

## *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
	<i>Ad hoc</i> 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](http://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.

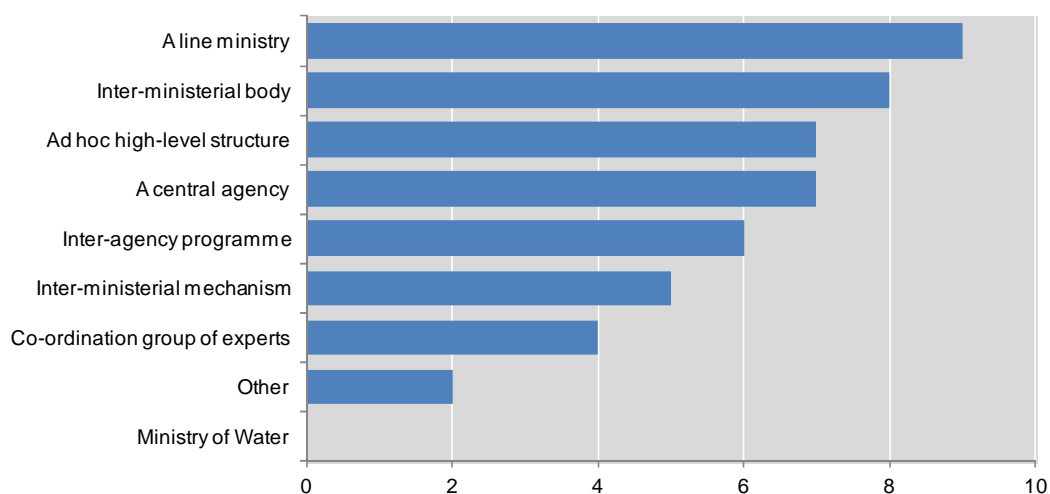
Each co-ordination mechanism can help bridge different gaps, and each specific gap may require the combination of several tools. All LAC countries surveyed have set up some co-ordination mechanisms at horizontal level, but countries where sub-national actors play merely an “operational” role in water 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](http://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](http://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.

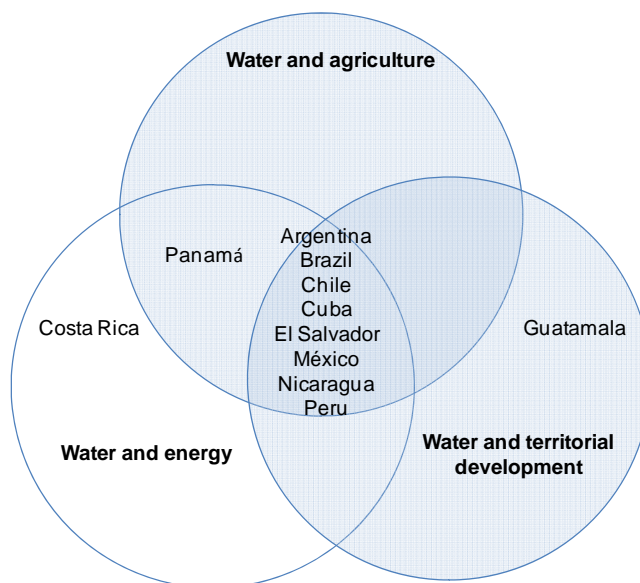
*Source:* CONAGUA (2011), "2030 Water Agenda – 2011 edition", Mexico D.F.

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](http://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.

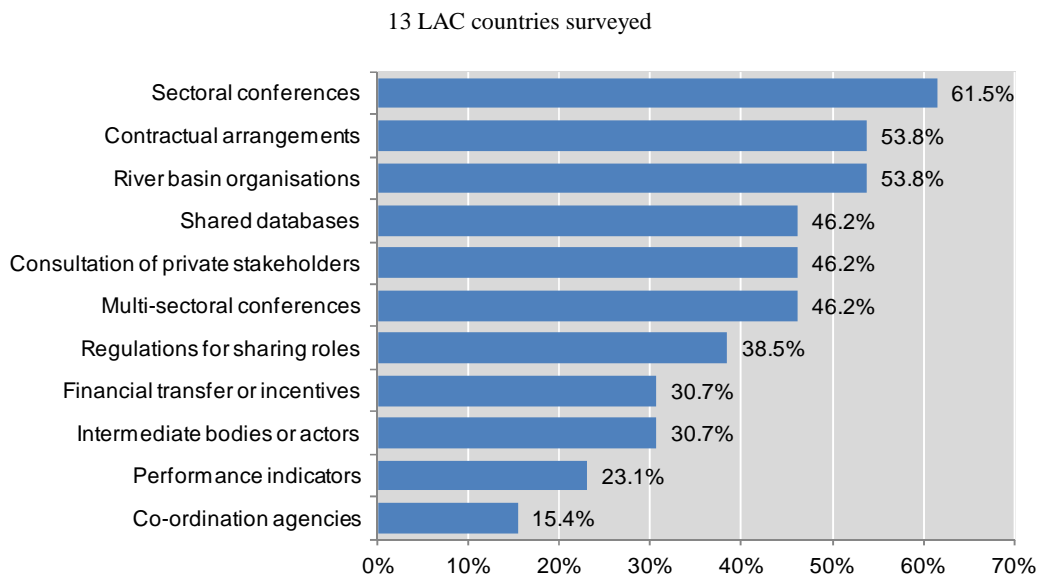
In Mexico, joint action of ministries and agencies at the central level takes place to co-ordinate water and regional development policies. Prior to the implementation of the federal government's public policies for the construction of water and sanitation utilities at national level, inter-institutional 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](http://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 Jundiá 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:

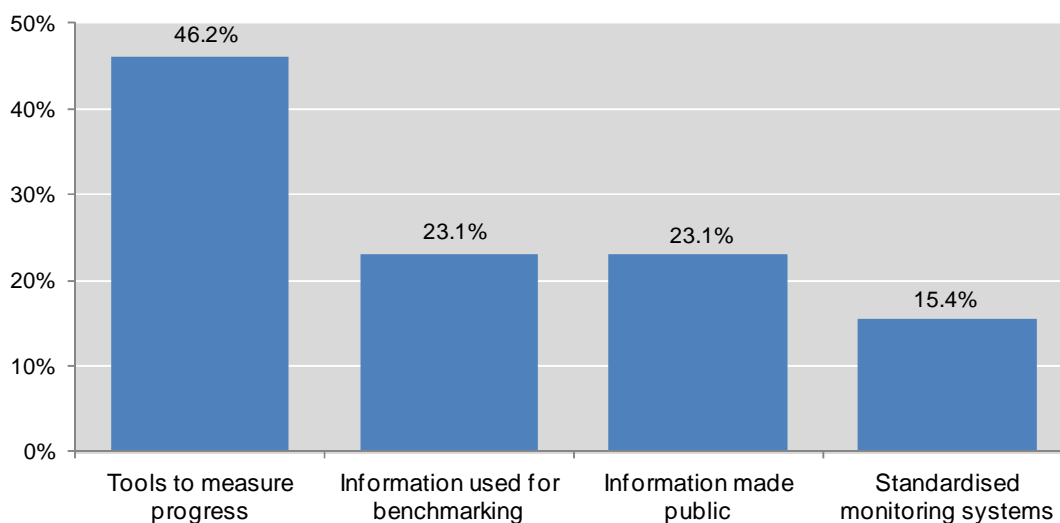
- It is important to mention the need to reinforce the Integrated Water Resources Systems in the states in order to improve their institutional capacity.
- The commitment to establish and to implement goals is based on a future outlook which includes an institutional management map and river control 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](http://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*<sup>1</sup> 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), "Avance de la gestión del agua en Panama. Conservemos y protejamos el recurso agua", in *La Estrella de Panamá*, 21-03-2009; Escalante Henríquez, L.C., C. Charpentier and J.M. Diez Hernández (2011), "Avances y Limitaciones de la Gestión Integrada de los Recursos Hídricos 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](http://www.gwptoolbox.org).

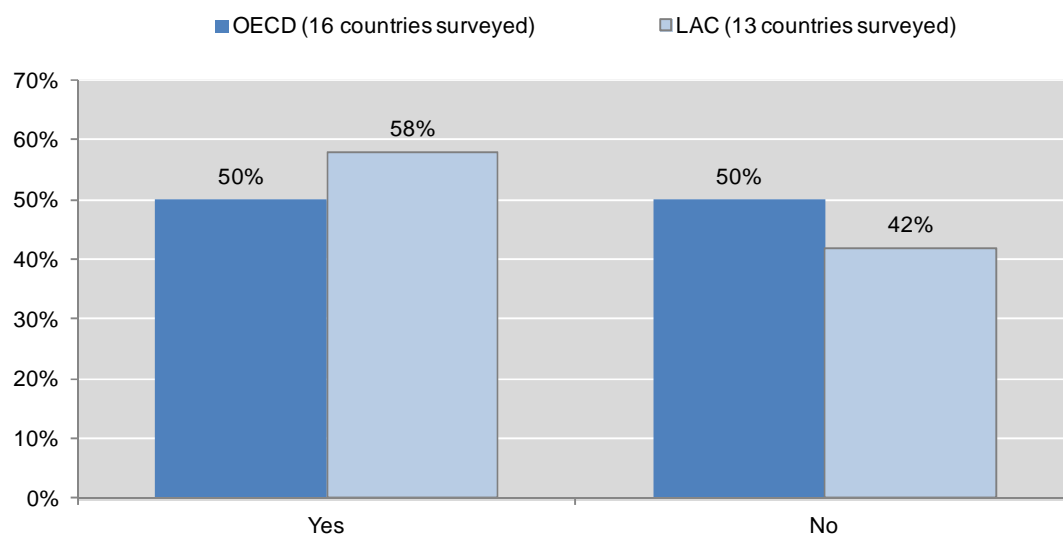
- Costa Rica's Law on Water Resources introduced river basin organisations and councils in 2000. Therefore, a basin organisation was settled in every hydrological unit to develop a regional water plan. In Nicaragua, the Law on National Waters established the creation of **regional organisations for river 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 policies 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](http://www.oecd.org/dataoecd/37/39/44689618.pdf).

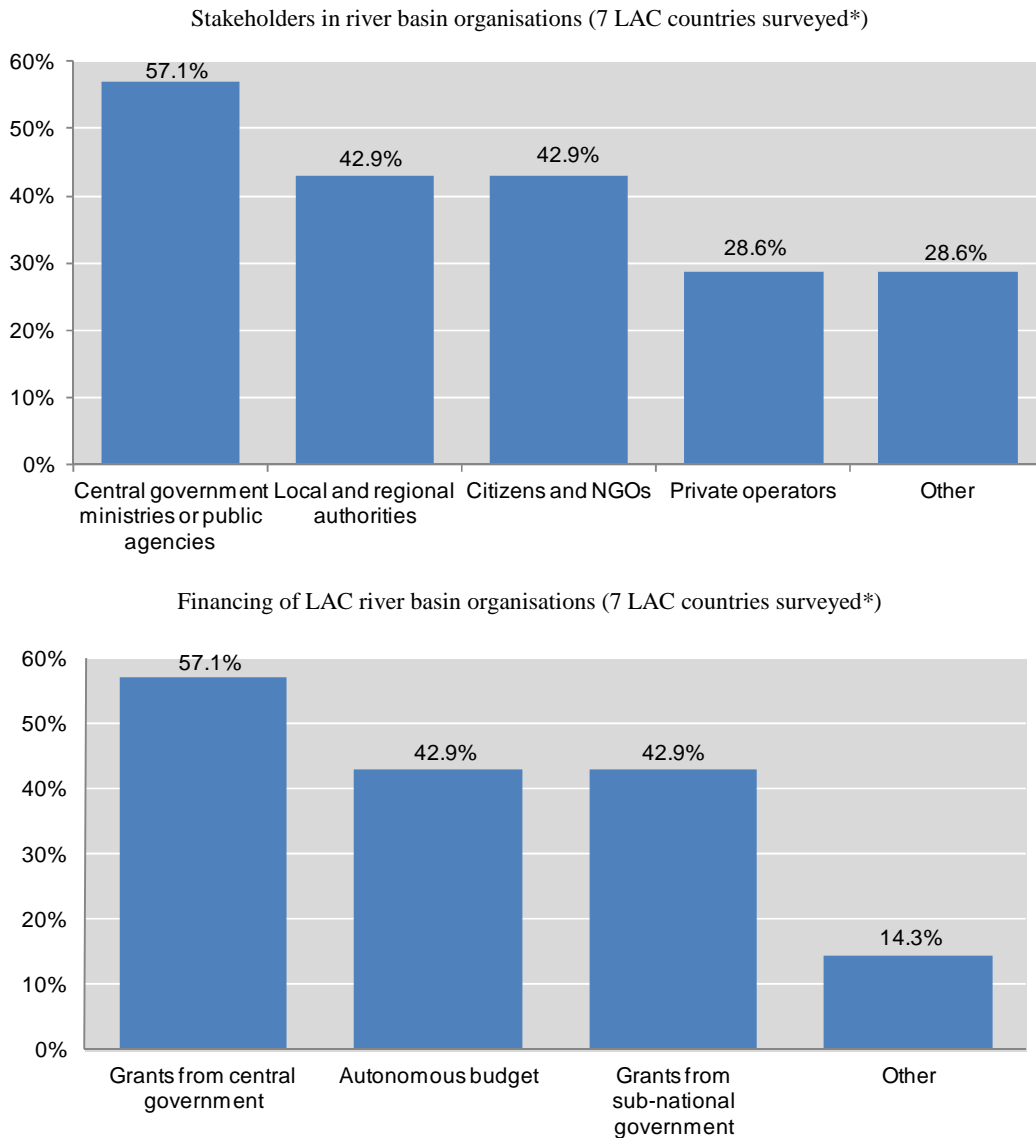
Although watershed agencies have emerged to resolve issues related to the **administrative gap**, they are often not politically meaningful to stakeholders, particularly agricultural users, whose water and land-use behaviour is so critical to water security. Watershed agencies are not without their flaws, 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](http://www.inbo-news.org/mot/latin-america?lang=en), accessed in April 2012.

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

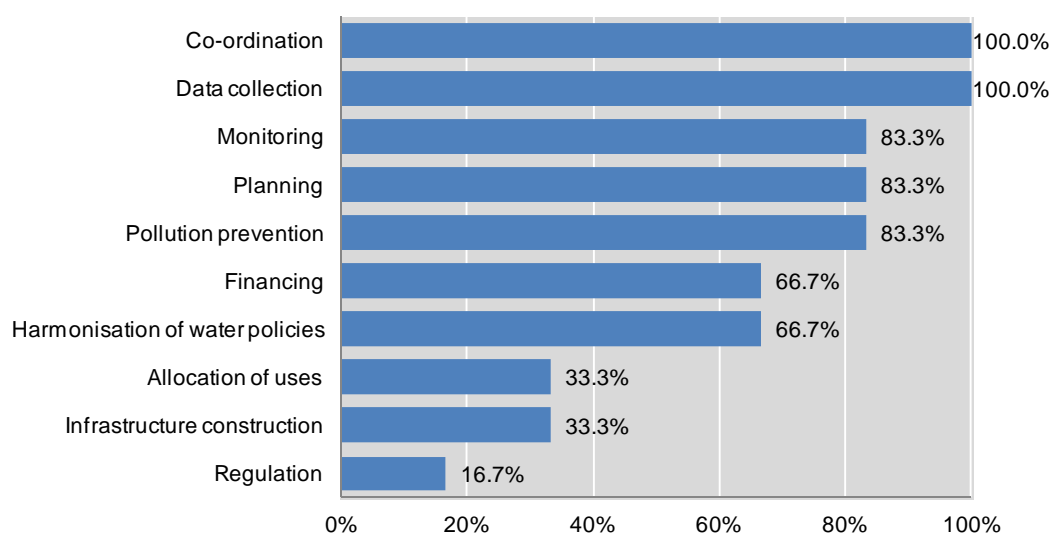
*Note:* \* On this specific aspect, only Argentina, Brazil, Cuba, El Salvador, Guatemala, Mexico and Peru answered the question.

*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](http://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\*

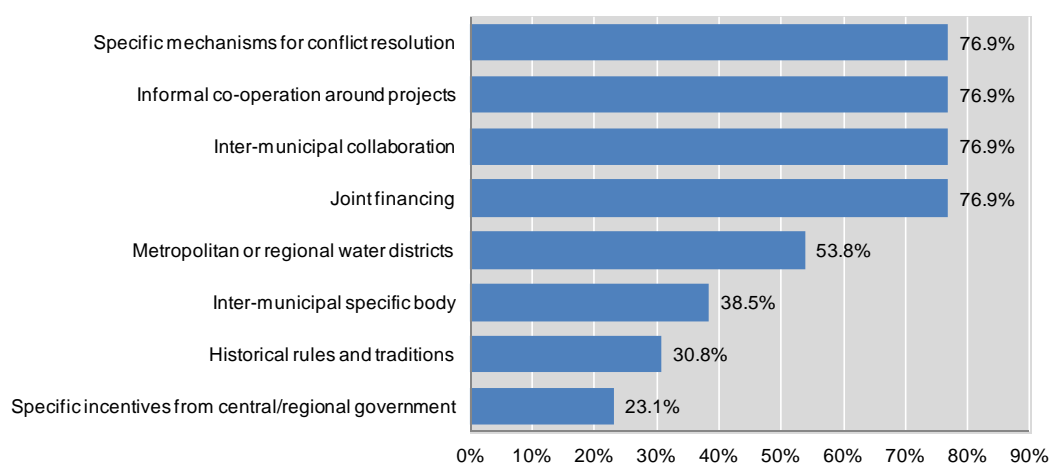


Note: \* On this specific aspect, only Argentina, Brazil, Cuba, El Salvador, Guatemala, Mexico and Peru answered the question.

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](http://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](http://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 6<sup>th</sup> 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 km<sup>2</sup> 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

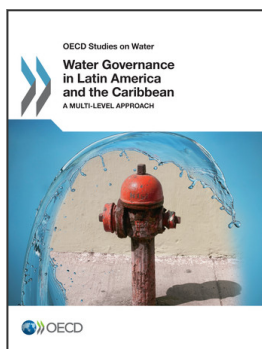
Source: Based on results from OECD (2011), “OECD Survey on Water Governance 2010-2011”, OECD, Paris, survey conducted in 2011, [www.oecd.org/dataoecd/37/39/44689618.pdf](http://www.oecd.org/dataoecd/37/39/44689618.pdf).

## Note

1. For the latest edition of *Statistics on Water in Mexico*, see [www.conagua.gob.mx/english07/publications/EAM2010Ingles\\_Baja.pdf](http://www.conagua.gob.mx/english07/publications/EAM2010Ingles_Baja.pdf).

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