

# Institutional reform in Spain to address water challenges

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**ABSTRACT:** This chapter provides on both a review and a discussion of the main elements for institutional reform to address the water challenges of the 21st century. The building blocks analysed here are: the legal and institutional framework, existing economic incentives, the structure of the current water administration, and procedures for water policy and planning. In relation to legislative frameworks the main conclusion is the need to strengthen the implementation of the current norms by increasing regulatory capacity and oversight, while in some cases a reform of the law might be necessary. In relation to economic incentives the need to increase transparency on cost recovery and a broader discussion on who pays for what, and what elements should be subsidized. Also the importance of budgetary control, and a wider debate with actors involved including civil society on financing mechanism and allocation. Finally the chapter discusses the current tensions brought about by an unfolding decentralization process and how this has played out in the water scene. Some suggestions are made to strengthen territorial coordination and supervision, while allowing enough flexibility and space for an effective and accountable decentralization process which involves regional governments as legitimate actors, but also users and their potential rights and responsibilities as important partners in water management. However, a deeper *water democratization* is ultimately underpinned by a healthy and active civil society that has access to relevant information and acts as a final check on the system to provide a stronger overall accountability from all water institutions and the process of water policy and planning.

**Keywords:** institutional reform, legislative framework, water savings, incentive structure

## I INTRODUCTION

Spain is well recognized worldwide for a long tradition and history in water management, nestled in the Mediterranean basin, a cradle for civilization and an area

marked by its climate. In this geographic location water scarcity is a defining feature that has triggered innovation throughout history, both in institutional terms and in water infrastructure. This chapter however is not focused on history to address past challenges, but on institutional reforms to address the challenges of the 21st century. The chapter is based on a review of the building blocks in institutional reform, namely: water law, incentives (namely economic instruments), water administration, policy and planning (OECD, 2011). When discussing potential institutional reform it is important to distinguish *rebels without a cause* (Llamas & Cabrera, 2012), i.e. steps that can be taken without the need for structural reform, from areas where deeper (structural) institutional reforms are needed. The chapter aims to contribute to the pending *Pacto del Agua* (Water Pact) in Spain, in order to secure long term interests as matters of state policy in relation to water, considering it both as a productive and an intangible asset.

## 2 SETTING THE SCENE

### 2.1 Institutional issues

Spain is a quasi-federal country, with 500,000 km<sup>2</sup> for a population of 46 million inhabitants, a mean rainfall of about 670 mm/year, which disguises a wide difference between the so called *wet* North, more akin to countries like France, UK or Central Europe, and the *dry* Spain in the interior, with a harsh continental weather, and the Mediterranean coast and the archipelagos, where much of the population is concentrated. Water resources are evaluated at 114,000<sup>1</sup> hm<sup>3</sup> of which 47,000 hm<sup>3</sup> are used (level of abstractions) [hm<sup>3</sup> = cubic hectometre = million m<sup>3</sup> = 10<sup>6</sup> m<sup>3</sup>]. In a context of institutional reform Spain is well positioned to deal with its inherent climate uncertainty and variability, and where the greatest challenge and opportunity is how to play with the advantages and disadvantages of different types of water resources (surface, ground, soil, artificially recharged, reclaimed, and desalinated) and where their complementarities can be bolstered through flexible management, which permits a portfolio of actions. In terms of water management Spain (together with the USA) pioneered the catchment management approach in the last century. The creation of the Ebro river basin authority, in 1926, was followed by 10 river basin organisations (RBOs), as well as two island water administrations for the Balearic and the Canary archipelagos (Custodio, 2011a), covering the whole of the country. In addition, in 1958, Water Commissariats were established. The final stage has been the adaptation of these existing institutions to the *Estado de las Autonomías* (State with Autonomous Governments) (Cabrera & García Serra, 1998) hereinafter designed as Regions. The Spanish Constitution established that water had to be managed at State level for the inter-community basins (those shared by two or more regions), whereas for intra-regional basins (i.e. those located within a single region) water is managed through the creation of regional water agencies. River basin organizations are the executive arm of the central administration, through the Directorate General for Water (DG Water), located in the Ministry of Agriculture, Food and Environment (MAGRAMA),

<sup>1</sup> hm<sup>3</sup> = cubic hectometre = million m<sup>3</sup> = 10<sup>6</sup> m<sup>3</sup>.

where RBOs are responsible for inter-sectorial allocation, water quantity and quality monitoring and enforcement, the authorization of water and discharge permits and water pricing for e.g. agriculture. Similar organizations with the same responsibilities exist in the intra-regional basins.

Few countries have the legal proviso for an overall national water strategy. Spain, together with e.g. Australia, is fortunate to have this option. This provides a platform to deliver a coherent, goal oriented vision through a National Water Plan. In the past, policies for a National Water Plan (the first was approved in 1933) and then in contemporary times in 1993 and 2001, has generated massive mobilizations in Spain both in favour and against the strategic lines set (López-Gunn, 2009; Villarroja *et al.*, 2010). This can be seen as both positive and negative highlighting that water is a special resource that mobilizes people, and negative if this paralyzes political decisions.

In Spain, the decentralization process is still in flux and this has also been reflected in the water administration, with a tug of war between specific regions and the state.<sup>2</sup>

## 2.2 Legislative framework

One of the most interesting and unusual aspects of the Spanish legislative framework is its diversity. This diversity refers on the one hand to a multilevel legal framework, from the supranational level (European Union, EU, Water Directives) through to national laws, regional laws and local byelaws, and on the other hand to water rights, covering the span from fully private to state concessions, and all types of water encompassing not just surface and groundwater but also new regimes for desalinated, reclaimed or artificially recharged waters.

The Spanish *multilevel legal and institutional framework* is underpinned by a series of fundamental guiding principles, like rational use, responsibility, efficiency, sustainability, solidarity, and representation. At the level of international conventions, Spain has signed the bilateral Albufeira Convention with Portugal for shared rivers. Meanwhile, at the supranational level it is bound by EU legislation, in particular by the EU Water Framework Directive (WFD). Like all directives it sets overall goals in relation to water whilst leaving freedom on implementation to the member states. The WFD does not however position itself on the nature of water rights but it does state clearly the equal duty – independent of the juridical nature – to protect water resources (García Vizcaíno, 2011; Huertas, 2011a; Poveda, 2011). At the national level Spain has a national water law, dating back to 1985 (with main reforms in 1999 and 2003), locally modified by the Regions' Statutes of autonomy, and also with some regional water laws<sup>3</sup>. The major changes in the 1999 reform referred to the possibility of water trading, the establishment of public corporations to act as investment agencies and, in line with the WFD, the recognition of the protection of the environment not as a user but as an operational condition.

2 For example the case in the Guadalquivir basin, and also between regions like e.g. Valencia and Castilla-La Mancha over the Júcar basin, or even between regions hydrologically connected through water transfers like Castilla-La Mancha and Murcia.

3 E.g. Canarias (Law 44/2010, 30th December). Also Law 11/2006 from the Basque Country.

In relation to access to water and typology of water rights, Spain has a great *diversity in water rights*, with the whole spectrum from public to private to collective water rights co-existing within the current legislative framework. A key change in the 1985 Water Act was the inclusion of groundwater into the public domain. Water generated through new technology, like desalinated<sup>4</sup> and reclaimed water (which requires a public water concession) is therefore directly or indirectly part of public water resources. Under the Spanish legal system, water is bundled to land (bundled rights), for those rights under 7,000 m<sup>3</sup>/year and also in the case of irrigation, the main consumptive user. There is an important proviso for *use or lose it*, with an expiry on water rights if these are not used for more than three consecutive years<sup>5</sup> (see Box 1), equally applicable to private and public waters, although this has rarely been enforced. In terms of *water trading*, the 1999 reform opened the possibility to trade water rights for all rights in the Register (including temporary water rights), with some exceptions for private rights in the Catalogue<sup>6</sup> (see Chapter 16 on water trading). For a fully-fledged legislative framework, clear monitoring, enforcement, and sanctioning are a must. *Metering* is now a *legal requirement* for all water right holders and users, since an order was issued in 2009,<sup>7</sup> which applies to all water rights (public or private).<sup>8</sup> For the WFD – and independent of the nature of the rights as stated above – all right holders have an equal duty to contribute to the achievement of the protection of water resources (public trust doctrine).<sup>9</sup>

4 Under Art. 2 of the *Texto Refundido de la Ley de Aguas* on desalination water from the sea, are part of the public domain, independent of who undertakes the desalination. Therefore in order to be able to use desalinated water there are two steps to follow: a public concession for the public domain to capture sea water and a concession for the desalinated water which can then be used from different ends (public water supply, irrigation, etc.). This procedure was set out as a result of the Water Law reform due to the changes introduced in the Hydrological Plan in 2005, which before this change required as a previous step (no longer necessary) that desalinated water should be incorporated beforehand into a riverbed, a reservoir, etc., before these were considered as part of the public domain.

5 Art. 66.2 TRLA.

6 Art. 343.4 *Reglamento del Dominio Público Hidráulico* although this is not the case for the Canary Islands.

7 Order MARM 1312/2009, 20th May, known as *Orden de contadores*. This has facilitated that a large number of uses are now metered. In the Duero Basin for example this is the case for 90% of hydroelectricity uses which are now metered, which before had environmental impacts from water diverted or turbinated for both mini-hydropower and large hydropower stations. In irrigation the number metered is still small, however the existence of this rule to meter is a step forward to grant legal security since it clearly sets out metering characteristics, the duties of users and facilitates the control by the administration, and also for other issues like sanctioning, etc.

8 Under Art. 2 of the *Texto Refundido de la Ley de Aguas* a number of cases in the Duero basin have been processed successfully on this basis. It seems very distant the day in which all the abstraction points (wells) have their metering system.

9 The role of monitoring is twofold: one is to collect information necessary for good management and planning, and the second is to be able to act in case of infringements through sanctioning. The ALBERCA programme is a powerful tool which is used to gather information on how much water is used, where, by whom and for what purpose, and also to help with the requests for water rights or their modifications. This information can then be contrasted with GIS to allow the identification of possible infringements, checked through field visits thus optimizing scarce human resources (Huertas, 2011b). ALBERCA however is not equally effective in all basins, and particularly in the context of inter-community basins.

### 2.3 A modern water economy? Economic and financial instruments

In a modern water economy there are three key issues: the first is to decouple economic growth from increased resource use, becoming more efficient and productive in the use of water resources, as shown by Gleick (2003). The second is to devise a clear system on how money is collected or raised, and that (as far as feasible) all costs are internalized e.g. from state water budgets or in revenues from users and polluters, to be re-invested in water management and renewal of ageing infrastructure. The third issue refers to how money is spent in terms of budgetary allocation and responsive budgeting.

Water is an important economic resource because it has no substitute, fulfilling vital ecological functions. In terms of investment and financing, infrastructure has large upfront costs. In Spain, water history has been marked by infrastructures to address natural water scarcity (Bru & Cabrera, 2010), where these large investments were often undertaken by the State. In this context of *cost recovery*, there are at least two major types of instruments to create economic incentives: water pricing and tradable water rights. As Merrey *et al.* (2007: 206) state “with water pricing policies the payment goes to the state or the water agency, whereas with tradable water right payments go to the holder of the rights” (see Chapter 16 on water trading). Prices are crucial because these are powerful signals to trigger behavior change, and the close relationship between water prices and efficient water use (Cabezas *et al.*, 2008).<sup>10</sup> Yet there is increased pressure to start to be more efficient (and productive) in all water uses, providing market signals to both cities and agricultural water users, that consume the bulk of water in Spain. The main stumbling block however is the political economy of water, since water pricing is unpopular and therefore often considered as political suicide. The questions centre on whether water infrastructure and services are paid for indirectly (through taxes) or directly by users themselves (Cabrera *et al.*, 2012). European subsidies over the last 15 years have represented a large investment effort into water infrastructure; it has also allowed keeping the current *subsidized prices* on water (see Box 1).<sup>11</sup>

10 For example, in the case of groundwater, full costs are paid for energy (pumping) and for the infrastructure investment (wells, pumps, etc.), which in many ways explains why groundwater use in some regions in average terms is four times more efficient than surface water use (Corominas & Del Campo, 2000; Buchberger & Cabrera, 2010). Since farmers bear all the direct costs, farmers seek to be productive as compared to surface water where costs are born by society, through e.g. state infrastructure. Meanwhile in urban water supply, as shown by Galbiati (2011), current prices e.g. in Catalonia do not cover costs and therefore are subsidized through regional budgets, which has compounded the problem of regional governments’ deficits.

11 However these subsidies will not extend over the whole amortization period of long term investments. Equally political prices do not often reflect operation and maintenance costs. In the case of water, compared to other economic goods, scarcity is not necessarily reflected in the price. This can be seen in the higher water tariffs in Northern Europe as compared to Southern Europe. The actual average of urban water supply price in Spain is 1 to 1.5 €/m<sup>3</sup>. These tariffs are 20% of the tariffs in Northern Europe, because in countries like Germany and Denmark all the investments made are reflected in water tariffs (Cabrera, 2008).

**Box I The Water Bubble (by Enrique Cabrera, translated from *La Burbuja Hídrica*, in *Levante*, 5 February 2011)**

Demagogic, provincial and focused on the immediate, politicians have designed debates over water to win votes. The last three legislatures provided all the evidence: the first legislature promoted the Ebro transfer, the second legislature (like a exchange of stickers), –desalination plants for water transfers–, which was stopped, and given the territorial tensions generated, the final legislature was a deep slumber from which we have not yet woken up, facilitated by a series of wet years. However with the current problems on the table, when a new drought triggers a feeling of water scarcity, a pointless debate will start again: that it is better to transfer water, that desalination plants are better, that the river is mine ... rarely has so little given so much. And while this happens, services vital to citizens are close to bankruptcy, because fees barely cover the operation and maintenance costs. Thus the 1,200 million € debt of the Catalan Water Agency has grown steadily. A general malaise, even if other communities do not utter a word. Untimely also because with the current crisis mayors will not raise water tariffs and even less so in an electoral year. No matter what the EU Framework Directive says (since 2010 requires recovery of all costs). But there is no alternative, up until now the system has survived because the necessary investments (sewage, desalination) were paid by the European Commission and to a lesser extent by the State and regional governments. However, Europe's money runs out (2013) and the administration swamped by debt, will do well just to cover its deficits [...]. Even then we are talking more of a cultural than a real problem. Because citizens pay, on average, 75 €/year for water, a miserable figure (0.4% of income per capita) when so much is at stake. It should be noted however, that the increase in water rates is only meaningful if all the money raised is destined to improve services. We must create a regulatory agency to monitor the health of budgets, check contracts, and oversee private operators. As an added bonus, with the upgrade in the price of water, and the consequent improvements in efficiency, regional water wars would come to an end, because there would be water left over, more so if goals are imposed to those uses that continue to be subsidized (agriculture and rural villages). Water is a scarce public good and cannot be squandered.

### 3 MAIN CHALLENGES: DIAGNOSIS AND SUGGESTIONS FOR REFORM

#### 3.1 Changing incentives for sustainable services

The current economic crisis provides a window of opportunity for deep reform on economic and financing instruments (Saleth & Dinar, 2000; Merrey *et al.*, 2007). A potential venue would be a review of *best practice water pricing* (Buchberger & Cabrera, 2010) like sliding price strategies or block pricing, which can differentiate between different uses and their capacity and willingness to pay. In the case of public water supply, water prices do not cover costs, and these hidden subsidies are giving the wrong signal on water service costs, not contributing towards valuing the service provided or educating the consumer (Buchberger & Cabrera, 2010). In the future however, it is more likely that costs will be devolved to users and consumers. In this context, Art. 9 of the European Water Framework Directive specified that by



2010 account or advances made of cost recovery should be implemented. A recent law (2012)<sup>12</sup> states that the relevant mechanisms should be established to assign the costs on services related to water management. This provides an opportunity because of the confluence of the requirement under the WFD for cost recovery and the current debt in state, regional and local public budgets. Achieving cost recovery will need the implementation of economic and financial instruments.<sup>13</sup> Yet how to raise finance is on the table because of the estimated 150,000 million € at current value (or about 3,300 € per inhabitant) needed to renew urban infrastructure (see Chapter 13 on Urban water supply). Equally, at basin level, finance is needed to implement the river basin plans (*Programme of Measures*) to fulfil requirements on good ecological status. On top of these investments, one has to add normal day to day running costs for the whole organizational set up for water management, which has often been accused of lack of capacity, rooted in a lack of financial and human resources. An important area where more research and knowledge are needed to generate a more accurate understanding on responsive and responsible budgeting; in other words, how governments (including regional governments, water agencies and more recently state companies) allocate budgets and monitor the outcomes of budget expenditure (Merrey *et al.*, 2007). This builds accountability on how public funds are spent and creates incentives for sound service delivery. It represents a shift in paradigm away from infrastructural development, towards infrastructural management.<sup>14</sup> An unavoidable element of institutional reform is how to address cost recovery to ensure the long term viability of the water sector, and the institutions needed to support it, while sheltering it from financial crisis and gradual disrepair. In terms of institutional strengthening, there is a need to look for innovative and effective cost recovery mechanisms. A non-exhaustive list of some examples of these mechanisms could be:

- i Annuity-based capital cost recovery like that introduced in Chile and Australia, or like the case in South Africa, which have included some costs for water conservation, management, research, and cost recovery (Saleth & Dinar, 2000).
- ii Experiment with payment for ecosystem services within a green economy or re-discover ecological agriculture, which used to be the traditional agricultural model and where waste becomes a valuable product, whilst reducing and preventing water treatment costs.
- iii Urban water sector decentralization by creating an autonomous and self-dependent utility type organizations for the provision of urban water services, which encourages urban water supply agencies to be autonomous and financially self-dependent.
- iv Introduce responsive budgeting, i.e. a means to examine the priorities reflected in budgets and also the need to use and apply cost-benefit and cost effectiveness

12 Royal Decree-Law 17/2012 of 4 May, on urgent environmental matters.

13 The economic and financial regime is somehow incomplete since it only allows for cost recovery for infrastructure, without including e.g. costs for water quantity and water quality monitoring networks, when in theory cost recovery is a binding principle for all public administrations.

14 However temptation remains because supply based policies are more flamboyant (water transfers, desalination plants, etc.) and thus politicians often opt for this easier path (Cabrera, 2011).

analysis, while ensuring the basic financial viability of key agencies by e.g. being able to raise their own financing.

- v Look at examples from other countries which have better established self-financing mechanisms like the Dutch Water Boards, and have clearer information on who pays and for what.

### 3.2 An effective legislative framework

Together with securing the economic means to be able to carry out and deliver modern water management, an effective legal framework is also key, setting the institutional *rules of the game* for all actors involved. This section summarizes the main pending challenges in relation to an effective regulatory system.

The first challenge is related to the WFD which to this day, although formally completed into Spanish law, is lacking synchronization with the Regulation that accompanies the water law. Day to day management and activities are still ruled by a Regulation dating back to 1986 which has different terminology and ethos to the WFD.<sup>15</sup>

The second challenge dates back to the mid-1980s, when due to the potential compensation to existing water rights under the Spanish constitution (which forbids expropriation of rights without compensation),<sup>16</sup> a hybrid system developed for groundwater, where private right holders could opt to keep their private rights.<sup>17</sup> In relation to water rights this has remained a management challenge because of the co-existence of private and public rights, with different (sometimes conflictive) approaches on how to address this co-existence. One option formulated argues for devising a system to absorb and migrate the existing private rights into state concessions with proper compensatory schemes (see Poveda, 2011), whereas a different approach focuses on the implementation side, and its strengthening, focusing on guaranteeing compliance with the duties imposed by the WFD to all rights holders are applied (independent of their juridical nature).

The third challenge refers to bringing water books up to date. This refers on the one hand to registering existing rights, where for example, it is estimated that in the case of groundwater only 30% of wells are registered in Spain, and in surface water, where e.g. in many cases traditional irrigation communities have not been issued formal water concessions. On the other hand it refers to the much trickier issue of informal water use (see Box 2), and how to find solutions to incorporate these into existing registries through negotiation, or if necessary have the institutional capacity (and support), to close all relevant abstractions to ensure that state capacity and legitimation is not undermined.

A fourth challenge refers to the solid regulation of water markets. A pre-requisite before a rush to market solutions lies precisely in perfecting the regulatory framework as witnessed in the latest financial crisis, and de-regulatory trends. Clarifying

15 For example, the reformed water law refers to groundwater bodies while the Regulation on the Water public domain still refers to hydrogeological units, which are no longer the management unit for planning under the WFD.

16 Art. 33.

17 Once owners accredited well ownership and use before 1985, including them in the Catalogue of Private Waters.



regulatory mechanisms (who sets the rules and what are the rules) and the capture of benefits (who wins or loses in imperfect markets) are key issues (Merrey *et al.*, 2007; Bruns *et al.*, 2005). Water markets require as pre-requisite clear water rights, possibly unbundled from land (e.g. like in Australia: McKay, 2010), and the adequate administrative or regulatory capacity to monitor and enforce rules. Therefore an essential ingredient for a functioning water trading system lies in both clear water property rights, and a strong regulator.

**Box 2 Review of existing water rights, Duero catchment (based on Huertas, 2011b)**

From 2008 there has been an evaluation to update registered rights compared to current use for two case study areas (Páramo de Cuéllar and Los Arenales) currently identified as potentially over-used (after the 1985 Water Law) or as groundwater bodies in poor status (WFD). The study reviewed 6,354 uses, of which 17% are not in use, and thus procedures to extinguish these rights are now in motion which have revoked some rights or are in the process, 30% are used under the same conditions as those originally granted and registered in the Catalogue of Private Rights, and 53% will be now moved to State water concessions due to substantial changes in the right. Of this 53%, 17% is due to changes in ownership, 56% is due to changes in the use and irrigated area (usually to increase it) and the remaining 27% is due to changes in both. This highlights the important gap between registered rights and actual use of the right. In other areas and catchments in Spain it has been very difficult or impossible to extinguish water rights like in the case of the Pirineo Oriental in the 1980s, in the area around Doñana in the 1990s, or in the Canary Islands.

However, effective regulation includes not just the quality of the law, but also the capacity to regulate and the political will and skills to ensure compliance. In this context there are two aspects that could be strengthened.

The first key aspect is the monitoring capacity to oversee implementation,<sup>18</sup> which takes into account the duty by all users to monitor and report water use, and the parallel duty for authorities to oversee and monitor this legal duty. An example on how to increase regulatory capacity and monitoring is by exploring options and opportunities to reach covenants with users via agreements.<sup>19</sup> In Spain, in the case of groundwater there are examples of co-management experiences, with agreements written jointly between users and the administration, like the Eastern Mancha aquifer, Catalonia and the Duero basin (Huertas, 2011a). It represents an important shift in mentality for both the administration and users, developing co-responsibility mechanisms where the administration delegates some its duties, whilst users act as mature water managers with both rights *and* responsibilities.

The second key aspect is the sanctioning regime for water resources marked by the Water Law,<sup>20</sup> which typify the type of infringements and sanctions. The sanctioning

18 E.g. through a plan on how monitoring will be achieved, resources invested, timeframes involved and for what purposes.

19 Granting water users the relevant financial and institutional support a pre-requisite or operating condition for co-management.

20 Title VII of the TRLA.

regime could be contrasted with other environmental laws like e.g. waste, coast, and biodiversity, where penalties are higher<sup>21</sup> and therefore have a higher dissuasive power. It seems that some steps are being taken in this direction. An area that is already being strengthened refers to the valuation of damages to establish a clearer and more precise system for calculating penalties to avoid insecurity and arbitrariness. This is signalling the basic ethical principle that it has to be more beneficial to comply with the law than to break the law, and rewards compliance, while offering a potential income stream from a solid sanctioning regime which could be hypothecated into strengthened regulatory oversight.

Third, issues related to institutional capacity and strengthening (discussed in more detail in the next section), like ensuring available data are processed in a manner suited for water planning purposes.<sup>22</sup> Technical progress like satellite technology, information technology, and computer based water control, like smart devices, help to reduce the transactions costs of institutional reform (Saleth & Dinar, 2000).

### **Box 3 Legal hotspots for reform: Informal water use (modified from Bravo, 2011)**

Independent of the type of ownership right (public, private) lies the question whether the use is legal or a-legal. These refer to differentiating and bringing up to date on the one hand, users that –25 years after the passing of the 1985 water law – have not requested to register their right, either as water concessions or private water rights, from those that continue to abstract water after having had their water right refused by the water authority. Which of these uses are legal or a-legal? Which of these water abstractions should be sanctioned? If they are legal, how much water can they abstract since these are not officially registered? How much area can be irrigated? Who determines these figures? For example, in relation to the duty to install a water meter, it would be difficult to monitor or sanction, if use is not registered, since it is unclear what the authorised volume or area that can be irrigated is, and therefore it is difficult to decide if the area has been increased, when no area is registered in the first place. It is even more problematic in equity terms, when this *use* co-exists with other registered users which have installed a water meter, with a maximum volume to be abstracted and where the administration can sanction abstractions above authorised limits. The question of who has to prove the right to be registered, judgements state that: a) the administration has a duty to sanction and fine those that have not yet registered their rights; and b) the duty falls on the owner of the right to accredit the right with a series of documentary evidence. In cases of dispute it goes to provincial courts, and then all the way up to the Supreme Court. This has created a slow limbo for both water users and the administration, which has left the system paralysed. This is further complicated by an apparent de-synchronised system between different laws, rulings, legal systems (civil and criminal) and sanctioning regimes.

Finally, some important aspects of the 1999 reform, namely to establish private and transferable water use rights, grant full financial autonomy to water authorities,

21 E.g. in the case of water the maximum fine is 600,000 € as compared to 2 Meuros.

22 Particularly when decisions have to be taken on the basis of enough financial and personal resources, with the exercise of legitimate authority to control and sanction, with specific objectives, well defined and supported by knowledge backed up by solid data from fully functioning and comprehensive monitoring networks (Custodio, 2011b), complemented by *ad hoc* or periodic studies.

make the construction of new projects dependent on users' prior agreements to pay full costs, and how to encourage the participation of the private sector in construction, distribution, sewage treatment and pollution control, did not fully materialize and could now be re-visited (Saleth & Dinar, 2000).

### 3.3 Reforming the water administration

This section outlines potential reform lines without the intention of being prescriptive, but rather to put the spotlight on key possible intervention points in the organizational architecture and existing institutional inertias that have to be taken into account. In terms of organizational set up and reform there are at least three issues to consider, the first related to a territorial vision, the second on the effectiveness of the river basin organizations and finally, the overarching vision for water as state policy in a quasi-federal and highly diverse country.

The first aspect refers to ensuring a general integrated vision, present in the origins of the water administration. This has been weakened to make this integrated vision fit with a legitimate desire by regional communities' to play an active role in the management of water resources that are either generated or rise within their own territories. The decentralization process has generated a large element of innovation and even healthy competition between water authorities and regional agencies, but it has also come possibly at the cost of a loss of general vision. Transboundary issues at domestic level have in some cases fallen prey to an insular vision. For a country formed by autonomous regions, each with their own Statute, close to a federal state, a key area is to establish the full potential of the principle of subsidiarity, well established under EU law, and how this blends in terms of cooperation and co-responsibility when applied to water management (Custodio, 2011a). An idea put forward has been the potential creation of a *National Water Agency* as described in Box 4, similar to other agencies like ONEMA in France or the Environment Agency for England and Wales. As Custodio (2011a) argues, the advance in water management on a catchment basis, one of the fundamental tenets of Integrated Water Resources Management, has been threatened by its accommodation and adaptation to a decentralized autonomous system where regions play a key role. The current situation can be partly attributed to the use of water for political (short term) gain (López-Gunn, 2009).

#### **Box 4 The creation of a National Water Agency (based on Cabrera, 2005, and Custodio, 2011a)**

No one questions the need to reform the water administration, and that this passes necessarily through the creation and establishment of a National Water Agency (NWA). This NWA would play a coordination and regulatory role, in charge of overseeing water use. This agency would impose the principle of cost recovery and design and collect information on a battery of indicators that can highlight efficiency in water use. This NWA could also ensure coordination and negotiation at national level, searching for consensual decisions, where all parties agree to abide by the same rules, applicable to inter- and intra-communitarian catchments, and which takes into account potential impacts. This agency would provide an overall general vision, combined with the capacity to coordinate and undertake new general agreements, with a legitimacy recognized by all parties. In view of the current economic crisis and concerns over the multi-layered and overtly complex administrative

framework in Spain, this agency should be small, with basic infrastructure, and able to commission strategic studies needed to take decisions based on best available knowledge. It could be born from existing institutions, or created from scratch. This NWA would be supported by a Council of Experts, from all sectors and across parties, based on prestige and well versed in the current problems. This agency should be based on the consensus of all bodies with responsibility for the management of water resources, i.e. both river basin organization and regional water agencies, with a solid base amongst civil society and users, with enough stability and independence to provide a long-term vision. Its creation and existence should be regulated by the Water Act, as part of the expected and necessary reform expected and necessary. This Council of Experts would be made up of people from the country's most prestigious, independent, experienced, impartial and knowledgeable experts, from the many facets of water resources in Spain, with regional, national as well as European and international experience, capable of balancing possible political connections, with impartiality, with the selection of its members through a competitive, open, and public process in response to specific and testable merits and criteria. The NWA should have the support of specialized bodies to carry out their work, either on their own or preferably with other existing bodies with proven excellence in their field. It would take advantage of what there is on offer, providing a balanced symbiosis between political society, civil society and adequately represented users, focusing on achieving outcomes and on sound governance. Thus, it would be autonomous, but recognized and respected for its own authority and with access to all information, and whose formal agreements have a degree of binding value to the executive. The current National Water Council, as designed, does not meet these conditions. Further work of this Council and Agency is to facilitate inter-sectorial coordination and transparency in information, while improving access to existing information, which is abundant and rich, commissioning specific studies for pertinent policy questions, while promoting efficient use of accumulated knowledge thus avoiding loss of time and effort. Spain could look at the experience of countries like France, Australia or the UK and draw lessons on national water agencies (see for example BOM, 2008; Cabrera *et al.*, 2012; Guerin-Schneider & Nakhla, 2010; McKay, 2010).

The second aspect refers to the internal set up and functioning of RBOs. The *Water Commissariats*, when they were created in 1959 were kept separate from both infrastructure and planning, although this was understood only as planning water works. This is summarized in the motive for their creation and interestingly it echoes similar institutional reforms undertaken in the UK (late 1990s), Australia (beginning of the 21st century), and in France. This reflects the *raison d'être* of the Water Commissariats and the importance to have a clear separation of roles from e.g. Technical Directorate of the State RBOs, which have tended to absorb larger budgets and thus resources.<sup>23</sup>

Meanwhile the other changes necessary are in terms of a shift in mentality and a much needed – and largely absent – state vision and strong political will and skill. The vision is focused that the real issues in Spain in relation to water no longer turn around resources themselves, but rather in management and allocation decisions, where a step forward is now pending completion. This means a shift away from an

23 In the process potentially *starving* water commissariats of much needed independence and resources to carry out its regulatory role along the philosophy of separation of powers.

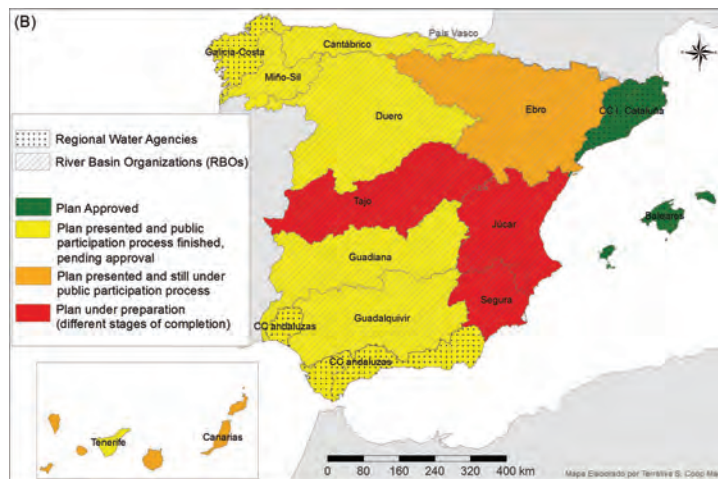


Figure 1a and Figure 1b Situation of the application of the European Water Framework Directive in the EU (Source: EC February 2011) and Spain (April 2012) (Source: Kindly prepared by Terrativa S.A.). [http://ec.europa.eu/environment/water/participation/map\\_mc/map.htm](http://ec.europa.eu/environment/water/participation/map_mc/map.htm) (Updated 22/12/2011).

Note: The map refers to the state of adoption of river basin plans, however it does not provide information on whether these plans are in accordance with the EU Water Framework Directive.

administration that was traditionally and historically geared towards infrastructure development, towards a modern administration whose main role is focused on management rather than infrastructural development. This however represents a substantial change in the organizational culture.<sup>24</sup>

The third aspect refers to a strong political will, that shies away from the instrumental use of water for political gain, and seeks the *general interest* enshrined under Spanish law, but which now has a much more complex and nuanced meaning beyond building or managing infrastructure. The last few years have witnessed a paralysis in terms of decision making, like e.g. the approval of catchment plans, because of the potential political costs to the ruling party.<sup>25</sup> Finally, it should be accepted that in a country like Spain with a rich tapestry of regions, climates and history, there has to be some well-established coordination mechanisms between regional authorities and river basin organizations (see Chapter 3).<sup>26</sup>

The EU has already ruled against the Kingdom of Spain for failure to submit water plans, with the exception of Catalonia (Infraction 2010/2083) (Custodio, 2011a) Therefore the image provided is of lack of overall coordination. Most catchment plans were ready in 2009 for public consultation, and it is thought that many of them were shelved due to perceived political risks. Only a few of them have been opened to public debate, leaving the Spanish water administration in limbo since 2009 when the plans were due to be released. The end result is that Spain, after considerable administrative effort, is one of the few EU member states that has not met the WFD deadlines. An added layer of complexity is that in Spain – as compared to other EU member states – these catchment plans have a normative status. This is even more worrying considering that Spain had a considerable first mover advantage as the member state with the longest tradition in catchment planning in the EU, well before the WFD. The administration has been caught in the quagmire of politics and decentralization, a case of politics getting in the way of decision making, like the case of the boundaries of the Jucar basin which are now pending a decision by the Constitutional Court. This is partly because of the difficult – and often unpopular – decisions that had to be taken in relation to water allocation and cost recovery, in the context of a modern democratic country which has to honour reasonable rights and

24 The incoming government is taking some steps and decisions that seem to be strengthening this state vision inside the inter-community basin organisations, though organizational changes that mark clearly the hierarchical relationships between the different public organizations involved in water management, for example making the Water authorities and the State water companies depend on the general Water Directorate (before this were hierarchically equal). Also some legal modifications are proposed in order to clarify that the function of policing and control of the public domain is a state competence.

25 The unwillingness to broker a difficult – but necessary – negotiated vision in effect has been a delay tactic and passing the buck to the next elected government, thus inhibiting and emptying public institutions of their essence, making institutions themselves a pawn or instrumental to prioritizing short term electoral gain (or lack of electoral losses).

26 A key element is to coordinate water planning with land use planning (Custodio, 2011a) (see Chapter 11), showcased in agriculture, very often the largest consumer of land and water, and also associated with a remarkable power to influence policy or decisions regarding irrigation as the dominant water user, forest cover, how to establish protected areas, nitrate vulnerable zones or how to accommodate urban and residential purposes (Custodio 2011b), but also to cancel out potential blockages like those referring to nitrate vulnerable zones, or the coordination of agricultural and irrigation policies.



claims, while striking a balance between legitimate private interests and social ends (Custodio, 2011a). However as the Head of Water Planning in one of the Spanish river basin authorities claims, it just translates in less time for the actual implementation since a delay in submission of the plans does not change the overall planning framework applicable to all EU member States, where dates are and remain fixed. Thus the incoming new government has a litmus test in the final approval of pending plans to bring Spain up to speed with the rest of Europe.

Finally, Spain has a strong untapped potential though both a deeper user participation commitment and a system more open for civic society and citizen science. Promoting deeper user participation would require the establishment of clearer responsibility and accountability mechanisms.<sup>27</sup> Together with the National Water Agency described in Box 4, water users represent the balancing opposite. This is based on the functional distinction and balanced action between decentralized arrangements needed for user participation and some centralized mechanisms needed for coordination, enforcement, and conflict resolution. Spain has a millenary tradition in user participation and this historical legacy now offers an opportunity to help address 21st century challenges by developing a structured programme of *water democratization*. As stated in chapter 17, user participation is a longstanding principle in Spanish water policy. As public law corporations, water user groups have a public-private nature, a public role in administering a public good (water) being able to administer, distribute and impose fines and sanctions. It also has a wealth of entrepreneurial initiative and data from private users and thus becomes an important piece for institutional strengthening.

At a more fundamental level, the concept of user itself has to be widened so that it is not only consumptive users but also new users, like e.g. the tourism sector, have a platform and these can be formally incorporated into the main representative structures. A clearer delimitation is needed on the rights and duties of each actor, e.g. between the water administration, the regional government, users and ultimately consumers (Saleth & Dinar, 2000). Meanwhile, equally important, the current civil society in Spain is often damaged by an excess in politics, which affects its organizational capacity, marginalizing it and making it less effective and more disfranchised. Yet it is civil society that can act as a loud voice for the underpinning ethical principles that guide water policy based on general principles like equality, solidarity, precaution, and other practical procedural principles like subsidiarity (Villarroya *et al.*, 2010). Legal rules are not immutable, nor are the principles underlying administrative decisions except ethical ones. In the de-synchronization of the legal system and its implementation, which can lead to its review by constitutional means, the missing lynchpin is centred on the broad involvement of civil society. What now seems the right thing might not be so in the future and therefore must regularly connect or link up with the underlying ethical and moral principles of a strong civil society (Custodio, 2011b). Both decentralization and centralization forces have to be supported by a healthy and active civil society demanding and expecting accountability from users and the administration, while assuming its dual role both as citizens and consumers. As Saleth & Dinar (2000) state: “the key to this centralisation-decentralisation dilemma lies in carefully crafting institutional

27 In Spain an opportunity for institutional reform would be to make subsidies conditional on taking up this role, with subsidies based on targets and/or delivery and completion of allocated pre-determined tasks, and for a given duration.

arrangements at different geographical levels so as to achieve local flexibility and regional coordination with an overall global strategic and goal setting”.

#### 4 CONCLUSION: REFORMING INSTITUTIONS

Spain is in a moment of deep change, due to a confluence of external and internal factors, from internal changes in government to a change, review or reform of some key policies at EU level like agriculture, water or energy that will have a direct and indirect knock on effect on Spanish water policy and planning. The necessary ingredients for successful reform are measures that are economically attractive, technically feasible, and politically acceptable. Rolling back the State however does not mean an elimination of the role of the State. On the contrary, in the current economic crisis, its role is both essential and crucial in its regulatory function and its enabling function, guaranteed by strong and capable institutions. Spain as can be seen in many of the chapters in this book faces current challenges in water management, and has been relatively innovative in searching for solutions to these challenges. Institutional reform is a fundamental aspect to make sure that many of the potential solutions to address achieve their full potential. There is window of political opportunity (Kingdom, 1995; Kartin, 2000) because of a series of endogenous and exogenous factors (Saleth & Dinar, 2000) to gradually strengthen institutions, by making the implementation of the legal framework more effective, by bolstering the agencies in charge of water management with clear allocation of roles and responsibilities, and also – most important – the economic and financial instruments to undertake these tasks as outlined here, which currently are insufficient. In the context of deep reforms, the water sector is only a small part of the overall reform process. However, the water sector can benefit from the overall impetus for structural reform in Spain, where the shift in focus away from infrastructure and towards medium and long term planning would slot in. Water management can now be focused on identifying the overarching goals, according to specific clear priorities, regulated and supported through a water planning process. This would provide a road map and overall direction for adaptive management (Custodio, 2011b).

Reform often happens in times of crisis, where e.g. droughts, a recurrent feature of the nature of our climate, provide stress tests to the resilience and adaptability of the institutional system. Pro-active institutional reform prepares deep changes before the opportune moment comes. The current situation offers an opportunity for reform brought by an economic crisis and deep political change which is having a knock on effect in the water sector. A different economic era means that the politically easy and economically costly supply solutions of the past are unlikely to be able to materialise due to their large economic price tag, combined with less water availability (decrease in flows, potential impacts of climate change, etc.) thus unable to save the political day. If reforms are not introduced, the Spanish mature water economy will not be fully functional and ready to weather inherent climate variability, thus knocking the productive model and key economic sectors like tourism, industry, etc. out of kilter. It is easier to introduce solutions and reforms gradually, so that these are in place when the time comes. The *water bubble* (Cabrera, 2011) that went hand in hand with the *construction bubble*, has burst and the re-invention of the construction sector can also

come from a re-invention of the water entrepreneurial sector. The main challenge is how to create a competent and competitive sector, not bailed out or inflated by public finances but rather competitive due to its technical competence and know-how, supported by reformed and strengthened institutional frameworks. Coming of age in water management requires clear leadership, assuming the structural changes needed, where planning needs substantial investments, affecting the economy of the state, and which requires both bold action and careful accommodation and agreements between the parties. The ultimate challenge thus lies with society at large – which ultimately sways politicians to act or not to act – and its awareness and acceptance that changes, particularly those that have been delayed over a long time, will be hard at first, and yet, like a sour testing medicine just what the doctor ordered for a healthy and thriving political water economy. In a similar line to other deep reforms currently on the table – like the labour market or the banking sector–, crisis brings along opportunities for (democratic) change and bold leadership.

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