative experts from these different institutions, analyses and discusses all aspects of the country's dams operation, including hydroelectric ones, in order to optimise water management, including flood control, all the while taking the risks they pose into account. The Mexican Ministry of Energy is currently studying the possibility of using micro-hydroelectric plants: there are 112 estimated small projects that could be developed by the private sector to produce a total capacity of 6 604 MW and annually generate 16 042.2 GWh, using the main irrigation dam's hydraulic infrastructure.

In Panama, according to the Public Service Authority (ASEP), every promoter with an interest in hydropower projects must obtain the National Environment Authority's (ANAM) water resource authorisation. This mechanism limits water-use conflicts and assures water availability through water assessments.

In Brazil, the legal framework requires a previous authorisation from the National Water Agency (ANA) for concessions to exploit hydropower potential. According to the Law No. 9984/2000, in order to authorise the exploitation of hydropower potential in a water body of federal jurisdiction, the Brazilian Electricity Regulatory Agency (ANEEL) must previously obtain from ANA the "declaration of reserve of the water availability".

In the Dominican Republic, there is no explicit water policy although the National Institute of Water Resources (INDRHI) has promoted their design. However, the INDRHI and other institutions participated in a consulting process launched by the National Commission on Energy to design an energy policy. The Ministry of Economy, Planning and Development (MEPyD) is currently leading a consensus project for a National Development Strategy (END) with several declarations for each sector, including water, agriculture, energy and the environment. The END was submitted to the Congress in 2010.

Box 4.6. **Co-ordination between water and territorial development at the central government level**

In some countries, legislation is used as a tool for co-ordinating water, spatial planning and regional development policies.

In the Dominican Republic for instance, the law establishing the National Institute of Water Resources (INDRHI) and the Fresh Water Law both include possible studies and evaluation of river basins as well as water resource exploitation planning, entrusting these tasks to the INDRHI. The Ministry of Environment and Natural Resources, in accordance with the general Law on Environment and Natural Resources (Law 64, 2000), is in charge of river basin plan design. This law also addresses the Ministry of Environment and Natural Resources' responsibility in territorial planning.

Another interesting example is Peru where the Water Resources Law establishes that river basin councils are in charge of designing, approving, implementing, monitoring, updating and evaluating water resources plans. To do so, they must obtain the active and sustainable participation of their members in the planning, co-ordination and consultation in order to reach the sustainable use of water resources in every sector. For financial and organisational reasons, these water resources plans are progressively being implemented, with priority given to scenarios that consolidate the local structure.

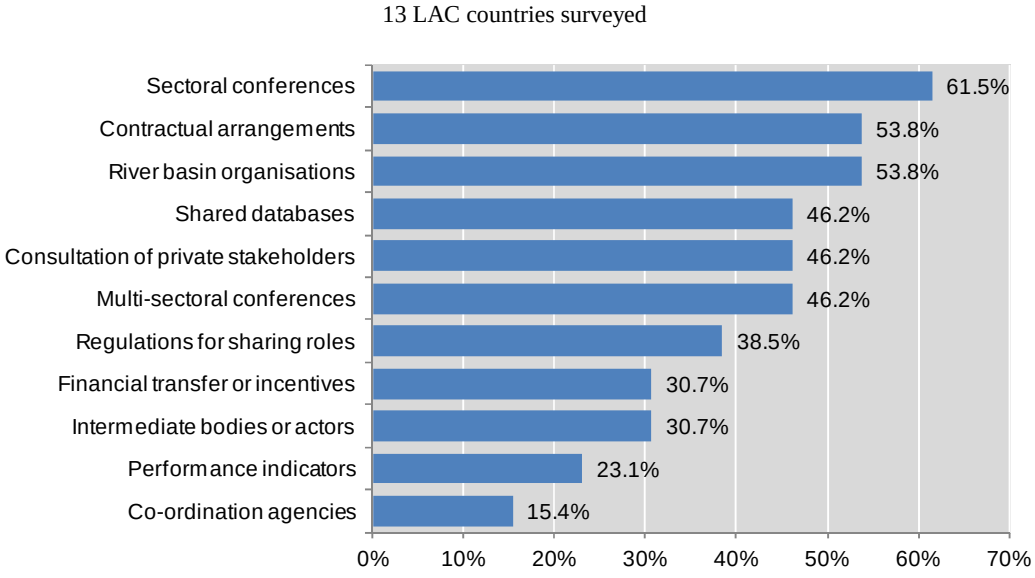
In Mexico, joint action of ministries and agencies at the central level takes place to co-ordinate water and regional development policies. Prior to the implementation of the federal government's public policies for the construction of water and sanitation utilities at national level, inter-institutional collaborative agreements became official between the federal public administration's departments and institutions. Human, financial, infrastructural and technical resources were co-ordinated through these agreements in order to develop studies and projects, and implement basic infrastructures and utilities in low human development indicator municipalities. As an example of this type of mechanism, the Ministry of Social Development, the National Commission for Indigenous Peoples' Development and the National Water Commission jointly signed a collaborative agreement effective from 2009 to 2012.

The Brazilian Atlas of Urban Water Supply consists of broad diagnosis work and planning in water resources and sanitation in Brazil, focusing on ensuring the supply of water for urban centres throughout the country. In a participatory and consensual process, the development of the Atlas has mobilised a multi-disciplinary team and the partnership of several institutions, ensuring the convergence of decisions between the planning departments in federal, state and municipal levels, and at the same time, the integration between the management of water use and urban supply that is pursued. At the basin level, the Water Resources Strategic Plan for Tocantins and Araguaia Watershed (PERH Tocantins-Araguaia) is a water plan with a focused strategic approach to regional planning. This basin – considered the largest basin totally inside the Brazilian territory – is located within the limits of agricultural expansion in the country. In this region, significant water user sectors co-exist (dams, waterways, irrigation, etc.). The region is therefore in the early stages of a dynamic process of socio-economic development that is going to be intensified in the coming decades, according to national and international demands for commodities. As a consequence, and based on the necessity to promote co-ordinated and sustainable regional and sectoral policies, the Management Collegiate of the PERH Tocantins-Araguaia was created, in order to develop conditions to implement such a strategic plan and monitor the implementation of the plan's programmes.

Co-ordinating water policy making across levels of government and among sub-national actors

In LAC countries, a wide variety of mechanisms exist for co-ordinating water policies across levels of government. These include the consultation of private actors (including citizens' groups, water users' associations and civil society) and financial transfers and incentives across levels of government (e.g. earmarked versus general-purpose grants for financing infrastructure). Other instruments they can consider are co-ordination agencies, contractual arrangements, (multi-)sectoral conferences, performance indicators, regulations, shared databases, river basin organisations, regulation and performance indicators, and intermediate bodies. Some LAC countries have chosen to use all the mechanisms listed in Figure 4.3 (e.g. Mexico), while others have not, due to centralised water policy and limited involvement of sub-national actors (Costa Rica, Cuba, etc.). This section will focus on some of these instruments.

Figure 4.3. **Vertical co-ordination across levels of government**



Source: Based on results from OECD (2011), "OECD Survey on Water Governance 2010-2011", OECD, Paris, survey conducted in 2011, *www.oecd.org/dataoecd/37/39/44689618.pdf.*

Sectoral conferences are the primary governance tools adopted to foster vertical co-ordination. CONAGUA in Mexico has organised several roundtables or sectoral conferences (governance, financing, etc.) at local and regional levels in the design stage of its 2030 Water Agenda.

Contractual arrangements between levels of government are also frequently used in multi-level governance relations to help manage interdependencies and solve some institutional weaknesses (OECD, 2007). Contracts enjoy a degree of flexibility of use and diversity of application, permitting governments to reorganise rights and duties without requiring a constitutional or legislative change. Complex policy domains, involving multiple stakeholders and issues, as in the water sector, generally rely on contracts among

levels of government. First, contracts allow a customised management of interdependencies, and prove to be useful in unitary countries as an instrument in decentralisation policies. They are often broad in scope, with multiple goals. In most countries, contracts function as tools for dialogue, for experimenting and clarifying responsibilities and thus for learning. Impact evaluation should be encouraged, so as to make use of the results in adjusting the policy. Collaboration through contracts makes the need for strategic leadership at the sub-national level even more vital. In Brazil, for example, contracts are signed between the National Water Agency (ANA), states and river basin committees (water pacts) to enable the joint implementation of water resource management instruments through the establishment of goals, activities and deadlines for each party. There are no exchanges of financial resources among the parties, each one being responsible for supporting the implementation of its activities in the pact. ANA has already celebrated "integration pacts" with the state agencies of São Paulo, Minas Gerais, Rio de Janeiro and Espírito Santo, in order to implement the water resource management instruments at the PCJ, Paraíba do Sul and Doce river basins. The results achieved are related to the reduction of compliance costs and the adoption of an integrated approach for the implementation of water resource management instruments in those river basins.

Regulations and legal mechanisms can also address the capacity and funding gaps in water policy. On the one hand, they can mandate resources for new and existing competences devolved to lower levels of government, thereby increasing funding capacity. On the other hand, if the technique used to provide the funds limits the willingness at the sub-national level to raise its own revenues, and increases its dependence on transfers, laws and legislation can serve to widen the funding gap. With respect to the capacity gap, legislation can be used to help establish frameworks or parameters that build sub-national capacity by allocating competences and resources. If it helps to define roles and responsibilities clearly, legislation can overcome problems of duplication and overlap. Assigning tasks, rather than allocating funding, can be a better way of managing problems of resource allocation. It also provides sub-national authorities with an opportunity for "learning by doing", which can increase their overall capacity in the medium and long term. In El Salvador for example, regulations are used to distinguish uses, purposes and implementation areas for control and water supply mechanisms. In the case of irrigation water in rural areas, both the Irrigation and Drainage Law, implemented by the Ministry of Agriculture and Livestock and the Environment and Natural Resources Law determine water quality standards. Last but not least, the Honduran National Plan frames the regional development councils as dialogue and consultation authorities among central government, civil society, local governments and workers' communities regarding sectoral analysis and proposals to provide an effective, organised and transparent public management. The regional development councils are in charge of: *i)* gathering, in each region, the basic data for the National Plan's indicators and determining which gaps need to be filled in order to reach the set objectives; *ii)* establishing the Regional Territorial Plan; *iii)* deciding which specific actions and means to adopt in accordance with the National Plan; and *iv)* discussing and reaching consensus on regional problems. The councils gather representatives from each region's sectors.

Box 4.7. **Brazil's National System of Water Resource Management: Overcoming the policy and financing gaps**

Brazil has made great progress in managing its water resources. The Water Resources System has already achieved very positive results in some regions. Some successful examples of this governance model are the Piracicaba, Capivari and Jundiaí River Basins and the Paraíba do Sul River Basin. However, room for improvement remains and the country still faces governance challenges.

Funding issues related to water in Brazil are a complex element. From the federal government's standpoint, the financial resources, which come from a percentage of hydroelectricity generation, are allocated to the National Water Agency (ANA) in order to implement the National Water Resource Management Policy and its instruments. Some states have also created water resource funds. Its financial resources come from charges compensation collected from hydroelectricity generation in the state jurisdiction. Funding also comes from water charges in the critical watersheds under multiple jurisdictions with installed basin committees. Financial resources are collected by ANA-Brazil and transferred to the water agency that provides technical support to each committee in the basins where they are set up.

One challenge to improve the National System is related to the Brazilian Constitution that classifies rivers' jurisdiction between federal and state governments. As a result, different institutions (federal and states) should harmonise their procedures to support an integrated water management system in a river basin with multiple jurisdiction. In order to deal with this challenge, the continental-sized scale and regional diversities, ANA has proposed the "National Water Management Compact" and has been working together with the federative units to achieve better results.

The main objective of this "Compact" is to establish agreements among the Brazilian states and ANA in order to overcome the challenges associated with the implementation of the Integrated National Water Resource Management System, especially concerning the multiple jurisdiction of water in river basins (75% of the territory). In this context, some premises were considered for this Compact:

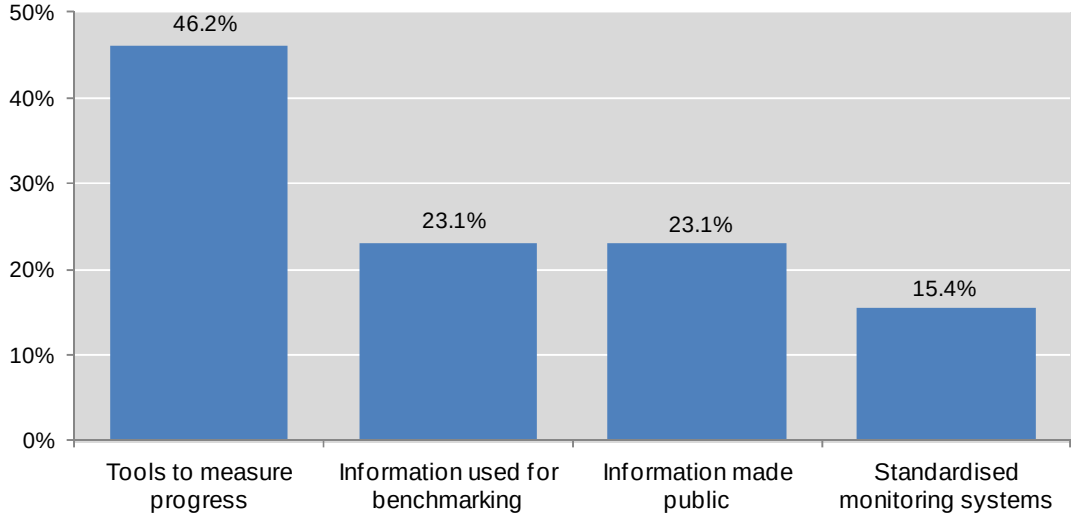
- It is important to mention the need to reinforce the Integrated Water Resources Systems in the states in order to improve their institutional capacity.
- The commitment to establish and to implement goals is based on a future outlook which includes an institutional management map and river control points (qualitative and quantitative goals).
- This future scenario is a forward look at the challenges for an integrated and a co-operative federative system on water.
- The recognition of the state's autonomy aims to give each federative unit the opportunity to identify the reasonable institutional arrangement dealing with integrated water resource management (IWRM).
- A high-level co-operative process is necessary in order to promote a consensual co-operative process, once the establishment of qualitative/quantitative goals depends on a systemic process of negotiation to achieve agreement among actors.

Source: Data received from the Brazilian National Water Agency (ANA) in April 2012.

Building capacity and facilitating co-ordinated actions across levels of government can be achieved through performance measurement, public-private partnerships, monitoring and evaluation of water policy outcomes at sub-national level. Such measurement aims to provide information that can be used to enhance the effectiveness of decisions on policy priorities, strategies and resource allocation (OECD, 2009a). It usually takes place through monitoring and evaluation. Monitoring is an ongoing process and requires collecting and assessing both quantitative and qualitative information, and building a picture of the functioning and outputs of public policies and programmes. Evaluation occurs at specific moments in the cycle, and uses qualitative and quantitative data to assess whether or not objectives have been met. Both can help identify areas where co-ordination can be improved, support dialogue and negotiation for better allocation of resources or competences, and facilitate negotiating contractual arrangements. Performance indicators can reinforce linkages among policy stakeholders at different levels of government and contribute to learning and capacity building. Such measurement becomes an invaluable tool for all levels of government, as well as for the other stakeholders in a multi-level governance context, including private water operators. It is a basis for dialogue, discussion and acquisition of knowledge, and helps a community of actors identify common reference points. However, a key concern is to what extent such information on performance is used to guide water policy decision making and prioritise government actions.

Figure 4.4. **Monitoring at sub-national level**

13 LAC countries surveyed



Source: Based on results from OECD (2011), "OECD Survey on Water Governance 2010-2011", OECD, Paris survey conducted in 2011, *www.oecd.org/dataoecd/37/39/44689618.pdf.*

A growing number of countries have established indicators for assessing the performance of their water sector, reinforcing incentives for sub-national governments and improving the knowledge base. Several LAC countries have adopted tools to measure progress in water policy implementation though monitoring systems are not always standardised across basins, and information is not systematically made public (e.g. to water users and NGOs) or used for benchmarking bodies in charge of water policies that guide public decisions. In Mexico for instance, the public administration's federal

programmes are monitored and evaluated according to the Rules of Operation (*Reglas de Operaciones*). In the water sector, federal programmes are developed on topics such as access to drinking water, sanitation, sewer systems and hydro-agricultural infrastructure for which the programmes tend to improve the management of supply and demand, or the modernisation of irrigation utilities. For each programme, monitoring and evaluation mechanisms are set up to assess their impact on the ground and the cost-effectiveness of their implementation. For the water and sanitation programmes, such indicators include service provision performance (number of litres per second, number of sewer connections, etc.), the service regional coverage (for instance the number of people with access to clean water and the sewer system), and the programmes' structure and organisation (financial management, public participation, among others).

Box 4.8. **OECD/IMTA joint expert meeting: "For a beneficial private sector participation in the water and sanitation sector, lessons learnt from Latin American countries' experience"**

Experiences with private participation in the water and sanitation sector have been very diverse in Latin America; some considered to be successful, others not. The difficulties encountered by some concession contracts with large multinational companies were due to a range of problems, such as incomplete initial sustainability assessments, poorly designed tender processes and contractual arrangements, and inadequate regulatory frameworks. Indeed, in most Latin American countries, the water and sanitation regulatory framework is poor, complex and often imported from abroad without adaptation to local needs. It also often lacks a technical basis and does not clearly specify the incentives and sanction mechanisms.

Establishing a high-quality regulatory framework requires political will, great technical skills and a good information system that notably corrects the information asymmetries between the provider and the regulator. In particular, current instruments to support disclosure of and access to information on water services are weak. One important challenge is to introduce regulatory accountability and improve the control of purchases and contracts with related companies in order to develop better knowledge of the real costs and facilitate the analysis and supervision of the efficiency of operators. The water sector is often considered risky for private investment, notably because of its vulnerability to external economic and socio-political shocks, inadequate regulation, lack of institutional continuity and insufficient availability of baseline data. Often the key problem is not a lack of financial resources but access to them, at competitive levels. The effective and efficient use of funding is also an issue, particularly at local levels of government where the lack of capacity may hinder the implementation of investment plans.

Private participation in the water and sanitation sector can also trigger important shifts in the focus of public policies, by drawing stronger attention to the efficiency of service provision, quality of service, sectoral organisation, regulation and the need for greater community involvement in the planning and definition of objectives.

Source: OECD (2009), *Private Sector Participation in Water Infrastructure: OECD Checklist for Public Action*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264059221-en.*

Though indicator systems are associated with strong benefits, certain caveats should be considered. Indicator systems are costly, both directly (i.e. the cost of development and implementation) and indirectly (i.e. opportunity costs and the potential for inadvertent generation of unintended consequences). They can also increase the administrative burden on the reporting organisation and its staff. It is

difficult to capture complexity with water data and indicators, which can lead to developing too many indicators rather than concentrating on a core group. Besides, it is tempting on the part of central government to substitute *ex ante* control of water services with performance indicators. This can lead to retaining control of how sub-national authorities implement water policy, as they will probably make choices and decisions that allow them to perform well within the parameters of the indicator system, at the expense of other elements. There is no optimal design for an indicator-based performance measurement system in the water sector. Its development should be a collaborative effort between the national and sub-national level, and the information it yields ought to cover inputs, processes and outputs that are relevant for ongoing activities. To use such information optimally, clear objectives for the data need to be established and proper indicators selected. Systems are needed to generate, validate and distribute the data; the information needs to be used in a suitable and timely fashion; incentive mechanisms are needed to encourage actors to follow a particular course of action; and appropriate use of the performance information must be planned.

In addition, water information systems (WIS) and common databases are key mechanisms for sharing water basin, country and international policy needs and information in different areas. Mexico has an annual publication on the "situation of the drinking water and sanitation sector" (*Statistics on Water in Mexico*[1] is published annually, with information from different areas of the National Water Commission of Mexico and other institutions, among them the National Institute of Statistics and Geography – INEGI), and has set up an information network of water and sanitation companies (ANEAS). Peru also relies on a national information system on water resources, and the Dominican Republic has a joint database between the National Institute for Water Resources and the National Office of Meteorology.

In most countries, water data are commonly available for the hydrological systems but are less common in the case of the economic and financial aspects and even more limited for institutional and territorial data. A substantial effort has been made to improve the understanding and science of hydrological systems to guide water decision makers. Data collection efforts to improve knowledge of the connections between groundwater and surface water are available, as well as for determining sustainable environmental flows in the context of climate change. But further innovations in economic, financial and institutional water data collection are still needed. These would include using new technologies, voluntary initiatives to collect data, and permitting public agencies to regulate, finance or charge for data collection, maintenance and analysis (OECD, 2010). It is not easy to assess how effective existing information systems and shared databases in the water sector are in bridging the information gap. A cost-benefit analysis of existing WIS is needed at local, regional, national and international levels to determine how current water information and data are collected and used by policy makers (and even whether it is being used at all), and the costs and benefits of collecting, analysing and communicating this information. Increased efforts are needed to communicate the reporting and analysis of water data to policy advisors and the wider public, and not simply to the research community. Institutional obstacles and opportunities for effective governance of WIS should also be pinpointed, to identify areas of institutional overlap and synergies in water data collection, mobilise local stakeholders in designing WIS, foster co-ordination between data producers and users, and encourage multi-disciplinary approaches in WIS.

The water governance survey across LAC countries revealed few experimental policies at territorial level. An interesting example can be found in Chile. The desalination plant built in the city of Antofagasta, Chile, to supply water for the population, brings water from the Altiplano to the coast, across 300 kilometres. In addition to securing water supply, the water's high levels of arsenic are reused in local mines and other industrial sectors. These initiatives were mostly implemented in the northern part of the country where areas suffer from water shortages (especially surface water, as groundwater is already overexploited) and provided enough experience to launch similar desalination plants in other cities, such as Arica, where the positive consequences in terms of water resource management and territorial planning lowered the pressure on groundwater as well as the contamination levels. This experimentation also illustrates the effectiveness of a combination of local government and private companies in financing this kind of initiative.

In recent years, river basin management has been proposed as one element for addressing the administrative gap, ensuring a holistic and hydrological approach to co-ordinating water policy across sub-national actors and between levels of government. On the one hand, the basin perspective makes it easier to integrate physical, environmental, social and economic influences on water resources. On the other hand, the decentralisation of water governance has increased the number of relevant (administrative) boundaries and organisations. In combination with the introduction of basin management, problems of interplay now arise that so far have not been sufficiently addressed by practitioners and by scientific research. The literature advocating integrated water resource management (IWRM) and basin management, for example, rarely deals with the friction among bodies organised along administrative and hydrological boundaries. Communication between these organisations across levels and in various policy fields is essential for efficient water management that can support adaptive water governance. The implementation of effective water policies, therefore, raises the question of the relevant scale for service delivery and resources management, given that environmental issues, which frequently cause externalities, often require larger scale approaches to reduce territorial fragmentation (OECD, 2009a).

In all LAC countries, where they exist river basin organisations play a co-ordination role in water policy across levels of government:

- **River basin committees** (RBC) have long been established in Argentina to promote an integrated approach to water management, both in quality and quantity, but the lack of financial autonomy of these organisations has made them very dependent on local and national governments for administrative and economic issues. While some of these river basin committees have evolved into more technical organisms, others remain active initiatives and involve all stakeholders in the design and implementation of management plans. RBC implementation in Argentina has been facilitated by the decentralisation process and was established to further distribute competencies in the provinces and promote development through the management of water resource exploitation.

Box 4.9. **Progress towards integrated water resource management in Panama**

Panama's competitiveness depends largely on the quality and abundance of natural resources. The availability of water in adequate quantity and quality poses serious problems in some areas of the country. This affects both the quality of life of the population and key sectors such as agriculture, industry, hydrology and tourism; and stimulates social conflicts related to access, use and disposal of waste water.

A diagnostic of water management in Panama reveals that the water sector is extremely fragmented and that it faces three main challenges: *i)* lack of institutional co-ordination; *ii)* failure to comply with environmental laws; and *iii)* waste/mismanagement of water in some sectors (Escalante, 2009).

To face these challenges, the Panamanian government is committed to applying the principles of integrated water resource management and improving inter-institutional co-ordination through capacity building at state level and among civil society (NGOs, local communities, academics, research centres, private utilities, etc.).

Several priority actions have been identified:

- trigger a strengthening process of institutional synergies towards integrated management of water resources and the accomplishment of the Millennium Development Goals;
- provide reliable information on water availability to support participative planning processes and management of water;
- empower local communities through social and technical networks to bypass the short-term vision laid down by local government elections;
- strengthen knowledge on IWRM and its legal framework, in the public and the private sectors, to promote new behaviours and co-operative decision making;
- build a new culture of water among actors (municipalities, farmers, NGOs, community organisations, public and private utilities, academics, etc.) through information and experience sharing;
- translate key messages and recommendations from international water events (such as the World Water Forum) into concrete actions that involve all stakeholders and foster a new philosophy of sustainable water management.

Source: Escalante, L. (2009), "Avence de la gestión del agua en Panama. Conservemos y protejamos el recurso agua", in *La Estrella de Panamá*, 21-03-2009; Escalante Henriquez, L.C., C. Charpentier and J.M. Diez Hernandez (2011), "Avances y Limitaciones de la Gestion Integrada de los Recursos Hidricos en Panama (*Advances and limitations of the integrated water resources management in Panama*) ", *Gestión y Ambiente*, Vol. 11, No. 1, pp. 23-36.

- In Brazil, the first **river basin organisations** were created in the 1970s but it was the 1997 Law for "Water Resources National Policy and System" that officially integrated water management at the basin scale in the national water resources strategy. The Water Resources National System includes, among other bodies, river basin committees in charge of the basin administrative management with participation from the central government, municipalities, water users and civil society to promote multi-actor dialogue and debate on water, arbitrate use conflict, and implement basin management plans.

Box 4.10. **River basin organisations: Glossary**

- **River basin *organisations* (RBOs):** RBOs are specialised organisations set up by political authorities or in response to stakeholders' demands. They deal with water management issues in a river basin, lake basin, or across an important aquifer. RBOs are designed to help bring about integrated water resource management (IWRM) principles and improve water governance in water basins. They provide a mechanism for ensuring that land use and needs are reflected in water management. Their functions vary from water allocation, resource management and planning, to education of basin communities, to developing natural resources management strategies and programmes of remediation of degraded lands and waterways. They may also play a role in consensus building, facilitation and conflict management. The form and role of RBOs are closely linked to their respective historical and social contexts. The International Network of Basin Organisations (INBO) currently has 133 member organisations from more than 50 countries.
- **River basin *councils/committees* (RBCs):** while RBOs are the official organisations in charge of water management, RBCs are bodies with broader stakeholder participation, whose task is to advise the RBOs in their decisions. RBCs provide the required organisational basis for co-ordinating water resource management with land resources, environmental protection, good quality of drinking water, participation of various stakeholders, public organisations dealing with the quality of water bodies, etc. The legal status of RBCs differs from country to country.
- **River basin *agencies* (French model):** river basin management organisations were established in France in 1964 to fight against pollution and increase understanding of local concerns, chiefly over the question of finances. France was divided into seven units corresponding to hydrological basins and five departments overseas where administrative and hydrological boundaries are mixed. The role of French water agencies is to facilitate common interests. They benefit from financial autonomy on the principle of "polluter pays", with a tax that water users pay to local actors and planners. Each water agency has its own RBC. It acts as a kind of local water parliament and regulates water policy in terms of water use and protection.
- **River basin *authorities* (RBAs), the example of Mexico:** in Mexico, the National Water Commission (CONAGUA) has 13 regional offices called river basin authorities. They are expected to be responsible for formulating regional policy, designing programmes to implement such policies, conducting studies to estimate the value of the financing resources generated within their boundaries (water user fees and service fees), recommending specific rates for water user fees and collecting them. Twenty-five River basin councils have been established with the same basin boundaries as the RBAs, including two or more within the area of one RBA.

Source: OECD (2011), *Water Governance in OECD Countries: A Multi-level Approach*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264119284-en*; Global Water Partnership (2008), "Integrated water resource management", Global Water Partnership Toolbox website, *www.gwptoolbox.org.*

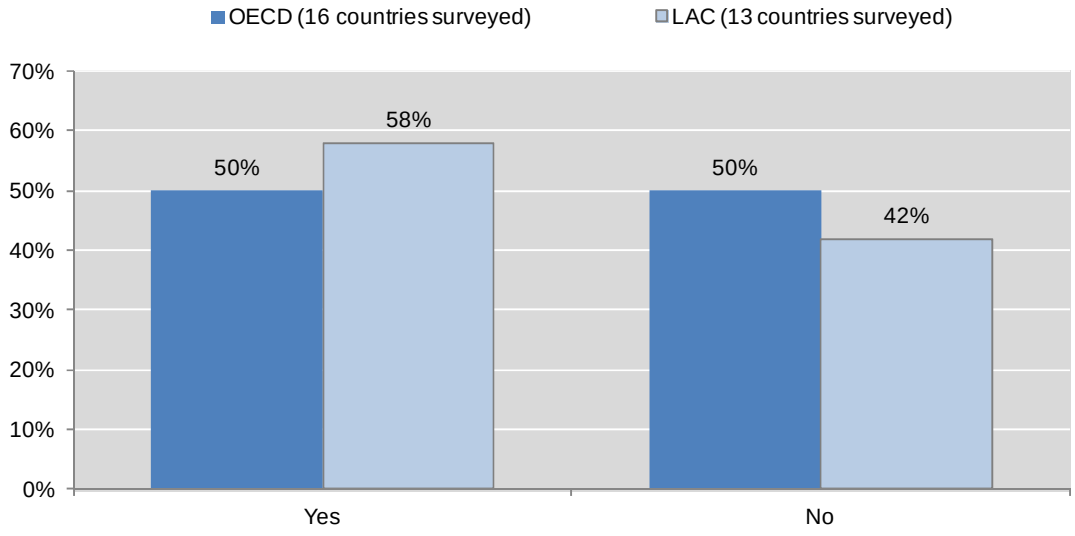
- Costa Rica's Law on Water Resources introduced river basin organisations and councils in 2000. Therefore, a basin organisation was settled in every hydrological unit to develop a regional water plan. In Nicaragua, the Law on National Waters established the creation of **regional organisations for river basins**. They are autonomous governmental agencies with operational, technical,

administrative and legal functions for each hydrographical basin. They are responsible for designing the water resources regional policy, arbitrating water use and inter-institutional conflicts and promoting the implementation of users' associations.

- In Panama, the Inter-institutional Commission for the Panama Canal Basin was developed following the 1997 Panama Canal Authority's integrated efforts, initiatives and resources into the conservation and management of the basin, and with a view to promoting its sustainable development. To this end, the commission has to develop mechanisms for implementing strategies, policies, programmes and projects developed by relevant organisations engaged in the canal basin.
- In Mexico, the recently created basin authorities (BAs) have been developed from the 13 existing regional offices of CONAGUA. They are expected to be responsible for formulating regional policy, designing programmes to implement such policies, conducting studies to estimate the value of the financial resources generated within their boundaries (water user fees and service fees), recommending specific rates for water user fees and collecting them. A total of 25 basin councils (BCs) have been established with the same basin boundaries as the BAs, including two or more within the area of one BA in some cases. Some states are located entirely within the area of one BC. In other cases, where a state is divided between two or more BCs, the state participates in all the BCs within its territory.
- In 2010, Peru carried out a Modernisation Project of Water Resource Management (*Proyecto Modernización de la Gestión de los Recursos Hídricos*), co-funded by the World Bank and IDB, to conduct pilot experiences in six river basins and draw lessons and good practices in order to establish river basin councils in the country. To date, two RBCs have been implemented and ANA is carrying out programmes to stimulate the creation of councils in ten additional basins, while tackling remaining challenges such as financial sustainability, capacity building regarding negotiation and consultation, civil society representation and the long-term contribution of RBCs to national development.

River basin organisation missions, constituencies and financing modes vary across LAC countries. All river basin authorities have functions related to planning, data collection, harmonisation of water polices and monitoring. However, their role in the allocation of water uses, prevention of pollution, co-ordination, financing and regulation is not systematic, and none of the LAC countries' river basin organisations (contrary to OECD ones) have regulatory powers. In most cases, the principal actors in river basin organisations are central government ministries and public agencies and/or local and regional authorities. Sometimes, river basin authorities are also accountable to citizens and NGOs. In the sample of countries surveyed, basin authorities are financed both by autonomous budgets (e.g. collection of water revenues) and grants from the central government, and in some cases, sub-national governments also contribute to river basin authorities' funding (e.g. Argentina, Brazil, Mexico). The maturity of river basin organisations also varies across LAC countries, especially in co-ordinating competing uses, which requires equitable approaches to resolving conflicts in the political and legal arenas. Argentina and Brazil are pioneers in setting up river basin agencies, while other LAC countries, such as Peru, have only recently adopted such arrangements.

Figure 4.5. **Existence of river basin organisations in OECD and LAC countries**



Source: Based on results from OECD (2011), "OECD Survey on Water Governance 2010-2011", OECD, Paris, survey conducted in 2011, *www.oecd.org/dataoecd/37/39/44689618.pdf.*

Although watershed agencies have emerged to resolve issues related to the **administrative gap**, they are often not politically meaningful to stakeholders, particularly agricultural users, whose water and land-use behaviour is so critical to water security. Watershed agencies are not without their flaws, and have been criticised for embracing a top-down approach, driven by experts and lacking in transparency. In addition, the prioritisation of holistic management often typical of watershed management agencies, has resulted in conflicts of interest, in which regulatory, ownership and service provision functions overlap, sometimes with negative consequences.

Box 4.11. **The Latin-American Network for Basin Organisations (LANBO)**

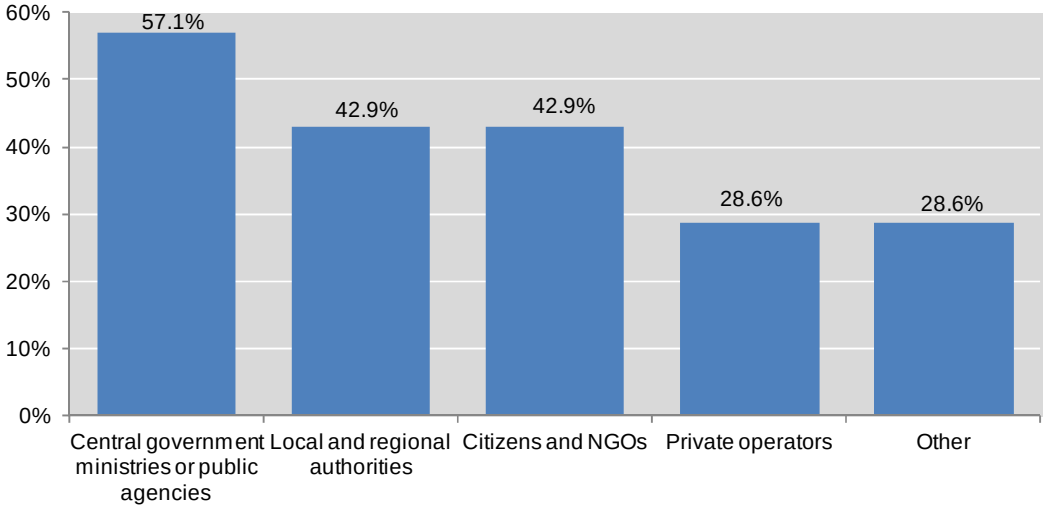
LANBO (*Red Latinoamericana de Organizaciones de Cuencas* – RELOC in Spanish) was created in 1998 as part of the International Network of Basin Organisations (INBO). At the initiative of Brazil, it was later restructured and in 2008, 67 institutions from 21 countries gathered to agree on common principles. LANBO promotes IWRM as an essential element for sustainable development and carries out various actions regarding information sharing, knowledge and capacity building, co-operation programmes, etc.

LANBO encourages open and amicable inter-relations among members to share expertise and experiences, as well as financial and legal mechanisms, to contribute to water management at the basin scale, all the while highlighting the variety of practices and the importance of local specificities.

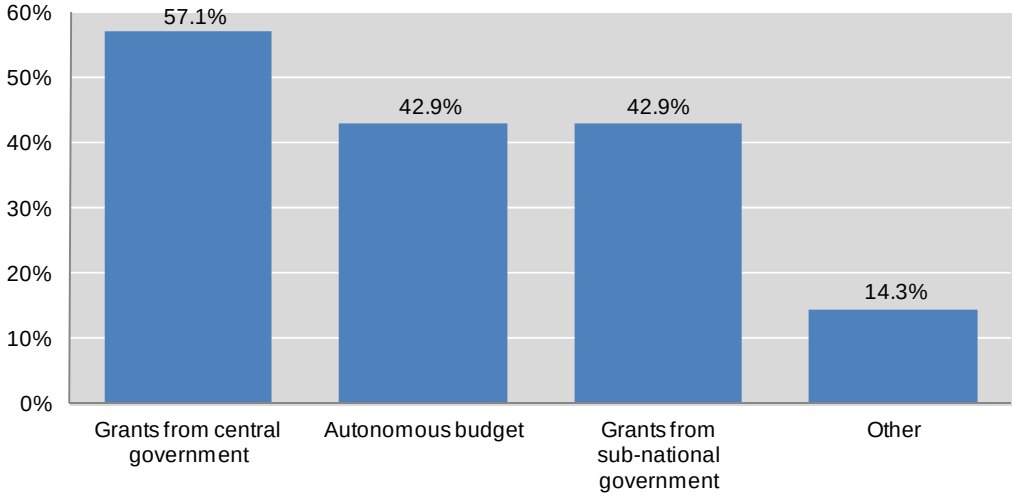
Source: Latin-American Network for Basin Organisations (LANBO) (2012), LANBO website, *www.inbo-news.org/mot/latin-america?lang=en*, accessed in April 2012.

Figure 4.6. **Constituencies and financing of LAC river basin organisations**

Stakeholders in river basin organisations (7 LAC countries surveyed*)



Financing of LAC river basin organisations (7 LAC countries surveyed*)



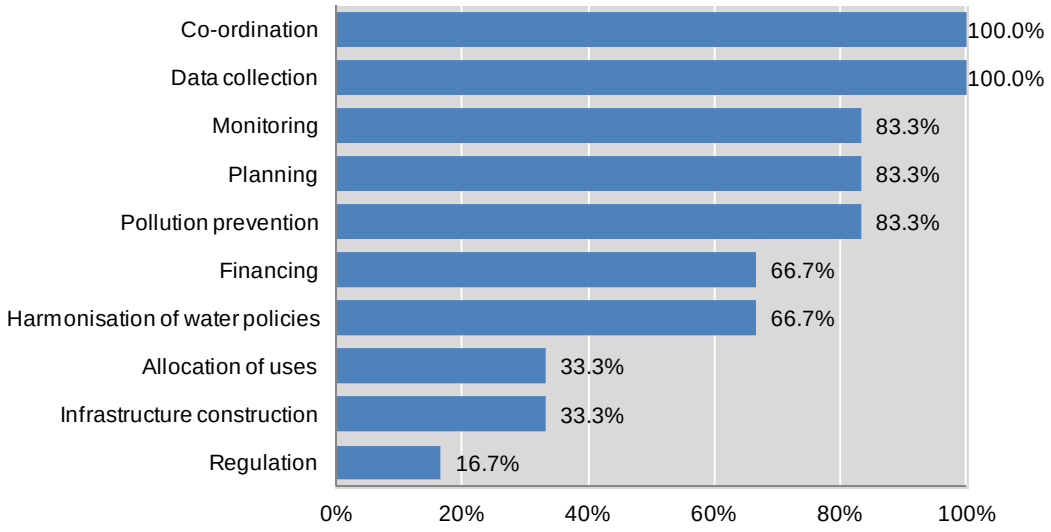
Note: * On this specific aspect, only Argentina, Brazil, Cuba, El Salvador, Guatemala, Mexico and Peru answered the question.

Source: Based on results from OECD (2011), "OECD Survey on Water Governance 2010-2011", OECD, Paris, survey conducted in 2011, *www.oecd.org/dataoecd/37/39/44689618.pdf.*

Some countries have set up co-ordination mechanisms across basins to create networks to facilitate co-ordination at the territorial level and with central government (Figure 4.8). A major feature of LAC countries as compared to OECD countries is the preponderance of conflict resolution mechanisms (75% of countries surveyed) and informal co-operation around projects.

Figure 4.7. **Missions of LAC river basin organisations**

7 LAC countries surveyed*

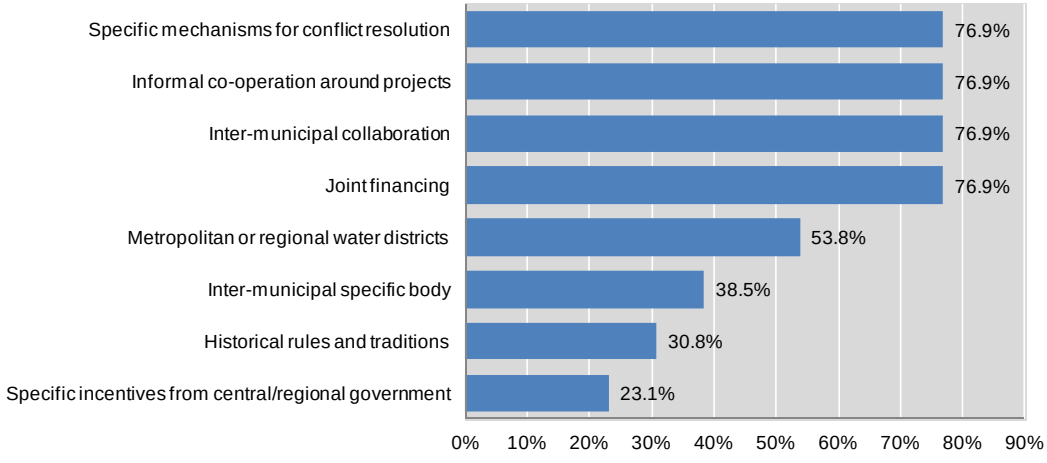


Note: * On this specific aspect, only Argentina, Brazil, Cuba, El Salvador, Guatemala, Mexico and Peru answered the question.

Source: Based on results from OECD (2011), "OECD Survey on Water Governance 2010-2011", OECD, Paris, survey conducted in 2011, *www.oecd.org/dataoecd/37/39/44689618.pdf.*

Figure 4.8. **Tools to manage the interface among different sub-national actors**

13 LAC countries surveyed



Source: Based on results from OECD (2011), "OECD Survey on Water Governance 2010-2011", OECD, Paris, survey conducted in 2011, *www.oecd.org/dataoecd/37/39/44689618.pdf.*

In addition to river basin organisations, LAC countries employ a wide range of mechanisms to manage the interface between actors at the sub-national level and to build capacity. As Figure 4.8 shows, a strong emphasis is put on specific mechanisms for conflict resolution, in relation to transboundary water.

- In El Salvador, the main source of water is the Lempa River which has its source in the country and flows towards Guatemala and Honduras. Maintaining collaboration with both countries is therefore fundamental for the sub-Ministry of Water in terms of human supply but also industrial and rural supply.

- In Honduras, effectively managing transboundary water relies on the responsibility of each party in order to maintain a fair cost-benefit relationship which requires the implementation of official agreements as well as public consultation and approval. This represents an important challenge considering the various cultural aspects of Honduras which call for place-based processes in achieving citizen acceptance and participation.

- In Panama, the transboundary water issues remain untouched. Despite the common aquifers with Costa Rica (Sixaola aquifer) and Colombia (Choco aquifer) important policy, management and information gaps still need to be bridged.

- Currently in the process of being approved, the Peruvian National Water Resources Strategy aims at, among other aspects, promoting and supporting the integrated management of water resources in transboundary river basin. The main policy challenge remains to strategically design and implement water resource management plans with neighbouring countries.

Other tools for lower horizontal co-ordination include: inter-municipal collaboration, metropolitan or regional water districts, specific incentives from central and regional governments, joint financing between local actors involved in water policy, as well as ancestral rules. Other tools frequently used in the water sector include training, workshops and conferences as well as experimentation policies at the territorial level, which can synthesise many of the mechanisms previously explored.

The involvement of local actors and citizens is important for managing rivers in a sustainable way, better co-ordinating public action across levels of government and reducing conflicts at the local level. Widening public participation is seen as a means to increasing the transparency of environmental policies and citizen compliance to influence environmental protection. In LAC countries, public participation often takes place via water users' associations (Box 4.12), which are strongly linked with irrigation practices as agriculture still plays a major role in each country's economic growth and development.

In addition to these instruments, the thematic core group "Good Governance" and the "Americas' Regional Process" of the 6th World Water Forum, held in Marseille, France, on 12-17 March 2012, have identified several examples of good practices and replicable solutions in Latin America and the Caribbean. These solutions will be further analysed and explored in the coming months in the framework of country-wide policy dialogues to improve water governance.

Box 4.12. **Public participation in Latin American and Caribbean countries**

In the Dominican Republic, the National Institute for Water Resources has transferred the management, operation and maintenance of irrigation systems to the 28 irrigation boards of the country. In addition to 10 independent groups, 178 irrigation associations have been set up throughout the country, gathering over 89 000 users. These irrigation boards fix their own tariffs and, through transparency and democratisation mechanisms in water rights allocation, have substantially reduced corruption in the sector.

In Argentina, irrigation consortiums have been created in Mendoza and Salta provinces. In Chubut and Rio Negro provinces, drinking water and sanitation co-operatives also exist.

The National Irrigation Sub-District Users' Board of Peru (*Junta Nacional de Usuarios de los Sub Distritos de Riego del Peru*) participates in revising water resources laws and, as one of the main farmers' association of the country, is often involved in participatory processes that consist of forums and workshops with the central government regarding new prerogatives and decisions. Peru also has non-rural sectors' associations.

In Brazil, water users do not participate through an organisation or council but they do have representatives in the National Water Resources Council, states' water resources councils and river basin committees.

In Chile, when several citizens share the same groundwater drilling infrastructure, they can constitute associations (*Asociacion de Canalistas*) in order to commonly build, operate and maintain aqueducts and other infrastructures as well as fairly distribute water among all members.

In Honduras, a Binational Management Committee was established in the Goascorán River Basin, a 2 345.5 km² watershed, shared with El Salvador. The committee aims to engage stakeholders at all levels and develop a management plan for the basin to answer the environmental, economic and geopolitical challenges it faces.

Since 2005, the Mexican Institute of Water Technology has developed a series of workshops in rural and urban communities to promote gender analysis and women's participation in integrated water management and policy. The results of these workshops are published in the Women's Blue Agenda which highlights issues relating to water for domestic purposes, irrigation and environmental protection, and makes a strong connection between land rights and access to water.

In Nicaragua, the Nuevo FISE has designed a water and sanitation project implementation model (MEPAS) which defines the processes and procedures for management of project cycles, with a view toward facilitating co-ordination, communication and transparency among participating stakeholders regarding investments in the drinking water and sanitation sector in rural areas and small villages. In addition, the model covers the development of local capacities in municipalities with the creation of drinking water and sanitation units (UMAS), whose role is to support the drinking water and sanitation committees (CAPS) during the operation and maintenance of water and sanitation services.

Conclusion

Governance instruments for managing mutual dependencies in the water sector at horizontal and vertical levels reveal a wide variety of mechanisms in place across and within LAC countries. All countries surveyed have put in place co-ordination mechanisms at the central government level (some countries have even adopted almost all of the co-ordination instruments listed, e.g. Mexico) and most of them have engaged in efforts to co-ordinate water with other policy areas such as spatial planning, regional development, agriculture and energy. Most countries have also set up vertical co-ordination instruments, except in countries where sub-national levels are only involved in the implementation stage of water policy.

Co-ordination mechanisms range from hard to soft, formal to informal, clear-cut to flexible instruments. Incentives for co-ordinating water policies and building capacity at the territorial level proceed from a variety of parameters. While national and sub-national capacity is of primary importance in multi-level governance relations, the line between co-ordination and capacity is not always clearly demarcated. Co-ordination can help in disseminating good practices and spreading the benefits of diversification of water policy, thereby also building capacity. Thus, co-ordination and capacity building go hand in hand: they are synergistic processes that can be mutually reinforcing, provided there is a territorial approach to water policies.

Despite the efforts to foster integrated water policies, LAC countries still report significant challenges in co-ordinating water policy actions across ministries and between levels of government. The adoption of all possible co-ordination instruments does not necessarily guarantee "effective" water governance, as such tools may overlap and ultimately neutralise each other. To respond to changing circumstances and to enable incremental evolution rather than occasional major overhauls, administrative flexibility should be promoted, e.g. through the use of task forces or commissions with specific mandates. No governance tool can offer a panacea for integrated water policy, and no systematic one-to-one correlation exists between tools and gaps. A given tool can solve several gaps, and solving a specific gap may require the combination of several tools.

Measuring the degree of performance of such governance tools or assessing their impact on the efficiency, equity and sustainability of water policy would require more in-depth and specific work at national, sub-national and basin levels. But by reviewing current governments' responses to previously identified challenges, this chapter provides the preliminary arguments for confronting tools and gaps. Further OECD work through policy dialogue with selected LAC countries will be devoted to the efficiency of these respective governance instruments and the extent to which they contribute to bridging the gaps.

Table 4.3. **Remaining governance challenges for water policy making in LAC countries**

Most important water governance challenges according to respondents	Country
Mismatch between hydrological and administrative boundaries	Brazil, Costa Rica, Dominican Republic, Guatemala, Nicaragua, Peru
Horizontal co-ordination across ministries	Argentina, Costa Rica, Dominican Republic, Honduras, Nicaragua, Panama,
Vertical co-ordination between levels of government	Costa Rica, Dominican Republic, Honduras, Panama, Peru
Horizontal co-ordination between sub-national actors	Argentina, Costa Rica, El Salvador, Honduras, Panama, Peru
Local and regional governments' capacity to design/implement water policies	Chile, Guatemala, Mexico, Nicaragua, Panama, Peru
Allocation of water resources across uses (residential, industrial, agriculture)	Guatemala, Mexico, Nicaragua, Panama, Peru
Limited citizen participation	Argentina, Chile, Costa Rica, Guatemala, Mexico, Nicaragua, Panama, Peru
Economic regulation (tariffs, private sector participation, etc.)	Brazil, Guatemala, Mexico, Panama, Peru
Enforcement of environmental norms	Costa Rica, Mexico, Panama, Peru
Managing the specificity of rural areas	Chile, Costa Rica, Panama, Peru
Managing geographically specific areas (islands, mountains, etc.)	Argentina, Chile, Costa Rica, Panama
Managing specificity of urban/metropolitan areas	Argentina, Chile, Panama

Source: Based on results from OECD (2011), "OECD Survey on Water Governance 2010-2011", OECD, Paris, survey conducted in 2011, *www.oecd.org/dataoecd/37/39/44689618.pdf.*

Note

1. For the latest edition of *Statistics on Water in Mexico*, see *www.conagua.gob.mx/english07/publications/EAM2010Ingles_Baja.pdf.*

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Chapter 5

Country profiles

This chapter presents profiles of 13 LAC countries. They have a uniform layout, for ease of comparison. They are based on the responses collected in the framework of the OECD 2011 Survey on Water Governance.

Each profile is divided into five sections, which provide:

- *An "institutional mapping" of the allocation of roles and responsibilities in water policy design, regulation and implementation at central government level.*
- *An overview of co-ordination challenges and instruments across ministries and public agencies.*
- *An "institutional mapping" of the allocation of roles and responsibilities in water policy design, regulation and implementation at sub-national (local and regional) level.*
- *An overview of co-ordination challenges and instruments across levels of government and between local actors.*
- *An overview of remaining multi-level governance challenges, based on countries' self-assessment in the OECD 2011 Survey on Water Governance.*

ARGENTINA

Acronyms

ACRA	Rio Azul River Basin Authority (*Autoridad de Cuenca del Río Azul*)
APLA	Latin-American Association of Petrochemistry and Chemistry (*Asociación Petroquímica y Química Latinoamericana*)
AySA	Water and Sanitation Argentina S.A. (*Agua y Saneamientos Argentino S.A.*)
COHIFE	Federal Hydrological Council (*Consejo Hídrico Federal*)
ENOHSA	National Agency for Water and Sanitation Utilities
INA	National Water Institute
MINAGRI	Ministry of Agriculture
MINSAL	Ministry of Health
OC	River basin organisation
SADU	Ministry of Environment and Sustainable Development
SSRH	Sub-Secretariat for National Water Resources

Institutional mapping of water policy roles and responsibilities at central government level: Allocation of roles across ministries and public agencies

Design and implementation of water policies

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Roles		Domestic	Agriculture	Industry	
Allocation of uses	Provinces	Provinces	Provinces	Provinces	Provinces
Quality of standards	Provinces	MINSAL	Provinces	Provinces	Provinces
Compliance of service delivery commitment	Provinces	Provinces	Provinces	Provinces	Provinces
Economic regulations (tariffs, etc.)	Provinces	Provinces	Provinces	Provinces	Provinces
Environmental regulations (enforcement of norms, etc.)	Provinces	Provinces	Provinces	Provinces and through minimum budgets from SADU	Provinces
Other	River basin organisations and COHIFE		River basin organisations		

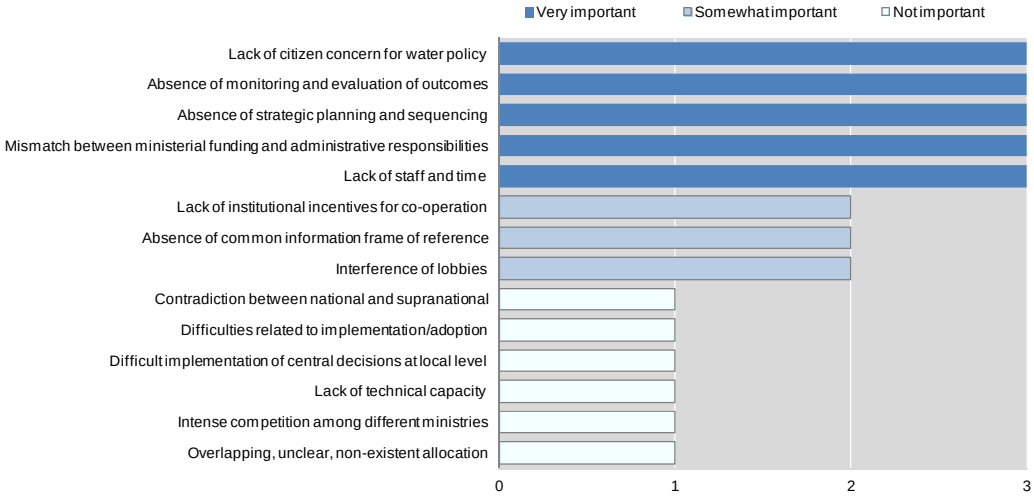
Institutional mapping for quality standards and regulation

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Roles		Domestic	Agriculture	Industry	
Strategy, priority setting and planning (including infrastructure)	SSRH	SSRH/ENOHSA	MINAGRI		SSRH/ENOHSA
Policy making and implementation	SSRH	SSRH/ENOHSA			SSRH/ENOHSA
Information, monitoring and evaluation	SSRH	SSRH/ENOHSA			ENOHSA
Stakeholder engagement (citizen awareness, etc.)	SSRH	SSRH/ENOHSA			
Others (specify)	River basin organisation/INA				

Co-ordination of water policy making across ministries and public agencies at central government level

Obstacles to horizontal co-ordination in water policy making

Argentina: Obstacles to effective co-ordination at central government level



Existing mechanisms for co-ordinating the action across ministries and public agencies

Existing co-ordination mechanisms across ministries/public agencies	Yes	No	Details (name, website, contact details, description, examples, etc.)
A ministry of water		X	
A line ministry			
A central agency for water-related issues	X		SSRH
An inter-ministerial body (committee, commission)			COHIFE
An inter-agency programme	X		River Basin and Streams Authority
A co-ordination group of experts			Argentina-Chile Working Group
An inter-ministerial mechanism for addressing territorial water concerns			SSRH promotes the creation of inter-province river basin committees while the political organisation is at the federal level. It is the goal of the Territorial Management National Plan (Ministry of Public Services)

Institutional mapping of water policy roles and responsibilities at sub-national level: Allocation of roles across local and regional authorities

Allocation of roles and responsibilities in water policy design and implementation at territorial level

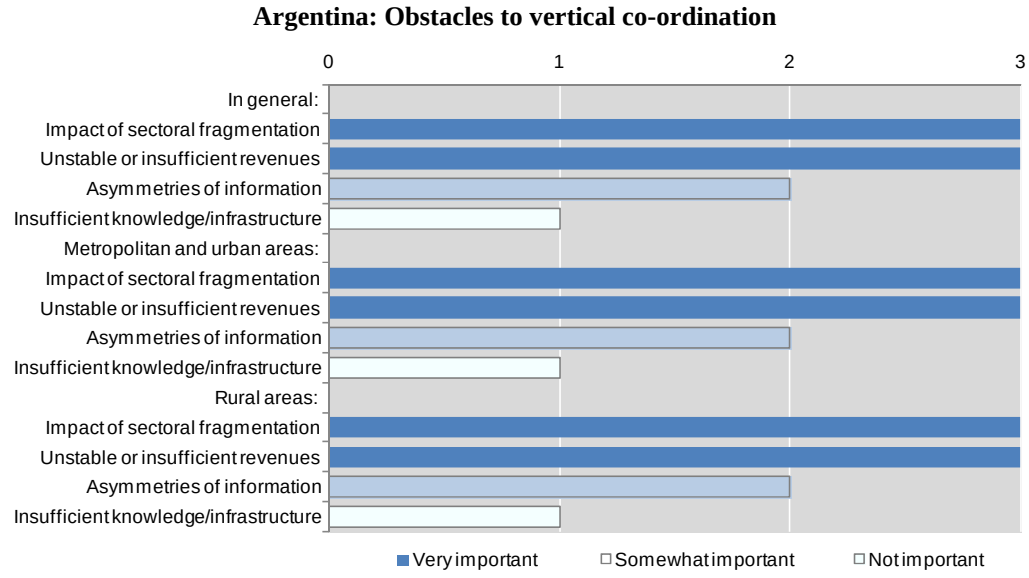
Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Actors at sub-national level		Domestic	Agriculture	Industry	
Municipalities		X			X
Regions (provinces, states in federal countries, autonomous regions, cantons)		X	X	X	X
Inter-municipal bodies		X			X
Water-specific bodies					
River basin organisations	X				
Other (specify)	X				

Allocation of roles and responsibilities in water regulation (rule production and enforcement)

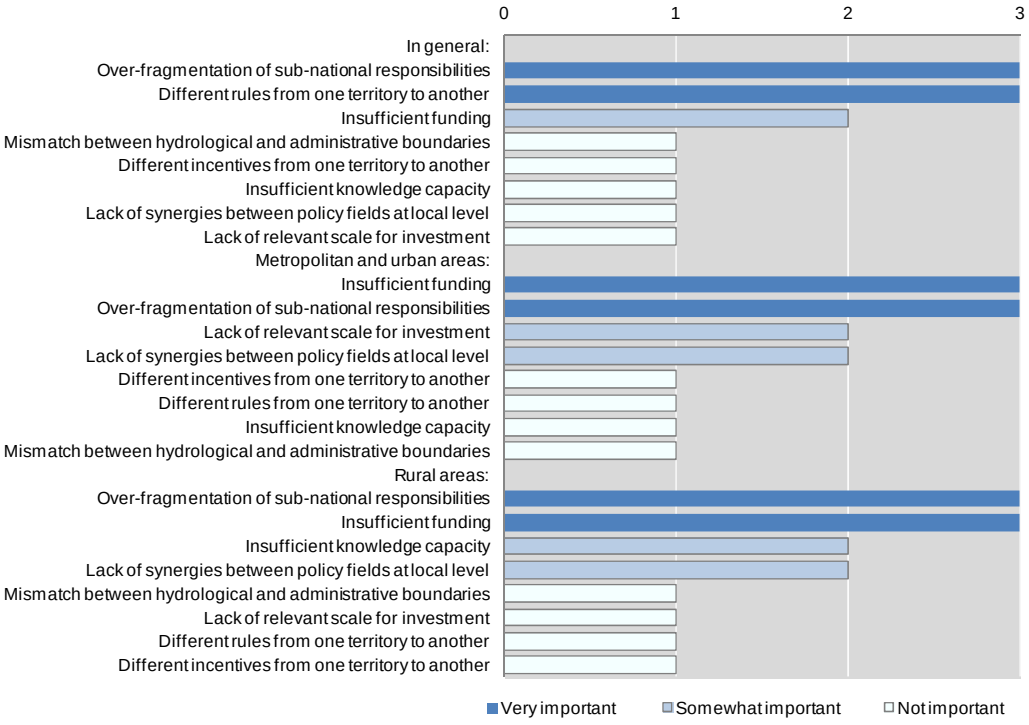
Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Roles		Domestic	Agriculture	Industry	
Allocation of uses	Provinces	Provinces and/or municipalities	Provinces	Provinces	Provinces and/or municipalities
Quality standards	Provinces	Provinces	Provinces	Provinces	Provinces
Compliance of service delivery commitment					
Economic regulations (tariffs, etc.)	Provinces	Provinces	Provinces	Provinces	Provinces
Environmental regulations (enforcement of norms, etc.)	Provinces	Provinces	Provinces	Provinces	Provinces
Control at sub-national level of national regulation enforcement	Provinces	Provinces and/or municipalities	Provinces	Provinces	Provinces and/or municipalities
Other (specify)					

Co-ordination of water policy making between levels of government and among local actors

Obstacles to vertical co-ordination in water policy making



Obstacles to capacity building and co-ordination at territorial level



Existing mechanisms for co-ordinating water policy between levels of government and at territorial level

Existing mechanisms for vertical co-ordination and territorial effectiveness in water policy	Yes	No	Details (contact information, website)
River basin organisations/agencies	X		
Regulations for sharing roles among actors	X		
Co-ordination agency or commission		X	
Contractual arrangements (between central and local governments, central and regional governments, regional and local governments)	X		Agreements for specific issues
Intermediate bodies or actors (e.g. state territorial representatives)		X	
Financial transfers or incentives		X	Water Infrastructure Fund: finances water utilities in provinces, especially as a response to water emergencies
Performance indicators		X	
Shared databases	X		*Digital Water Database* available at SSRH, *Groundwater Database*, *www.hidricosargentina.gov.ar*
Sectoral conferences between central and sub-national water players	X		Federal Water Council workshops
Multi-sectoral conferences	X		COHIFE's water policy meeting
Consultation of private stakeholders (profit and non-profit actors)			
Other (specify)			

Specific focus on selected mechanisms

Tools to manage the interface among actors at sub-national level

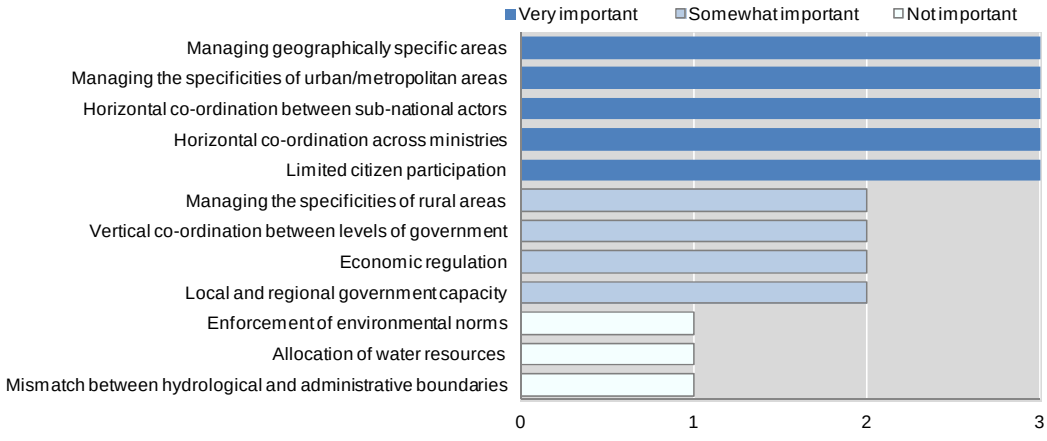
Existing mechanisms for co-ordination among different water actors at sub-national level	Yes	No	Details (name, example, contact information, website, capacity issues addressed, etc.)
Inter-municipal collaboration	X		
Inter-municipal specific body	X		ACRA (Rio Azul)
Specific incentives from central/regional government (in terms of rules, rewards and sanction mechanisms, budget allocation, etc.)	X		Budget allocation for infrastructure
Historical rules and traditions			
Specific mechanisms for conflict resolution	X		
Informal co-operation around projects	X		
Joint financing	X		
Metropolitan or regional water district	X		AySA/APLA (Buenos Aires Metropolitan Area)
Other (specify)			

Tools for capacity building at sub-national level

Type of mechanism	Yes	No	n/a	Details (name, example, contact information, website, capacity issues addressed, etc.)
Broad governance mechanisms				
Collaboration with the private sector (know-how transfer, concession contract, BOTs, etc.)	X			Concession contracts for operating hydroelectric power station as well as several surface water irrigation systems
Financial incentives (specify from whom and for what)				
Performance indicators and targets holding local governments accountable				
Citizen participation				Promoted to some budget committees (Pilcomayo)
Involvement of civil society organisations	X			Invited to budget committee meetings to discuss specific issues
Databases (sharing information)	X			Attempted but not sustainably
Historical arrangements (water courts)	X			River bank inspection in the Mendoza province's irrigation areas
Other (specify)				
Management mechanisms				
Training – workshops – conferences	X			Many public bodies promote participation through workshops
Specific performance monitoring mechanisms for staff (teams or individuals)				
Other (specify)				

Final assessment of remaining challenges

Argentina: Main challenges in water policy making



BRAZIL

Acronyms

ANA	National Water Agency
ANEEL	Brazilian Electricity Regulatory Agency
ANTAQ	National Agency of Fluvial Transportation
CBHs	River basin committees
CERHs	State water resource councils
CNARH	National Register of Water Resource Users
CNRH	National Water Resource Council
CONAMA	National Council of Environment
Funasa	National Health Foundation
MAPA	Ministry of Agriculture, Livestock and Food Supply
MCidades	Ministry of Cities
MDIC	Ministry of Development, Industry and Foreign Trade
MI	Ministry of National Integration
MMA	Ministry of Environment (*Ministério do Meio Ambiente*)
MME	Ministry of Mining and Energy
MRE	Ministry of External Relations
MS	Ministry of Health
MT	Ministry of Transportation
SRHU/MMA	Secretariat of Water Resources and Urban Environment, Ministry of Environment

Institutional mapping of water policy roles and responsibilities at central government level: Allocation of roles across ministries and public agencies

Design and implementation of water policies

Areas / Roles	Water resources	Water services			
		Water supply			Wastewater treatment
		Domestic	Agriculture	Industry	
Allocation of uses	ANA				
Quality of standards	MMA/CONAMA, CONAMA	MS			
Compliance of service delivery commitment	MME/ANEEL and MT/ANTAQ				
Economic regulations (tariffs, etc.)	ANEEL		ANA		
Environmental regulations (enforcement of norms, etc.)	MMA/CONAMA				
Others (specify)					

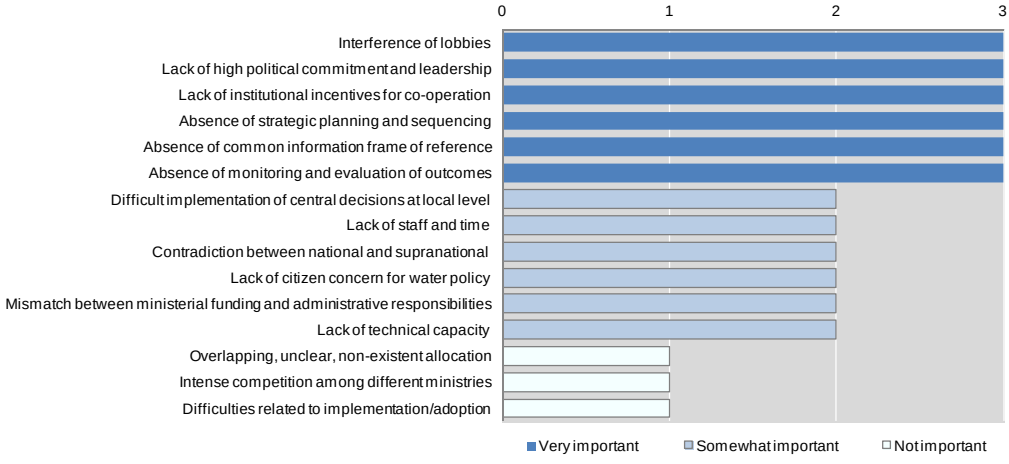
Institutional mapping for quality standards and regulation

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Roles		Domestic	Agriculture	Industry	
Strategy, priority setting and planning (including infrastructure)	SRHU/ MMA	MCidades, MS/Funasa	MI, MAPA	MCidades, MDIC	MCidades, MS/Funasa
Policy making and implementation	SRHU/MMA (policy making), ANA (implementation)	MCidades, MS/Funasa	MI, MAPA	MCidades, MI, MDIC	MCidades, MS/Funasa
Information, monitoring and evaluation	SRHU/MMA	MCidades, MS/Funasa	MI, MAPA	MCidades, MI, MDIC	MCidades, MS/Funasa
Stakeholder engagement (citizen awareness, etc.)	SRHU/MMA, ANA	MCidades, MS/Funasa	MI, MAPA	MCidades, MI, MDIC	MCidades, MS/Funasa

Co-ordination of water policy making across ministries and public agencies at central government level

Obstacles to horizontal co-ordination in water policy making

Brazil: Obstacles to co-ordination at central level



Existing mechanisms for co-ordinating the action across ministries and public agencies

Existing co-ordination mechanisms across ministries/public agencies	Yes	No	Details (name, website, contact details, description, examples, etc.)
A ministry of water		X	
A line ministry	X		MMA, *www.mma.gov.br*
A central agency for water-related issues	X		ANA, *www.ana.gov.br*
An inter-ministerial body (committee, commission)		X	
An inter-agency programme		X	
A co-ordination group of experts		X	
An inter-ministerial mechanism for addressing territorial water concerns		X	

Institutional mapping of water policy roles and responsibilities at sub-national level: Allocation of roles across local and regional authorities

Allocation of roles and responsibilities in water policy design and implementation at territorial level

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Actors at sub-national level		Domestic	Agriculture	Industry	
Municipalities		Municipality	Water users	Municipality/ water users	Municipality
Regions (provinces, states in federal countries, autonomous regions, cantons)	State Secretariat of Water Resources/ or of Environment/ state agencies for water resource planning and management	State (in case of water utilities that serve more than one municipality)	Water users	State (in case of water utilities that serve more than one municipality)/ water users	State (in case of water utilities that serve more than one municipality)
Inter-municipal bodies					
Water-specific bodies	State Water Resource Council				
River basin organisations					
Other (specify)	River basin committee				

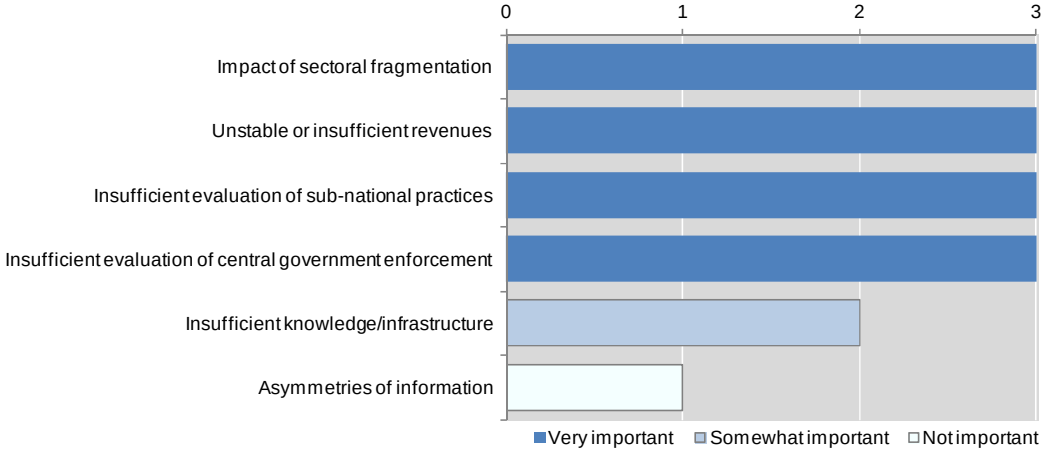
Allocation of roles and responsibilities in water regulation (rule production and enforcement)

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Roles		Domestic	Agriculture	Industry	
Allocation of uses	State Secretariat of Water Resources/ or of Environment/ state agencies for water resources planning and management	Municipality			Municipality
Quality standards	State Water Resource Council				
Compliance of service delivery commitment		Municipality		Municipality	Municipality
Economic regulations (tariffs, etc.)		Municipality/states or state/municipal regulatory agencies		Municipality/ regulatory agencies	Municipality/state regulatory agencies
Environmental regulations (enforcement of norms, etc.)	State Environmental Council/Municipal Environmental Council				
Control at sub-national level of national regulation enforcement	CNRH, ANA	MS/Funasa			MS/Funasa

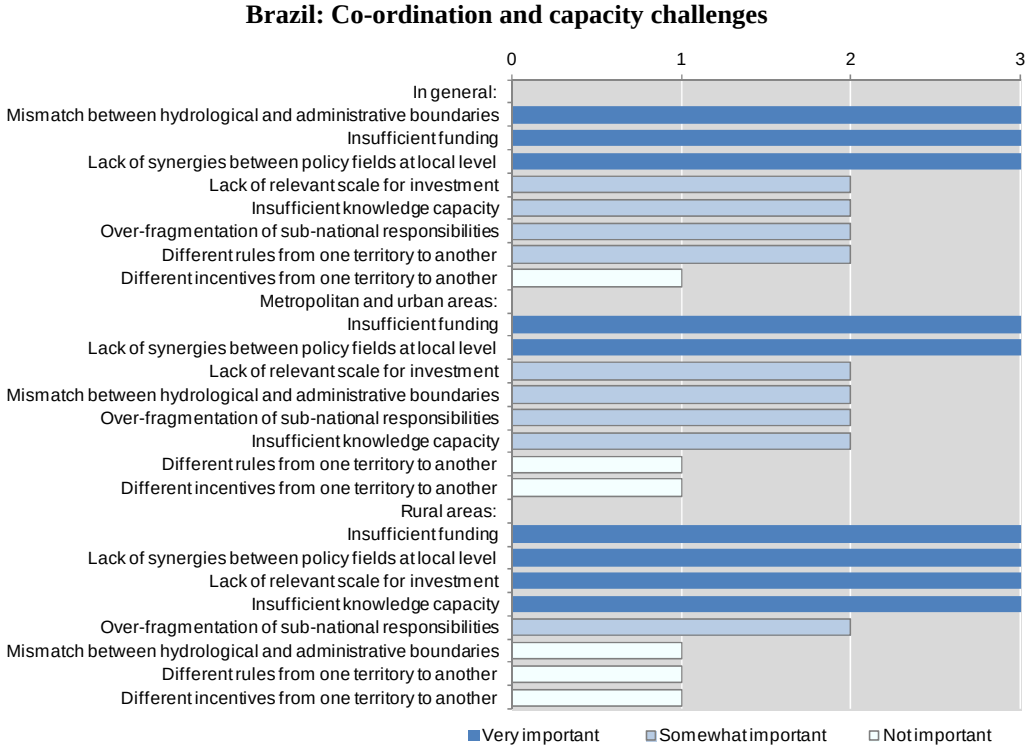
Co-ordination of water policy making between levels of government and among local actors

Obstacles to vertical co-ordination in water policy making

Brazil: Obstacles to vertical co-ordination in general



Obstacles to capacity building and co-ordination at territorial level



Existing mechanisms for co-ordinating water policy between levels of government and at territorial level

Existing mechanisms for vertical co-ordination and territorial effectiveness in water policy	Yes	No	Details (contact information, website)
River basin organisations/agencies	X		Water Agency and River Basin Committee *www.cbh.gov.br*
Regulations for sharing roles among actors	X		Federal Constitution
Co-ordination agency or commission		X	
Contractual arrangements (between central and local governments, central and regional governments, regional and local governments)	X		Agreements among ANA, states and river basin committees (water pacts)
Intermediate bodies or actors (e.g. state territorial representatives)		X	
Financial transfers or incentives		X	In progress
Performance indicators		X	In progress
Shared databases	X		Common databases shared by ANA and the states of Rio de Janeiro and Minas Gerais
Sectoral conferences between central and sub-national water players	X		Several
Multi-sectoral conferences	X		Several
Consultation of private stakeholders (profit and non-profit actors)	X		They are part of the CNRH, CERH and CBH

Specific focus on selected mechanisms

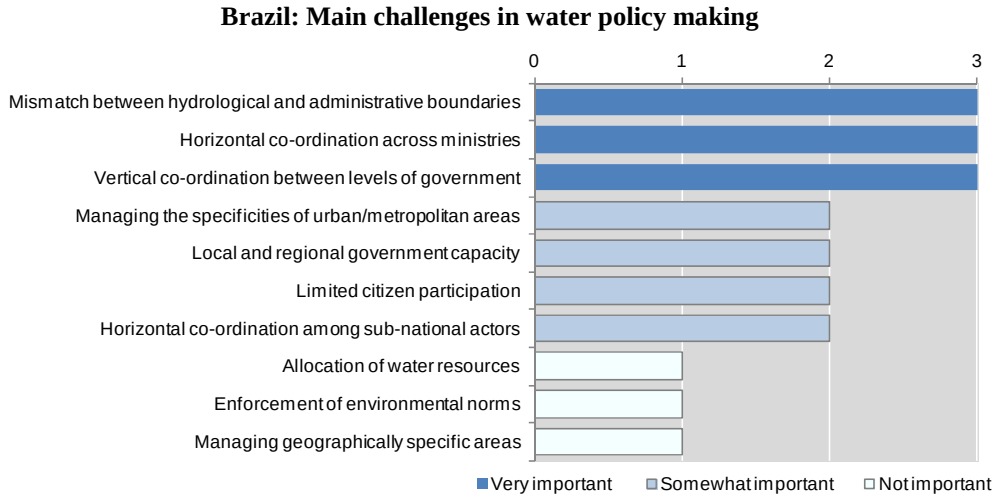
Tools to manage the interface among actors at sub-national level

Existing mechanisms for co-ordination among different water actors at sub-national level	Yes	No	Details (name, example, contact information, website, capacity issues addressed, etc.)
Inter-municipal collaboration	X		Inter-municipal consortium – Consortium PCJ, *www.ana.gov.br*
Inter-municipal specific body		X	
Specific incentives from central/regional government (in terms of rules, rewards and sanction mechanisms, budget allocation, etc.)		X	
Historical rules and traditions		X	
Specific mechanisms for conflict resolution	X		CBH, *www.cbh.gov.br*
Informal co-operation around projects		X	
Joint financing		X	
Metropolitan or regional water district	X		State Water and Sanitation Company, *www.aesbe.org.br*
Other (specify)			

Tools for capacity building at sub-national level

Type of mechanism	Yes	No	n/a	Details (name, example, contact information, website, capacity issues addressed, etc.)
Broad governance mechanisms				
Collaboration with the private sector (know-how transfer, concession contract, BOTs, etc.)	X			A few cases of municipal concessions for private companies to operate water and sanitation utilities
Financial incentives (specify from whom and for what)	X			Financial resources from water charges assigned to the municipalities for investments on water management, infrastructure design and sanitation infrastructure implementation
Performance indicators and targets holding local governments accountable		X		Management contracts (states of Minas Gerais and Rio de Janeiro)
Citizen participation	X			River basin committees, sanitation and environmental municipal councils and public hearings
Involvement of civil society organisations	X			River basin committees, sanitation and environmental municipal councils and public hearings
Databases (sharing information)	X			CNARH serves this purpose (exchange of information)
Historical arrangements (water courts)		X		
Other (specify)				
Management mechanisms				
Training – workshops – conferences	X			There is a continued capacity building programme conducted by ANA and river basin agencies on water management for the municipalities' technical staff
Specific performance monitoring mechanisms for staff (teams or individuals)		X		
Other (specify)				

Final assessment of remaining challenges



CHILE

Acronyms

APR – Chile	*Agua Potable Rural – Chile S.A.*
CNE	National Energy Commission
CNR	National Irrigation Commission
COCHILCO	Chilean Copper Commission, Ministry of Mining
CONAMA	National Council of Environment
DGA	General Office of Waters
INDAP	National Institute of Agricultural Development
MINAGRI	Ministry of Agriculture
MINECON	Ministry of Economy
MINSAL	Ministry of Health
MMA	Ministry of the Environment
MOP/DGA	Ministry of Public Utilities/General Office of Waters
MOP/DOH	Ministry of Public Utilities/Office of Water Utilities
PAPR/DOH	Rural Drinking Water Programme, Office of Water Utilities, Ministry of Public Utilities
SISS	Superintendant's Office of Sanitation Services

Institutional mapping of water policy roles and responsibilities at central government level: Allocation of roles across ministries and public agencies

Design and implementation of water policies

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Roles		Domestic	Agriculture	Industry	
Allocation of uses	DGA	DGA	DGA	DGA	
Quality of standards	DGA, SISS, MMA	SISS	MINAGRI and MOP	MINSAL	SISS
Compliance of service delivery commitment		Sanitation companies			Sanitation companies at the urban level
Economic regulations (tariffs, etc.)	DGA	SISS at the urban level; committees at the rural level	CNR's Ministries Council	MINECON	SISS
Environmental regulations (enforcement of norms, etc)	MMA	MMA, SISS	MINAGRI	MINSAL	SISS
Others (specify)					

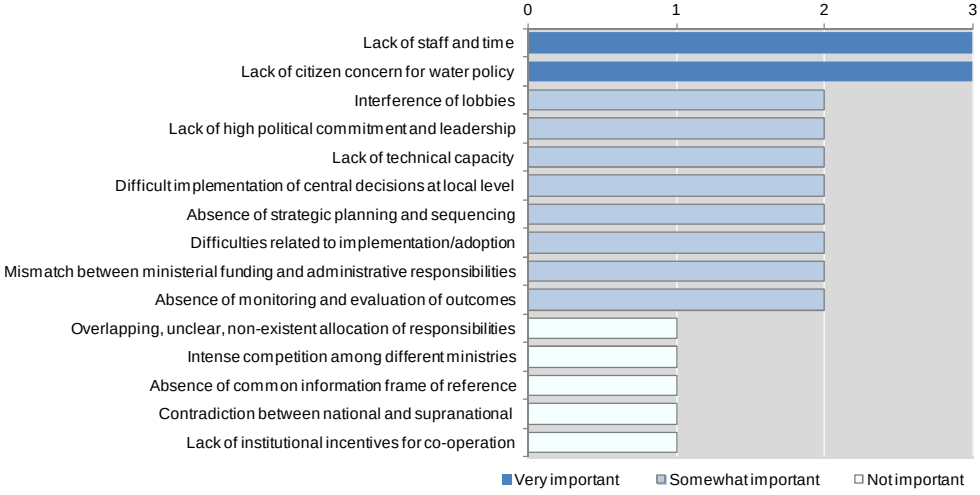
Institutional mapping for quality standards and regulation

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Roles		Domestic	Agriculture	Industry	
Strategy, priority setting and planning (including infrastructure)	MOP through DGA/DOH	SISS, DOH, MOP	MINAGRI through CNR and DOH	Hydroelectricity: CNE Mining: COCHILCO	Urban: SISS Rural: MOP, Parliament is reviewing a bill to institutionalise wastewater treatment
Policy making and implementation	MOP, DGA	Urban: SISS Rural: MOP/DOH	MINAGRI, Executive Secretary of CNR, MOP/DOH		Urban: SISS Rural: MOP, through DOH
Information, monitoring and evaluation	DGA	Urban: SISS Rural: PAPR/DOH	MINAGRI, CNR		Urban: SISS Rural: MOP/DOH
Stakeholder engagement (citizen awareness, etc.)	DGA, National Commission for the Environment, DOH, CNR	Urban: SISS Rural: sanitation companies/DOH	MINAGRI, CNR	Hydroelectricity CNE Mining: COCHILCO	Urban: SISS Rural: limited but town councils and regional government can be mentioned
Others (specify)	Expert organisations	Sanitation companies	Irrigation associations	Private associations	Sanitation companies

Co-ordination of water policy making across ministries and public agencies at central government level

Obstacles to horizontal co-ordination in water policy making

Chile: Obstacles to co-ordination at central level



Existing mechanisms for co-ordinating the action across ministries and public agencies

Existing co-ordination mechanisms across ministries/public agencies	Yes	No	Details (name, website, contact details, description, examples, etc.)
A ministry of water		X	
A line ministry	X		MOP (*www.mop.cl*), through the DGA (*www.dga.cl*) and the DOH
A central agency for water-related issues	X		MOP/DGA (*www.dga.cl*)
An inter-ministerial body (committee, commission)	X		National Irrigation Commission Ministries Council, implemented by law, for the development of irrigation infrastructure
An inter-agency programme		X	
A co-ordination group of experts			
An inter-ministerial mechanism for addressing territorial water concerns	X		Work committees with users engaged in large irrigation utilities, MINAGRI/MOP

Institutional mapping of water policy roles and responsibilities at sub-national level: Allocation of roles across local and regional authorities

Allocation of roles and responsibilities in water policy design and implementation at territorial level

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Actors at sub-national level		Domestic	Agriculture	Industry	
Municipalities	No	Yes, in rural areas	No	No	Yes, at the rural level
Regions (provinces, states in federal countries, autonomous regions, cantons)	No	No	No	No	No
Inter-municipal bodies	No	No	No	No	No
Water-specific bodies	No	No	No	No	No
River basin organisations	No	No	No	No	No
Other (specify)	DGA, MMA	SISS, DOH, APR	DGA, CNR, INDAP, MINAGRI, MOP/DOH	DGA	SISS

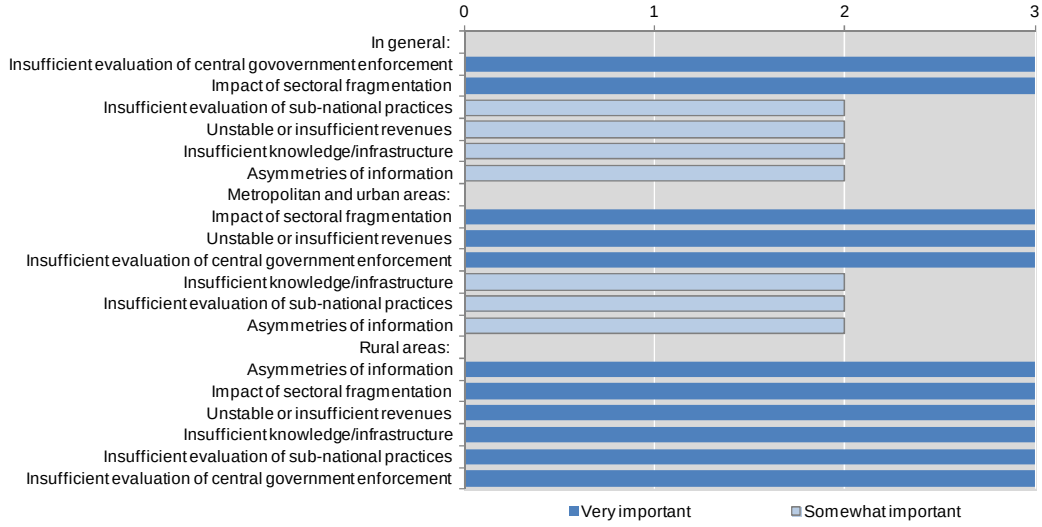
Allocation of roles and responsibilities in water regulation (rule production and enforcement)

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Roles		Domestic	Agriculture	Industry	
Allocation of uses	DGA	SISS, APR, MINSAL	DGA	DGA	SISS
Quality standards	DGA/MMA	MINSAL, SISS	MINAGRI	MINSAL	SISS
Compliance of service delivery commitment	DGA	SISS, APR			
Economic regulations (tariffs, etc.)	DGA	SISS, APR		MINECON	SISS, APR
Environmental regulations (enforcement of norms, etc.)	DGA/MMA	SISS, APR	MINAGRI	CONAMA	SISS, APR
Control at sub-national level of national regulation enforcement	DGA/MMA	SISS, APR	MINAGRI	DGA, MINECON	SISS, APR

Co-ordination of water policy making between levels of government and among local actors

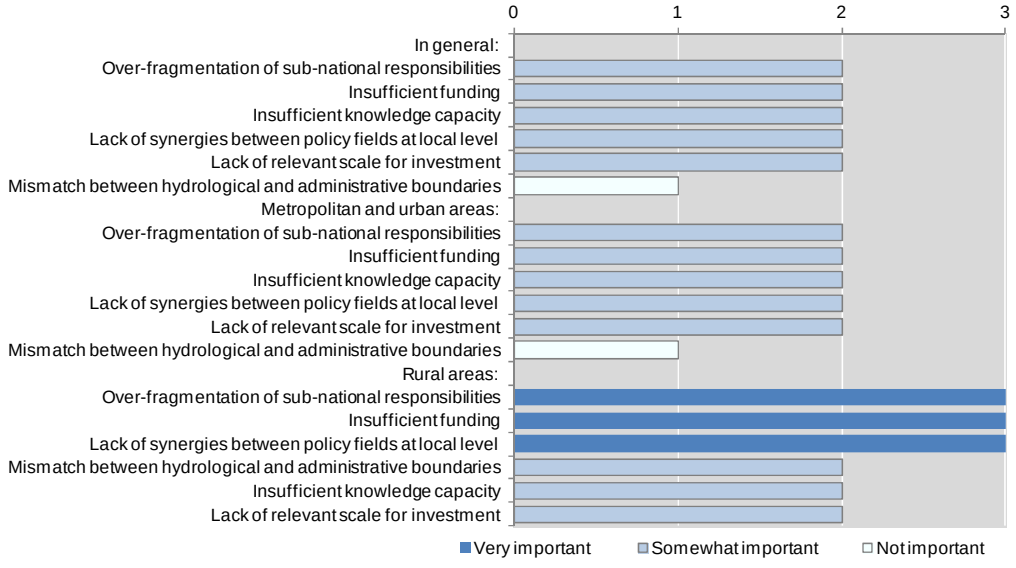
Obstacles to vertical co-ordination in water policy making

Chile: Obstacles to vertical co-ordination



Obstacles to capacity building and co-ordination at territorial level

Chile: Co-ordination and capacity challenges



Existing mechanisms for co-ordinating water policy between levels of government and at territorial level

Existing mechanisms for vertical co-ordination and territorial effectiveness in water policy	Yes	No	Details (contact information, website)
River basin organisations/agencies	X		*Juntas de Viligencias* (established by Art. 263 of the Water Code) bring together surface and groundwater users of a same river basin on specific topics
Regulations for sharing roles among actors		X	
Co-ordination agency or commission		X	
Contractual arrangements (between central and local governments, central and regional governments, regional and local governments)	X		Regional development strategies
Intermediate bodies or actors (e.g. state territorial representatives)		X	
Financial transfers or incentives	X		Planning agreements
Performance indicators		X	
Shared databases			Water committees in some river basins (informal organisations)
Sectoral conferences between central and sub-national water players	X		
Multi-sectoral conferences			
Consultation of private stakeholders (profit and non-profit actors)	X		Citizen participation

Specific focus on selected mechanisms

Tools to manage the interface among actors at sub-national level

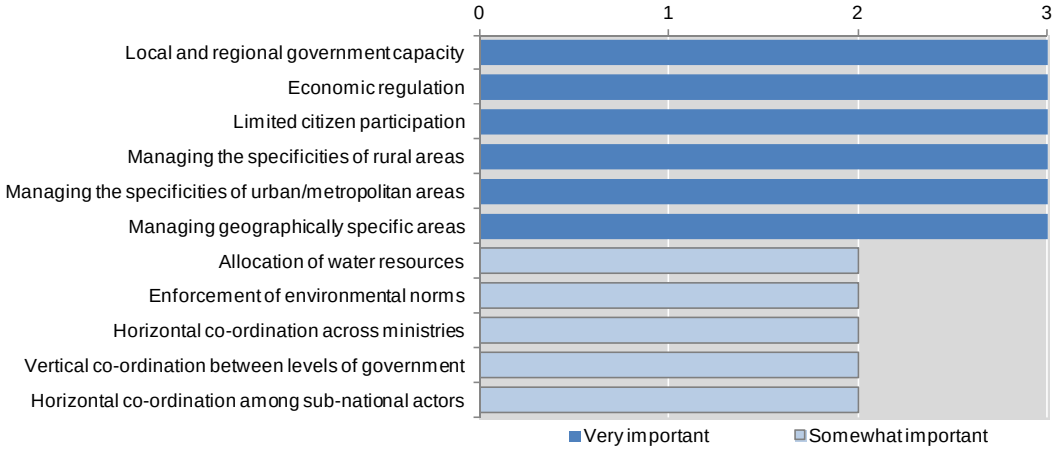
Existing mechanisms for co-ordination among different water actors at sub-national level	Yes	No	Details (name, example, contact information, website, capacity issues addressed, etc.)
Inter-municipal collaboration		X	
Inter-municipal specific body		X	
Specific incentives from central/regional government (in terms of rules, rewards and sanction mechanisms, budget allocation, etc.)		X	
Historical rules and traditions		X	
Specific mechanisms for conflict resolution	X		Users' associations established by the Water Code have conflict resolution mechanisms. DGA has specific capacities to resolve conflicts.
Informal co-operation around projects	X		
Joint financing	X		Users' contribution in irrigation.
Metropolitan or regional water district	X		DGA holds regional offices throughout the country and delegates water resource administration responsibilities to regional governments.
Other (specify)			

Tools for capacity building at sub-national level

Type of mechanism	Yes	No	n/a	Details (name, example, contact information, website, capacity issues addressed, etc.)
Broad governance mechanisms				
Collaboration with the private sector (know-how transfer, concession contract, BOTs, etc.)	X			Support from sanitation companies for water supply in rural areas
Financial incentives (specify from whom and for what)	X			Regional development funds
Performance indicators and targets holding local governments accountable		X		
Citizen participation	X			Water user organisations
Involvement of civil society organisations		X		
Databases (sharing information)	X			DGA has a public water registry
Historical arrangements (water courts)		X		
Other (specify)				
Management mechanisms				
Training – workshops – conferences	X			Several isolated initiatives in some regions
Specific performance monitoring mechanisms for staff (teams or individuals)		X		
Other (specify)				

Final assessment of remaining challenges

Chile: Main challenges in water policy making



COSTA RICA

Acronyms

ARESEP	Regulatory Authority for Public Services
ASADAS	Associations of Municipal Aqueduct and Sewer System Administrations
AyA	Costa Rican Institute of Aqueducts and Sewer Systems
CGR	General Finance Office of the Republic (*Contraloría General de la República*)
ESPH	Public Services Company of Heredia
ICE	Costa Rican Institute of Electricity
IDA	Institute of Agricultural Development
JASEC	Joint Administration for the Electric Service of Cartago
MAG	Ministry of Agriculture and Livestock
MINAET	Ministry of Environment, Energy and Telecommunications
MS	Ministry of Health
SENARA	National Service of Ground Waters, Irrigation and Drainage

Institutional mapping of water policy roles and responsibilities at central government level: Allocation of roles across ministries and public agencies

Design and implementation of water policies

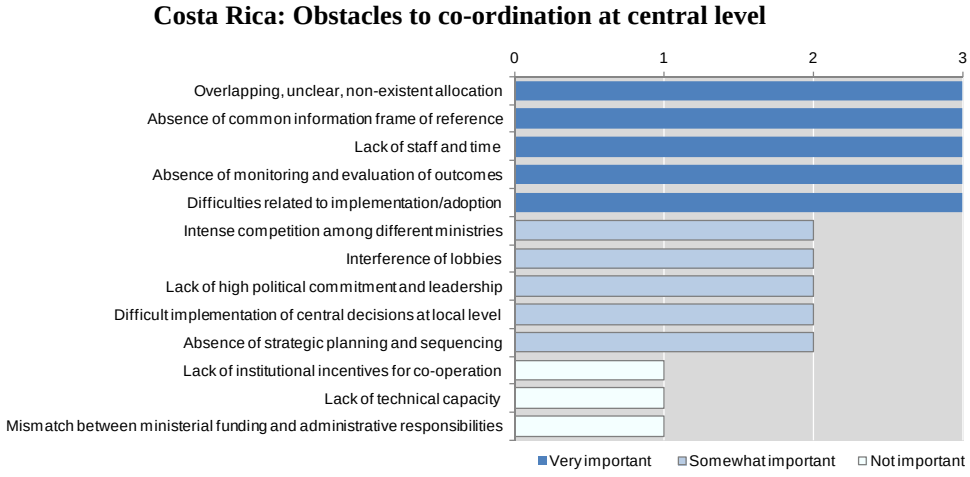
Areas / Roles	Water resources	Water services			
		Water supply			Wastewater treatment
		Domestic	Agriculture	Industry	
Allocation of uses	MINAET	MINAET	MINAET	MINAET	
Quality of standards	MINAET	MS		MINAET	MINAET, MS
Compliance of service delivery commitment	MINAET, AyA (and ASADAS)	AyA, ASADAS	SENARA	AyA, ESPH, municipalities	MS AyA, ESPH, municipalities
Economic regulations (tariffs, etc.)	ARESEP	ARESEP	ARESEP	ARESEP	ARESEP
Environmental regulations (enforcement of norms, etc.)	MINAET	MINAET	MINAET	MINAET	MINAET
Others (specify)					

Institutional mapping for quality standards and regulation

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Roles		Domestic	Agriculture	Industry	
Strategy, priority setting and planning (including infrastructure)	MINAET	MINAET, AyA	MINAET, IDA	MINAET, AyA	MINAET, MS, AyA
Policy making and implementation	MINAET	MINAET, AyA	MINAET, MAG, IDA	MINAET, AyA	MINAET, MS, AyA For implementation, also ESPH and municipalities
Information, monitoring and evaluation	MINAET, CGR	MINAET, AyA, CGR	MINAET, MAG, IDA, CGR	MINAET, AyA, CGR	MINAET, MS, AyA, CGR
Stakeholder engagement (citizen awareness, etc.)	Consultation and workshops with NGOs				

Co-ordination of water policy making across ministries and public agencies at central government level

Obstacles to horizontal co-ordination in water policy making



Existing mechanisms for co-ordinating the action across ministries and public agencies

Existing co-ordination mechanisms across ministries/public agencies	Yes	No	Details (name, website, contact details, description, examples, etc.)
A ministry of water		X	
A line ministry	X		MINAET, Office of Water, *www.drh.go.cr*
A central agency for water-related issues	X		As above
An inter-ministerial body (committee, commission)	X		Minister, vice-minister, Office of Water and also various specific committees and councils such as the Water Advisory Board, water bodies, hydrant management, National Committee for Water and Meteorology
An inter-agency programme	X		Guanacaste province's Water Plan
A co-ordination group of experts	X		National Committee for Water and Meteorology
An inter-ministerial mechanism for addressing territorial water concerns			

Institutional mapping of water policy roles and responsibilities at sub-national level: Allocation of roles across local and regional authorities

Allocation of roles and responsibilities in water policy design and implementation at territorial level

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Actors at sub-national level		Domestic	Agriculture	Industry	
Municipalities	n/a	Service only			Service only
Regions (provinces, states in federal countries, autonomous regions, cantons)	n/a				
Inter-municipal bodies	n/a				
Water-specific bodies	n/a				
River basin organisations	Only one, by law, for the river basin management, not water				
Other (specify)					

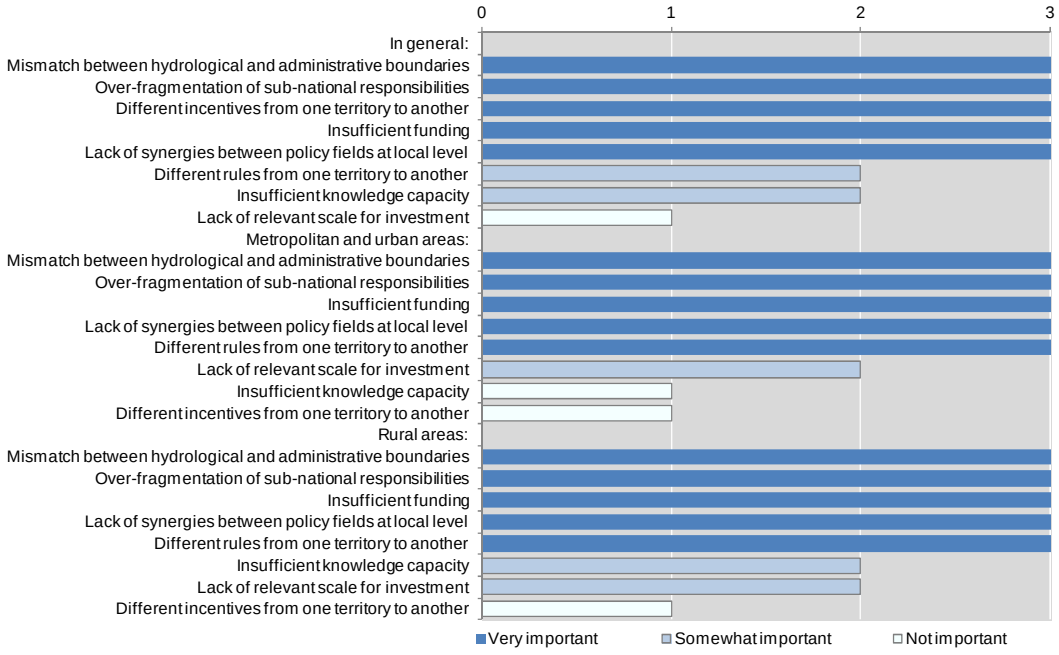
Co-ordination of water policy making between levels of government and among local actors

Obstacles to vertical co-ordination in water policy making

No data available.

Obstacles to capacity building and co-ordination at territorial level

Costa Rica: Co-ordination and capacity challenges



Existing mechanisms for co-ordinating water policy between levels of government and at territorial level

No data available.

Specific focus on selected mechanisms

Tools to manage the interface among actors at sub-national level

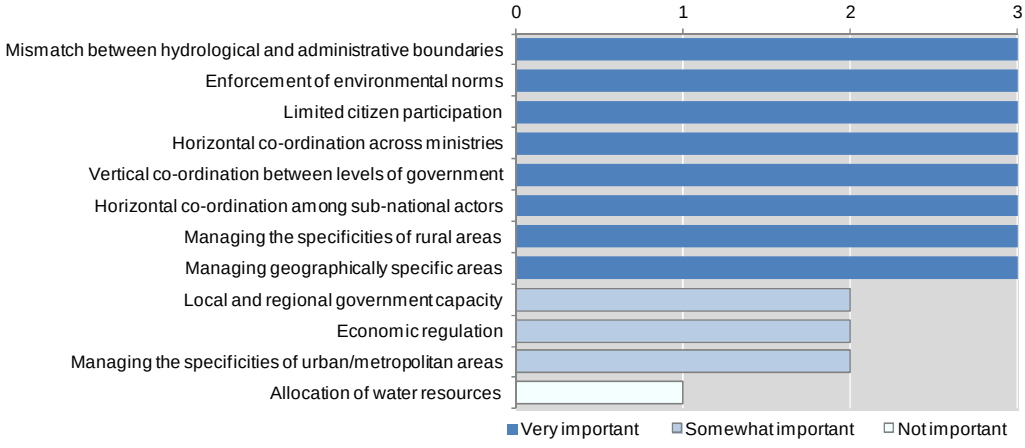
Existing mechanisms for co-ordination among different water actors at sub-national level	Yes	No	Details (name, example, contact information, website, capacity issues addressed, etc.)
Inter-municipal collaboration	X		
Inter-municipal specific body			
Specific incentives from central/regional government (in terms of rules, rewards and sanction mechanisms, budget allocation, etc.)		X	
Historical rules and traditions	X		
Specific mechanisms for conflict resolution	X		
Informal co-operation around projects	X		
Joint financing	X		
Metropolitan or regional water district	X		
Other (specify)			

Tools for capacity building at sub-national level

Type of mechanism	Yes	No	n/a	Details (name, example, contact information, website, capacity issues addressed, etc.)
Broad governance mechanisms				
Collaboration with the private sector (know-how transfer, concession contract, BOTs, etc.)	X			Hydroelectricity
Financial incentives (specify from whom and for what)	X			
Performance indicators and targets holding local governments accountable	X			
Citizen participation	X			
Involvement of civil society organisations	X			
Databases (sharing information)	X			
Historical arrangements (water courts)	X			
Other (specify)				
Management mechanisms				
Training – workshops – conferences	X			
Specific performance monitoring mechanisms for staff (teams or individuals)	X			
Other (specify)				

Final assessment of remaining challenges

Costa Rica: Main challenges in water policy making



CUBA

Acronyms

CITMA	Ministry of Science, Technology and the Environment
CNCH	National Council of River Basins (*Consejo Nacional de Cuencas Hidrográficas*)
CTCH	Territorial Council of River Basins (*Consejo Territorial de Cuencas Hidrográficas*)
EAA	Aqueduct and Sewer System Company
EAH	Water Supply Company
EMN-DC	National Civil Defence (*Estado Mayor Nacional de la Defensa Civil*)
INRH	National Institute of Water Resources
MFP	Ministry of Finance and Pricing
MINAG	Ministry of Agriculture
MINBAS	Ministry of Basic Industry
MINSAP	Ministry of Public Health

Institutional mapping of water policy roles and responsibilities at central government level: Allocation of roles across ministries and public agencies

Design and implementation of water policies

Areas / Roles	Water resources	Water services			
		Water supply			Wastewater treatment
		Domestic	Agriculture	Industry	
Allocation of uses	INRH	INRH	INRH	INRH	INRH
Quality of standards	INRH	EAA	EAA	EAA	EAA
Compliance of service delivery commitment	INRH	EAA	EAA	EAA	EAA
Economic regulations (tariffs, etc.)	INRH, MFP				
Environmental regulations (enforcement of norms, etc.)	INRH, CITMA, MINSAP				
Others (specify)					

Institutional mapping for quality standards and regulation

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Roles		Domestic	Agriculture	Industry	
Strategy, priority setting and planning (including infrastructure)	INRH	EAH	Water use/ exploitation company	EAA, EAH	EAA
Policy making and implementation	INRH				
Information, monitoring and evaluation	INRH	EAA	EAH	EAA, EAH	EAA
Stakeholder engagement (citizen awareness, etc.)	INRH	INRH, provinces	MINAG	MINBAS	INRH, provinces
Others (specify)					

Co-ordination of water policy making across ministries and public agencies at central government level

Obstacles to horizontal co-ordination in water policy making

Insufficient data.

Existing mechanisms for co-ordinating the action across ministries and public agencies

Existing co-ordination mechanisms across ministries/public agencies	Yes	No	Details (name, website, contact details, description, examples, etc.)
A ministry of water	X		INRH, *www.hidroweb.hidro.cu*
A line ministry		X	
A central agency for water-related issues		X	
An inter-ministerial body (committee, commission)	X		CNCH Drought Governmental Group Civil Defence Natural Disaster Work Group, EMN–DC
An inter-agency programme		X	
A co-ordination group of experts	X		Advisory Technical Council, INRH
An inter-ministerial mechanism for addressing territorial water concerns			Ministries Council, CNCH, EMN-DC

Institutional mapping of water policy roles and responsibilities at sub-national level: Allocation of roles across local and regional authorities

Allocation of roles and responsibilities in water policy design and implementation at territorial level

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Actors at sub-national level		Domestic	Agriculture	Industry	
Municipalities	INRH companies	EAA	EAH	EAA/EAH	
Regions (provinces, states in federal countries, autonomous regions, cantons)	INRH provincial delegations	EAA	EAH	EAA/EAH	
Inter-municipal bodies					
Water-specific bodies					
River basin organisations	CTCH				
Other (specify)					

Allocation of roles and responsibilities in water regulation (rule production and enforcement)

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Roles		Domestic	Agriculture	Industry	
Allocation of uses	INRH delegations				
Quality standards	INRH delegations and MINSAP provincial delegations	EAA	EAH	EAA/EAH	EAA
Compliance of service delivery commitment					
Economic regulations (tariffs, etc.)					
Environmental regulations (enforcement of norms, etc.)	INRH delegations, CIMTA delegations, MINSAP				
Control at sub-national level of national regulation enforcement	INRH delegations				
Other (specify)					

Co-ordination of water policy making between levels of government and among local actors

Existing mechanisms for co-ordinating water policy between levels of government and at territorial level

Existing mechanisms for vertical co-ordination and territorial effectiveness in water policy	Yes	No	Details (contact information, website)
River basin organisations/agencies	X		
Regulations for sharing roles among actors	X		
Co-ordination agency or commission		X	
Contractual arrangements (between central and local governments, central and regional governments, regional and local governments)	X		
Intermediate bodies or actors (e.g. state territorial representatives)	X		
Financial transfers or incentives	X		
Performance indicators	X		
Shared databases	X		
Sectoral conferences between central and sub-national water players	X		
Multi-sectoral conferences	X		
Consultation of private stakeholders (profit and non-profit actors)	X		
Other (specify)			

Specific focus on selected mechanisms

Tools to manage the interface among actors at sub-national level

Existing mechanisms for co-ordination among different water actors at sub-national level	Yes	No	Details (name, example, contact information, website, capacity issues addressed, etc.)
Inter-municipal collaboration	X		
Inter-municipal specific body	X		
Specific incentives from central/regional government (in terms of rules, rewards and sanction mechanisms, budget allocation, etc.)	X		
Historical rules and traditions		X	
Specific mechanisms for conflict resolution	X		
Informal co-operation around projects	X		
Joint financing	X		
Metropolitan or regional water district	X		
Other (specify)			

Tools for capacity building at sub-national level

Type of mechanism	Yes	No	n/a	Details (name, example, contact information, website, capacity issues addressed, etc.)
Broad governance mechanisms				
Collaboration with the private sector (know-how transfer, concession contract, BOTs, etc.)		X		
Financial incentives (specify from whom and for what)		X		
Performance indicators and targets holding local governments accountable	X			
Citizen participation	X			
Involvement of civil society organisations	X			
Databases (sharing information)	X			
Historical arrangements (water courts)		X		
Other (specify)				
Management mechanisms				
Training – workshops – conferences	X			
Specific performance monitoring mechanisms for staff (teams or individuals)	X			
Other (specify)				

DOMINICAN REPUBLIC

Acronyms

CAASD	Santo Domingo Aqueducts and Sewer Systems Corporation, established by Law no. 498 in 1973
CAPS	Drinking water and sanitation corporations: CAASD; CORSAASAN; CORAAMOCA; CORAAPLATA; COAAROM
COAAROM	Romana Aqueducts and Sewer Systems Corporation
CORAAMOCA	Moca Aqueducts and Sewer Systems Corporation
CORAAPLATA	Puerto Plata Aqueducts and Sewer Systems Corporation
CORSAASAN	Santiago Aqueducts and Sewer Systems Corporation
INAPA	National Institute of Potable Water and Sewer Systems
INDRHI	National Institute of Water Resources
MARN	Ministry of Environment and Natural Resources
MS	Ministry of Public Health and Social Security

Institutional mapping of water policy roles and responsibilities at central government level: Allocation of roles across ministries and public agencies

Design and implementation of water policies

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Roles		Domestic	Agriculture	Industry	
Allocation of uses	INDRHI	INDRHI	INDRHI	INDRHI	INDRHI
Quality of standards	MARN, MS	MARN, MS	MARN, MS		MARN, MS
Compliance of service delivery commitment	INDRHI	INAPA	INDRHI		INAPA
Economic regulations (tariffs, etc.)	INDRHI	INAPA, drinking water and sanitation corporations (CAASD, CORSAASAN, CORAAPLATA, COAAROM)	INDRHI and irrigation users' boards	INAPA, INDRHI	INAPA, drinking water and sanitation corporations (CAASD, CORSAASAN, CORAAPLATA, COAAROM)
Environmental regulations (enforcement of norms, etc.)	MARN	MARN, MS	MARN	MARN, MS	MARN, MS
Others (specify)	INDRHI	INDRHI	INDRHI	INDRHI	

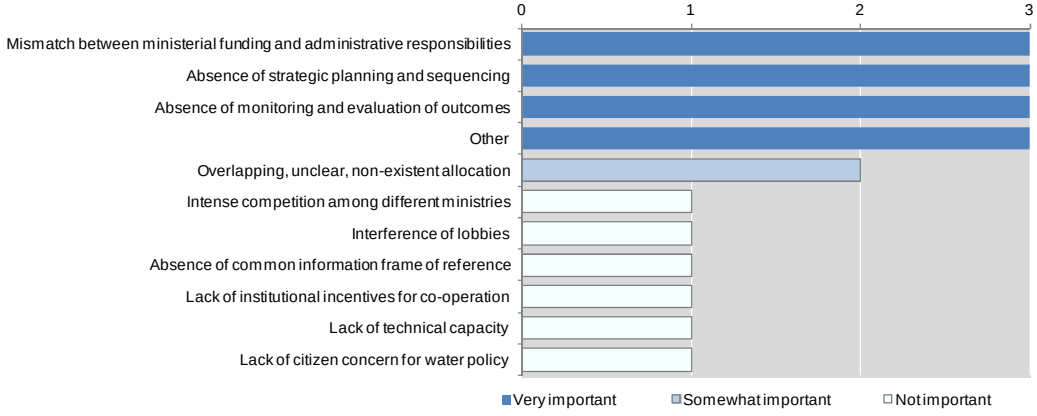
Institutional mapping for quality standards and regulation

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Roles		Domestic	Agriculture	Industry	
Strategy, priority setting and planning (including infrastructure)	MARN, INDRHI	MS, INAPA, MARN	INDRHI	MS, INAPA, MARN	MS, INAPA
Policy making and implementation	MARN, INDRHI	MS, INAPA	INDRHI	Ministry of Public Health and Social Assistance, INAPA, MARN	
Information, monitoring and evaluation	INDRHI		INDRHI		
Stakeholder engagement (citizen awareness, etc.)	INDRHI		INDRHI		
Others (specify)	INDRHI	INDRHI	INDRHI	INDRHI	

Co-ordination of water policy making across ministries and public agencies at central government level

Obstacles to horizontal co-ordination in water policy making

Dominican Republic: Obstacles to co-ordination at central level



Existing mechanisms for co-ordinating the action across ministries and public agencies

Existing co-ordination mechanisms across ministries/public agencies	Yes	No	Details (name, website, contact details, description, examples, etc.)
A ministry of water		X	
A line ministry	X		MARN, *www.medioambiente.gov.do*
A central agency for water-related issues	X		INDRHI, *www.indrhi.gov.do*
An inter-ministerial body (committee, commission)	X		Dam Management Committee, presided by INDRHI (no legal status or legal mandate)
An inter-agency programme	X		
A co-ordination group of experts		X	
An inter-ministerial mechanism for addressing territorial water concerns		X	

Institutional mapping of water policy roles and responsibilities at sub-national level: Allocation of roles across local and regional authorities

Allocation of roles and responsibilities in water policy design and implementation at territorial level

Not available.

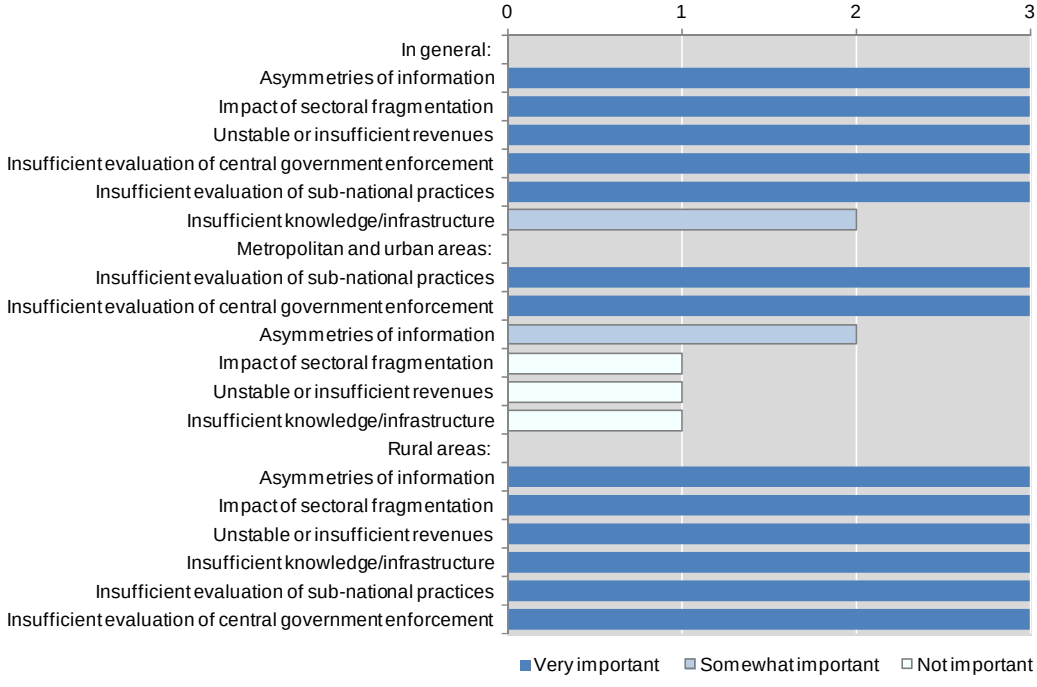
Allocation of roles and responsibilities in water regulation (rule production and enforcement)

Not available. There are no roles in the water sector at local or regional level.

Co-ordination of water policy making between levels of government and among local actors

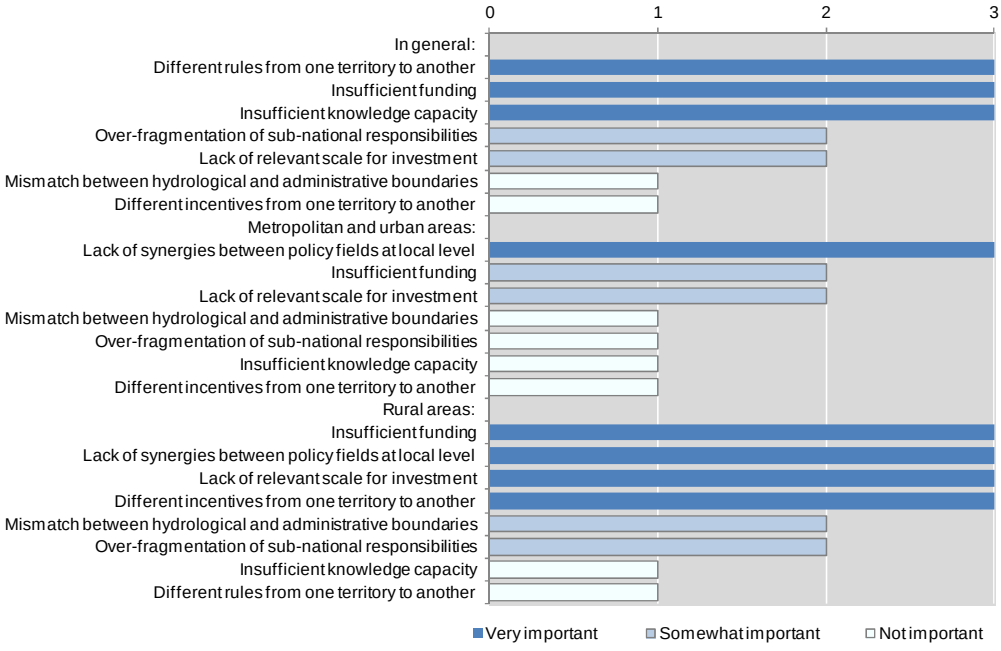
Obstacles to vertical co-ordination in water policy making

Dominican Republic: Obstacles to vertical co-ordination



Obstacles to capacity building and co-ordination at territorial level

Dominican Republic: Co-ordination and capacity challenges



Existing mechanisms for co-ordinating water policy between levels of government and at territorial level

Existing mechanisms for vertical co-ordination and territorial effectiveness in water policy	Yes	No	Details (contact information, website)
River basin organisations/agencies		X	
Regulations for sharing roles among actors		X	
Co-ordination agency or commission		X	
Contractual arrangements (between central and local governments, central and regional governments, regional and local governments)		X	
Intermediate bodies or actors (e.g. state territorial representatives)		X	
Financial transfers or incentives		X	
Performance indicators		X	
Shared databases		X	
Sectoral conferences between central and sub-national water players		X	
Multi-sectoral conferences		X	
Consultation of private stakeholders (profit and non-profit actors)	X		Exclusively in the case of irrigation areas managed by INDRHI
Other (specify)			

Specific focus on selected mechanisms

Tools to manage the interface among actors at sub-national level

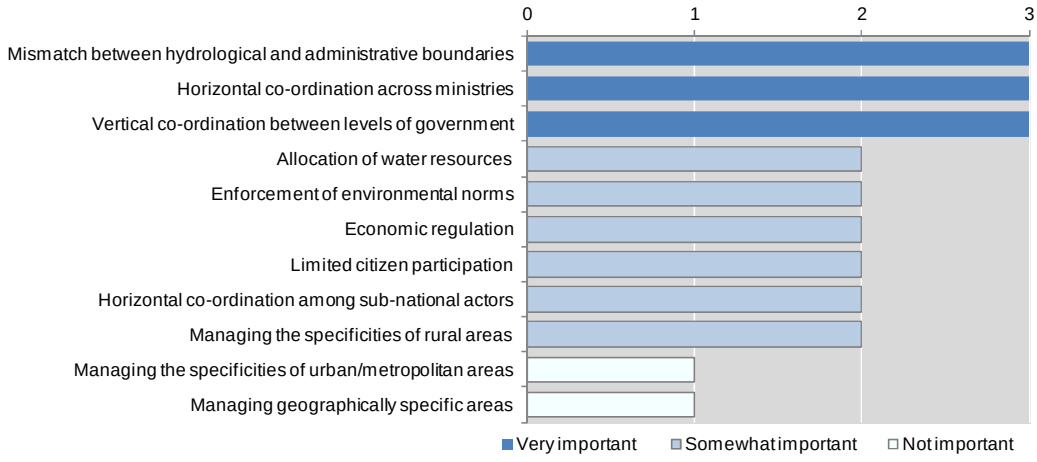
Existing mechanisms for co-ordination among different water actors at sub-national level	Yes	No	Details (name, example, contact information, website, capacity issues addressed, etc.)
Inter-municipal collaboration	X		
Inter-municipal specific body		X	
Specific incentives from central/regional government (in terms of rules, rewards and sanction mechanisms, budget allocation, etc.)		X	
Historical rules and traditions		X	
Specific mechanisms for conflict resolution	X		Irrigation Committee
Informal co-operation around projects	X		In some cases in rural areas, small-scale investment projects
Joint financing	X		In some cases in rural areas, small-scale investment projects
Metropolitan or regional water district		X	Irrigation district (not water district)
Other (specify)			

Tools for capacity building at sub-national level

Type of mechanism	Yes	No	n/a	Details (name, example, contact information, website, capacity issues addressed, etc.)
Broad governance mechanisms				
Collaboration with the private sector (know-how transfer, concession contract, BOTs, etc.)	X			Administration contract for water meter installation, and billing and charges defaults with a (foreign) private company for the Santo Domingo Aqueduct
Financial incentives (specify from whom and for what)		X		
Performance indicators and targets holding local governments accountable		X		
Citizen participation	X			Irrigation Committee
Involvement of civil society organisations	X			Irrigation Committee
Databases (sharing information)	X			Between INDRHI and the National Office of Meteorology
Historical arrangements (water courts)		X		
Other (specify)				
Management mechanisms				
Training – workshops – conferences	X			
Specific performance monitoring mechanisms for staff (teams or individuals)		X		
Other (specify)				

Final assessment of remaining challenges

Dominican Republic: Main challenges in water policy making



EL SALVADOR

Acronyms

ANDA	National Administration for Aqueducts and Sewer Systems
CARE	Cooperative for American Remittances to Europe (*Cooperativa para las Remesas Americanas a Europa*)
CEPRI	Special Committee for the Promotion of Private Investment (*Comité Especial de Promoción de la Inversión Privada*)
GOES	Government of El Salvador (*Gobierno del Salvador*)
MAG	Ministry of Agriculture and Livestock
MARN	Ministry of Environment and Natural Resources
MH	Ministry of Finance

Institutional mapping of water policy roles and responsibilities at central government level: Allocation of roles across ministries and public agencies

Design and implementation of water policies

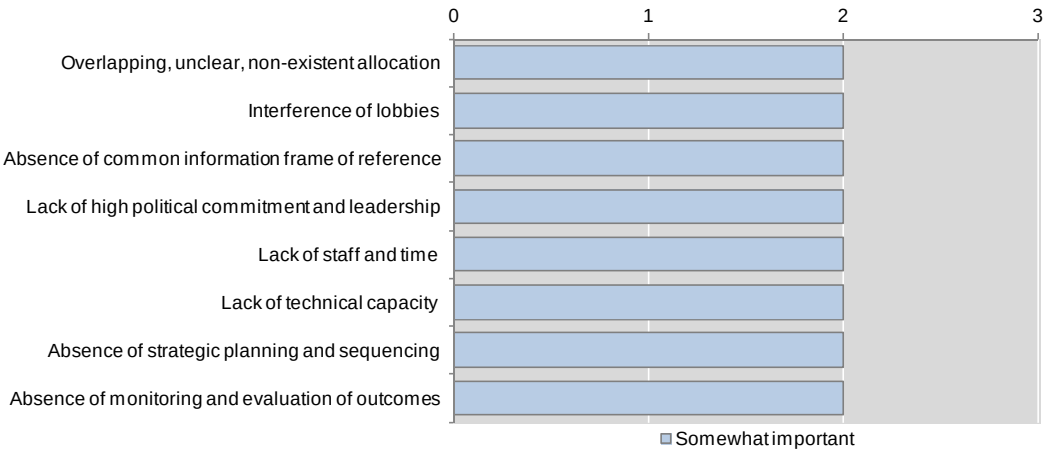
Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Roles		Domestic	Agriculture	Industry	
Allocation of uses	GOES		MAG		
Quality of standards	MARN	ANDA	MARN	MARN	ANDA
Compliance of service delivery commitment	GOES, MARN, ANDA MAG, local governments	ANDA	MAG		
Economic regulations (tariffs, etc.)	MH, Legislative Assembly, GOES	ANDA	MAG, MH, Legislative Assembly, GOES		ANDA, MH, Legislative Assembly, GOES
Environmental regulations (enforcement of norms, etc.)	MARN, Basin Court		MAG, MARN		ANDA, MARN
Others (specify)					

Institutional mapping for quality standards and regulation

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Roles		Domestic	Agriculture	Industry	
Allocation of uses	GOES		MAG		
Strategy, priority setting and planning (including infrastructure)	GOES	ANDA	MAG		ANDA
Policy making and implementation	GOES	ANDA	MAG		ANDA
Information, monitoring and evaluation	GOES	ANDA	MAG		
Stakeholder engagement (citizen awareness, etc.)	GOES	ANDA			
Others (specify)	Municipalities	ANDA, municipalities			

Co-ordination of water policy making across ministries and public agencies at central government level

Obstacles to horizontal co-ordination in water policy making



Existing mechanisms for co-ordinating the action across ministries and public agencies

Existing co-ordination mechanisms across ministries/public agencies	Yes	No	Details (name, website, contact details, description, examples etc.)
A ministry of water		X	
A line ministry	X		MARN, MAG, ANDA
A central agency for water-related issues			
An inter-ministerial body (committee, commission)	X		CEPRI
An inter-agency programme			
A co-ordination group of experts			
An inter-ministerial mechanism for addressing territorial water concerns			

Institutional mapping of water policy roles and responsibilities at sub-national level: Allocation of roles across local and regional authorities

Allocation of roles and responsibilities in water policy design and implementation at territorial level

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Actors at sub-national level		Domestic	Agriculture	Industry	
Municipalities		X			Not in El Salvador as it is a unitary country
Regions (provinces, states in federal countries, autonomous regions, cantons)					
Inter-municipal bodies		Chinameca and San Vicente			
Water-specific bodies					
River basin organisations					
Other (specify)					

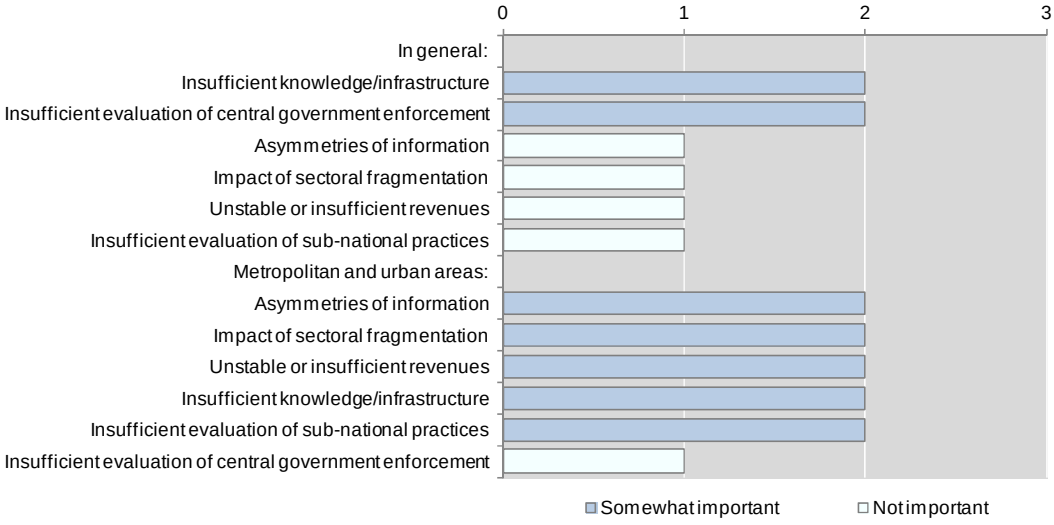
Allocation of roles and responsibilities in water regulation (rule production and enforcement)

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Roles		Domestic	Agriculture	Industry	
Allocation of uses	ANDA and Irrigation law	ANDA	MAG authorises permits	ANDA in urban areas	ANDA
Quality standards	Environment Law, Irrigation Law, Decree 50, ANDA Law	ANDA	Irrigation Law	Environment Law	ANDA
Compliance of service delivery commitment	ANDA	ANDA	MAG		ANDA
Economic regulations (tariffs, etc.)	Submitted by ANDA and MAG and approved by the MH before final approval by the Legislative Assembly	ANDA	MAG		ANDA
Environmental regulations (enforcement of norms, etc.)	MARN	ANDA			
Control at sub-national level of national regulation enforcement	MARN	ANDA			
Other (specify)	Basin Court				

Co-ordination of water policy making between levels of government and among local actors

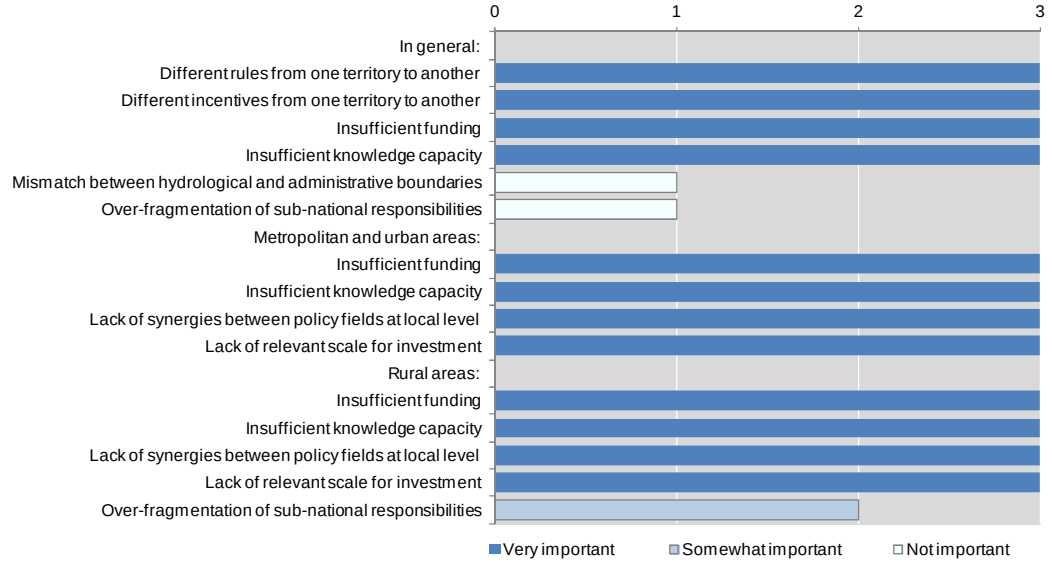
Obstacles to vertical co-ordination in water policy making

El Salvador: Obstacles to vertical co-ordination



Obstacles to capacity building and co-ordination at territorial level

El Salvador: Co-ordination and capacity challenges



Existing mechanisms for co-ordinating water policy between levels of government and at territorial level

Existing mechanisms for vertical co-ordination and territorial effectiveness in water policy	Yes	No	Details (contact information, website)
River basin organisations/agencies			
Regulations for sharing roles among actors	X		This legal framework is common for several governmental institution laws: MARN, MAG, ANDA
Co-ordination agency or commission			
Contractual arrangements (between central and local governments, central and regional governments, regional and local governments)	X		In most cases they are co-operation agreements between governmental institutions for technical and financial support to implement the established mechanisms
Intermediate bodies or actors (e.g. state territorial representatives)			
Financial transfers or incentives			
Performance indicators			
Shared databases			
Sectoral conferences between central and sub-national water players			
Multi-sectoral conferences			
Consultation of private stakeholders (profit and non-profit actors)			
Other (specify)			

Specific focus on selected mechanisms

Tools to manage the interface among actors at sub-national level

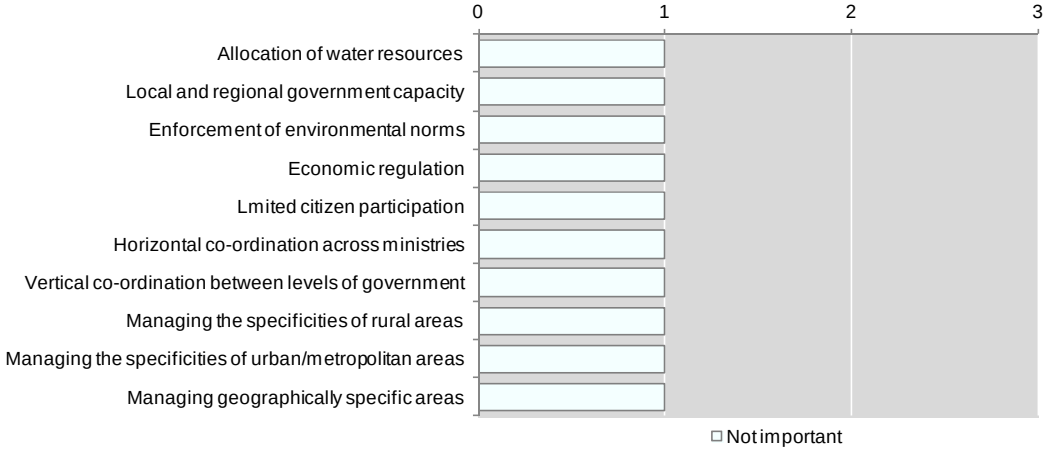
Existing mechanisms for co-ordination among different water actors at sub-national level	Yes	No	Details (name, example, contact information, website, capacity issues addressed, etc.)
Inter-municipal collaboration	X		
Inter-municipal specific body	X		
Specific incentives from central/regional government (in terms of rules, rewards and sanction mechanisms, budget allocation, etc.)	X		Within the National General Budget
Historical rules and traditions	X		Cultural methods used through generations have promoted the sustainable use of water mediation
Specific mechanisms for conflict resolution	X		
Informal co-operation around projects	X		
Joint financing	X		Government/NGOs
Metropolitan or regional water district	X		
Other (specify)			

Tools for capacity building at sub-national level

Type of mechanism	Yes	No	n/a	Details (name, example, contact information, website, capacity issues addressed, etc.)
Broad governance mechanisms				
Collaboration with the private sector (know-how transfer, concession contract, BOTs, etc.)				
Financial incentives (specify from whom and for what)				
Performance indicators and targets holding local governments accountable				
Citizen participation	X			
Involvement of civil society organisations	X			
Databases (sharing information)	X			
Historical arrangements (water courts)				
Other (specify)	X			Concerning irrigation MAG has made mitigation efforts to resolve conflicts
Management mechanisms				
Training – workshops – conferences	X			Several legislation and new projects fora
Specific performance monitoring mechanisms for staff (teams or individuals)				
Other (specify)				

Final assessment of remaining challenges

El Salvador: Main challenges in water policy making



GUATEMALA

Acronyms

APS	Water for Health (*Agua Para la Salud*), NGO
GEA	Water Specific Cabinet
MARN	Ministry of Environment and Natural Resources
MSPAS	Ministry of Public Health and Social Security

Institutional mapping of water policy roles and responsibilities at central government level: Allocation of roles across ministries and public agencies

Design and implementation of water policies

Areas / Roles	Water resources	Water services			
		Water supply			Wastewater treatment
		Domestic	Agriculture	Industry	
Allocation of uses	No institution				
Quality of standards		MSPAS and MARN			MSPAS, MARN
Compliance of service delivery commitment		Municipalities			Municipalities
Economic regulations (tariffs, etc.)		Municipalities			Municipalities
Environmental regulations (enforcement of norms, etc.)		MARN	MARN	MARN	MARN
Others (specify)					

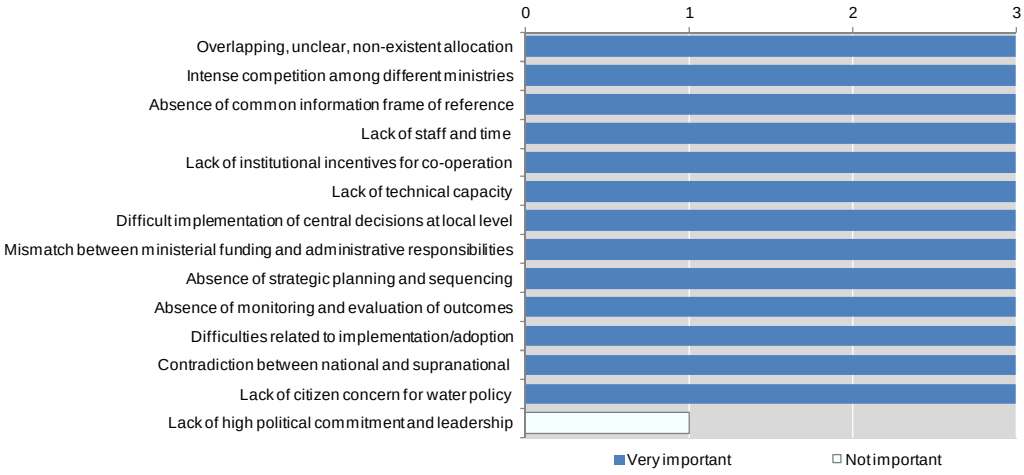
Institutional mapping for quality standards and regulation

Areas / Roles	Water resources	Water services			
		Water supply			Wastewater treatment
		Domestic	Agriculture	Industry	
Strategy, priority setting and planning (including infrastructure)	GEA	GEA, MSPAS	GEA		GEA, Ministry of Health
Policy making and implementation	Policy making: GEA, Implementation: governing ministries				Policy making: GEA Implementation: MSPAS
Information, monitoring and evaluation	Governing ministries				Drinking water: MSPAS Wastewater: MARN
Stakeholder engagement (citizen awareness, etc.)	At the national level: GEA At the local level: governing ministries				National level: GEA Local level: MSPAS
Others (specify)					

Co-ordination of water policy making across ministries and public agencies at central government level

Obstacles to horizontal co-ordination in water policy making

Guatemala: Obstacles to co-ordination at central level



Existing mechanisms for co-ordinating the action across ministries and public agencies

Existing co-ordination mechanisms across ministries/public agencies	Yes	No	Details (name, website, contact details, description, examples, etc.)
A ministry of water		X	
A line ministry		X	
A central agency for water-related issues		X	
An inter-ministerial body (committee, commission)	X		
An inter-agency programme	X		Small River Basins National Commission
A co-ordination group of experts	X		Drinking water and sanitation: "Water, road to peace" Presidential Programme *Jorge.molina@seglepan.gob.gt*
An inter-ministerial mechanism for addressing territorial water concerns	X		For emergency cases, Lago Atitlan and semi-arid areas

Institutional mapping of water policy roles and responsibilities at sub-national level: Allocation of roles across local and regional authorities

Allocation of roles and responsibilities in water policy design and implementation at territorial level

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Actors at sub-national level		Domestic	Agriculture	Industry	
Municipalities		Municipalities			Municipalities
Regions (provinces, states in federal countries, autonomous regions, cantons)					
Inter-municipal bodies					
Water-specific bodies					
River basin organisations					
Other (specify)					

Allocation of roles and responsibilities in water regulation (rule production and enforcement)

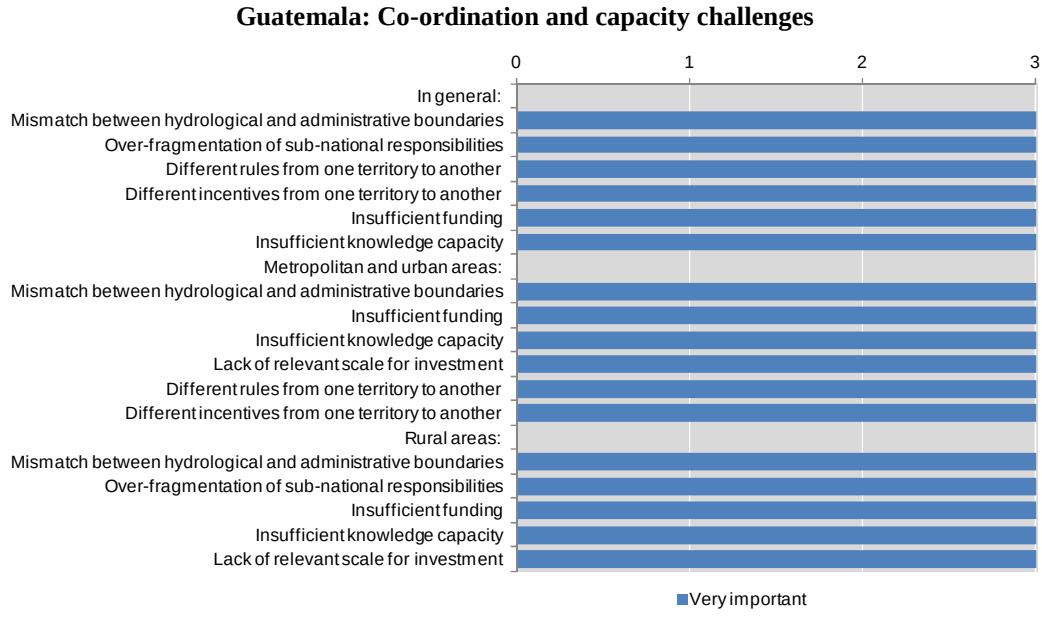
Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Roles		Domestic	Agriculture	Industry	
Allocation of rules		Municipalities			Municipalities
Quality standards		Municipalities			Municipalities
Compliance of service delivery commitment		Municipalities			Municipalities
Economic regulations (tariffs, etc.)		Municipalities			Municipalities
Environmental regulations (enforcement of norms, etc.)		MARN			MARN
Control at sub-national level of national regulation enforcement		MARN			MARN
Other (specify)					

Co-ordination of water policy making between levels of government and among local actors

Obstacles to vertical co-ordination in water policy making

No available data.

Obstacles to capacity building and co-ordination at territorial level



Existing mechanisms for co-ordinating water policy between levels of government and at territorial level

Existing mechanisms for vertical co-ordination and territorial effectiveness in water policy	Yes	No	Details (contact information, website)
River basin organisations/agencies			
Regulations for sharing roles among actors			
Co-ordination agency or commission			
Contractual arrangements (between central and local governments, central and regional governments, regional and local governments)	X		On particular issues, small basins management between MARN and the Ministry of Agriculture
Intermediate bodies or actors (e.g. state territorial representatives)			
Financial transfers or incentives			
Performance indicators			
Shared databases			
Sectoral conferences between central and sub-national water players			
Multi-sectoral conferences			
Consultation of private stakeholders (profit and non-profit actors)			
Other (specify)	X		APS National Plan and the Presidential Programme

Specific focus on selected mechanisms

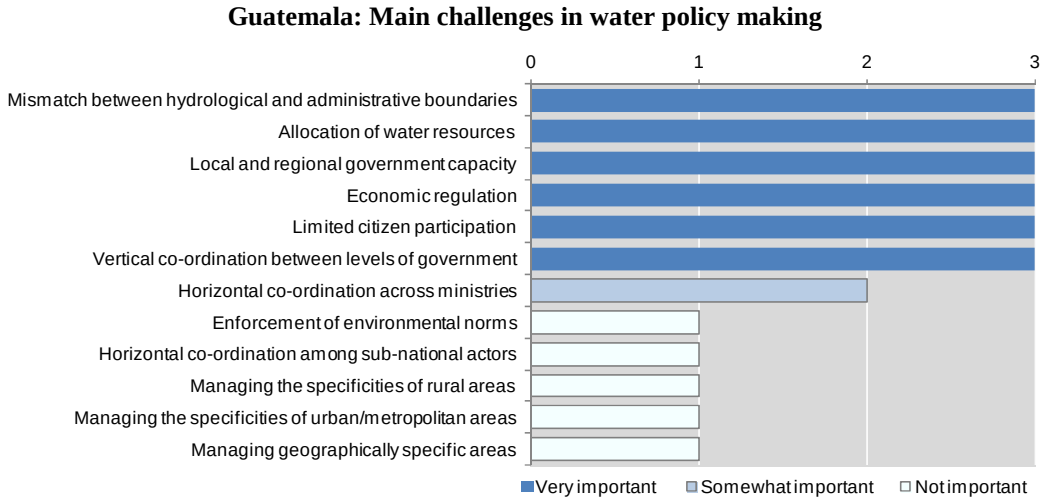
Tools to manage the interface among actors at sub-national level

Existing mechanisms for co-ordination among different water actors at sub-national level	Yes	No	Details (name, example, contact information, website, capacity issues addressed, etc.)
Inter-municipal collaboration	X		For public services and in one case for basin management
Inter-municipal specific body			
Specific incentives from central/regional government (in terms of rules, rewards and sanction mechanisms, budget allocation, etc.)		X	
Historical rules and traditions		X	
Specific mechanisms for conflict resolution	X		In some areas
Informal co-operation around projects		X	
Joint financing		X	
Metropolitan or regional water district		X	
Other (specify)			

Tools for capacity building at sub-national level

Type of mechanism	Yes	No	n/a	Details (name, example, contact information, website, capacity issues addressed, etc.)
Broad governance mechanisms				
Collaboration with the private sector (know-how transfer, concession contract, BOTs, etc.)		X		
Financial incentives (specify from whom and for what)		X		
Performance indicators and targets holding local governments accountable		X		
Citizen participation	X			In rural areas, to promote then manage rural aqueducts
Involvement of civil society organisations		X		
Databases (sharing information)		X		
Historical arrangements (water courts)	X			In some indigenous community territories
Other (specify)				
Management mechanisms				
Training – workshops – conferences	X			For government, NGOs but without joint programmes
Specific performance monitoring mechanisms for staff (teams or individuals)		X		
Other (specify)				

Final assessment of remaining challenges



HONDURAS

Acronyms

SAG	Ministry of Agriculture and Livestock
SANAA	Autonomous Service of Aqueducts and Sewer Systems
SERNA/CESCCO	Ministry of Natural Resources and the Environment/Studies and Pollutants Control Centre
SERNA/DECA	Ministry of Natural Resources and the Environment/ Environmental Evaluation and Control Office
SERNA/DGRH	Ministry of Natural Resources and the Environment/ General Office of Water Resources
SIC	Ministry of Industry and Trade
SSAL	Ministry of Health

Institutional mapping of water policy roles and responsibilities at central government level: Allocation of roles across ministries and public agencies

Design and implementation of water policies

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Roles		Domestic	Agriculture	Industry	
Allocation of uses	SERNA/DGRH	SERNA/DGRH	SERNA/DGRH	SERNA/DGRH	SANAA
Quality of standards	SERNA/DGRH	SSAL			SANAA
Compliance of service delivery commitment	SERNA/DGRH				SANAA
Economic regulations (tariffs, etc.)	SERNA/DGRH	Municipalities	SAG irrigation districts	Municipalities	SANAA
Environmental regulations (enforcement of norms, etc.)	SERNA/DGRH	SERNA/DECA	SERNA/DECA	SERNA/DECA	SANAA
Others (specify)					

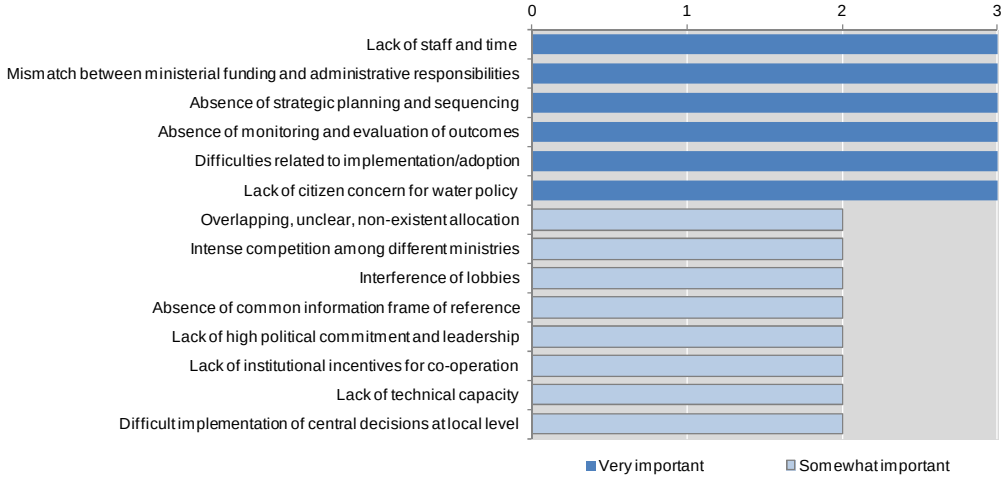
Institutional mapping for quality standards and regulation

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Roles		Domestic	Agriculture	Industry	
Strategy, priority setting and planning (including infrastructure)	SERNA/DGRH	SERNA/DGRH	SERNA/DGRH	SERNA/DGRH	SANAA
Policy making and implementation	SERNA/DGRH	SERNA/DGRH	SERNA/DGRH	SERNA/DGRH	SANAA
Information, monitoring and evaluation	SERNA/DGRH, SERNA/DECA, SERNA/CESCCO	SERNA/DGRH, SANAA	SERNA/DGRH, SAG	SERNA/DGRH, SIC	SANAA
Stakeholder engagement (citizen awareness, etc.)	SERNA/DGRH	SERNA/DGRH, SANAA	SERNA/DGRH, SAG	SERNA/DGRH, SIC	SANAA
Others (specify)					

Co-ordination of water policy making across ministries and public agencies at central government level

Obstacles to horizontal co-ordination in water policy making

Honduras: Obstacles to co-ordination at central level



Existing mechanisms for co-ordinating the action across ministries and public agencies

Existing co-ordination mechanisms across ministries/public agencies	Yes	No	Details (name, website, contact details, description, examples, etc.)
A ministry of water		X	
A line ministry	X		SERNA
A central agency for water-related issues		X	Examined in a recently approved legislation waiting to be confirmed
An inter-ministerial body (committee, commission)		X	Examined in a recently approved legislation waiting to be confirmed
An inter-agency programme		X	
A co-ordination group of experts	X		Inter-institutional technical group
An inter-ministerial mechanism for addressing territorial water concerns	X		Climate Change Committee recently created
Others (specify)	X		River Basin National website at the local level

Institutional mapping of water policy roles and responsibilities at sub-national level: Allocation of roles across local and regional authorities

Allocation of roles and responsibilities in water policy design and implementation at territorial level

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Actors at sub-national level		Domestic	Agriculture	Industry	
Municipalities	X	X	X	X	X
Regions (provinces, states in federal countries, autonomous regions, cantons)					
Inter-municipal bodies	X	X	X	X	X
Water-specific bodies	X	X	X	X	X
River basin organisations					
Other (specify)					

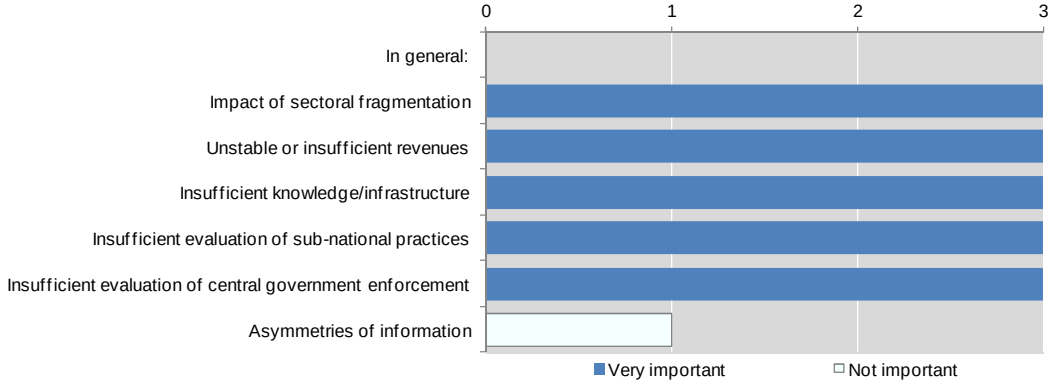
Allocation of roles and responsibilities in water regulation (rule production and enforcement)

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Roles		Domestic	Agriculture	Industry	
Allocation of uses	Water-specific bodies (SERNA)	Water-specific bodies (SERNA)	Water-specific bodies (SERNA)	Water-specific bodies (SERNA)	Water-specific bodies (SERNA)
Quality standards	Water-specific bodies (SSAL)	Water-specific bodies (SANAA, San Pedro Waters, etc.)	Water-specific bodies (SAG), municipalities	Municipalities	Water-specific bodies (SANAA)
Compliance of service delivery commitment	Water-specific bodies (SERNA)	Water-specific bodies (SANAA, San Pedro Waters, etc.)	Water-specific bodies (SAG), municipalities	Municipalities	Water-specific bodies (SANAA)
Economic regulations (tariffs, etc.)	Water-specific bodies (SERNA)	Water-specific bodies (SANAA, San Pedro Waters, etc.)	Water-specific bodies (SAG), municipalities	Municipalities	Water-specific bodies (SANAA)
Environmental regulations (enforcement of norms, etc.)	Water-specific bodies (SERNA)	Water-specific bodies (SERNA)	Water-specific bodies (SAG), municipalities	Municipalities	Water-specific bodies (SANAA)
Control at sub-national level of national regulation enforcement	Water-specific bodies (SERNA)	Water-specific bodies (SERNA, SSAL)	Water-specific bodies (SAG), municipalities	Municipalities	Water-specific bodies (SANAA)
Other (specify)					

Co-ordination of water policy making between levels of government and among local actors

Obstacles to vertical co-ordination in water policy making

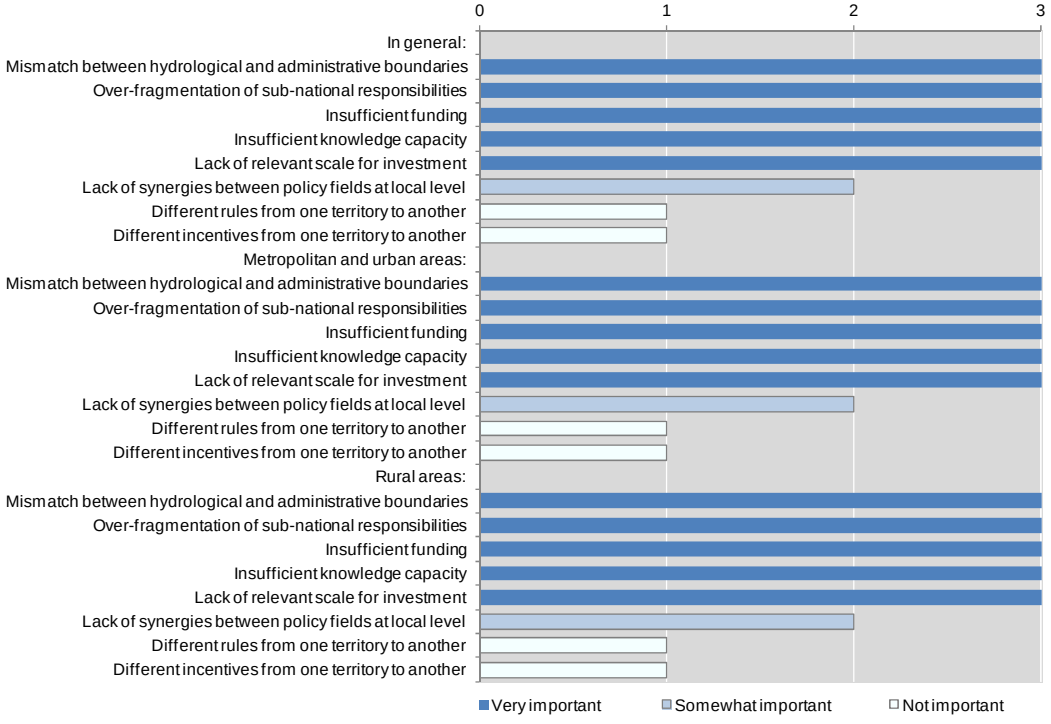
Honduras: Obstacles to vertical co-ordination



Note: Data on obstacles to vertical co-ordination in metropolitan, urban and rural areas are not available.

Obstacles to capacity building and co-ordination at territorial level

Honduras: Co-ordination and capacity challenges



Existing mechanisms for co-ordinating water policy between levels of government and at territorial level

Existing mechanisms for vertical co-ordination and territorial effectiveness in water policy	Yes	No	Details (contact information, website)
River basin organisations/agencies	X		Regional agencies
Regulations for sharing roles among actors		X	
Co-ordination agency or commission		X	
Contractual arrangements (between central and local governments, central and regional governments, regional and local governments)		X	
Intermediate bodies or actors (e.g. state territorial representatives)		X	Regional councils are being implemented
Financial transfers or incentives		X	
Performance indicators		X	
Shared databases		X	
Sectoral conferences between central and sub-national water players	X		River basin councils
Multi-sectoral conferences		X	
Consultation of private stakeholders (profit and non-profit actors)		X	
Other (specify)			

Specific focus on selected mechanisms

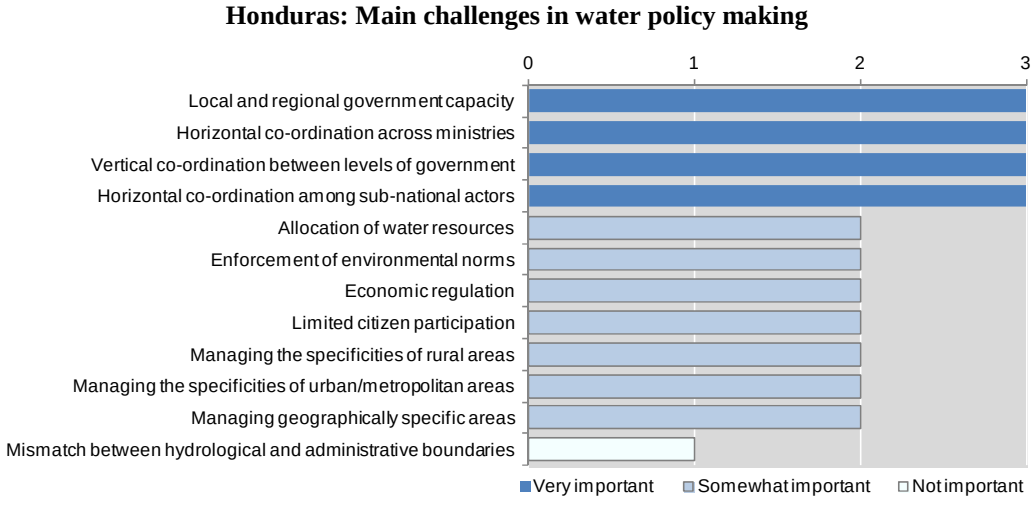
Tools to manage the interface among actors at sub-national level

Existing mechanisms for co-ordination among different water actors at sub-national level	Yes	No	Details (name, example, contact information, website, capacity issues addressed, etc.)
Inter-municipal collaboration	X		
Inter-municipal specific body			
Specific incentives from central/regional government (in terms of rules, rewards and sanction mechanisms, budget allocation, etc.)		X	
Historical rules and traditions		X	
Specific mechanisms for conflict resolution	X		
Informal co-operation around projects	X		
Joint financing		X	
Metropolitan or regional water district	X		
Other (specify)			

Tools for capacity building at sub-national level

Type of mechanism	Yes	No	n/a	Details (name, example, contact information, website, capacity issues addressed, etc.)
Broad governance mechanisms				
Collaboration with the private sector (know-how transfer, concession contract, BOTs etc.)	X			Administration concession for water
Financial incentives (specify from whom and for what)		X		
Performance indicators and targets holding local governments accountable		X		
Citizen participation	X			River basin councils
Involvement of civil society organisations	X			
Databases (sharing information)		X		
Historical arrangements (water courts)	X			
Other (specify)				
Management mechanisms				
Training – workshops – conferences	X			
Specific performance monitoring mechanisms for staff (teams or individuals)		X		
Other (specify)				

Final assessment of remaining challenges



MEXICO

Acronyms

AMH	Mexican Association of Hydraulics
ANEAS	National Association of Water and Sanitation Utilities (*Asociación Nacional de Empresas de Agua y Saneamiento*)
CEMCAS	Centre for Mexican and Central American Studies
CFE	Federal Commission for Electricity (*Comision Federal de Electricidad*)
CHCP	Ministry for Housing and Public Credit (*Secretaría de Hacienda y Crédito Público*)
CICM	College of Mexico for Civil Engineers
CONAFOR	National Forestry Commission
CONAGUA	National Water Commission
El tequio	A collective work organisation
IMTA	Mexican Institute of Water Technology (*Instituto Mexicano de Tecnología del Agua*)
INTERAPAS	Intermunicipal water and sanitation service provider (metropolitan area of San Luis Potosí, Soledad and Cerro de San Pedro)
PROFEPA	Environmental Protection Federal Attorney's Office
SACM	Mexico City Water System
SAGARPA	Ministry of Agriculture, Livestock, Rural Development, Fishing and Food Supply
SE	Ministry of Economy
SEGOB	Ministry of the Interior
SEMARNAT	Ministry of Environment and Natural Resources
SENER	Ministry of Energy
SFP	Ministry of Public Administration (*Secretaría de la Función Pública*)
SHCP	Ministry of Finance and Public Credit
SS	Ministry of Health
UNAM	National Autonomous University of Mexico (*Universidad Nacional Autonoma de Mexico*)

Institutional mapping of water policy roles and responsibilities at central government level: Allocation of roles across ministries and public agencies

Design and implementation of water policies

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Roles		Domestic	Agriculture	Industry	
Allocation of uses	CONAGUA	CONAGUA		CONAGUA	CONAGUA
Quality of standards	SEMARNAT	SS			SEMARNAT
Compliance of service delivery commitment		CONAGUA			SEMARNAT
Economic regulations (tariffs, etc.)	CONAGUA				
Environmental regulations (enforcement of norms, etc.)	SEMARNAT, PROFEPA				SEMARNAT, PROFEPA
Others (specify)					

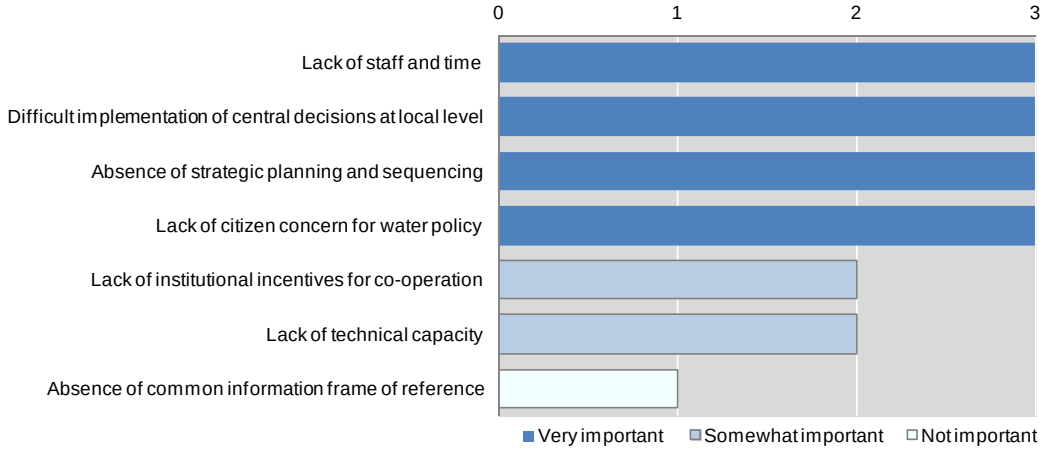
Institutional mapping for quality standards and regulation

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Roles		Domestic	Agriculture	Industry	
Strategy, priority setting and planning (including infrastructure)	CONAGUA, SAGARPA, SEMARNAT	CONAGUA, SS		CONAGUA	CONAGUA, SEMARNAT
Policy making and implementation	CONAGUA, SAGARPA, SEMARNAT	CONAGUA, SS		CONAGUA	CONAGUA, SEMARNAT
Information, monitoring and evaluation	CONAGUA	CONAGUA, SS		CONAGUA	CONAGUA, SAGARPA, SEMARNAT
Stakeholder engagement (citizen awareness, etc.)	CONAGUA, SAGARPA	CONAGUA, SS		CONAGUA, SE	CONAGUA, SEMARNAT
Others (specify)					

Co-ordination of water policy making across ministries and public agencies at central government level

Obstacles to horizontal co-ordination in water policy making

Mexico: Obstacles to effective co-ordination at central government level



Existing mechanisms for co-ordinating the action across ministries and public agencies

Existing co-ordination mechanisms across ministries/public agencies	Yes	No	Details (name, website, contact details, description, examples, etc.)
A ministry of water		X	No Ministry of Water exists as such
A line ministry	X		SEMARNAT, *www.semarnat.gob.mx*
A central agency for water-related issues	X		CONAGUA is a SEMARNAT decentralised agency *www.conagua.gob.mx*
An inter-ministerial body (committee, commission)	X		CONAGUA's Technical Council (SEMARNAT, SEDESOL, SAGARPA, SS, SHCP, SE, SENER, SFP, IMTA, CONAFOR).
An inter-agency programme			CONAGUA's Technical Council (SEMARNAT, SEDESOL, SAGARPA, SS, SHCP, SE, SENER, SFP, IMTA, CONAFOR).
A co-ordination group of experts			National Programme on Water
An inter-ministerial mechanism for addressing territorial water concerns	X		Water Utilities Management Technical Committee (CONAGUA, CFE, IMTA, UNAM).
Inter-ministerial mechanisms to face water territorial challenges	X		General Office of the Natural Disaster Fund – FONDEN (SEGOB, SHCP, CONAGUA)

Institutional mapping of water policy roles and responsibilities at sub-national level: Allocation of roles across local and regional authorities

Allocation of roles and responsibilities in water policy design and implementation at territorial level

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Actors at sub-national level		Domestic	Agriculture	Industry	
Municipalities	X	X		X	X
Regions (provinces, states in federal countries, autonomous regions, cantons)	X	X		X	X
Inter-municipal bodies	X	X		X	X
Water-specific bodies					
River basin organisations	X				
Other (specify)					

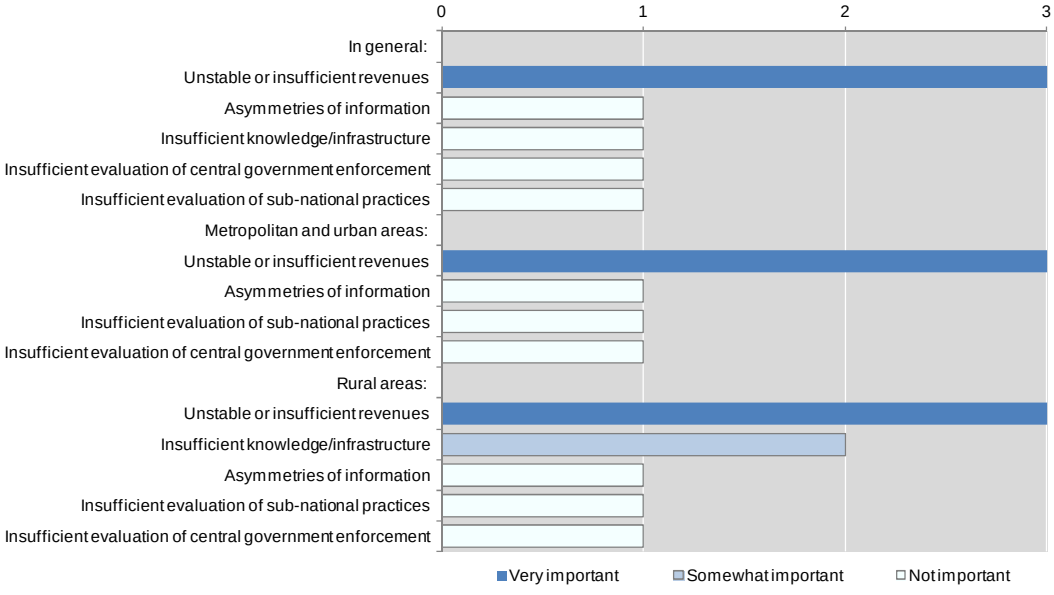
Allocation of roles and responsibilities in water regulation (rule production and enforcement)

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Roles		Domestic	Agriculture	Industry	
Allocation of uses		Municipalities		Municipalities	Municipalities
Quality standards		Region (states)		Region (states)	Region (states)
Compliance of service delivery commitment					
Economic regulations (tariffs, etc.)		Municipalities, region (states)		Municipalities, region (states)	Municipalities, region (states)
Environmental regulations (enforcement of norms, etc.)		Region (states)		Region (states)	Region (states)
Control at sub-national level of national regulation enforcement		Region (states)		Region (states)	Region (states)
Other (specify)					

Co-ordination of water policy making between levels of government and among local actors

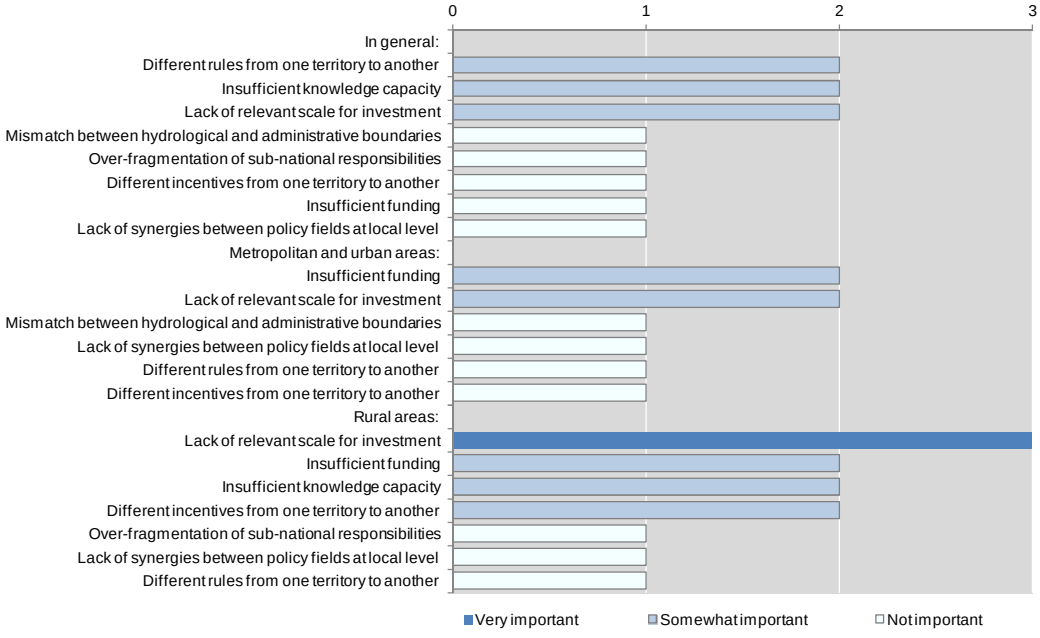
Obstacles to vertical co-ordination in water policy making

Mexico: Obstacles to vertical co-ordination



Obstacles to capacity building and co-ordination at territorial level

Mexico: Co-ordination and capacity challenges



Existing mechanisms for co-ordinating water policy between levels of government and at territorial level

Existing mechanisms for vertical co-ordination and territorial effectiveness in water policy	Yes	No	Details (contact information, website)
River basin organisations/agencies	X		River basin councils, *www.consejosdecuenca.org.mx*
Regulations for sharing roles between actors	X		National Water Law and regulation River Basin Councils' Organisation and Management Rules
Co-ordination agency or commission	X		CONAGUA, *www.conagua.gob.mx*
Contractual arrangements (between central and local governments, central and regional governments, regional and local governments)	X		Annual co-ordination agreements between state government and federal government
Intermediate bodies or actors (e.g. state territorial representatives)	X		River basin organisations and CONAGUA local offices In river basin councils, holders of federative bodies territorially engaged in the river basin have a voice and a vote, *www.consejosdecuenca.org.mx*
Financial transfers or incentives	X		Federal resources are channelled through CONAGUA programmes
Performance indicators	X		National Water Programme studies a series of basic performance indicators at the national level
Shared databases	X		National Waters Law asks for the implementation of a national system for quantity, quality, water uses and similar regional systems, currently being created
Sectoral conferences between central and sub-national water players	X		The majority of these conferences are organised by associations: AMH, *www.amh.org.mx* ANEAS, *www.anes.com.mx*
Multi-sectoral conferences	X		The majority is organised by CICM, *www.cicm.org.mx*
Consultation of private stakeholders (profit and non-profit actors)	X		The National Waters Law considers the *Consejo Consultivo del Agua* (Water Advisory Board), as an independent consulting organisation for stakeholders, public or private, that are involved in the water sector or studying water issues, and that contribute to raise awareness, *www.agua.org.mx/sitio/index.html*
Other (specify)			

Specific focus on selected mechanisms

Tools to manage the interface among actors at sub-national level

Existing mechanisms for co-ordination among different water actors at sub-national level	Yes	No	Details (name, example, contact information, website, capacity issues addressed, etc.)
Inter-municipal collaboration	X		ANEAS, *www.aneas.com.mx*
Inter-municipal specific body	X		For example, INTERAPAS, *www.interapas.com*
Specific incentives from central/regional government (in terms of rules, rewards and sanction mechanisms, budget allocation, etc.)		X	National Waters Law and regulations
Historical rules and traditions		X	
Specific mechanisms for conflict resolution	X		
Informal co-operation around projects	X		*El tequio*
Joint financing			For example: El Realito project
Metropolitan or regional water district	X		Example of Mexico City D.F. SACM, *www.sacm.df.gob.mx*
Other (specify)			

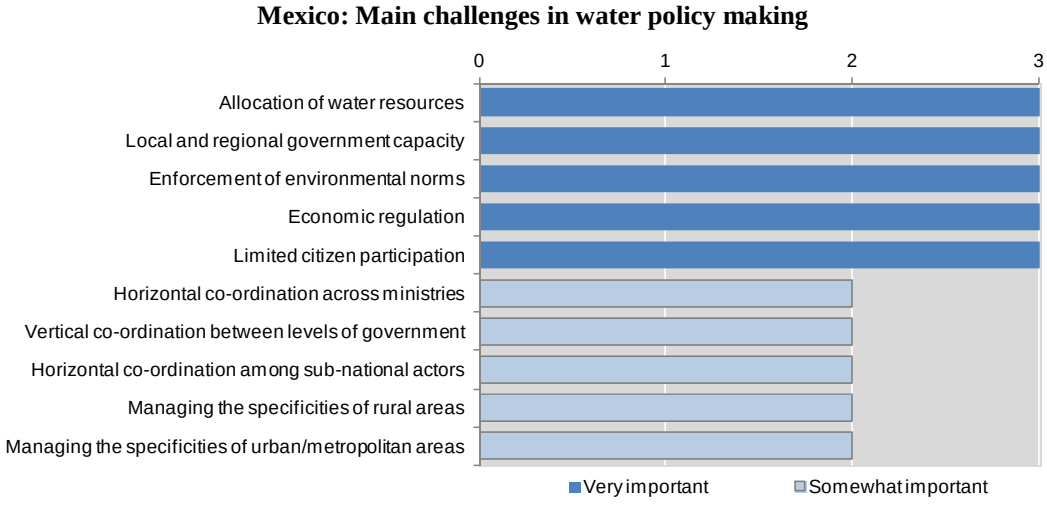
Notes: El tequio is a collective work organisation which gathers members of a community to work together in designing or building a community utility, such as a school, a well, a fence, a road, etc. In the state of Oaxaca, *el tequio* is acknowledged in the state law and the state government maintains it.

CONAGUA and the governments of San Luis Potosi and Guanajuato states developed a project to build a dam which controls 2 m^3/s and supplies the suburban areas of San Luis Potosi, SLP, and Celaya Gto with drinking water. Federal and state governments contributed to financing the dam. The federal government also financed the private project for the corresponding aqueduct.

Tools for capacity building at sub-national level

Type of mechanism	Yes	No	n/a	Details (name, example, contact information, website, capacity issues addressed, etc.)
Broad governance mechanisms				
Collaboration with the private sector (know-how transfer, concession contract, BOTs, etc.)	X			The Promagua is a CONAGUA programme functioning with additional resources. The private sector's participation modalities can be a partial or legal service provision contract, the establishment of a semi-public company or a concession.
Financial incentives (specify from whom and for what)	X			
Performance indicators and targets holding local governments accountable	X			According to federal programme operation rules, support characteristics depend on the physical and commercial performance of the service providers.
Citizen participation	X			River Basin Council, *www.consejosdecuenca.org.mx*
Involvement of civil society organisations	X			River Basin Council, *www.consejosdecuenca.org.mx*
Databases (sharing information)	X			CONAGUA annually edits a "Drinking Water, Sewer System and Sanitation Sectors Situation" report ANEAS, *www.aneas.com.mx*
Historical arrangements (water courts)		X		
Other (specify)				
Management mechanisms				
Training – workshops – conferences	X			AMH – *www.amh.org.mx* ANEAS – *www.aneas.com.mx* CEMCAS – *www.cemcas.com.mx* IMTA – *www.imta.gob.mx* Water Center for Latin America and the Caribbean – *www.centrodelagua.org*
Specific performance monitoring mechanisms for staff (teams or individuals)	X			ANEAS uses a technical norms system of capacity training and certification (CONOCER) for the service provider technical workers, usually certified by operation organisations *www.aneas.com.mx* *www.conoce.gob.mx*
Other (specify)				

Final assessment of remaining challenges



NICARAGUA

Acronyms

ANA	National Authority of Water
CNRH	National Water Resource Council (*Consejo Nacional de Recursos Hidricos*)
ENACAL	Aqueduct and Sewer Systems National Company
INAA	Aqueducts and Sewer Systems National Institute
MAGFOR	Ministry of Agriculture and Forests
MARENA	Ministry of Environment and Natural Resources
MINSA	Ministry of Health

Institutional mapping of water policy roles and responsibilities at central government level: Allocation of roles across ministries and public agencies

Design and implementation of water policies

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Roles		Domestic	Agriculture	Industry	
Allocation of uses	MARENA, MAGFOR, INAA, ENACAL	ENACAL	MAGFOR	MARENA, ENACAL	MINSA, ENACAL, MARENA
Quality of standards	MARENA, INAA	INAA, MARENA	MAGFOR, MARENA	MARENA	Municipalities' mayoral offices, MINSA, ENACAL
Compliance of service delivery commitment	MARENA, MAGFOR, ENACAL	INAA, ENACAL, municipalities' mayoral offices	MAGFOR, ENACAL		Municipalities' mayoral offices, MINSA, ENACAL
Economic regulations (tariffs, etc.)	INAA, ENACAL, municipalities, mayoral offices	INAA	MAGFOR, municipalities' mayoral offices, INAA	MARENA, municipalities' mayoral offices, INAA	Municipalities' mayoral offices, MINSA, ENACAL
Environmental regulations (enforcement of norms, etc.)	MARENA	MARENA, INAA	MARENA	MARENA	MARENA, MINSA
Others (specify)					

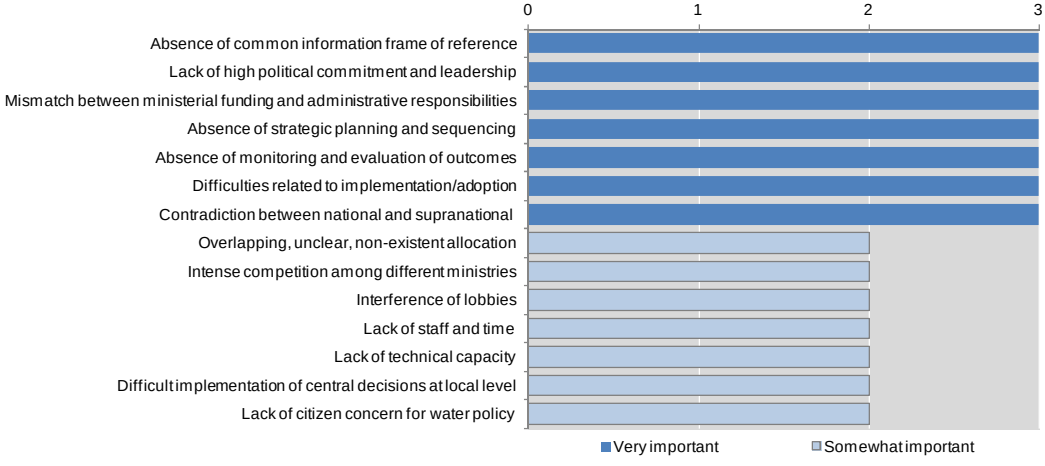
Institutional mapping for quality standards and regulation

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Roles		Domestic	Agriculture	Industry	
Strategy, priority setting and planning (including infrastructure)	MARENA, ANA, INAA, ENACAL	MARENA, INAA, ENACAL	MAGFOR, MARENA, municipalities		INAA, ENACAL, municipalities' mayoral offices
Policy making and implementation	ANA, MARENA	MARENA, INAA, ENACAL	MAGFOR		MARENA, INAA, ENACAL
Information, monitoring and evaluation	MARENA, ANA, INAA, ENACAL, MAGFOR	INAA, ENACAL	MAGFOR		INAA, ENACAL
Stakeholder engagement (citizen awareness, etc.)	ANA, MARENA, INAA, ENACAL, MAGFOR, municipalities' mayoral offices, water users	MARENA, ANA, INAA, ENACAL, MAGFOR, municipalities' mayoral offices	MARENA, ANA, ENACAL, MAGFOR, municipalities' mayoral offices, water users		MARENA, ANA, INAA, ENACAL, MAGFOR, municipalities' mayoral offices, water users
Others (specify)					

Co-ordination of water policy making across ministries and public agencies at central government level

Obstacles to horizontal co-ordination in water policy making

Nicaragua: Obstacles to co-ordination at central level



Existing mechanisms for co-ordinating the action across ministries and public agencies

Existing co-ordination mechanisms across ministries/public agencies	Yes	No	Details (name, website, contact details, description, examples, etc.)
A ministry of water			MARENA
A line ministry	X		INAA
A central agency for water-related issues			
An inter-ministerial body (committee, commission)	X		CNRH presided by MARENA
An inter-agency programme	X		Sustainable Development Commission for the San Juan River Basin
A co-ordination group of experts			
An inter-ministerial mechanism for addressing territorial water concerns			

Institutional mapping of water policy roles and responsibilities at sub-national level: Allocation of roles across local and regional authorities

Allocation of roles and responsibilities in water policy design and implementation at territorial level

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Actors at sub-national level		Domestic	Agriculture	Industry	
Municipalities	X	X	X	X	X
Regions (provinces, states in federal countries, autonomous regions, cantons)	X	X	X	X	X
Inter-municipal bodies	X		X		
Water-specific bodies					
River basin organisations	X	X	X	X	
Other (specify)					

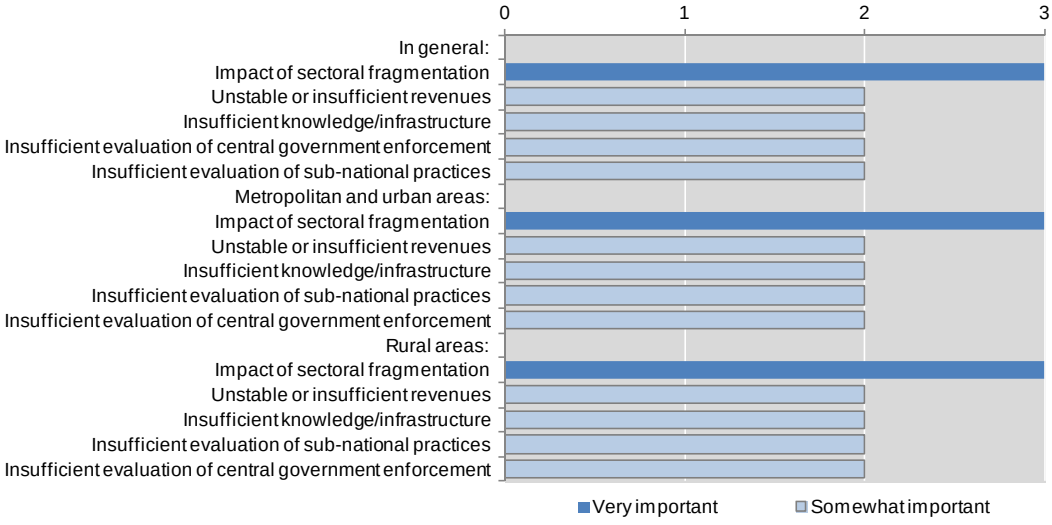
Allocation of roles and responsibilities in water regulation (rule production and enforcement)

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Roles		Domestic	Agriculture	Industry	
Allocation of rules	MARENA, municipalities	ENACAL, INAA, municipalities	MARENA, municipalities, MAGFOR	MARENA, municipalities	MINSA, MARENA, municipalities, ENACAL
Quality standards	MARENA, MINSA	MINSA, MARENA, municipalities, ENACAL	MARENA, municipalities, MAGFOR		MINSA, MARENA, municipalities, ENACAL
Compliance of service delivery commitment		ENACAL, INAA, municipalities	MARENA, municipalities, MAGFOR		Municipalities, ENACAL, INAA
Economic regulations (tariffs, etc.)		ENACAL, INAA, municipalities	MARENA, municipalities, MAGFOR		Municipalities, ENACAL, INAA
Environmental regulations (enforcement of norms, etc.)		ENACAL, INAA	MARENA, municipalities		MINSA
Control at sub-national level of national regulation enforcement		ENACAL, INAA	MARENA, municipalities, MAGFOR		MINSA, MARENA, municipalities
Other (specify)					

Co-ordination of water policy making between levels of government and among local actors

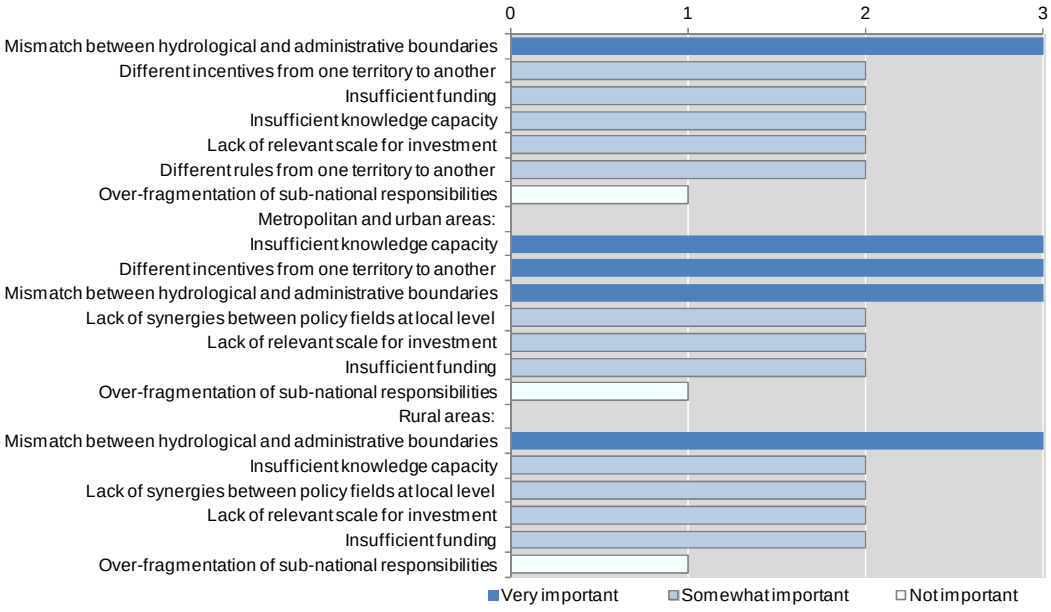
Obstacles to vertical co-ordination in water policy making

Nicaragua: Obstacles to vertical co-ordination



Obstacles to capacity building and co-ordination at territorial level

Nicaragua: Co-ordination and capacity challenges



Existing mechanisms for co-ordinating water policy between levels of government and at territorial level

Existing mechanisms for vertical co-ordination and territorial effectiveness in water policy	Yes	No	Details (contact information, website)
River basin organisations/agencies	X		
Regulations for sharing roles among actors			
Co-ordination agency or commission			
Contractual arrangements (between central and local governments, central and regional governments, regional and local governments)			
Intermediate bodies or actors (e.g. state territorial representatives)			
Financial transfers or incentives			
Performance indicators			
Shared databases			
Sectoral conferences between central and sub-national water players			
Multi-sectoral conferences			
Consultation of private stakeholders (profit and non-profit actors)			
Other (specify)			

Specific focus on selected mechanisms

Tools to manage the interface among actors at sub-national level

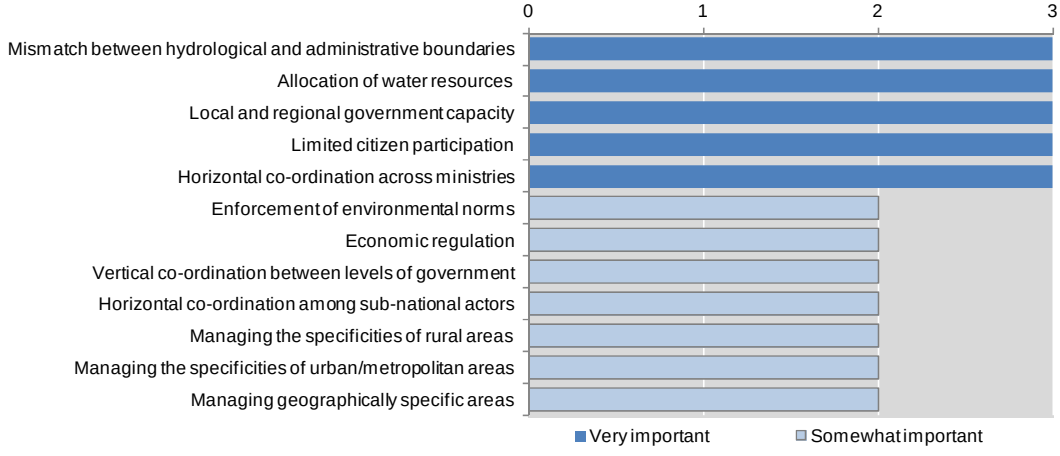
Existing mechanisms for co-ordination among different water actors at sub-national level	Yes	No	Details (name, example, contact information, website, capacity issues addressed, etc.)
Inter-municipal collaboration	X		Municipalities associations, such as the municipality of Boaco's association. They develop projects on adequate use of water resources, with the support of outside co-operation.
Inter-municipal specific body	X		Co-operation with specific Dutch sister cities on issues such as the adequate use of river basins and water resources.
Specific incentives from central/regional government (in terms of rules, rewards and sanction mechanisms, budget allocation, etc.)			
Historical rules and traditions			
Specific mechanisms for conflict resolution		X	
Informal co-operation around projects			
Joint financing	X		
Metropolitan or regional water district			
Other (specify)			

Tools for capacity building at sub-national level

Type of mechanism	Yes	No	n/a	Details (name, example, contact information, website, capacity issues addressed, etc.)
Broad governance mechanisms				
Collaboration with the private sector (know-how transfer, concession contract, BOTs, etc.)		X		
Financial incentives (specify from whom and for what)		X		
Performance indicators and targets holding local governments accountable	X			Support from the Tropical Agriculture Centre to the municipalities of Somoto and San Lucas for the adequate management of the Aguascaliente River sub-basin.
Citizen participation	X			Participation in meetings and training, development of environmental and natural resource activities.
Involvement of civil society organisations	X			Norms and regulation institutions for water resources participate with citizens to protect and improve the quality and quantity of water in vulnerable areas.
Databases (sharing information)		X		
Historical arrangements (water courts)		X		
Other (specify)				
Management mechanisms				
Training – workshops – conferences	X			
Specific performance monitoring mechanisms for staff (teams or individuals)		X		
Other (specify)				

Final assessment of remaining challenges

Nicaragua: Main challenges in water policy making



PANAMA

Acronyms

ANAM	National Environment Authority
ANCON	National Association for Nature Conservation (*Asociación Nacional para la Conservación de la Naturaleza*)
ARAP	Panaman Authority of Aquatic Resources
ASEP	Public Service Authority
CONADES	National Council for Sustainable Development (*Consejo Nacional de Desarrollo Sostenible*)
CONAPHI	National Committee for the International Water Programme (*Comité Nacional para el Programa Hidrológico Internacional*)
COPANIT	Industrial and Technical Norms Commission (*Comisión Panameña de Normas Industriales y Técnicas*)
FIS	Social Investment Fund (*Fondo de Inversión Social*)
IDAAN	National Aqueducts and Sewer Systems Institute (population above 1 500 inhabitants)
MEF	Ministry of Economy and Finance
MICI	Ministry of Trade and Industry
MIDA	Ministry of Agricultural Development
MINSA	Ministry of Health (population less than 1 500 inhabitants)

Institutional mapping of water policy roles and responsibilities at central government level: Allocation of roles across ministries and public agencies

Design and implementation of water policies

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Roles		Domestic	Agriculture	Industry	
Allocation of uses	ANAM	IDAAN, MINSA, ANAM	ANAM, MIDA	ANAM, IDAAN	MINSA/IDAAN
Quality of standards	MICI, ANAM	IDAAN, MINSA	ANAM, MIDA	ANAM, IDAAN	MINSA/IDAAN
Compliance of service delivery commitment	IDAAN, ASEP	IDAAN, MINSA	ANAM, MIDA	ANAM, IDAAN	MINSA/IDAAN
Economic regulations (tariffs, etc.)	MEF, ANAM, IDAAN	IDAAN, ANAM	ANAM	ANAM, IDAAN	IDAAN
Environmental regulations (enforcement of norms, etc.)	ANAM	ANAM	ANAM	ANAM	ANAM
Others (specify)					

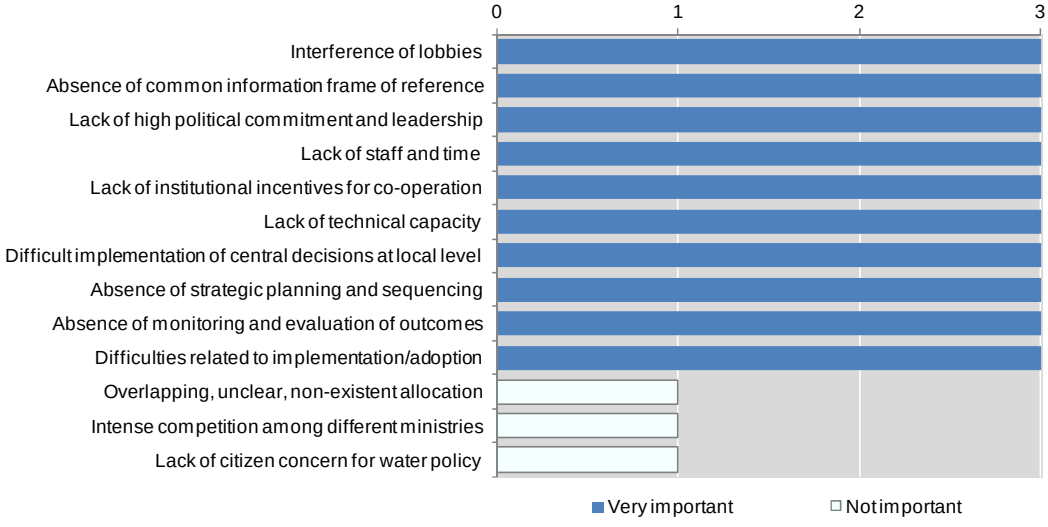
Institutional mapping for quality standards and regulation

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Roles		Domestic	Agriculture	Industry	
Strategy, priority setting and planning (including infrastructure)		IDAAN, MINSA	MIDA/ANAM	ANAM, IDAAN	IDAAN, MINSA, ANAM
Policy making and implementation	ANAM, MINSA	MINSA	MIDA	ANAM	IDAAN, MINSA, ANAM
Information, monitoring and evaluation	ANAM	MINSA, ANAM	ANAM	ANAM	ANAM, MINSA
Stakeholder engagement (citizen awareness, etc.)	ANAM	ANAM, MINSA, IDAAN	MIDA, ANAM	ANAM	MINSA, ANAM, IDAAN
Others (specify)					

Co-ordination of water policy making across ministries and public agencies at central government level

Obstacles to horizontal co-ordination in water policy making

Panama: Obstacles to co-ordination at central level



Existing mechanisms for co-ordinating the action across ministries and public agencies

Existing co-ordination mechanisms across ministries/public agencies	Yes	No	Details (name, website, contact detail, description, examples, etc.)
A ministry of water		X	
A line ministry	X		MINSA, *www.minsa.gob.pa* MIDA, *www.mida.gob.pa* MEF, *www.mef.gob.pa* IDAAN, *www.idaan.gob.pa*
A central agency for water-related issues	X		ANAM, *www.anam.gob.pa*
An inter-ministerial body (committee, commission)	X		Ministry of the Presidency CONADES, *www.conades.gob.pa* FIS, *www.fis.gob.pa*
An inter-agency programme	X		COPANIT
A co-ordination group of experts		X	
An inter-ministerial mechanism for addressing territorial water concerns	X		CONAPHI Panama, *www.anam.gob.pa*

Institutional mapping of water policy roles and responsibilities at sub-national level: Allocation of roles across local and regional authorities

Allocation of roles and responsibilities in water policy design and implementation at territorial level

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Actors at sub-national level		Domestic	Agriculture	Industry	
Municipalities		X			
Regions (provinces, states in federal countries, autonomous regions, cantons)					
Inter-municipal bodies					
Water-specific bodies					
River basin organisations					
Other (specify)		Water committees	Irrigation joint administration		

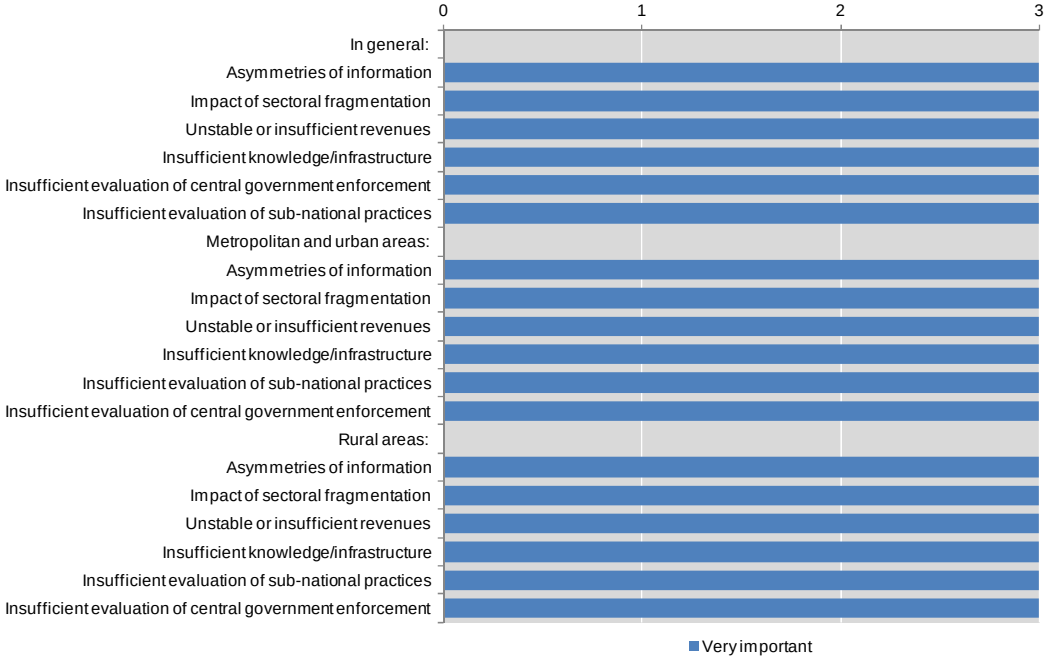
Allocation of roles and responsibilities in water regulation (rule production and enforcement)

Areas / Roles	Water resources	Water services			
		Water supply			Wastewater treatment
		Domestic	Agriculture	Industry	
Allocation of uses		Water Committee, Rural Aqueducts Joint Administration	Irrigation boards	IDAAN ANAM	MINSA, IDAAN
Quality standards					MINSA, IDAAN
Compliance of service delivery commitment					MINSA, IDAAN
Economic regulations (tariffs,, etc.)	ANAM, MEF, IDAAN	ANAM, MEF, IDAAN	ANAM	ANAM	MEF
Environmental regulations (enforcement of norms, etc.)	ANAM	ANAM, MINSA	ANAM, MIDA, MINSA, ARAP	ANAM, MICI	ANAM
Control at sub-national level of national regulation enforcement	ANAM	ANAM, ASEP	ANAM	ANAM	ANAM, MINSA
Other (specify)	ASEP				

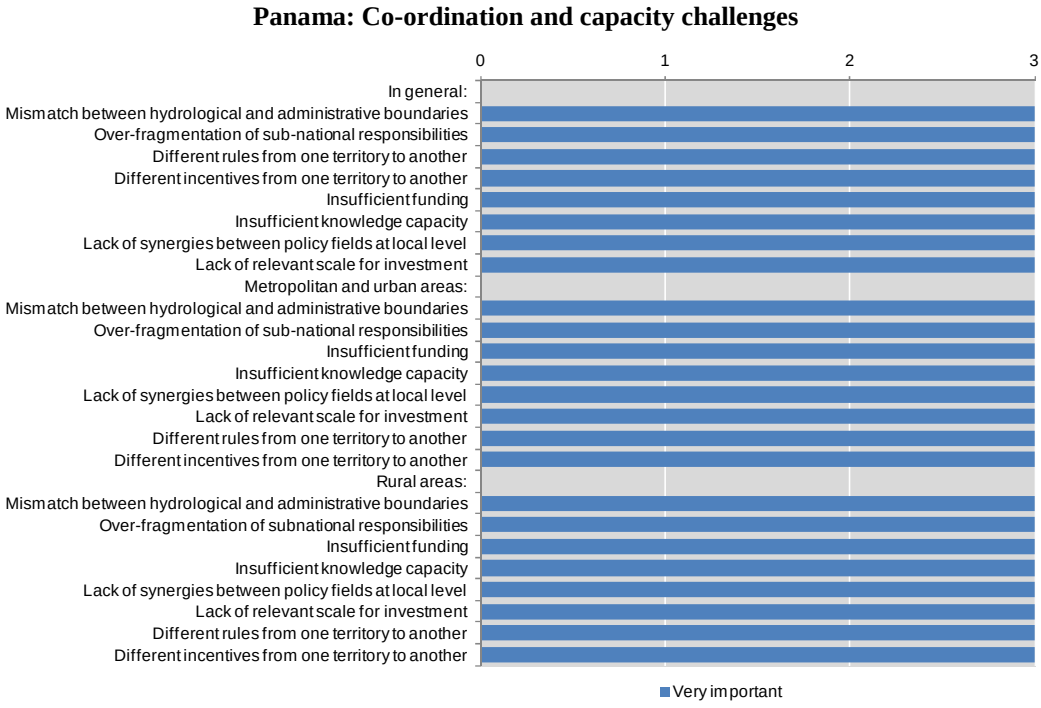
Co-ordination of water policy making between levels of government and among local actors

Obstacles to vertical co-ordination in water policy making

Panama: Obstacles to vertical co-ordination



Obstacles to capacity building and co-ordination at territorial level



Existing mechanisms for co-ordinating water policy between levels of government and at territorial level

Existing mechanisms for vertical co-ordination and territorial effectiveness in water policy	Yes	No	Details (contact information, website)
River basin organisations/agencies		X	Currently, Law 44 establishes the River Basin Organisation
Regulations for sharing roles among actors	X		ASEP, *www.asep.gob.pa* MIDA, *www.mida.gob.pa* MINSA, *www.minsa.gob.pa* ANAM, *www.anam.gob.pa* IDAAN, *www.idaan.gob.pa*
Co-ordination agency or commission		X	No co-ordination organisation with voices and votes
Contractual arrangements (between central and local governments, central and regional governments, regional and local governments)		X	Contracts exist at the regional level
Intermediate bodies or actors (e.g. state territorial representatives)	X		Water administration is not developed at the local level
Financial transfers or incentives		X	
Performance indicators			Environmental Indicators Surveys from MIDA, MINSA, IDAAN establish the potable water supply/coverage at the national level
Shared databases	X		Each institution has its database but they are not shared
Sectoral conferences between central and sub-national water players	X		Annual reunions in the water sector, but no significant outcomes
Multi-sectoral conferences	X		Especially concerning energy
Consultation of private stakeholders (profit and non-profit actors)	X		Interesting but not developed yet
Other (specify)			

Specific focus on selected mechanisms

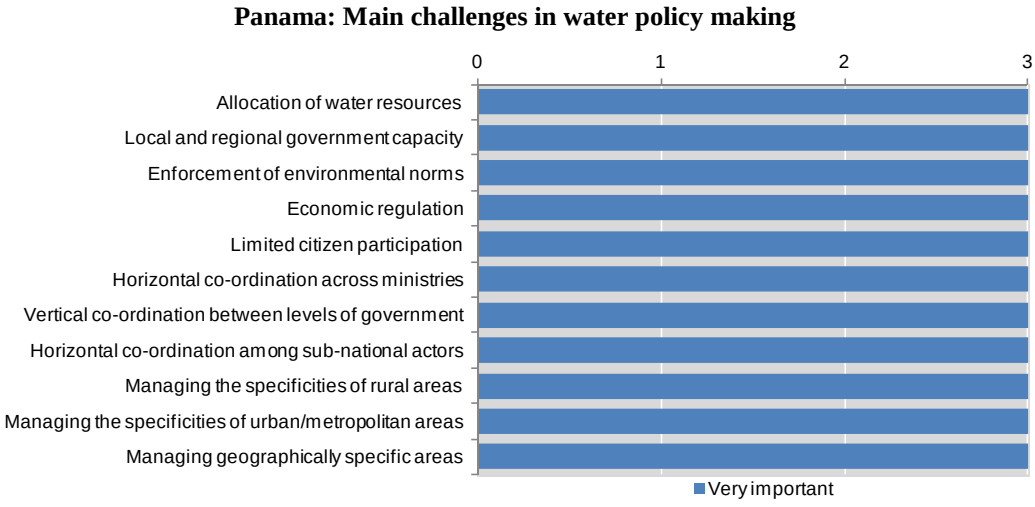
Tools to manage the interface among actors at sub-national level

Existing mechanisms for co-ordination among different water actors at sub-national level	Yes	No	Details (name, example, contact information, website, capacity issues addressed, etc.)
Inter-municipal collaboration		X	
Inter-municipal specific body		X	
Specific incentives from central/regional government (in terms of rules, rewards and sanction mechanisms, budget allocation, etc.)		X	
Historical rules and traditions		X	
Specific mechanisms for conflict resolution	X		ANAM, *www.anam.gob.pa*
Informal co-operation around projects	X		MEF, *www.mef.gob.pa*
Joint financing		X	
Metropolitan or regional water district	X		ANAM, *www.anam.gob.pa*
Other (specify)			

Tools for capacity building at sub-national level

Type of mechanism	Yes	No	n/a	Details (name, example, contact information, website, capacity issues addressed, etc.)
Broad governance mechanisms				
Collaboration with the private sector (know-how transfer, concession contract, BOTs, etc.)	X			Clean production system in 200 companies Biogas system in the pig farming industry (test farms) Water concession database, ANAM, *www.anam.gob.pa*
Financial incentives (specify from whom and for what)				
Performance indicators and targets holding local governments accountable	X			Human Development Indicator (HDI), *www.mef.gob.pa* Report GEO 2009 – Panama Environmental Indicators of Panama Water Quality Monitoring Report 2008-2009 *www.anam.gob.pa*
Citizen participation				Irrigation Organisation, MIDA Rural Aqueducts Joint Administrations' Organisation, MINSA
Involvement of civil society organisations				ANCON, MarViva, Alianza por el Agua
Databases (sharing information)				Not formally established
Historical arrangements (water courts)				
Other (specify)				
Management mechanisms				
Training – workshops – conferences	X			Capacity strengthening courses and workshops on water resources for institutional and technical workers
Specific performance monitoring mechanisms for staff (teams or individuals)				
Other (specify)				

Final assessment of remaining challenges



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Acronyms

AAA	Administrative Water Authorities *(Autoridades Administrativas del Agua*)
ANA	National Water Authority
EPS	Municipal service utilities (*Empresas prestadoras de servicios municipales*)
IWRM	Integrated water resource management
JASS	Sanitation services administrative committees
JNUDRP	National Board of Irrigation District Users
MINAG	Ministry of Agriculture
MINAM	Ministry of Environment
MINSA	Ministry of Health (*Ministerio de Salud*)
MVCYS	Ministry of Housing, Construction and Sanitation
PCM	Presidency of the Council of Ministers (*Presidencia del Consejo de Ministros*)
PRODUCE	Ministry of Production (*Ministerio de la Producción*)
SIN	National Society of Industries
SNMPE	National Society of Mining, Gas and Energy (*Empresas Prestadoras de Servicios Municipales*)
SUNASS	Sanitation Services National Superintendant
VIVIENDA	Ministry of Housing, Building and Sanitation (*Ministerio de Vivienda, Construcción y Saneamiento*)

Institutional mapping of water policy roles and responsibilities at central government level: Allocation of roles across ministries and public agencies

Design and implementation of water policies

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Roles		Domestic	Agriculture	Industry	
Allocation of uses	ANA	ANA	ANA	ANA	ANA
Quality standards	MINAM	MINAM, MINSA, ANA	ANA, MINAM, MINAG	ANA, MINAM, PRODUCE	ANA, MVCYS, MINAM
Compliance of service delivery commitment	ANA	SUNASS	MINAG	PRODUCE	MVCYS
Economic regulations (tariffs, etc.)	ANA	MINSA, SUNASS, ANA	ANA	ANA	ANA
Environmental regulations (enforcement of norms, etc.)	MINAM	MINSA, MINAM	MINAG, MINAM	PRODUCE, MINAM	MVCYS, MINAM

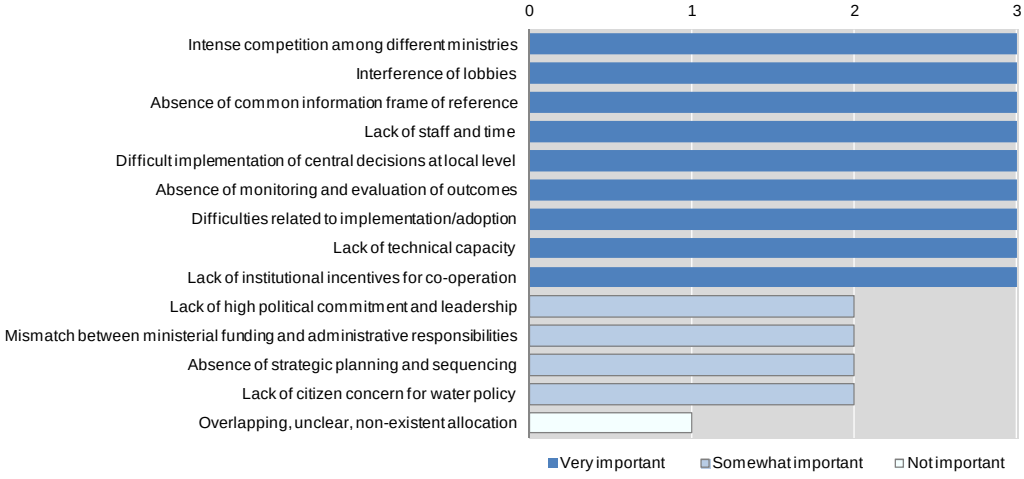
Institutional mapping for quality standards and regulation

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Roles		Domestic	Agriculture	Industry	
Strategy, priority setting and planning (including infrastructure)	ANA, MINAG, MVCYS	MINSA, MVCYS, SUNASS, EPS, municipalities, JASS	MINAG	PRODUCE	MVCYS, EPS, municipalities, JASS, SUNASS
Policy making and implementation	ANA, MINAG, MVCYS	ANA, MINSA, SUNASS, VIVIENDA	ANA, MINAG	ANA, PRODUCE	ANA, MVCYS, SUNASS
Information, monitoring and evaluation	ANA, MINAG, MVCYS	MINSA, SUNASS, MVCYS	MINAG	PRODUCE	SUNASS, MVCYS
Stakeholder engagement (citizen awareness, etc.)	ANA, SNMPE, JNUDRP, SIN		JNUDRP	SIN, SNMPE	EPS, JASS
Others (specify)					

Co-ordination of water policy making across ministries and public agencies at central government level

Obstacles to horizontal co-ordination in water policy making

Peru: Obstacles to co-ordination at central level



Existing mechanisms for co-ordinating the action across ministries and public agencies

Existing co-ordination mechanisms across ministries/public agencies	Yes	No	Details (name, website, contact details, description, examples, etc.)
A ministry of water		X	
A line ministry	X		MINAG, *www.minag.gob.pe*
A central agency for water-related issues	X		ANA, *www.ana.gob.pe*
An inter-ministerial body (committee, commission)	X		ANA, National Water Resource Management System and National Information System on Water Resources to be implemented
An inter-agency programme		X	
A co-ordination group of experts		X	
An inter-ministerial mechanism for addressing territorial water concerns	X		PCM
Other (specify)	X		National Water Resources Information System

Institutional mapping of water policy roles and responsibilities at sub-national level: Allocation of roles across local and regional authorities

Allocation of roles and responsibilities in water policy design and implementation at territorial level

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Actors at sub-national level		Domestic	Agriculture	Industry	
Municipalities	X	X			X
Regions (provinces, states in federal countries, autonomous regions, cantons)	X		X	X	X
Inter-municipal bodies					
Water-specific bodies	X	X	X	X	X
River basin organisations	X	X	X	X	X
Other (specify)	AAA		X (partially)		AAA (partially)

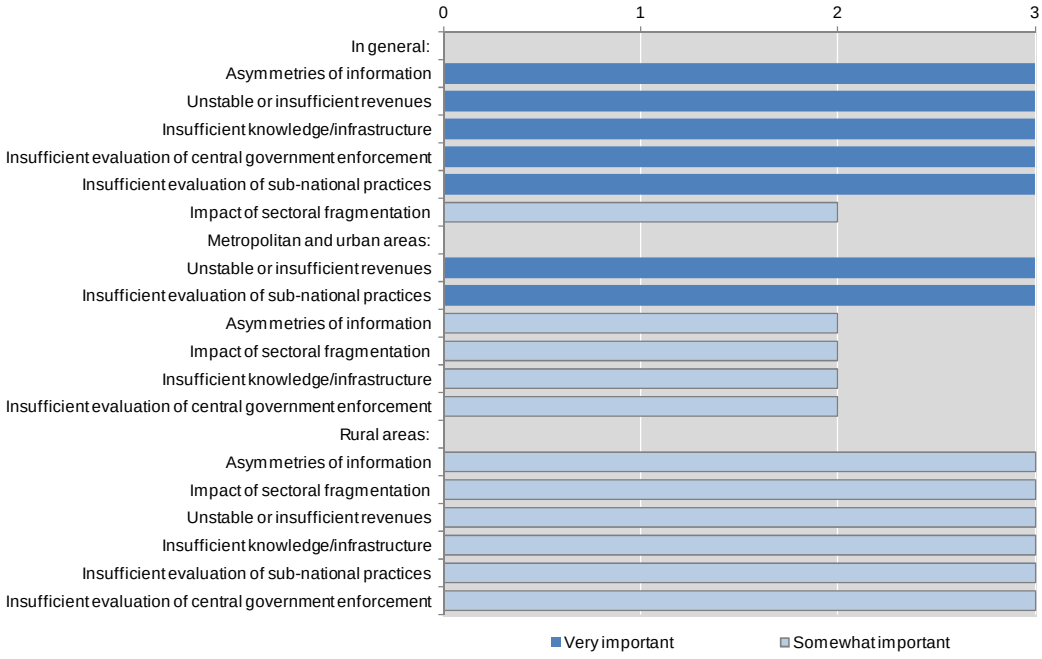
Allocation of roles and responsibilities in water regulation (rule production and enforcement)

Areas	Water resources	Water services			
		Water supply			Wastewater treatment
Roles		Domestic	Agriculture	Industry	
Allocation of uses	AAA	AAA	AAA	AAA	AAA
Quality standards	AAA	AAA	AAA	AAA	AAA
Compliance of service delivery commitment	AAA	Municipalities, regional government	Regional government	Regional government	Regional government
Economic regulations (tariffs, etc.)	AAA	Municipalities, SUNASS, AAA	AAA	AAA	Municipalities, SUNASS, AAA
Environmental regulations (enforcement of norms, etc.)	AAA	Regional government	Regional government	Regional government	Regional government
Control at sub-national level of national regulation enforcement	AAA	AAA	AAA	AAA	AAA
Other (specify)					

Co-ordination of water policy making between levels of government and among local actors

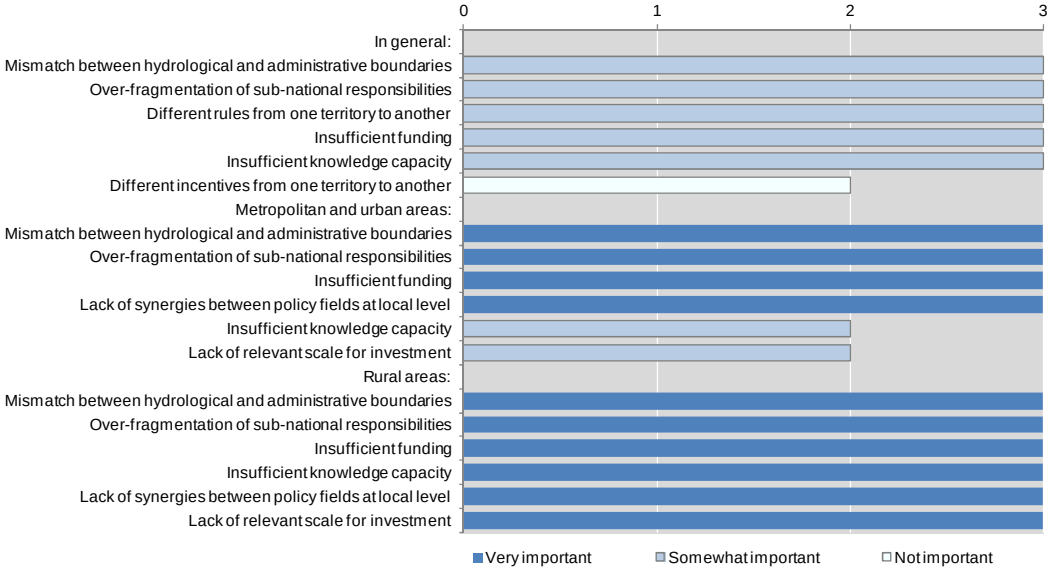
Obstacles to vertical co-ordination in water policy making

Peru: Obstacles to vertical co-ordination



Obstacles to capacity building and co-ordination at territorial level

Peru: Co-ordination and capacity challenges



Existing mechanisms for co-ordinating water policy between levels of government and at territorial level

Existing mechanisms for vertical co-ordination and territorial effectiveness in water policy	Yes	No	Details (contact information, website)
River basin organisations/agencies	X		
Regulations for sharing roles among actors	X		River basin councils are being implemented
Co-ordination agency or commission	X		Technical commissions to resolve specific water-related conflicts
Contractual arrangements (between central and local governments, central and regional governments, regional and local governments)	X		In some areas, agreements have been signed between the ANA and the central government for the establishment of a river basin council
Intermediate bodies or actors (e.g. state territorial representatives)	X		Assembly of agricultural and non-agricultural users
Financial transfers or incentives		X	
Performance indicators	X		In progress (recently implemented)
Shared databases	X		In progress (recently implemented)
Sectoral conferences between central and sub-national water players	X		In progress (recently implemented)
Multi-sectoral conferences		X	
Consultation of private stakeholders (profit and non-profit actors)	X		Co-ordination for the design of norms regulating actors
Other (specify)	X		Committee to dialogue and promote IWRM

Specific focus on selected mechanisms

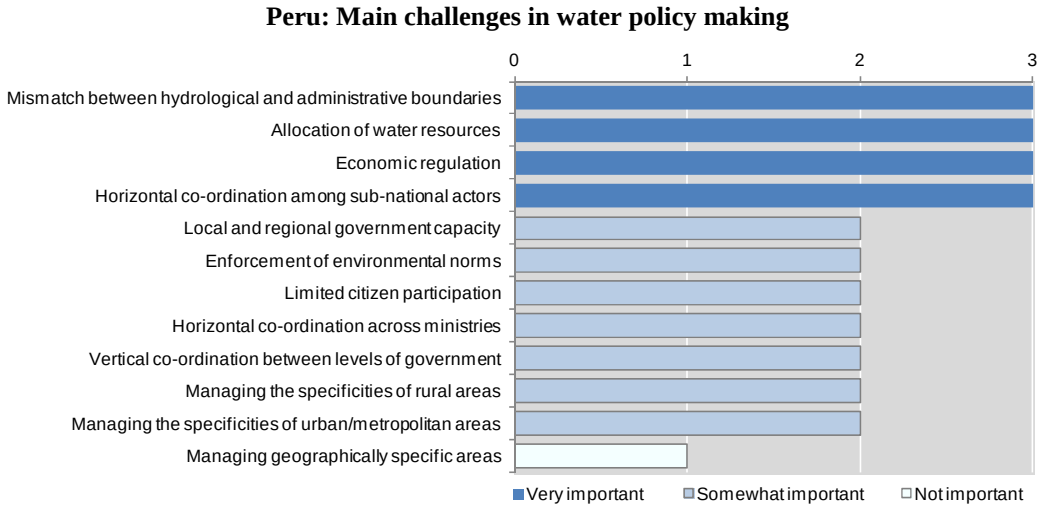
Tools to manage the interface among actors at sub-national level

Existing mechanisms for co-ordination among different water actors at sub-national level	Yes	No	Details (name, example, contact information, website, capacity issues addressed, etc.)
Inter-municipal collaboration		X	
Inter-municipal specific body		X	
Specific incentives from central/regional government (in terms of rules, rewards and sanction mechanisms, budget allocation, etc.)			
Historical rules and traditions			
Specific mechanisms for conflict resolution			
Informal co-operation around projects			
Joint financing	X		For water and sanitation projects
Metropolitan or regional water district		X	
Other (specify)	X		Capacity building for users' committee concerning new legislations, responsibilities and tasks for water resource management Water rights agreements and Control and Mediation Framework for Water, *www.psi.gob.pe*

Tools for capacity building at sub-national level

Type of mechanism	Yes	No	n/a	Details (name, example, contact information, website, capacity issues addressed, etc.)
Broad governance mechanisms				
Collaboration with the private sector (know-how transfer, concession contract, BOTs, etc.)	X			Agreement for carrying out a support programme for El Platanal electricity company in the Yauyos, Lima province
Financial incentives (specify from whom and for what)				
Performance indicators and targets holding local governments accountable				Indicator or defined according to the Ministry of Economy and Finance guidelines
Citizen participation				
Involvement of civil society organisations	X			Platform established to promote water management (IPROGA) Water users' organisations co-ordinate in regulation design
Databases (sharing information)				National Water Resource Information System
Historical arrangements (water courts)				
Other (specify)				
Management mechanisms				
Training – workshops – conferences				Irrigation sector programme Regulation design workshop to complete the Water Resources Law regarding users' organisations and water infrastructure operators
Specific performance monitoring mechanisms for staff (teams or individuals)				
Other (specify)				

Final assessment of remaining challenges



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