# Water Governance and Regulatory Frameworks for Sustainability

**Muslim Idris[1] and Martin O. Eduvie[2]**

[1]Gap Water Resources Consultants Kano
[2]National Water Resources Institute Kaduna

## ABSTRACT

The paper discusses the critical role of governance in the effective allocation and regulation of water resources. It emphasizes that governance extends beyond government actions to include the interplay of political systems, market forces, private sector, and civil society. The paper presents the concept of Integrated Water Resources Management (IWRM) to ensure equitable, economically sound, and environmentally sustainable management of water resources. IWRM requires changes in governance frameworks, necessitating adjustments in politics, laws, regulations, and institutions. Governance is defined as the exercise of authority in managing a country's affairs, including the mechanisms, processes, and institutions through which citizens articulate interests, exercise rights, meet obligations, and mediate differences. Water governance specifically refers to the systems in place to develop and manage water resources and services at various societal levels. The paper explores the enforcement mechanisms of governance, the relationship between the state and society, and the shift from hierarchical governance to distributed governance. It discusses the impact of globalization, technological advances, and urbanization on governance structures. The paper also examined the role of market-led governance and its limitations, advocating for new forms of exchange between state and society. The paper delves into the establishment of modern governance systems, addressing the complexities of legal regulations and informal institutions. It underscores the importance of adaptive capability and enforceable sanctions to ensure effective governance. In the context of water governance, the paper outlines international goals set since the Dublin conference in 1992, emphasizing the need for effective governance to address the water crisis. It calls for countries to establish appropriate governance arrangements and accelerate water sector reforms. The paper discussed the attributes of water governance, including the need for open and transparent institutions, inclusive and communicative processes, coherent and integrative policies, and equitable and ethical frameworks. The paper concluded by highlighting the use of IWRM tools to address governance failures and the role of water utilities in governance and suggests actions to enhance water governance, such as raising political will, applying IWRM in practice, reforming water institutions, and aligning financial practices with governance goals.

**Keywords:** water governance, IWRM, water management, governance framework

## INTRODUCTION

Governance is about effectively implementing socially acceptable allocation and regulation and is thus intensely political. Governance is a more inclusive concept than government *per se*; it embraces the relationship between a society and its government. Governance generally involves mediating behaviour via values, norms, and, where possible, through laws. The concept of governance of course encompasses laws, regulations, and institutions but it also relates to government

policies and actions, to domestic activities, and to networks of influence, including international market forces, the private sector and civil society. These in turn are affected by the political systems within which they function.

National sovereignty, social values or political ideology may have a strong impact on attempts to change governance arrangements related to the water sector, as is the case for example, with land and water rights or corruption.

The goal of this paper is to present a coherent discussion of water governance and show how it relates to water management and development.

In the last few years, the concept of Integrated Water Resources Management (IWRM) has been accepted as a means to ensure equitable, economically sound, and environmentally sustainable management of water resources and provision of water services. This approach is defined by GWP as: a process which promotes the coordinated development and management of water, land, and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital eco-systems (GWP, 2000). IWRM demands a new framework within which there may be a need for significant changes in existing interactions between politics, laws, regulations, institutions, civil society, and the consumer-voter. The capacity to make these changes depends therefore on changes in governance.

As part of the dialogue on Effective Water Governance, this paper is aimed at water professionals who increasingly need to be familiar with issues of governance as they strive to work outside the water sector. Governance is much debated but is probably not familiar to the water community and thus sets out to present the thinking on governance in the water sector. It draws on current thinking by Kooiman (1993), Keohane and Ostrom (1995), Pierre (2000) and others but does not profess to be an exhaustive analysis and does not address the wider areas of 'good governance' such as democracy, electoral systems, and sovereignty. The aspects of water governance are addressed, and this covers both the management of water as a natural resource and the use of water for social or productive purposes. Ideas on how to achieve effective water governance taking account of governance both within and outside the water sector. It does not pretend to be complete; indeed, one purpose of this paper is to stimulate more practical ideas and solutions. Finally, observations on water governance that need to be considered when reforming systems and provides some examples of actions presently underway.

### *What Is Governance*

*Governance is the exercise of economic, political, and administrative authority to manage a country's affairs at all levels...it comprises the mechanisms, processes and institutions through which citizens and groups articulate their interests, exercise their legal rights, meet their obligations, and mediate their differences.* (United Nations Development Programme 2001)

*Water governance refers to 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.* (Global Water Partnership 2002)

Governance relates to the broad social system of governing, which includes, but is not restricted to, the narrower perspective of *government* as the main decision-making political entity. There is no single definition of governance and different approaches may be followed. Some may see governance as essentially preoccupied with questions of financial accountability and administrative efficiency. Others may focus on broader political concerns related to democracy, human rights, and participatory processes. There are also those who look at governance with a focus on the match and mismatch between the politico-administrative system and the ecological system or in terms of operation and management of services. Governance is already practiced in all countries and the aim is to make it more effective. To achieve more effective water governance, it is necessary to create an enabling environment, which facilitates efficient private and public sector initiatives and stakeholder involvement in articulating needs.

## Governance as an enforcement mechanism

The need for collective action, and the organization of government, stems from the realization that without collective enforcement of institutions, such as property rights, the anarchy which is likely to result would only serve to consign human life to one of nastiness, brutishness and, ultimately, short-termism. In a world inhabited by imperfect people, collective organization is required to balance the positive and negative aspects and prevent '*bad*' people from doing harm as much as enabling '*good*' people to do good (noting, of course, that the 'good' and 'bad' people may be at different times the same people). The existence of government, however, is insufficient in itself. If it is assumed that the players of the 'game of politics' are the same as their fellow human beings, in terms of being self-seeking and opportunistic, constraints are required (either electoral, constitutional, legal, or other) to ensure that the political process is not used for exploitative purposes.

## The State and society

For many years the question has been "*can the State steer society?*" Governance in the past dealt with how the State steered society and the economy through political brokerage (often determined by economic power), defining goals, fiscal measures, setting priorities, etc. In most developing countries, which typically have a strong society and a weak State, this remains the dominant model, increasing the risk of resource mismanagement and financial bad practice.

The question currently posed is "*can society co-ordinate and manage itself*?" This is the essence of *distributed governance*. It looks at co-ordination and the various forms of formal and informal types of State/society interactions and the role of civil society and policy networks.

## The real reins of power – from hierarchies to devolution

The historical context of governance varies in time and space. In Europe and North America, for example, industry and capital investment backed by a strong State have been the dominant background forces that have shaped governance systems. However, the traditional bases of political power have been eroded in the last 20 years or so and the institutional strength of the State is being challenged. Some recent changes in society have facilitated this weakening of the central State.

Some of these changes include:

- ✓ fiscal crises within the State (limitations on raising taxes);
- ✓ technological advances that facilitate networking and subsidiarity;
- ✓ the globalization process, including deregulation of financial markets and volatility of capital, which restricts the State's ability to govern/control the economy;
- ✓ a more assertive sub-national democracy in cities or semiautonomous regions;
- ✓ excessive workload and responsibilities on smaller government bureaucracies; and
- ✓ large concentrations of people and political power in urban areas.

***Market-led governance*:** With the end of the Cold War in the closing decades of the 20th Century, *the market* was proposed by many in the western countries as the solution to economic growth, social equity, and environmental problems. This led to deregulation and more involvement of the private sector and a changed role for the civil service and civil society. This institutional restructuring of the State aimed to reduce government command and control functions with more individualism (fewer collective solutions) and *private enterprise and the market* as the superior resource allocation mechanisms. This *market-led* governance model is the immediate background in which we now examine governance with respect to water resources management and the delivery of water services.

Today the honeymoon with the *laissez-faire* market-led model is over and hard questions are being asked. It is considered by many to be too simplistic (hierarchies may not work well but markets do not necessarily work well either in all situations) and not representative of wider societal values. More people are examining what new instruments and new forms of exchange between State and society can be developed to ensure political control and societal support. From this examination, propositions for management in partnership, co-management and governance, and distributed governance, have developed.

**Establishing modern governance systems**

Modern governance can be about how to maintain some "*steering* "capacity in a world full of external (and internal) societal independence. Establishing national legal regulations (the rules of the game) becomes increasingly complex as society becomes full of *informal* institutions. This leads to a proliferation of rules that can undermine the rule of law as a result of the scale, complexity and cost of the legal system itself and its inability to enforce laws. In many developing countries *extra-legal* informal activities flourish as the only alternative to the stultifying State bureaucracies (de Soto, 2000).

## *THE GOVERNANCE OF WATER*

Since the Dublin conference in 1992, significant international goals have been set that relate to water governance. At the 2000 World Water Forum in The Hague, the GWP Framework for Action (GWP, 2000) stated that *the water crisis is often a crisis of governance* and identified making water governance effective as one of the highest priorities for action. The 2000 Hague Ministerial Declaration reinforced this view and called for *governing water wisely to ensure good governance, so that the involvement of the public and the interests of all stakeholders are included in the management of water resources*. At the Bonn 2001 Freshwater Conference the ministers recommended action in three areas, with water governance as the most important. They proposed that *each country should have in place applicable arrangements for the governance of water affairs at all levels and, where appropriate, accelerate water sector reforms*. The UN 2000 Millennium Assembly emphasized conservation and stewardship in protecting

our common environment and especially *to stop the unsustainable exploitation of water resources, by developing water management strategies at the regional, national, and local levels, which promote both equitable access and adequate supplies*. This was endorsed at the World Summit on Sustainable Development in 2002 where Heads of State agreed a specific target *to prepare IWRM and water efficiency plans by 2005*. To be meaningful these plans will need to take cognisance of prevailing governance systems and allow for necessary reforms.

## What is water governance about?

The term "water governance" needs to be carefully defined, as it may not be readily understood. It is also important to identify the attributes that make water governance "effective". The Global Water Partnership defines water governance as follows:

*Water governance refers to 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.*

The notion of governance for water includes the ability to design public policies and institutional frameworks that are socially accepted and mobilise social resources in support of them. Water policy *and the process for its formulation* must have as its goal the sustainable development of water resources, and to make its implementation effective, the key actors/stakeholders must be involved in the process. Governance aspects overlap with technical and economic aspects of water, but governance points us to the political and administrative elements of solving a problem or exploiting an opportunity. Governance of water is a subset of the more general issue of the creation of a nation's physical and institutional infrastructure and of the still more general issue of social cooperation.

Water governance is concerned with those political, social, and economic organisations and institutions (and their relationships), which are important for water development and management. Given the complexities of water use within society, developing, allocating and managing it *equitably* and *efficiently* and *ensuring environmental* sustainability requires that the disparate voices are heard and respected in decisions over common waters and use of scarce financial and human resources. Water governance is concerned with the functions, balances, and structures internal to the water sector (*internal governance*). It includes the framing of social agreements on property rights and the structure to administer and enforce them known as the law. Influences also come from civil society and from the "current" government and these are considered parts of the *external governance* of water, which will be discussed later. Although issues can arise for water governance from the economic and technical spheres, in most countries the driving force is *politics*. Effective governance of water resources and water service delivery will require the combined commitment of government and various groups in civil society, particularly at local/community levels, as well as the private sector.

## Water governance principles and legal bases

The Dublin Water Principles bring water resources firmly under the State's function of clarifying and maintaining a system of property rights, and, through the principle of participatory management, asserts the relevance of meaningful decentralization at the lowest appropriate level. There is increasing pressure to recognize and formalize water rights, and this is happening in many countries. Formalizing rights raises complex questions about the plurality of claims and the balancing of

the distribution of benefits among the social groups. It also imposes responsibilities including in particular that of pollution prevention and financial sustainability. The process of formalization is often biased in favour of the rich and powerful who may abuse the system and capture rights. Informal 'rights', as defined locally with their historical rules and principles, are equally important and improper formalization may lead to conflict between the formal and traditional. The formalization of rights may be unnecessary or insufficient to secure access to water resources. The capacity to defend rights against competing claimants is essential for the rights to be meaningful, whether they are formal or informal. An important matter to clarify is to what extent the processes of devolving water rights serve segments of a population, or its entirety.

**Water law varies widely**

The theoretical bases of governance regarding water are a subset of theories of collective behaviour. Unfortunately, no one simple theory explains every situation. There is often a marked difference between the philosophical Continental European and Latin American approaches and the pragmatic US-Anglo Saxon schools of thought. A relatively clear original demarcation of property rights and experimentation with these rights over time has led the US to flexible approaches to water governance. This approach allows for adjustments when economic and social conditions change because it does not aspire to build institutions that cover all possible eventualities. There are also systems that are hybrids of the Civil law (philosophical, descended from Roman law) and Common law (pragmatic, from Britain) approaches, as well as systems with other ancient roots, such as those of the pre-Colombian Americas, India, and Islamic countries.

There are also systems of social rights and responsibilities that remain traditional and uncodified and are not necessarily less strong because they are manifested in cultural expectations rather than written rules. A social perception of equitable sharing is important to governance. The notion of flexibility and equitable sharing is, however, alien to many countries whose governance systems are rigid and do not allow for '*reasonableness*'. Adaptive capability is often not present and without enforceable sanctions, poor governance systems favour the strong. This makes it very difficult and even dangerous to translate practices based on flexibility and pragmatism into many developing country governance environments, *unless the prevailing social system can provide adequate sanction against miscreants* (Sloane's, 2002).

**Water law is about property rights**

The State has an important role to play through its core function of defining property and use rights and responsibilities. In modern pluralistic democratic societies, the foundation of the State rests upon the publicisation (the term for the shift from the private to the public sphere) of the costly monitoring and policing needed to protect productive assets from being redistributed to intruding claimants. Without this policing, called the law, systems of property would never have advanced beyond appropriative behaviour backed by force. Discussions of water rights usually focus upon the rights of the property right holder and ignore the contingent responsibilities which that holder has with regard to others in society who do not share the rights. These obligations need to be stressed in any discussion of governance. Also, any discussion on water rights must take account of land use and land ownership as they are often closely linked, sometimes formally through riparian rights, and land owners can affect water through land use changes such as reforestation.

Examples of different property rights regimes, with their associated rights and obligations, include:

### *Open Access*

Open access is a regime where no defined group of users or owners are identified, and the benefits are available to anyone. Individuals have both privilege (the ability to act without regard to the interests of others) and no right (the incapacity to affect the actions of others) with respect to usage and maintenance of the asset.

### *Common Property*

A management group has been defined and the group has a right to exclude non-members and define the rules of appropriation. Non-members have a duty to abide by the rules. Individual members of the management group have both rights and duties with respect to usage and maintenance of the property and thus hold rights to manage the resource.

### *Private Property*

Individuals own the resource and have the right to exclude others and transfer rights. They have a duty to refrain from socially unacceptable uses. Others (non-owners) have a duty to respect decisions by the owners and expect that only socially acceptable uses will occur.

### *State Property*

Water is vested in the State – acting for citizens – individuals have a duty to observe use and access rules determined by the controlling agency of the State.

Water resources may start within an *open access* regime but is often appropriated by a group and becomes a *common property* resource. When individuals or groups of individuals share water resources as a common property resource, people are connected in a socio-political, economic, and ecological sense (Ostrom, 1999). In a common pool, actions influence those sharing the resource regardless of the property regime under which the resource is held and from this perspective its governance is distributed.

To control the resource the State tends to appropriate most of the rights from the common property group to create *State property* with a lesser amount owned privately. The State is then faced with the responsibility of how to deploy the resource to the national advantage. A key to water governance at the beginning of the 21st century is how, through politics, the State can achieve this fairly and equitably, without reducing incentives for efficient use of the resource.

## Water information networks, consultation, and policy reform

As mentioned earlier, one of the key tasks of governance is to create a framework (institutional and administrative) within which strangers or people with different interests can peacefully discuss and agree to cooperate and co-ordinate their actions. This framework should also reduce the transaction costs of pursuing effective water management. Therefore, information networks (or partnerships) are important and may function in conditions where other governing structures do not. Information networks work best when the following conditions apply and combine (Pierre, 2000):

- Actors need reliable information;
- Quality is difficult to define and measure;
- Commodity is difficult to price;
- Professional discretion and expertise are core values;
- Flexibility to meet localized and varied service demands is needed.
- Cross-sector multi-agency co-operation and production are required;
- Co-operation confronts disparate organizational cultures.
- Actors perceive the value of co-operative strategies;

- Long-term relationships are needed to reduce uncertainty;
- Monitoring and evaluation incur high political and administrative costs; and
- Implementation involves haggling.

Water fits almost all of these conditions and provides a good example of where human networks of concerned groups (for example, government, private sector, and civil society) may work better than either hierarchies or markets alone. Markets represent an important network highly dependent on information.

When proposing changes to water governance systems, it is important to understand and distinguish between the different functional levels in water management: operational, organizational, and constitutional. The first focuses on the use or control of water for specific purposes to fulfil specific needs. There are always a plethora of operational enterprises covering domestic water supply, wastewater treatment, hydropower, irrigation, environmental management, tourism, etc and they can be in public or private hands. The organizational level co-ordinates and reduces conflict between these competing enterprises, administers the rules and polices water use and the users in a water system. This function resides within the public sector – and includes for example river basin authorities and regulatory bodies – the latter should be autonomous (within constitutional boundaries) if they are to act impartially. Finally, the constitutional function creates the enabling environment within which the other functions operate. It sets the policies and legislation, taking into account external governance and political imperatives. In many countries such functions are unclear and often governments may be unable or unwilling to exercise their responsibilities. In this case ad hoc arrangements at local government or community level are often established. These are vulnerable as they may lack any formal basis and can be adversely affected by vested interests or by central government policies and laws. A participatory and consultative approach when reforming water governance systems can help to strengthen local government and bring the positive aspects of such arrangements into the formal system and reduce vulnerability.

**New forms of water governance**

Hydro-geographical boundaries – the river basin – often provide opportunities for modern governance networks. A basin is a closed region where there are incentives for people to come to an agreement on governance systems with water as the focus. Although basins cut across formal jurisdictional boundaries and thus local government and other government entities which do not necessarily work together, the basin society (a river basin agency or commission) could require them to do so. The basin society may thus have specific governing capacities and needs. National governments acting alone cannot easily allocate and regulate water in a basin, as they are unlikely to appreciate local interests or priorities. Government should, however, provide the rules and regulations and establish a framework for local people to meet. (For example, the basin community has a spatial footprint such as in the Catchment Management Agencies in South Africa and the River Basin Agencies in France). Regulation within a basin must address issues of quality as well as allocate quantity to users. Regulation of other sectoral users such as agriculture and industry is very weak. Preventing pollution from agricultural water use (salinity, nitrates in groundwater) and from industries such as tanneries and mining is becoming increasingly important. In Pakistan, the recently gazetted Sindh water management ordinance recognizes the need to regulate irrigated agriculture. Catchment planning and management, combining land and water use, is a means to regulate at the basin level but hitherto the tools have not been

readily available to make this practical. New approaches, as found for example in the EU Water Framework Directive and the Streamflow Reduction Strategies in South Africa, are now starting to incorporate this into governance systems.

Water laws and regulation of water utilities are key instruments that have been discussed at length and provide many examples of weak governance. The introduction of laws and their implementation is a political process that relates to political polarization of society. Good legal and institutional instruments in one country may not work in others, as a result of a weak or inappropriate external governance system. For example, the flexible, pragmatic approach common to the USA does not suit the cultural environment in most developing countries. A common problem is that of weak regulation of utility providers. For example, when strong private water utility owners negotiate provisions that jeopardize benefits to the public (such as extravagant guaranteed returns, fixed exchange rates and interest rates, etc) it can lead to disillusion with private sector involvement in service deliveries. Similarly, public utility owners are often manipulated by governments and can be job havens or cash cows leaving them weak and underfunded with poor services for the public. Strong regulation is thus essential for both public and private utilities with a clear definition of the respective duties of the regulator and operator.

**Lower water use, lower conflict levels**

It is obvious that the water crises are due to an increase in demand and reducing that demand would help greatly even though there would still be problems of existing levels of resource conflicts and environmental degradation. Demand for water can be reduced voluntarily by using many different technical, social, and economic tools. Essentially, this means that the consumer will change his or her consumption preferences. Regulatory instruments involving permits, restrictions, and allocations to various users and uses can also reduce water demand. For example, total water demand in the USA has declined from a high in 1980, despite large increases in wealth and population. This means that maintaining aquatic environmental quality is getting progressively easier. In this case direct water pricing policies have not brought about this decline. It appears to be largely due to external factors such as higher energy costs and mandated energy efficiency improvements to domestic and commercial water appliances and decline in the value of irrigated crops. Specific water policy measures such as effluent limitations on wastewater discharges and enforcement of federal in-stream water requirements for ecosystem maintenance have also had a significant impact. It is worth noting how well-informed public pressure acted as a driver for policy change and technological innovation to achieve water savings. Each person reduced his or her water use, and overall, this has made a big difference in water availability in USA.

An important matter is the extent to which the processes of publicization and devolution of water rights serve segments of a population, or its entirety. The issue of Private Sector Participation (PSP) for water services has recently become a contentious issue. From a governance point of view, however, the nature of the supplier is less relevant than the nature of the protection of consumers. Both public and private suppliers, through their mandates, pricing policies and supply norms, can either include or exclude the poorer section of the population. For example, cross-subsidy, if used judiciously, is a useful tool commonly used throughout the world to benefit the poor without adverse impacts on others or on the economy.

The politics of water governance are typically the sociological and economic factors (structures, institutions, etc) that lie outside the provision of water and reflect the more general political make-up of the

country, the water institution's setting. For a water resources manager or water service provider politics is certainly part of his or her governance domain but is usually not considered directly relevant to their actions.
country, the water institution's setting. For a water resources manager or water service provider politics is certainly part of his or her governance domain but is usually not considered directly relevant to their actions.

**Governance failures**

An underlying theme of social science literature is that all governing structures '*fail*', and all markets and hierarchies have their limitations and also '*fail*'. More effective governance regimes or systems need to be designed/created to overcome *government failure, market failure* and *system failure* or a combination of these. For example, water is not a simple economic good; it is sometimes a public good, sometimes a private good and often lies somewhere in-between. Its development can lead to natural monopolies, and it presents major economic and physical side effects or externalities.

Governance failures are listed in Table 1 They are inherent in most countries and have to be addressed. The Global Water Partnership has prepared a Toolbox for IWRM (GWP, 2001) that includes a range of instruments that can be used to address governance failures. Institutional and communication gaps are likely to be the most difficult. An empirical examination of how to overcome the problems caused by market, government and system failures is essential for each specific setting if effective water governance is to be achieved. There are failures that cannot be easily addressed by water sector professionals as they lie outside the water domain: for example, national institutional structures that impede political vision, poor mechanisms for inter-sectoral dialogue, coping with unpriced assets and public goods such as flood control and drought management. The water community nevertheless needs to understand such external governance constraints and engage with non-water organizations to seek solutions.

**Table 1: IWRM Tools Addressing Governance Failures**

| Governance failures | IWRM tools |
|---|---|
| • Failure to correct market distortions<br>• Inappropriate price regulation<br>• Perverse subsidies to resource users | Policies<br>Economic instruments<br>Financing and incentive structures and polluters |
| • Inappropriate tax incentives and credits<br>• The existence of upstream downstream externalities (environmental, economic, and social) | |
| • Over-regulation or under-regulation<br>• Conflicting regulatory regimes<br>• No independence and impartiality of the organisms of regulation<br>• Provision of water services are natural monopolies | Regulatory instruments<br>Institutional capacity building |

| | |
|---|---|
| • Imprecise reflection of consumer preferences systems<br>• Short-sightedness<br>• Voter ignorance and imperfect information<br>• Special interest effects, including political weaknesses and vested interests | Information management<br>Water campaigns and awareness raising |
| • Little entrepreneurial incentives for internal efficiency | Role of the private sector |
| • The inability of the government to control and regulate the sustainable use of water<br>• The non-payment of services linked to water<br>• Bureaucratic obstacles or inertia<br>• Lack of an overall responsible authority | Institutional roles<br>Social change instruments |
| • The lack of effective knowledge of the resource, the demands imposed on the it and the current uses that are made of it | Water resource assessment<br>Plans for IWRM |
| • Ill-defined property rights, unclear ownership<br>• Absence of or inappropriate legislation<br>• Unclear ownership of property rights | Legislation<br>Water rights |
| • Ignorance and uncertainty about water markets, droughts, floods, etc, leading to inability to set prices correctly | Water resource assessment risk assessment and management |

**Governance external to the water sector**

Water governance can draw strength from existing governance structures in other sectors in the country, for example through the stabilization of property rights, broad rules, and laws. Certain more general Californian State laws for example, aided the creation of Californian groundwater basins. The end of apartheid in South Africa facilitated significant changes to water laws and the accession of Eastern European countries to the European Union has acted as a spur to improved water governance. Conversely, if the service provider succeeds, it can also validate and strengthen the politics that made it possible. There are several examples of water governance influencing external governance. The best known of these is perhaps the co-operative water development in The Netherlands in the early part of the 20th century which was an important part of nation building for the modern Dutch welfare state.

It is not surprising that water service providers feel the impact of external governance on their own internal governance. It is not uncommon for services to be paralyzed by political interference and conflict. Indeed, external governance may prevent new forms of service provision coming into existence, either through ignorance or vested interests. In extreme circumstances this has even extended to the involvement of organized crime in undermining public water supply providers. Many interventions from the external governance sphere could be constraining, but others could be supportive, integrative, and helpful in the longer run. This perspective on governance tells us that political capital developed entirely outside the water sector can be brought to bear

within water affairs, for the good or for the ill of the service provider or resource manager. Therefore, a favourable or at least neutral external setting is critical for the success of a water service provider.

Water governance traditionally begins from the social and economic policies set by government. However, with the growing liberalization of trade, water services are becoming increasingly affected by international trade agreements. Often such trade agreements are negotiated by Trade Ministry officials who know little about water and may not necessarily consult water officials. Recent concern has been expressed by some NGOs about the inclusion of water services in the General Agreement on Trade and Services (GATS) (World Development Movement, 2002). Whilst liberalization of such services may be beneficial in raising foreign direct investment, countries need to take care in negotiating the rules under the GATS. Government negotiators can place limitations on the commitments it makes in a specific service sector thus restricting the application of GATS rules, but this is a complex issue and often developing country negotiators are in a weak position in such negotiations.

Of particular concern is the conflict between promoting trade and protecting the regulatory rights of national government. It is accepted by all that the ability of government to regulate water services providers is essential for effective private or public sector provision of water services, but the government's right to regulate may be restricted under GATS. Apart from GATS other trade agreements, such as NAFTA, can affect water. For example, the negotiations recently started on the Doha Round of talks on agricultural trade liberalization could affect water use for food production. Similarly, debt repayments and HIPC (Highly Indebted Poor Countries) agreements may skew a government's ability to allocate budgetary provisions for water services.

## ACHIEVING EFFECTIVE WATER GOVERNANCE

Judith Tendler (1997) noted that we know a lot more about what constitutes *bad government* than we do about achieving good government. Her case studies tend to question some conventional nostrums and preconceptions of how governance should be and drive us back to a close functional analysis of each individual case. Keohane and Ostrom (1995) provide empirical examples of water governance from the USA, Indonesia, Nepal, Mexico, Peru, Philippines, and Sri Lanka. Maass and Anderson (1978) provide in-depth analyses of the development of the governance of irrigation since the 15th century in Valencia, Murcia, and Alicante in Spain. In all of these empirical studies the authors found strong evidence to support the notion that, despite a wide range of property rights regimes, user groups could develop into sustainable institutions over many years (centuries in the case of the Spanish irrigation property rights sharing systems). Essentially, there is a possibility of identifying a level of centralization and decentralization and regulation to produce effective water governance. Whilst empirical evidence suggests there can be no dogmatic solutions, it would be helpful to establish some universal attributes that make water governance effective in practice.

### New ideas about water governance

There is a growing perception that the governance of water resources and water services functions more effectively with an open social structure which enables broader participation by civil society, private enterprises and the media, all networking to support and influence government. Moreover, examining the role of networks or distributed governance helps to overcome the sterile debate about private versus public water service delivery and the role of the community. The goal of creating a proper governance system gives the debate a more practical focus. The role of

civil society and NGOs in water management and service delivery also becomes clearer as government regulation facilitates local self-governance.

It is important that in designing effective governance systems transaction costs are not unduly increased and action is not stifled. There will always be trade-offs and it is important to get the right balance for each situation rather than seeking the ideal system. In the developed north, governance systems are often unwieldy and can frustrate development, but the mature nature of society demands this level of governance. In poorer countries governance systems must not impose too many restrictions on action otherwise economic growth and the provision of basic needs for the poor will be impeded. Too often, well-meaning demands to improve governance can be a brake on development. The economic and social transaction costs of governance may be quite large, and care should be taken to ensure that they are within reason, and they should be carefully monitored.

There is no single model of effective water governance; indeed, to be effective governance systems must fit the social, economic, and cultural particularities of each country. Nevertheless, there are some basic principles or attributes that are considered essential for effective water governance:

**Principles for effective water governance *Approaches***

***Open and transparent:***

Institutions should work in an open manner. They should use language that is accessible and understandable for the general public to increase confidence in complex institutions. In addition to being open, good governance requires that all policy decisions are transparent so that both insiders and outsiders can easily follow the steps taken in the policy formulation. This is particularly important with regard to financial transactions.

***Inclusive and communicative:***

The quality, relevance and effectiveness of government policies depend on ensuring wide participation throughout the policy chain – from conception to implementation. Improved participation is likely to create more confidence in the end result and in the institutions that deliver policies. Participation crucially depends on all levels of government following an inclusive approach when developing and implementing policies. Broad participation is built on social mobilization and freedom of association and speech, as well as capacities to participate constructively. Transparency and accountability are built on the free flow of information. Governance institutions and systems need to communicate among the actors and stakeholders in very direct ways. Correctly done, this will lead civil society to be socialized into governance over a wide range of issues.

***Coherent and integrative:***

Policies and action must be coherent. The need for harmony and coherence in governance is increasing as the range of tasks has grown and become more diverse. Challenges such as climate and demographic change cross the boundaries of the sectoral policies on which the government has been built. Coherence requires political leadership and a strong responsibility on the part of the institutions at different levels to ensure a consistent approach within a complex system. Water governance should enhance the effectiveness of Integrated Water Resources Management (IWRM). The institutions will have to consider all uses and users within the traditional water sector and also their interconnections with and impacts upon all other potential users and sectors.

***Equitable and ethical:***

All men and women should have opportunities to improve or maintain their well-being. Equity between and among the various interest groups, stakeholders, and consumer-voters needs to carefully be monitored throughout the process of policy development and implementation. It is essential that the penalties for malfeasance are, and are seen to be, equitably applied. Above all, water governance has to be strongly based upon the ethical principles of the society in which it functions and based on the rule of law. This manifests itself most strongly in the issue of justice, property rights for use, access, and ownership of water. Legal and regulatory frameworks should be fair and enforced impartially.

***Performance and operation***

**Accountable:**

Roles in the legislative and executive processes need to be clear. Each institution must explain and take responsibility for what it does. But there is also a need for greater clarity and responsibility from all those involved in developing and implementing policy at any level. The "rules of the game" need to be clearly spelled out, as should the consequences for violation of the rules, and have built-in arbitration enforcing mechanisms to ensure that satisfactory solutions can still be reached when seemingly irreconcilable conflicts arise among the stakeholders. Decision-makers in government, the private sector and civil society organizations are accountable to the public, as well as to institutional stakeholders. This accountability differs depending on the organization and whether the decision is internal or external to an organization.

***Efficient:***

Classical economic theory demands efficiency in terms of economic efficiency, but there are also concepts of political, social, and environmental efficiency which need to be balanced against simple economic efficiency. It is also essential that governance systems do not impede action, for example, minimizing transaction costs will go a long way toward political and economic efficiency.

***Responsive and sustainable:***

Policies must deliver what is needed on the basis of demand, clear objectives, an evaluation of future impact and, where available, of past experience. Responsiveness also requires policies to be implemented in a proportionate manner and decisions to be taken at the most appropriate level. Most importantly, the policies should be incentive-based. This will ensure that there is a clear social or economic gain to be achieved by following the policy. The institutions should also be built with an eye toward long-term sustainability. Water governance must serve future as well as present users of water services.

**Using Integrated Water Resources Management (IWRM) tools**

The IWRM approach eschews politics and the traditional fragmented and sectoral approach to water and makes a clear distinction between resource management and the water service delivery functions. It should be borne in mind, however, that IWRM is itself a political process, because it deals with reallocating water, the allocation of financial resources, and the implementation of environmental goals. There is a general agreement in the water community that IWRM provides the only viable way forward for sustainable water use and management although there are no universal solutions or blueprints and there is much debate on how to put the process into practice. Moreover, IWRM is not applied in a vacuum and the broader picture, as described by governance, provides the context in which the IWRM approach can be applied. The political context, however, affects political will and also political feasibility. Much more work remains to be

done to establish effective water governance regimes that will enable IWRM to be applied. This pertains to both the management of water resources and the delivery of water services.

To establish effective water governance systems and put IWRM into practice there is a range of tools available to policy makers and practitioners as described in a large range of literature. The GWP *Toolbox for Integrated Water Resources Management* (GWP, 2001) brings together an array of over fifty tools and references that can be used by practitioners to overcome governance failures (see Table 1) and it is supported by experiences from around the world. Different countries will need to identify which management tools or instruments are most important and appropriate given their specific circumstances. To illustrate some important governance messages addressed by the Toolbox three case studies are summarized below.

**Governance and water utilities**

Over 90% of domestic water and wastewater services world-wide are provided by the public sector and this is likely to remain the case. Often the services provided are adequate but, in some cases, they are poor and inadequate finance is available to secure good quality services through the public sector. The introduction of private utility companies to provide domestic water services has raised considerable concern with some NGOs, public sector unions and others. Too often the debate is ideological and misses the point. All parties accept that business should not own or control fresh water (WBCSD, 2002), however, business can take on responsibility for management of services and even build and own infrastructure under government supervision and regulation talk of 'privatisation of water' is thus misleading and can be mischievous. The private sector has taken over responsibility for the management of services from weak, poorly funded public utilities in several large cities in developed and developing countries. The results have been mixed, but usually showing good economic outcomes and improved distribution to a wider group of citizens. However, one lesson is clear, without the necessary governance framework for regulation, water utilities, whether publicly or privately supplied, will remain inefficient. Too often the performance of the utility operator is overshadowed by the poor governance structures that exist in society. In particular, the public sector operator must work more transparently for the benefit of the consumer and not for the workers or bureaucracy. The process for appointing private operators has to be transparent and governments need to get the support of the user-consumer.

The involvement of the private sector in Latin America has had mixed results with some clear success in extending service coverage and quality (Rogers, 2002). However, there are difficulties that have to be overcome. In Cochabamba, Bolivia (Finnegan, 2002), for example, unrealistic objectives, inadequate consultation, corruption, poor contracts, and the lack of transparency resulted in a fiasco that has put back the provision of services and probably condemned the local people to a continuing saga of inadequate water services possibly for decades. This was a governance failure, and similar failures are common throughout the developing world whether the service provider is public or private. The introduction of private operators needs to be carried out by taking account of the attributes for effective water governance (as given above). Some general principles for good utilities governance include:

- Extensive social and parliamentary debate to reach consensus on private sector participation;

- Design of an adequate system of subsidies to ensure the needs of the poor are satisfied;
- Economic assessment of long-term affordability of privatised services, including the impacts that any government guarantees, for example on exchange rates, would eventually have on the efficiency of purveyors and on public deficits.
- Incorporation to the extent possible of effective competition;
- Design to take maximum advantages of economies of scale and scope;
- Assurance of reasonable rates and returns, transferring efficiency gains to the consumers;
- Control of price changes;
- Provision of timely and adequate information to consumers and regulators, including state of the art regulatory accounting;
- Provision of opportunities for meaningful and opportune users' participation;
- Setting up independent and capable regulatory bodies;
- Design of conflict-solving mechanisms that ensure social, environmental, and economic factors relevant to governance are adequately considered when adjudicating conflicts.

It is also critical that before considering foreign private sector operators governments take account of any international trade agreements that may affect contractual relations between the parties (see section 2).

***Principles on Water Governance***

Effective, efficient, and inclusive water governance seeks to enhance water security and ensure access to safe drinking water and sanitation for all, while responding to environmental, economic, and social objectives. Assessing the performance of water governance systems can help identify gaps and priorities, needs and responses, with the ultimate goal of delivering better water policies for better lives.

**An indicator framework to facilitate the assessment of the governance system:**

The Water Governance Indicator Framework provides a tool to collectively appraise the state of play of water governance policy frameworks (what), institutions (who) and instruments (how), and their needed improvements over time. It is applicable at different scales (city, basin, national or other) and for different water management functions (water resources, water services, water disasters). The framework is composed of a traffic light system based on 36 input and process indicators and a checklist with questions on a number of more specific governance conditions. It concludes with an action plan to prepare and prioritise actions over the short, medium, and long run.

**50+ practices to foster learning:**

The evolving water governance practices help policy makers, practitioners and other stakeholders learn from each other and identify pitfalls to avoid when designing and implementing water policies.

***The principles are clustered around three main dimensions:***

- **Effectiveness of water governance** relates to the contribution of governance to defining clear sustainable water policy goals and targets at different levels of government, to implement those policy goals,

and to meet expected objectives or targets.

- **Efficiency of water governance** relates to the contribution of governance to maximizing the benefits of sustainable water management and welfare at the least cost to society.
- **Trust and engagement in water governance** relate to the contribution of governance to building public confidence and ensuring inclusiveness of stakeholders through democratic legitimacy and fairness for society at large.

*Governance Indicator Framework*

**Foster dialogue at local, basin, regional and national levels.**

The indicators can promote discussion and build consensus across a range of public authorities and stakeholders on the strengths and weaknesses of water governance systems, as well as the ways forward to better manage too much, too little, and too polluted water now and in the future.

**Promote inclusiveness across stakeholders.**

This can be achieved through in-depth consultations with public and private institutions and civil society on who can do what to improve water governance as a shared responsibility.

**Stimulate transparency in the performance of water-related institutions.**

Indicators can reduce information gaps and lead to greater accountability of governments and stakeholders in how they deliver intended outcomes, while shedding light on whether institutional and regulatory arrangements are fit-for- purpose and fit-for-the future.

**Increase awareness** on specific issues, shortcomings and pitfalls that would otherwise not receive the same attention to guide policy reform or adjustment. They can also enhance data production and collection, as well as promote capacity development.

**Trigger actions to bridge water governance gaps.**

Indicators can inform policy makers on the performance of systems in place in order to redefine policy priorities. Within the context of the global agenda, they can also support countries in achieving the Sustainable Development Goal (SDG) 6 and other water-related targets, by shedding light on institutional implementation capacity and related improvements.

**PRINCIPLE 1. Clear roles and responsibilities**

Clearly allocate and distinguish roles and responsibilities for water policy making, policy implementation, operational management and regulation, and foster co-ordination across these responsible authorities. To that effect, legal and institutional frameworks should:

- Specify the allocation of roles and responsibilities, across all levels of government and water-related institutions in regard to water:
  - policy making, especially priority setting and strategic planning
  - policy implementation, especially financing and budgeting, data and information, stakeholder engagement, capacity development and evaluation
  - operational management, especially service delivery, infrastructure operation and investment

- regulation and enforcement, especially tariff setting, standards, licensing, monitoring and supervision, control and audit, and conflict management.

- Help identify and address gaps, overlaps and conflicts of interest through effective coordination at and across all levels of government.

| | | |
|---|---|---|
| **What** | Existence and level of implementation of a water law. | This indicator helps evaluate the existence and level of implementation of a water law, either at national or subnational level depending on the institutional feature of your country (unitary or federal). The law should clearly assign and distinguish water-related roles and responsibilities for policy making (especially priority setting and strategic planning). |
| **Who** | Existence and functioning of ministry, line ministry, central agency with core water-related responsibilities for policy making. | This indicator seeks to appraise the existence and functioning of institutions in charge of setting water-related policy goals and strategies and delivering them; these can be at national or subnational level depending on the scale of the assessment and the institutional feature of the country (unitary, federal). |
| **How** | Existence and implementation of mechanisms to review roles and responsibilities, to diagnose gaps and adjust when need be. | This indicator seeks to appraise the existence and level of implementation of mechanisms that can help identify areas of water management where there is little clarity on who does what; areas with incoherent and/or contradictory objectives; areas with deficient implementation and/or limited enforcement; and/or areas with overlaps/duplication of responsibilities. They can take the form of analytical reports, regulatory impact assessments, regulatory reviews, or open stakeholder consultations. |

***PRINCIPLE 2. Appropriate scales within basin systems***

Manage water at the appropriate scale(s) within integrated basin governance systems to reflect local conditions, and foster co-ordination between the different scales.

To that effect, water management practices and tools should:

- Respond to long-term environmental, economic, and social objectives with a view to making the best use of water resources, through risk prevention and integrated water resources management.
- Encourage a sound hydrological cycle management from capture and distribution of freshwater to the release of wastewater and return flows
- Promote adaptive and mitigation strategies, action programmes and measures based on clear and coherent mandates, through effective basin management plans that are consistent with national policies and local conditions
- Promote multi-level co-operation among users, stakeholders, and levels of government for the management of water resources.

- Enhance riparian co-operation on the use of transboundary freshwater resources.

| | | |
|---|---|---|
| **What** | Existence and level of implementation of integrated water resources management | This indicator seeks to appraise the existence and level of implementation of integrated policies and strategies from the sub-basin to upper levels to capture and distribute freshwater and to release wastewater and return flows, with a circular economy perspective; to manage water from sources to sea; and to foster conjunctive use and management of surface, groundwater, and coastal water(s). |
| **Who** | Existence and functioning of institutions managing water at the hydrographic scale. | This indicator seeks to appraise the existence of a basin approach to water management that follows hydrographic boundaries rather than (only) administrative frontiers. Such institutions can be decentralised or deconcentrated bodies, catchment-based or catchment-oriented, depending on the country's institutional organisation. Besides their existence, the indicator should also appraise the extent to which these institutions carry out their functions related to monitoring, collecting water revenues, co-ordination, regulation, data collection, pollution prevention, issuance of water abstraction permits and effluent discharges licences, allocation of uses, planning, asset maintenance and operation, capacity development, public awareness, conflict resolution, and stakeholder engagement. Their activities should be based on basin management plans that are consistent with national policies and local conditions, defined according to international best practices (for EU member countries, the provisions of the Water Framework Directive could be used as screening criteria). |
| **How** | Existence and level of implementation of co-operation mechanisms for the management of water resources across water-related users and levels of government from local to basin, regional, national, and upper scales. | This indicator seeks to appraise the existence and level of implementation of mechanisms to foster co-operation across users, stakeholders, and levels of government for the management of water resources. Examples of such mechanisms could include shared data and information system, joint programmes of measure, joint projects or contracts, co-financing, or forms of multi-level dialogue. |

***PRINCIPLE 3. Policy coherence***

Encourage policy coherence through effective cross-sectoral co-ordination, especially between policies for water and the environment, health, energy, agriculture, industry, spatial planning, and land use, through:

- encouraging co-ordination mechanisms to facilitate coherent policies across ministries, public agencies, and levels of government, including cross-sectoral plans.
- fostering co-ordinated management of use, protection, and clean-up of water resources, taking into account policies that affect water availability, quality, and demand (e.g. agriculture, forestry, mining, energy, fisheries, transportation, recreation, and navigation) as well as risk prevention.
- identifying, assessing, and addressing the barriers to policy coherence from practices, policies, and regulations within and beyond the water sector, using monitoring, reporting and reviews
- providing incentives and regulations to mitigate conflicts among sectoral strategies, bringing these strategies into line with water management needs and finding solutions that fit with local governance and norms.

| | | |
|---|---|---|
| **What** | Existence and level of implementation of cross-sectoral policies and strategies promoting policy coherence between water and key related areas, in particular environment, health, energy, agriculture, land use and spatial planning. | This indicator seeks to appraise the existence and the level of implementation of integrated policies and strategies fostering coherence across sectors, while minimising contradictory objectives and negative impacts. |
| **Who** | Existence and functioning of an inter-ministerial body or institutions for horizontal co-ordination across water-related policies. | This indicator seeks to appraise the existence and functioning of bodies or institutions to facilitate coherent policies across ministries, discussing synergies and managing trade-offs across water, environment, health, energy, agriculture, industry, spatial planning and land use and other relevant areas. |
| **How** | Existence and level of implementation of mechanisms to review barriers to policy coherence and/or areas where water and related practices, policies or regulations are misaligned. | This indicator seeks to appraise the existence and level of implementation of mechanisms to identify barriers that hinder the coherent management of water and key related domains. These could include outdated legislation, distortive subsidies, conflicting interests, competition between ministries, overlapping roles and responsibilities, lack of integrated planning, split incentives, or poor enforcement. Examples of such mechanisms include (multi-)sectoral reviews, regulatory impact assessment, inter-ministerial platforms, or integrated legislation, among others. |

***PRINCIPLE 4. Capacity***

Adapt the level of capacity of responsible authorities to the complexity of the water challenges to be met, and to the set of competencies required to carry out their duties, through:

- identifying and addressing capacity gaps to implement integrated water resources management, notably for planning, rulemaking, project management, finance, budgeting, data collection and monitoring, risk management and evaluation.
- matching the level of technical, financial, and institutional capacity in water governance systems to the nature of problems and needs
- encouraging adaptive and evolving assignment of competences upon demonstration of capacity, where appropriate
- promoting the hiring of public officials and water professionals that uses merit-based, transparent processes that are independent from political cycles
- promoting education and training of water professionals to strengthen the capacity of water institutions as well as stakeholders at large and to foster co-operation and knowledge-sharing.

| | | |
|---|---|---|
| **What** | ***Existence and level of implementation of hiring policies, based on a merit-based and transparent professional and recruitment process of water professionals independent from political cycles.*** | ***This indicator seeks to appraise the framework conditions (not necessarily water-specific) in place and their level of implementation to ensure the presence of competent staff able to deal with technical and non-technical water-related issues across agencies, responsible ministries, and water management bodies.*** |
| **Who** | ***Existence and functioning of mechanisms to identify and address capacity gaps in water institutions.*** | ***This indicator seeks to appraise the existence and functioning of mechanisms to identify the level of capacity of responsible authorities in carrying out their duties and coping with water challenges. Duties cover planning, rulemaking, project management, finance, budgeting, data collection and monitoring, risk management and evaluation.*** |
| **How** | ***Existence and level of implementation of educational and training programmes for water professionals.*** | ***This indicator seeks to appraise the existence and level of implementation of capacity-related programmes (e.g. educational curricula, executive training, technical assistance, etc.) to strengthen the capacity of water institutions as well as stakeholders at large in critical areas such as planning, financing, and monitoring.*** |

***PRINCIPLE 5. Data and information***

Produce, update, and share timely, consistent, comparable, and policy-relevant water and water-related data and information, and use it to guide, assess and improve water policy, through:

- defining requirements for cost-effective and sustainable production and methods for sharing high-quality water and water-related data and information, e.g. on the status of water resources, water financing, environmental needs, socio-economic features, and institutional mapping
- fostering effective co-ordination and experience-sharing among organizations and agencies producing water-related data between data producers and users, and across levels of government
- promoting engagement with stakeholders in the design and implementation of water information systems, and providing guidance on how such information should be shared to foster transparency, trust, and comparability (e.g. data banks, reports, maps, diagrams, observatories)
- encouraging the design of harmonised and consistent information systems at the basin scale, including in the case of transboundary water, to foster mutual confidence, reciprocity, and comparability within the framework of agreements between riparian countries.
- reviewing data collection, use, sharing and dissemination to identify overlaps and synergies and track unnecessary data overload

| | | |
|---|---|---|
| **What** | Existence and functioning of updated, timely shared, consistent, and comparable water information systems. | This indicator seeks to appraise the existence and functioning of water information systems that can guide decisions and policies related to water. Data can cover, for instance, the status of water resources, water financing, environmental needs, socio-economic features, and institutional mapping. |
| **Who** | Existence and functioning of public institutions, organisations, and agencies in charge of producing, co-ordinating and disclosing standardised, harmonised, and official water-related statistics. | This indicator seeks to appraise the existence and functioning of institutions producing independent data and official water-related statistics at national or subnational level. Selected criteria for the functioning of institutions include whether they are endowed with sufficient resources to carry out their mandate, and whether they produce information that is reliable, credible, and free from political intervention. |

| | | |
|---|---|---|
| **How** | Existence and level of implementation of mechanisms to identify and review data gaps, overlaps and unnecessary overload. | This indicator seeks to appraise the existence and level of implementation of mechanisms to review data collection, use, sharing and dissemination, to identify overlaps and synergies and to track unnecessary data overload. They can take the form of reviews, reports, and open consultations, among others. |

***PRINCIPLE 6. Financing***

Ensure that governance arrangements help mobilise water finance and allocate financial resources in an efficient, transparent, and timely manner, through:

- promoting governance arrangements that help water institutions across levels of government raise the necessary revenues to meet their mandates, building through, for example, principles such as the polluter-pays and user-pays, as well as payment for environmental services
- carrying out sector reviews and strategic financial planning to assess short-, medium-, and long-term investment and operational needs and take measures to help ensure availability and sustainability of such finance
- adopting sound and transparent practices for budgeting and accounting that provide a clear picture of water activities and any associated contingent liabilities, including infrastructure investment, and aligning multi-annual strategic plans to annual budgets and medium-term priorities of governments
- adopting mechanisms that foster the efficient and transparent allocation of water-related public funds (e.g. through social contracts, scorecards, and audits)
- minimizing unnecessary administrative burdens related to public expenditure while preserving fiduciary and fiscal safeguards.

| | | |
|---|---|---|
| **What** | Existence and level of implementation of governance arrangements that help water institutions collect the necessary revenues to meet their mandates and drive water-sustainable and efficient behaviours. | This indicator seeks to appraise the existence and level of implementation of governance arrangements that help water institutions collect the necessary revenues to meet their mandates, based on key principles such as the polluter-pays, user-pays and interest-pay-say, as well as payment for environmental services. |
| **Who** | Existence and functioning of dedicated institutions in charge of collecting water revenues and allocating them at the appropriate scale. | This indicator seeks to appraise the extent to which water management institutions (e.g. utilities, regulators, basin organizations) are responsible for collecting water revenues (taxes |

| | | |
|---|---|---|
| | | and tariffs) and allocating them in a transparent, efficient, and timely manner. |
| **How** | Existence and level of implementation of mechanisms to assess short-, medium-, and long-term investment and operational needs and ensure the availability and sustainability of such finance. | This indicator seeks to appraise the existence and level of implementation of mechanisms to identify investment needs and funding gaps in terms of physical infrastructure and governance functions to manage too much, too little, and too polluted water, and to sustain/achieve universal coverage of water services. Examples include ex ante and ex post evaluation (e.g. related to the use of economic instruments), sectoral reviews, economic and affordability studies (e.g. to assess users' capacity or willingness to pay), forecasts and projections, and multi-annual budgeting or planning. |

***PRINCIPLE 7. Regulatory frameworks***

Ensure that sound water management regulatory frameworks are effectively implemented and enforced in pursuit of the public interest, through:

- ensuring a comprehensive, coherent, and predictable legal and institutional framework that sets rules, standards, and guidelines for achieving water policy outcomes, and encourages integrated long-term planning.
- ensuring that key regulatory functions are discharged across public agencies, dedicated institutions and levels of government and that regulatory authorities are endowed with the necessary resources
- ensuring that rules, institutions, and processes are well coordinated, transparent, non-discriminatory, participative, and easy to understand and enforce.
- encouraging the use of regulatory tools (evaluation and consultation mechanisms) to foster the quality of regulatory processes and make the results accessible to the public, where appropriate
- setting clear, transparent, and proportionate enforcement rules, procedures, incentives, and tools (including rewards and penalties) to promote compliance and achieve regulatory objectives in a cost-effective way.
- ensuring that effective remedies can be claimed through non-discriminatory access to justice, considering the range of options as appropriate.

| | | |
|---|---|---|
| **What** | Existence and level of implementation of a sound water management regulatory framework to foster enforcement and compliance, achieve regulatory objectives in a cost- effective way, and protect the public interest. | This indicator seeks to appraise the existence and level of implementation of regulatory frameworks to foster enforcement and compliance, achieve regulatory objectives in a cost-effective way, and protect the public interest. Assessing the functioning of regulatory frameworks should consider their clarity, comprehensiveness, coherence, and predictability. |
| **Who** | Existence and functioning of dedicated public institutions responsible for ensuring key regulatory functions for water services and resources management. | This indicator seeks to appraise:<br>1) the extent to which key regulatory functions are entrusted to and carried out by responsible authorities, in particular tariff setting and affordability; standard setting; licensing, monitoring, and supervision; control and audit; conflict management.<br>2) how such institutions perform in carrying out their responsibilities. The indicator deliberately encompasses the entire water cycle (services and resources) and may require trade-offs when building consensus across stakeholders, as some institutions may perform better than others depending on the water management function. |
| **How** | Existence and level of implementation of regulatory tools to foster the quality of regulatory processes for water management at all levels. | This indicator seeks to appraise the existence and level of implementation of regulatory tools, such as evaluation and consultation mechanisms, to ensure that rules, institutions, and processes are fit for purpose, well-coordinated, cost-effective, transparent, non-discriminatory, participative, and easy to understand and to enforce. |

***PRINCIPLE 8. Innovative governance***

Promote the adoption and implementation of innovative water governance practices across responsible authorities, levels of government and relevant stakeholders, through:

- encouraging experimentation and pilot testing on water governance, drawing lessons from successes and failures, and scaling up replicable practices
- promoting social learning to facilitate dialogue and consensus-building, for example through networking platforms, social media, information and communication technologies and user-friendly interfaces (e.g. digital maps, big data, smart data, and open data) and other means.
- promoting innovative ways to co-operate, pool resources and capacity, build synergies across sectors and search for efficiency gains, notably through metropolitan governance, inter-municipal collaboration,

urban-rural partnerships and performance-based contracts

- promoting a strong science-policy interface to contribute to better water governance and bridge the divide between scientific findings and water governance practices.

| | | |
|---|---|---|
| **What** | Existence and level of implementation of policy frameworks and incentives fostering innovation in water management practices and processes. | This indicator seeks to appraise the existence and level of implementation of policy and regulatory incentives that foster water-related innovation in terms of products, institutional and contractual design, and governance processes. Examples include frameworks that can incentivize experimentation or pilots to draw lessons and share experience prior to generalizing a given reform or process at a larger scale; incentives for innovative financing; and incentives for the use of alternative water sources. |
| **Who** | Existence and functioning of institutions encouraging bottom-up initiatives, dialogue, and social learning as well as experimentation in water management at different levels. | This indicator seeks to appraise the existence and functioning of institutions encouraging water governance innovation and responding to new needs for water governance practices. They could be in charge of promoting innovative ways to co-operate across government and stakeholders, pool resources and scale up water governance innovation. |
| **How** | Existence and level of implementation of knowledge- and experience-sharing mechanisms to bridge the divide between science, policy, and practice. | This indicator seeks to appraise the existence and level of implementation of knowledge-and experience-sharing instruments to foster the science-policy interface, such as multi-stakeholder co-creation processes and tools supporting decision-making processes based on scientific evidence, communicated for example through interactive maps or simulation models. |

***PRINCIPLE 9. Integrity and transparency***

Mainstream integrity and transparency practices across water policies, water institutions and water governance frameworks for greater accountability and trust in decision making, through:

- promoting legal and institutional frameworks that hold decision makers and stakeholders accountable, such as the right to information and independent authorities to investigate water-related issues and law enforcement
- encouraging norms, codes of conduct or charters on integrity and transparency in national or local contexts and monitoring their implementation
- establishing clear accountability and control mechanisms for transparent water policy making and implementation; diagnosing and mapping on a regular basis

existing or potential driver of corruption and risks in all water-related institutions at different levels, including for public procurement

- adopting multi-stakeholder approaches, dedicated tools, and action plans to identify and address water integrity and transparency gaps (e.g. integrity scans/pacts, risk analysis, social witnesses).

| | | |
|---|---|---|
| **What** | Existence and level of implementation of legal and institutional frameworks (not necessarily water-specific) on integrity and transparency which also apply to water management at large. | This indicator seeks to appraise the existence and level of implementation of legal and institutional frameworks that hold decision makers and stakeholders accountable (e.g. public procurement), and whereby the public interest can be safeguarded, malpractices can be identified and sanctioned, and effective remedies can be claimed. Examples include the right to information, public procurement (in accordance with best international practice), and the transposition of applicable international conventions. |
| **Who** | Existence and functioning of independent courts (not necessarily water-specific) and supreme audit institutions that can investigate water-related infringements and safeguard the public interest. | This indicator seeks to appraise the existence and functioning of independent authorities and audit institutions (be they water-specific or not) to investigate water-related infractions through inspections and controls, enact sanctions in case of violation. Selected criteria for assessment include the effectiveness, capacity, independence, and accessibility of such institutions. |
| **How** | Existence and level of implementation of mechanisms (not necessarily water-specific) to identify potential drivers of corruption and risks in all water-related institutions at different levels, as well as other water integrity and transparency gaps. | This indicator seeks to appraise the existence and the level of implementation of mechanisms that can diagnose, discourage and/or prevent poor transparency and integrity practices at different levels. Examples include integrity scans, multi-stakeholder approaches, social witnesses, social monitoring (e.g. to track consumer perceptions and petty corruption in water management), auditable anti-corruption plans, risk analysis and risk maps. |

***PRINCIPLE 10. Stakeholder engagement***

Promote stakeholder engagement for informed and outcome-oriented contributions to water policy design and implementation, through:

- mapping public, private and non-profit actors who have a

stake in the outcome or who are likely to be affected by water-related decisions, as well as their responsibilities, core motivations and interactions.
- paying special attention to under-represented categories (youth, the poor, women, indigenous people, domestic users) newcomers (property developers, institutional investors), and other water-related stakeholders and institutions.
- defining the line of decision making and the expected use of stakeholders' inputs, and mitigating power imbalances and risks of consultation capture from over-represented or overly vocal categories, as well as between expert and non-expert voices.
- encouraging capacity development of relevant stakeholders as well as accurate, timely and reliable information, as appropriate.
- assessing the process and outcomes of stakeholder engagement to learn, adjust and improve accordingly, including the evaluation of costs and benefits of engagement processes.
- promoting legal and institutional frameworks, organizational structures and responsible authorities that are conducive to stakeholder engagement, taking account of local circumstances, needs and capacities.
- customizing the type and level of stakeholder engagement to the needs and keeping the process flexible to adapt to changing circumstances.
-

| | | |
|---|---|---|
| **What** | Existence and level of implementation of legal frameworks to engage stakeholders in the design and implementation of water-related decisions, policies, and projects. | This indicator seeks to appraise the existence and level of implementation of legal frameworks to engage stakeholders in water-related decision making. In all cases, they should discourage consultation capture and consultation fatigue through balanced representation and ensure clarity and accountability on the use of stakeholders' inputs. |
| **Who** | Existence and functioning of organizational structures and responsible authorities to engage stakeholders in water-related policies and decisions. | This indicator seeks to appraise the existence and functioning of dedicated stakeholder engagement institutions or platforms, such as catchment-based authorities, decentralized assemblies, governing boards, national or subnational water councils or committees, as well as more informal forms of community-based engagement. |
| **How** | Existence and level of implementation of mechanisms to diagnose and review stakeholder | This indicator seeks to appraise the existence and level of implementation of mechanisms to diagnose prominent challenges or risks such as consultation capture, consultation fatigue or lack of resources (capacity and funding), but also processes and outcomes. This is important in |

| | | |
|---|---|---|
| | engagement challenges, processes, and outcomes. | order to learn, adjust and improve accordingly, including the evaluation of costs and benefits of engagement processes. Examples include satisfaction surveys, benchmarks, impact assessment, financial analysis, evaluation reports or multi-stakeholder workshops/meetings. |

***PRINCIPLE 11. Trade-offs***

Encourage water governance frameworks that help manage trade-offs across water users, rural and urban areas, and generations, through:

- promoting non-discriminatory participation in decision making across people, especially vulnerable groups and people living in remote areas
- empowering local authorities and users to identify and address barriers to access quality water services and resources and promoting rural-urban co-operation, including through greater partnership between water institutions and spatial planners
- promoting public debate on the risks and costs associated with too much, too little, or too polluted water to raise awareness, build consensus on who pays for what, and contribute to better affordability and sustainability now and in the future.
- encouraging evidence-based assessment of the distributional consequences of water-related policies on citizens, water users and places to guide decision making.

| | | |
|---|---|---|
| **What** | Existence and level of implementation of formal provisions or legal frameworks fostering equity across water users, rural and urban areas, and generations. | This indicator seeks to appraise the existence and functioning of provisions and frameworks fostering equity across users, rural and urban areas, and generations. Equity can be understood in terms of outcomes (to ensure that costs and benefits are distributed fairly) as well as in terms of processes (to ensure that water users are treated fairly). Such frameworks should incentivize non-discriminatory participation in decision-making across people, especially vulnerable groups and people living in remote areas; promote rural-urban linkages; and minimize social, financial, and environmental liabilities for future generations. Examples of such frameworks include the effective transposition of international binding and non-binding regulations or soft law that the country may be subject to (e.g. recognition of the human right to drinking water and sanitation, sustainable development goals, new urban agenda) as well as other forms of incentives. |

| | | |
|---|---|---|
| **Who** | Existence and functioning of an Ombudsman or institution(s) to protect water users, including vulnerable groups. | This indicator seeks to appraise the existence and functioning of an Ombudsman or dedicated institutions (not necessarily water-specific) protecting vulnerable groups, mediating disputes, addressing users' complaints, and managing trade-offs when need be. |
| **How** | Existence and implementation of mechanisms or platforms to manage trade- offs across users, territories and/or over time in a non-discriminatory, transparent, and evidence-based manner. | This indicator seeks to appraise the existence and level of implementation of mechanisms or platforms to promote non-discriminatory, transparent, and evidence-based decision making on trade-offs needed across people, time, and places. This could include public debates and rural-urban co-operation (partnerships, projects, etc.). |

***PRINCIPLE 12. Monitoring and evaluation***

Promote regular monitoring and evaluation of water policy and governance where appropriate, share the results with the public and make adjustments when needed, through:

- promoting dedicated institutions for monitoring and evaluation that are endowed with sufficient capacity, the appropriate degree of independence and resources as well as the necessary instruments
- developing reliable monitoring and reporting mechanisms to effectively guide decision making
- assessing to what extent water policy fulfils the intended outcomes and water governance frameworks are fit-for-purpose
- encouraging timely and transparent sharing of the evaluation results and adapting strategies as new information becomes available.
-

| | | |
|---|---|---|
| **What** | Existence and level of implementation of policy frameworks promoting regular monitoring and evaluation of water policy and governance. | This indicator seeks to appraise the existence and functioning of frameworks promoting regular monitoring and evaluation of water policy and governance, in order to effectively guide decision making. |
| **Who** | Existence and functioning of institutions in charge of monitoring and evaluation of water policies and practices and help adjust where need be. | This indicator seeks to appraise the existence and functioning of monitoring institutions (not necessarily water-specific) that are endowed with sufficient capacity, resources, autonomy, and legitimacy to provide evidence-based assessments of water management and governance and support decision making accordingly. Such institutions should be independent from political interference, at arm's length from water managers, and |

| | | |
|---|---|---|
| | | accountable for the outcomes of their evaluation and monitoring. |
| **How** | Existence and level of implementation of monitoring and evaluation mechanisms to measure to what extent water policy fulfils the intended outcomes and water governance frameworks are fit-for-purpose. | This indicator refers to mechanisms such as ex post evaluations, water governance reviews and national assessments. |

## *SOME FINAL OBSERVATIONS*

Started with a review of the conceptual and empirical foundations of effective water governance before developing some principles and examining some cases. It has been found that while there are many different schools of thought concerning theory, the practice will vary depending on the external environment, developed countries moving towards flexibility and distributed governance systems whilst developing countries are characterized by rigidity and hierarchical and light governance systems. We have noted that both internal and external governance is critical to water resources development and management and IWRM cannot be applied effectively if the political and external governance systems are not conducive.

Some general observations about effective water governance based upon this paper are:

***External environment:*** Governance depends to a large extent on the underlying political and cultural conditions as well as economic factors and there is no one prescribed approach to governance that will work in all cases. The role of governance mechanisms outside the water sector is critical to the success of water governance within the sector. The importance of international agreements, especially those related to trade, must be understood and water officials must actively engage with their trade counterparts.

***Partnerships:*** Whilst distributed governance and the need to involve civil society and the private sector is promoted, the key role of government and public sector workers is recognized as critical for the proper stewardship of water as a common pool resource. The role of government in sponsoring civil society can be pivotal in good outcomes. The basis for negotiations over shared waters should be the shared benefits and costs for all parties.

***Stress*:** The development of water governance in the developed world was typically driven by internal forces (economy, population, declining resources, political pressures). The developing world is experiencing external pressures from donors, and international NGOs in addition to the same internal pressures as the developed countries.

***Sequencing*:** Institutions, laws, and management systems develop slowly and adapt to often rapidly changing environmental conditions. It is important that countries tackle critical issues first and adopt a pragmatic approach accepting what is politically feasible rather than theoretically the best solution.

***Simultaneity*:** The current rapid pace of economic, social, and environmental change threatens to overwhelm the capacity of developing countries to develop laws, institutions, etc. at a more measured pace.

***Sustainability*:** Because of the simultaneity of pressing development issues, nations must resist the temptation to follow the sequencing of concerns as happened historically in the North. Under present

conditions sustainability and economic development cannot be seen as separable.

Governments face considerable *stress* from the weight of critical water problems. It is important that governments appreciate that they cannot solve these problems working alone. Working with civil society and with the market (especially the local private sector), although less orderly and structured, is the only way forward. Governance systems must permit all stakeholders to engage actively in and solve the growing water problems.

Many water-short developing countries are facing, *simultaneously*, many pressing development issues. The water crisis requires nations to act now to put their governance systems in order. They cannot afford to postpone sustainability goals or follow such gradual *sequencing* of concerns seen in earlier historical cases such as in the USA or Europe. Under present conditions sustainability and development are not separable. Apart from the severity of the crisis that many countries face, the most efficient moment to build sustainability into a water system is in the early stages of its planning and design. This *simultaneity* of problems does not allow governments to remain entrenched in the old hierarchical governance systems. As required under the Plan of Implementation of the WSSD, each country must develop IWRM plans and strategies that set out the sequence of changes needed to meet specific pressures. It is incumbent on the international circle of experienced water managers to provide practical help to those facing intensely stressful situations by shaping and espousing the principles of IWRM, so that they make long-term prudence actually achievable in present real-world circumstances.

More decentralization is needed in water governance along with a stronger central role in IWRM. This must be accompanied by the necessary financial resources and human capacity development at the local level. A clear demarcation of roles and responsibilities at different levels should be agreed and understood by all parties inside and outside government. Community level involvement is especially important to overcome local environment and development conflicts, property rights, equity, and literacy issues. Local government and municipal levels often have deep knowledge of local affairs but are weak and can be bypassed by central authorities or powerful elites. Clear priorities are the involvement of the non-traditional players – strengthening local water associations, efficient and effective public water resource management and building capacity of stakeholders – and ensuring attractive working conditions that keep workers in the sector and in the country.

Encouraging a water-oriented civil society is one way to encourage voluntary water conservation and intelligent responses to classical regulatory and economic instruments. Creating such "*basin societies*" also creates local watchdogs that can both monitor and support government actions and policies or help to regulate public-private arrangements to overcome some of the institutional weaknesses mentioned in this paper. Involving civil society in a constructive manner also makes the resolution of water conflicts more amenable to arbitration and final settlement.

**Actions for improving water governance**

To achieve more effective water governance, it is necessary to create an enabling environment which facilitates efficient private and public sector initiatives. This requires a coherent legal framework with a strong and autonomous regulatory regime. Clear transactions between stakeholders is needed in a climate of trust with shared responsibility for safeguarding water resources whose management affects many people but at present is the responsibility of none. Actions to make water governance effective include (GWP, 2000):

- Raising political will to overcome obstacles to change;
- Putting integrated water resources management (IWRM) into practice;
- Reforming and developing water institutions;
- Realigning financial and economic practices.

Even with sufficient political will many officials are unsure how to react to the water crisis and there is a need to build trust between different stakeholders and politicians at different levels of authority. During 2002, the GWP, in partnership with the United Nations Development Program (UNDP) and the International Council for Local Environmental Initiatives (ICLEI) and others, established a "Dialogue on Effective Water Governance" which was launched at the UN World Summit on Sustainable Development as a Type II implementation partnership. The Dialogue aims to facilitate national and local level dialogues to help build distributed governance systems by adding value to existing processes.

The World Water Council is presently preparing a World Water Action Report to catalogue actions that have been undertaken to meet the various international calls for action that have been made since the 2nd World Water Forum in The Hague. Many of these actions are working towards more effective water governance: for example, revised laws, institutional reforms, the introduction of economic instruments and social reforms such as gender mainstreaming and decentralization. The

Building Partnerships for Development (BPD) initiative brings together public, private, and civil society actors to help communities implement their own development activities and has, for example, examined regulatory issues for each partner. The GWP Central American partnership has discussed water governance with the National Legislative Assembly in Costa Rica, and this has led to a process for multi-stakeholder involvement in the drafting of new water laws. The GWP Central and Eastern Europe are looking into the governance aspects of water legislation linked to prospective membership of the European Union.

Finally, it is acknowledged that development in poorer countries is dependent on infrastructure and innovative technological development. Establishing effective water governance is complementary to this and provides the environment to ensure that the equally important investment in physical works is appropriate, long-lasting, and effective. It is also recognized that governance requires change, which is often resisted, and by its nature it involves political debate. Achieving effective water governance cannot be undertaken hastily using blueprints imported from overseas; it needs to be developed to suit local conditions with the benefit of lessons learned from all over the world.

## *REFERENCES*

Bruns B R and R S Meinzen-Dick, *Negotiating Water Rights*, IFPRI, Vistaar Publications, Delhi, 2000.

De Soto H, *The Mystery of Capital*, Bantam Press, 2000.

Finnegan, W, *Letter from Bolivia: Leasing the Rain*, New Yorker, April 8, 2002, pp. 43-53.

Garcia, L E, *Institutional Framework for IWRM in Latin America: Some Experiences from the Inter-American Development Bank*, IWRA, Proceedings of the IWRA Policy and Institutions Workshop, Salvador Bahía, Brazil, September 3-7, 2000.

Global Water Partnership, *Towards Water Security: A Framework for Action*, GWP, March 2000.

Global Water Partnership, *Toolbox for IWRM*, GWP, December 2001.

Global Water Partnership, *Introducing Effective Water Governance*, mimeo, April 2002.

Kaufmann D, A Kraay and P Zoido-Lobaton, *Governance Matters*, Policy paper 2196, World Bank Institute, October 1999.

Keohane, R, and E Ostrom, (editors), *Local Commons and Global Interdependence: Heterogeneity and Co-operation in Two Domains*, Sage Press, 1995.

Kooiman, J, editor, Modern Governance: New Government-Society Interactions, Sage publications, 1993.

Kooiman, J, and J Warner, *Three is a crowd? Reintroducing civil society in water governance*, abstract prepared for the Fourth International Research Symposium on Public Management (IRSPM IV), Erasmus University, Rotterdam, 10-11 April 2001.

Maass A and R. L. Anderson …and *the Desert Shall Rejoice*, MIT Press, 1978.

Ostrom E et al, *Revisiting the Commons: Local Lessons, Global Challenges*, Science, Vol. 284, pp. 278-282, April 9, 1999.

Pierre J, (editor), *Debating Governance, Authority, Steering and Democracy*, Oxford University Press, 2000.

Rogers P, *Water governance in Latin America and the Caribbean*, IADB, 2002.

Sloanes, M, *Water: Rights, Flexibility and Governance: A Balance that Matters*, ECLAC, paper for the Natural Resources Law Centre Conference, Boulder, Colorado, USA, 2002.

Tendler, J, *Good Government in the Tropics*, Johns Hopkins Press, 1997.

WBCSD, *Water for the poor*, World Business Council for Sustainable Development, August 2002. (www.wbcsd.org)

World Development Movement, *Out of service – the development dangers of GATS*, March 2002.