

Participatory Management for Conflict-Solving and Planning in the Context of the Spanish Dam-building Policy

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Abstract

Natural resources conflict can be interpreted as an opportunity to promote policy and institutional arrangements that enlarge public participation in the governance system. However, the extent to which conflict can prompt policy and institutional change, and the effective implementation of “true” participatory management may depend on institutional and power constraints. This paper addresses the above puzzle through a case study on the Water Commission, a forum gathering a multiplicity of stakeholders of dam-building policy in the Spanish region of Aragon. The Water Commission had two main goals: (1) to solve the conflict that existed between farmer associations and a movement of local and environmental groups over the implementation of some state dam-building projects in Aragon, and (2) to integrate public participation in the elaboration of a water policy blueprint for the region. By using historical and institutional analysis, the paper suggests that the effective implementation of the Water Commission in 2003 was facilitated by the public entrepreneurship of the regional government and a situation characterized by the convergence of three events: the aggravation of the conflict over dam-building policy, the repolitization of water issues, and the release of the European Water Directive Framework. The success of the Water Commission was partial though. The Water Commission’s conflict-solving process was relatively successful. Collaboration and mutual accommodation of confronted parties resulted in the design of commonly accepted alternatives to the controversial dam-building projects. This could be explained by the mediation role that an NGO played to build consensus among parties from the bottom up and the existence of an implicit veto power in the hands of the traditionally weaker parties, namely, the local communities and environmental groups. The planning process also fulfilled its mission but failed to do it in a non-conflictive way. This could be explained by the existence of a predetermined top-down procedure that gave the Water Commission a secondary role and the incapacity of the local communities and environmental groups to veto the process from within. The same participatory venue, the Water Commission, hosted two very different experiences of natural resources co-management that ended solving and promoting conflict respectively.

Key words: *Spanish dam-building policy, participatory management, natural resources conflict, co-management, institutional analysis.*

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INTRODUCTION

1. *Brief chronic of the Case of the Water Commission*

Since the beginning of the XX Century and particularly during the period of autocracy (1940-1975), dam-building policy in Spain has been co-managed by the central government's water agencies, irrigation communities and the hydropower industry. During the period of autocracy, dam-building policy implementation was facilitated by the existence of a well trained body of engineers, a tight administrative hierarchy and a lack of public accountability. The transition to democracy in the 1970s involved the emergence of a movement of local communities that opposed the construction of more dams in their valleys. During the 1980s, the local opposition consolidated and in the 1990s it acquired a broader scope by allying with environmental groups. In the region of Aragon, the opposition movement managed to block or substantially delay the implementation of almost every new dam project since the end of the 1980s. In particular, the implementation of 5 dam-building projects remained blocked for more than a decade. This resulted in a public conflict between the opposition movement and the irrigation communities, main beneficiaries of dam-building projects. The water agency in Aragon was supposed to be the venue for solving the conflict; however, the water agency proved to be unable to facilitate consensus among the confronted parties. In this regard, the regional government of Aragon, which had no powers in the dam-building policy, decided to intervene. The result was the creation of a *Public Commission* which would be in charge of solving the conflict over the five dam projects and coordinating public participation for the elaboration of the first *Aragon's Water Policy Guidelines*. The Public Commission has proven to be pretty effective with regard to the conflict-solving process. Collaboration and mutual accommodation of confronted parties resulted in the design of commonly accepted alternatives to the controversial dam building projects. On the contrary, the Water Commission's performance with regard to the planning process raises some concerns about its effectiveness. The Water Commission fulfilled its mission but failed in doing it in a non-conflictive way.

With regard to the above chronic, some initial questions arise. Why did the Water Agency fail to solve the conflict that blocked the implementation of the projects? What motivated/facilitated the regional government's entrepreneurship? Why was the conflict-solving process more successful than the planning process? What impact did the Water Commission have in the water governance system in Aragon beyond conflict-solving? To better frame these questions, the following section explores some of the existing literature on natural resources conflict resolution and on participatory management.

2. *Natural Resources Conflict Resolution and Participatory Management*

Conflicts over the use of natural resources have received significant attention in recent years. Although conflict over the use of natural resources such as land, water or forests is ubiquitous (Buckles 1999), the nature of conflict can vary. Conflict over natural resources use can exist with regard to different dimensions (Buckles 1999). For example, it can manifest as an economic matter of non internalized externalities. Guaranteeing the use of water in the lower reaches of a river by means of dam-building

may entail costs of a diverse nature for upstream communities that are not taken into account by decision makers. Natural resources conflict may also manifest as a normative matter. For example, while communities in the mountains may value water flowing down the river as a sign of health, irrigators may value water in a reservoir as a symbol of progress and understand water flowing down the river as a sign of vulnerability. Finally, political dimensions may dominate in a natural resource conflict where, for example, allocation and redistribution issues are at the stake. Alternatively, conflicts can exist at different levels from local to regional to international, and show different degrees of intensity, from disagreements or public demonstrations over management issues to court appeals or violent confrontations over the ownership of the resource (Buckles 1999).

The good news about conflict is that confronted parties may be interested in solving the disagreement (Buckles 1999); the bad news is that they will probably differ in how to do so. This condition has justified the emergence and use of conflict-solving mechanisms throughout history. While traditional conflict-solving initiatives aimed to channel confrontation among parties (i.e. litigation), more recent practices aspire to solve conflict by building collaboration among parties. Many of the principles of current conflict resolution initiatives are drawn from North American experiences with Alternative Dispute Resolution (ADR) (O'Leary et al. 2004). ADR refers to "the resolution of disputes through non-adversarial processes with the assistance of an impartial third party", which includes arbitration and mediation among other processes (US Institute for Environmental Conflict Resolution).

Alternatively, the drama of natural resource conflicts (and of conflicts in general) is that they can threaten the functionality the existing governance system; the hope is that, in doing so, conflicts can trigger institutional change and governance improvement (Castro 2001; Sulliman 1999; Buckles 1999). In other words, "conflict should not be viewed only as a dysfunctional relationship between individuals and communities that should be avoided at all cost, but also, as an opportunity for constructive change and growth" (Castro 2001, 229). In this regard, it has been argued that conflict-solving mechanisms must be not only reactive but also proactive, meaning a need for new arrangements that institutionalize stakeholders' participation within the policy making process (Castro 2001; Buckles 1999; Meadowcroft 2004).

As a matter of fact, the enlargement of public participation is currently an important trend in natural resources management and policy (Kapoor 2001). Beyond the perspective of conflict management, the trend has been identified in the literature as an alternative to the one way, top-down planning model where the state and its technocrats manage natural resources on behalf of stakeholders and for the sake of efficiency (Kapoor 2001). In this regard, participatory management and similar concepts such as co-management have been associated with community empowerment, respect for traditional knowledge or social justice (Warner 1997). The literature uses the terms of participatory management and co-management to refer to a set of experiences where the state and stakeholders share some degree of responsibility and authority over the management of natural resources (Berkes 1994; Pomeroy 1995; Kapoor 2001; Goetze

2004). The spectrum of participatory management/co-management experiences ranges from the use of mechanisms that enable public information and comments to the development of joint ventures where both the state and stakeholders have some kind of veto power or to the existence of complete autonomy of private parties (Bruns 2003).

Although participatory management in general finds in normative considerations an important foundation (Cleaver 2002; Warner 1996, Meadowcroft 2004), its application to the governance of natural resources has been mostly justified for reasons of efficiency (Castro 2001; Kapoor 2001; Goetze 2004). Broader participation can enhance knowledge and information sharing among parties, which may facilitate policy decision-making, implementation, and learning (Kapoor 2001; Berkes 1994; Goetze 2004). Participatory management can also enhance stakeholder's ownership of policy making, facilitating again policy implementation (Goetze 2004). Finally, as mentioned above, participatory management can help to identify conflicts of interests and to clarify power relationships among stakeholders (and the state), facilitating conflict resolution at early stages of the policy-making process.

The advancement of participatory management is illustrated through experiences all around the world. It is the case, for example, of experiences in Vietnam, Philippines, South Africa or Sri Lanka, where the state has formally devolved to local councils and communities the management of irrigation systems (Bruns 1997; Wester 2003; Vermillion 1998). Other examples are the integration of local communities in larger governance organizations for the management of fisheries in the US, Canada or the Caribbean (Goetze 2004; Pomeroy 1995; Warner 1997) and the empowerment of indigenous communities for the management of forests in Pacific countries (Agrawal and Gibson 1999; Banerjee 2000).

The above experiences have been accompanied by a growing literature about the challenges of advancing participatory management. Some of those challenges are particularly puzzling. First, there is the issue of institutional path dependency. Much of the experiences of participatory management have been implemented only partially or in particular stages of the policy process due to institutional resistances. Institutions may be holding back because it may be costly both in terms of time and money to effectively allow stakeholder's involvement. There may be also behavioural reticence from either the government and bureaucrats or the stakeholders; at the end, "transition towards participation requires nothing less than a change of organizational culture" (Kapoor 2001). Finally, there may be legal constraints that make difficult a change in the constitutional rules that regulate participation in the policy-making process (Lindsay 2000).

Second, there is the issue of representation. Identifying key stakeholders for the matter of effective participatory management of natural resources is critical but also challenging (Kapoor 2001). What is the criterion to use? On the one side, many people can potentially be affected by any decision related to natural resources management. On the other side, only some stakeholders have the resources to self-organize or to be publicly recognizable. At the end, the choice is embedded in normative assumptions

about, for example, the suitability of corporatist versus more democratic forms of participation (Pinkerton 1992).

Finally, there are the issues of bargaining power and the existence of barriers to negotiation that manifest in the implementation of co-management arrangements and can imbalance in non-attended ways the results of participatory processes (Pinkerton 1992). Regardless of institutional sources of power, which stem from each particular co-management arrangement, different stakeholders and the state can use alternative levers, from economic resources or political support to credibility or technical expertise, to increase their discretionary power (Castro 2001). Also, stakeholders or the state can use arenas and policies that are interrelated to natural resources management to influence the bargaining process (Pinkerton 1992).

3. *Delimitation of the Case Study*

The region of Aragon is situated in the North-East of Spain. The region is divided in half by the Ebro River, the largest river in the country. The case study is focused on the Northern sub-region. This sub-region is composed of the Pyrenees Mountains and a big territory delimited by the Pyrenees at the north and the Ebro River at the south (see Annex 1). The Pyrenees are rich in wild rivers and deep valleys. Most of the rivers that are born in the Pyrenees flow into the Ebro River. The territory between the Pyrenees and the Ebro River is relatively flat, which makes the zone very suitable for cropping; however, pluviometry in that zone is low (between 300 and 400 mm.). Most of the dams of the region are located in the Pyrenees and the main state-promoted irrigation systems of the region are located in the flat zone. The dam-building policy conflict could be understood as a struggle between stakeholders in these two zones, or, as is commonly known in Aragon, between the *mountains and the lowlands*.

Government in Spain is pretty decentralized. Each region has its own parliament and executive office. Regional governments have powers over an important amount of policies but not over dam-building policy, which is steered by the central government through water agencies across the country. Water agencies have jurisdiction over the main river basins of the country.

The paper is structured in two big parts, which are organized chronologically. The first part includes a historical review of the Spanish dam-building policy and an examination of the causes that might be behind the creation of the Water Commission. The second part starts with an exposition of the Act that created the Water Commission and follows with an examination of its implementation by reviewing the developments of the conflict-solving and the planning processes. The Conclusions of the paper recapitulates the findings and advances aspects of the case that need further inquiry.

I. ANTECEDENTS FOR THE WATER COMMISSION

1. *Expansion and Erosion of Dam-building Co-management System in Spain*

Emergence of a Co-management System for Dam-building Policy

During the XX Century, particularly during the period autocracy from 1940's to 1970's, dam-building was one of the central policies of the government to promote economic growth. Several factors explain the origin of the State intervention in the water sector in general and in dam-building in particular.

First, by the beginning of the XX Century, water distribution infrastructure was underdeveloped. During the XIX Century, the State had delegated the development of water distribution infrastructure to private corporations, which ultimately had failed to complete the projects due to the lack of funding (Diaz Marta Pinilla 1998; Martin Retortillos 1960; Perez Diaz and Mezo 1996). By the beginning of the XX Century, the State was the only entity capable of financing the costs of expanding water distribution infrastructure (Melgarejo Moreno 2000).

Second, by the end of the XIX Spain was facing an important social and economic crisis. On the one side, the Spanish colonial Empire was disintegrating. On the other side, the agrarian sector was underdeveloped and the growth of a world agricultural market and continuous drop of Mediterranean product's prices made unsustainable an agrarian policy based only on in protectionist measures.

Finally, a new paradigm about the role of the government in the modernization of the country emerged by the end of the XIX Century. According to this paradigm, the "Regeneracionismo" (*Pro-regeneration movement*), problems of water availability were one of the main causes of the low productivity of Spanish agriculture, which was considered to be the main cause of the Spanish economic crisis. To face water problems, "Regeneracionistas" proposed the intervention of the State to promote the construction of hydraulic infrastructures that guaranteed water supply for irrigation (Marcuello and Calvin 1996). These ideas became very popular and constituted the motto and a source of legitimacy of the State's dam-building policy (Fernandez Clemente, 1986). In 1879, a new Water Act set the public ownership of superficial water, established a system of water use permits and put the State in charge of promoting a dam-building policy. This was the beginning of what Perez Picazo and Lemenuier (2000) call, the new State's *Hydro-agricultural Policy*.

The implementation of the new *Hydro-agricultural Policy* was facilitated by different factors. First, the State counted with a well trained body of public works engineers that managed the required technology and whose ideas about the benefits of dam for the economic growth of the country were very consonant with the ones of "regeneracionistas" (Perez Picazo and Lemenuier 2000; Perez Diaz and Mezo 1996).

Second, since the legalization of agrarian cooperatives in 1870 irrigation communities had become an important government lobby for the promotion of hydraulic works. In this regard, the Water Act of 1879 had granted to irrigation communities the responsibility

for co-financing and managing the new State promoted reservoirs and channels across the country. Indeed, every irrigator that wanted to be granted with a water use right had to be enrolled in an irrigation community. Irrigation communities would be in charge of financing up to 40% of any State promoted infrastructure they benefited from or they wanted the State to build. Alternatively, influential financial consortiums participated in the construction of big dams for the exploitation of hydro-power, constituting an important lobby for the effective implementation of the dam-building policy (Perez Diaz and Mezo 1996)

Finally, the instauration of an autocratic regime in 1940 facilitated indiscriminate construction of dams across the territory (Martin Retortillo 1960). At the cost of centralizing the planning of new infrastructures under the Department of Public Works and allocating dams across the country without a wide-ranging strategy, the government under Franco put into operation around 322 new dams between 1940 and 1960. Spain became the first country in the world in proportion of the territory occupied by reservoirs (Perez Diaz and Mezo 1996).

All elements depicted above converged into the structure and operations of the central government's water agencies ("Confederaciones Hidrográficas"), which were organized by river basins across the country. The Water agencies administered within each river basin a system of use permits, planned the construction of new water works and co-managed existing infrastructure with the collaboration of water users, namely the irrigation and hydropower lobbies, urban users and public authorities representing the provinces within the river basin. Water agencies were structured in an Assembly including all the representatives and several dam management boards. The two main management boards were the Exploitation Board and the Water Storage and Release Board. The water agencies had as many Exploitation Boards as hydraulic systems (i.e. dam/s plus water distribution infrastructures). Each Exploitation Board was composed of water agency technocrats and representatives of water users (i.e. irrigators) concerned about the particular hydraulic system the Board was associated to. The Exploitation Boards main function was to co-decide courses of action related to the operations of hydraulic system, from the allocation of water across irrigation communities to aspects related to the maintenance of the infrastructure. The Water Storage and Release Board was composed uniquely by water agency officials. There was one Water Storage and Release Board per water agency and its function was to decide when to open and close gates of the dams within each hydraulic system under the jurisdiction of the water agency. Representation in the management boards was proportional to seats hold in the Assembly. Irrigator's communities represented more than half of votes in the Assembly and thus in the management boards of the water agencies. Irrigators, the hydropower and construction industry, and the water agency engineers constituted a tight policy community (Bressers et al. 1995) according to which irrigation communities demanded water for their croplands, the technical services of the water agency prescribed the construction of a dam and elaborated the project and the hydropower and construction industry gave advice about technicalities while influencing the choice about the ultimate site of the infrastructure.

Erosion of the Dam-building Policy Co-management System (1970-...)

The transition to democracy and the decentralization process in the 1970s and the incorporation to the European Community in the 1980s entailed the erosion of the model depicted above. First, the internal coherence of the Department of Public Works was challenged by internal reorganizations and the devolution of policies to the newly constituted regional governments (Perez Diaz and Mezo 1996). Second, the irrigation and hydropower lobby's interests started diverging. Besides, some fissures emerged within the community of expertise about the appropriateness of dam-building to tackle water scarcity problems (Perez Diaz and Mezo 1996). Third, the incorporation of Spain into the European Community entailed the transposition of regulations such as the Impact Assessment Evaluation regulation that strengthened external control over the dam-building of departments (i.e. Dept. of Environment) and socio-economic interests groups not included in the traditional policy community.

In addition to the above facts, new local movements and environmental groups started contesting dam-building policy and calling for attention to the environmental and social costs of dams. Their use of the newly acquired civil rights in the public arena not only contributed to the suspension of multiple dam-building projects during the 1980s and the 1990s but also to the erosion of the *good image* (Baumgartner and Jones 1993) that dam-building have had until then.

Some of the above trends were reflected in the approval of a new Water Act in 1985 that reformed both the policy making process and the structure of water agencies. On the one side, the 1985 Water Act required the elaboration of a the year National Hydrologic Plan that would be composed of river basin management plans corresponding to the 8 major river basins in the country. On the other side, 1985 Water Act introduced the representation of regional governments in some of the water agencies' management boards and created the figure of the Water Council. Each water agency would have a water council including representatives of public authorities at different levels and water users, which would be in charge of reviewing the river basin management plan before sending it to the Department of Public Works/Environment. The Water Act also mentioned the need elaborating plans of economic compensation for the communities affected by the construction of dams. Finally, the Act consolidated a procedure for public information and comments to allow public input in the policy decision making process. Water agencies had to open a 1 month period of public information before making the final approval of each dam-building project, allowing people to submit comments about the project.

2. Reasons for the Water Commission or a Window of Opportunity for the Regional Government's Intervention in Dam-building Policy.

Conflict over the Implementation of Dam-building Projects in Aragon: the Strength of the Opposition Movement and the Water Agency's "Adaptive Incapacity"

In Aragon, the erosion of the dam-building policy went along with the emergence of a public conflict between local and environmental groups and the irrigation lobby. The

former, opposed the construction of new dams and the latter claimed for the effective implementation of historical projects that had been continuously suspended due to the lack of funding from the central government but mainly to the actions of the opposition movement (Perez Diaz and Mezo 1996). The water agency was unable to facilitate agreement of the parties.

- The opposition movement and the extension of the conflict:

The local opposition movement that emerged in the 1970s was relatively fragmented across the Pyrenees. Opposition to dams emerged in those sites where the water agency announced the construction of a new dam. The picture changed a little bit in the 1980s and 1990s. The different local protests that were spread out through the Pyrenees organized. In the 1980s they created the Coordinating Committee of Communities Damaged by Reservoirs (COAPE). In the 1990s environmental groups and some university professors started paying attention to the situation of dam-building policy and joined the local movement. The environmental groups, the university professors and the local movement constituted altogether the Coordinating Committee of Communities Damaged by big Reservoirs and Water Transfers (COAGRET), which substituted the COAPE. Through this alliance, local communities and environmental groups shared resources. The local communities contributed to the alliance by means of a potent discourse on social justice² and a critical mass of people to occupy the public arena. The environmental groups and the university professors contributed with a conservationist discourse and scientific expertise and experience organizing public mobilizations³. From the creation of COAGRET on, the opposition movement started a strategy of contestation in the academic, public and judicial arenas, blocking almost every dam-building project in the water agency's implementation agenda.

On the one side, COAGRET started a research venture of studying each of the dam-building projects as they were released for public information by the water agency. COAGRET's studies consisted of cost benefit analyses that balanced the project's benefits for the irrigation and hydropower sectors against environmental, historical and social costs. Among the alternatives that COAGRET proposed, the increase of water consumption efficiency in the irrigation sector was recurrent. COAGRET also focused on the scrutiny of the water agency's Environmental Impact Assessments for each project and realized geological analysis to put in evidence the flood risks that some dam projects entailed. Some of the studies, particularly those that reviewed the water agency's Environmental Impact Assessment reports and those that assessed the risk of the dam-building projects were particularly effective in delaying or suspending the implementation of the projects.

On the other side, COAGRET initiated a campaign sponsoring a new thinking over the role of the dam-building policy in the region. They advocated for a "New Water Culture" promoting water policies that tackled water scarcity by means of water demand control

² See Annex 3 for an illustration of the discourse of the local communities against dam-building projects.

³ Environmental groups had previous experience in using the public arena to promote their claims; among their membership there were people that had also participated in pro-rights movements during the transition to democracy in the 1970s.

and not by means of increasing the water storage capacity of the region⁴. COAGRET and each local community independently deployed an intense series of public protests including demonstrations, public events, conferences, manifests, articles in newspapers and so on. This strategy extended over the years and culminated in the use of court appeals by the end of the 1990s. Some of the majors of the most active local communities sued not only the projects themselves but some of the high-ranking public officials of the water agency and the Department of Public Works. The officials were accused of bribery in the contracting process for the building of some dams and of irregularities in approval of the Environmental Impact Assessment. The public and court actions of the opposition movement proved to be particularly effective to suspend the implementation of some of the most controversial dam-building projects in Aragon throughout the 1990s.

- Elements for the Water Agency's Unresponsiveness

Despite the major changes introduced by the 1985 Water Act in the dam-building making process and the introduction of representatives of the regional government in the water agency government boards, the main rule concerning participation in the dam-building policy did not change. According to the 1985 Water Act only "water users" had the right to be represented in the water management boards. This meant that only those that were directly entitled with water use rights would have representation in the water agency. According to this definition, local communities and environmental groups did not have the right to co-manage water directly since they were supposed to be represented by either the regional or the provincial governments.

Besides, the Water Council, which was supposed to broaden public participation in the process of elaboration of the river management plan proved to be inoperative, mainly because the elaboration of the river management plan was supposed to happen each 10 years⁵. Moreover, neither local groups nor environmental groups were allowed to participate in that Council. Only in 1994 a new regulation allowed the participation of environmental groups in the Water Council, which, given the low activity of that board, did not make much difference.

Moreover, the expertise structure of the water agency did not substantially change⁶. The role of engineers in the policy-making process continued to prevail over political considerations. Besides, the water agency's engineers were in charge of elaborating the Environmental Impact Assessment, which limited the control capacity of actors external to the policy community. Finally the engineers were also in charge of estimating the compensations for potential damages to the economic, historical or social patrimony in the localities where the dams would be placed, which also limited the monitoring of outsiders to the policy community.

⁴ See annex for an illustration of the "New Water Culture" Discourse.

⁵ From 1985 to 1999, the Water Council meet 4 times

⁶ In 1992, among the 91 high ranking public officials in the water agency, 64 belonged to the body of Public Works engineers. In 1999 the ratio was lower but still 50 out of the 112 high-ranking officials in the water agency were engineers.

Finally, the public comments procedure prescribed by the 1985 Water Act proved to be insufficient to tackle the claims of the opposition movement. According to the Water Act, once the public information period ended, the water agency was required to reply each of the public comments or extend the period if so demanded by any interest group. The local communities and the environmental groups started using massively this channel by the end of the 1980s, to the point that each time the water agency issued a new project or the revision of an old one, the public comments system was collapsed. Besides, the opposition movement asked recurrently the water agency to extend the period of information, in some cases up three times. Finally, regardless of the seriousness the water agency studied the public comments, there was no further mechanism beyond the duty of the water agency to reply the public comments that allowed local movements to monitor the effective impact of their complains on each final dam-building project.

The Politics of Water Storage and Transfers

Although certainly the hydropower industry was a powerful lobby for the development of dam-building, the interest group most visibly benefited by dams was the irrigation lobby. In the region of Aragon, the construction of dams was effective but slow and always constrained by the availability of funding from the central government (Perez Diaz and Mezo 1996). In the 1970s, due to the economic recession, dam-building policy in Aragon was completely paralyzed. Once the economy started recovering in the 1980s, irrigators demanded the water agency to implement the dam-building projects that had been suspended in the 1970s. This standpoint was supported by emerging regional political parties in the 1980s that saw the issue as the evidence of the lack of autonomy of the region *vis a vis* the central government. One of those regional parties, Aragon's Party (PAR) steered the regional government during since the second half of the 1990s up to the present. The decentralization process had entailed the devolution of power over waste water treatment, flood control, land use and agricultural policies, but not over the dam-building policy, which remained under the jurisdiction of the central government's water agency in the region. According to the regionalist discourse, the Department of Public Works, by that time in charge of the water agency in Aragon, had to dedicate more resources for the development of water infrastructure in the region or devolve the power over the policy to the regional authorities. Solving a conflict that the central government's water agency in Aragon had proved to be unable to tackle could give political credit to the regional government in its aim to get more powers over the water policy.

Alternatively, in 1992 the central government released the first draft of the National Hydrological Plan (NHP), which had been in elaboration since the approval of the 1985 Water Act. Among other issues, the NHP stipulated the development of a system of aqueducts to transfer water from inner country regions towards the Mediterranean regions. The region of Aragon was one of the regions that had to give away water. The regional parliament, the regional government and the citizenry in Aragon opposed to the water transfers of the NHP arguing that the region of Aragon needed water for its own development. The central government's Secretary of Public Works made an offer to the

regional parliament for the latter to accept water transfers. The central government would engage to include in the NHP a list of hydraulic works that the regional government considered necessary to guarantee their development. The list was elaborated by the regional parliament and included into a broader political document that would be known as the Water Pact. The Water Pact, was finally signed by the Secretary of Public Works and all the political parties represented in the regional parliament by the end of 1992. Among other hydraulic projects, the Water Pact included some of the dam-building projects to which the local movement had opposed in the 1980s.

The NHP was suspended in 1994 due to diverse issues but the Water Pact was not revoked. However, the Water Pact was not implemented either, since that depended on the central government funding. In 1998 the central government released a new draft of the NHP, again including some interregional water transfers. From that moment the regional government played a very active role to block the approval process. The NHP was finally approved in 2000 and included the requirements of the Water Pact; however, by that time the local and environmental groups in Aragon had already showed their capacity to block the implementation of some of the most important dam-building projects included in the Water Pact. Solving the internal conflict in Aragon was a requisite to make effective at least some of the Water Pact's projects.

The European Water Directive Framework:

In 2000, the European Parliament approved the Water Directive Framework to regulate aspects related to water quality and management in the European members. Two of the most commented requirements of the Directive were the administration of water by river basins and the habilitation of public consultation mechanisms in the elaboration of river basin management plans. Among other things, the WDF requires EU members to develop a schedule of public consultation measures for the elaboration of river basin management plans and to facilitate public access to background documents and information. In Aragon, the WDF applies directly to the functions of the water agency, which has to complete a river basin management plan for 2009; however, nothing prevented other actors (i.e. the regional government of Aragon) to advance public participation in their jurisdictions on behalf of the European Directive requirements.

II. “THE LIFE AND WORK” OF THE WATER COMMISSION

1. Grounds for the Water Commission

As suggested in the previous section, the aggravation of the conflict over the dam-building policy, the politization of water issues and the release of the European Water Directive opened a window of opportunity for the creation of the Water Commission.

The creation of Water Commission was prescribed by regional parliament of Aragon in 2001 and effectively put into operation in 2003, under the leadership of the regional

government. The regional government had not the legal authority to get involved in dam-building affairs; however, it had the political legitimacy to intervene in a conflict that had expanded over the public arena. The inability of the water agency to promote consensus among the parties and the political environment that the elaboration of the NHP had involved by the end of the 1990s facilitated that the regional government's leadership to solve the conflict through the Water Commission was not seen as an illicit interference in the water agency's affairs.

The Participatory Water Management Act (2001)

In 2001, all the political parties in the regional parliament of Aragon approved the Participatory Water Management Act ("Ley de Ordenacion y Participacion del Agua en Aragon"), which prescribed the creation of the *Water Commission* and the *Aragon's Water Institute* and the elaboration of the first *Aragon's Water Policy Guidelines*.

The Act created the Aragon's Water Institute (AWI), which had to be financed and monitored by the regional government's Division of Environmental Management (DEM). The main competencies of the AWI's were: (1) to elaborate the first *Aragon's Water Policy Guidelines* and manage the regional government's power over flood prevention and water conservation, (2) to advocate for the region's interests with regard to the national hydraulic policy, (3) to promote compensatory measures on behalf of the localities that had borne the costs of dam-building in their territories and (4) to constitute a public forum "that gathers every agent concerned with water management: the Administration, water users and people damaged by dams (...) and experts, with the goal of reaching consensus over minimal agreements and correcting the lack of representativeness of other public organisms (*i.e. the water agency*)" (BOA 2001; the italics are mine).

According to the 2001 Act, the *Aragon's Water Policy Guidelines* blueprint had to be restrained to the areas under the jurisdiction of the regional government (*i.e.* flood control, environmental protection and land use) and had to include, among other issues, general directives on the governance of water demand across economic sectors and on the means to balance water demand and supply in the region. This involved a broad scope of decisions connected with background considerations about the role of the irrigation sector for the economic development of the region and the role of dam-building as a solution to water scarcity.

Finally, the 2001 Act prescribed the creation of the Water Commission. According to the Act, the Water Commission had to be composed of 65 members, representing 18 different public entities and interest groups (see Annex 2). Some of the participants were the water agency, the regional government, farmer associations, environmental groups and local communities. Among other tasks, the Water Commission had to be consulted for the elaboration of the Aragon's Water Policy Guidelines, and would serve as a public forum for discussing as many issues the Commission agreed to address.

According to a subsequent regulation in 2002, the Water Commission had to be structured at two levels of decision making: the assembly and the working groups. The

assembly had to include the 65 representatives, meet twice or more times per year and take decisions by majority voting according to the rule one person one vote. The working groups' composition and operating rules would be created *ad hoc* by the assembly.

A Precedent: the Ecologia y Desarrollo's Initiative of Social Mediation

The aggravation of the conflict by the end of the 1990s meant a concern for any social actor interested in water management and social peace in the region. That was the case of the NGO Ecologia y Desarrollo ("Ecology and Development"- *EcoDes*).

EcoDes initiated an *Initiative of Social Mediation* (ISM) in February 2002. The aim of the ISM was to "facilitate and foster the appropriate environment that helped the reconstruction of a common understanding of water management in Aragon" (Vinales and Celaya 2006: 3). In particular, the goals of the ISM were two: (1) Elaborate a document including the maximum of common interests among confronted parties, and (2) present that document to the regional parliament so it could be used as the base upon which regional legislators could build decisions over water management in the region while minimizing conflict of interests.

For the above purposes, *EcoDes* used a strategy of mediation. According to the mechanism of mediation, the confronted parties have complete ownership of the conflict-solving process and the main task of the third party, the mediator, is to facilitate the communication among parties (O'Leary et al. 2004). The NGO leaders first asked 38 well known personalities who were not directly involved in water management issues to participate in the initiative as mediators. The 38 collaborators formed mediation groups. The ISM operations were supported by a Technical Secretary, which was in charge of coordinating the works of the different mediation groups, and a plenary that meet whenever it was necessary to discuss issues that concerned the whole team. The NGO leaders also identified the parties that most clearly were involved in the general controversy over dam building. They identified 13 actors: the four most important irrigation communities in the region, the three largest farmer associations, the four local associations that were against four most controversial dam-building projects in the region and an association of localities from the Pyrenees.

Each mediation group was in charge of meeting with the parties to discuss their concerns and elaborate a document with their interests related to water management and dam-building policy in the region. In May 2002, six months after the initiation of the process, the ISM had gathered around 70 propositions; 25 out of those were common to all the parties. Up to that moment, the NGO had operated autonomously from public authorities. The NGO had used its own economic resources and promoted its legitimacy and the transparency of the ISM by means of press conferences and public communications. By October 2002, a final document with the 25 propositions was ready to be signed by the parties. It is at this moment when the NGO asked for the recognition of public authorities, the regional government and the water agency. The public authorities agreed; however, the document was not finally signed. The four irrigation communities decided in the last minute not to sign the document.

2. *The Water Commission in Practice*

The regional government put the Water Commission into operation in 2003. As soon as the first assembly meeting of the Water Commission took place, several working groups were created. The most relevant working groups were the *Public Works Working Group* and the *Aragon's Water Policy Guidelines Working Group*. The Public Works Working Group was in charge of solving the conflicts generated over 5 of the most controversial dam-building projects in the region. The Aragon's Water Policy Guidelines Working Group was in charge of participating in the elaboration of the Aragon's Water Policy Guidelines.

Interestingly enough, after the 2004 national elections, the party controlling the central government changed. While the previous Secretary of Environment had not taken position with respect to the 2001 Act, the new Secretary of Environment did endorse the initiative and engaged herself to ratify any decisions the Water Commission took.

The Conflict-solving Process Functioning and Results

The 2001 Water Act did not prescribe any specific requirements about how the Water Commission had to solve the conflict over the dam-building projects, nor about the internal functioning of the working groups.

The Public Works Working Group was finally composed of 8 members. The members were selected from the plenary in a way that they represented the different standpoints about the suitability of dams (Aranda Martin, 2007). To complement the works of the Public Works Working Group, the chair of the regional government's Division of Environmental Management (DEM) took the initiative to ask the NGO *EcoDes* for collaboration. According to the agreement between the regional government and *EcoDes*, the NGO's team would not be a formal part of the Water Commission, but would mediate between confronted parties in those conflicts that permitted to do so. For doing so, *EcoDes* applied the same mediation method that had used in the past, which consisted on an intensive schedule of meetings, a minimal organizational structure and a main objective of bridging common understanding instead of decision making.

At the end, *EcoDes* mediated in all but one of the conflict-solving processes with varying success. The processes involved the cases of Santaliestra, Matarrana, Biscarrues and Mularroya's dam-building projects. The conflicts over the projects of Santaliestra and Matarrana were resolved by consensus of the parties. The final decision with regard to the Biscarrues' project was passed on the national Secretary of Environment by unanimity the Working Group. The solving process on the Mularroya project is still ongoing. The conflict-solving process the NGO decided not to participate in, the case of Yesa's project, was tackled directly by the corresponding working group in the Water Commission and solved by majority voting⁷. What follows is a brief chronic of the cases of Yesa and Santaliestra.

⁷ See Annex 6 for an illustrative chronic of the case of Santaliestra. Although all the cases are different, they share some important commonalities. All of the conflict cases involved the confrontation among the

The Planning Process Functioning and Results

Contrary to the conflict-solving process, the 2001 Act was pretty detailed about the procedure to elaborate the Water Policy Guidelines. According to the 2001 Act, the DEM was in charge of elaborating a first draft of the Guidelines. Then, the document had to be reviewed by the Water Commission's Working Group and general assembly. At the same time, the DEM had to open a three months period for public comments. Finally, the original document, the report of the Water Commission's and the public comments had to be sent to the executive board of the regional government, which would complete the final Guidelines. The regional government then had to send the final document to the regional parliament for approval.

The Water Policy Guidelines Working Group started reviewing the DEM's first draft by the end of 2004. After 20 months of work, the Working Group's revision was sent to the Water Commission's general assembly. During the month of April the general assembly discussed the draft. At that point of the process, the chair of the DEM decided to start a series of private meetings with the main stakeholders in the Water Commission. The reason for doing this is not clear. The DEM argued that the purpose was to enrich the discussion and mediate among parties; however, some participants in the Water Commission considered that the initiative was part of a strategy of the DEM to build majorities upon its draft outside the Water Commission's venue. Just two weeks before one of the last assembly meetings before the final voting of the Water Commission, the DEM's Chair met with representatives of the irrigation lobby. Apparently, they reached an agreement to include in the Water Policy Guidelines some hydraulic works previously prescribed in the 1992 Water Pact. The document that resulted from this meeting won the final voting in the general assembly by 80% against 20%.

During the days following the voting, representatives of the local and environmental movement exited the Water Commission arguing that the deliberative process had been delegitimized by the discretion and partiality of the chair of the DEM. Most of these representatives joined the Water Commission back, but the result of the voting did not change. The Water Policy Guidelines document was finally sent for approval to the regional parliament by the end of 2006. Like in the case of Yesa, the 20% of votes against the Commission's plenary resolution came from the representatives of the affected localities, environmental groups, university and some few of the administration and the localities of the Pyrenees, just the same interest groups that had effectively blocked the implementation of the dam-building policy in the 1980s.

3. Epilogue: Current Developments of the Water Agency

One year ago, the water agency in Aragon started the elaboration of the Ebro River Basin Management plan according to the prescriptions of the European Water Directive

same interests groups, namely the environmental and local groups vs. the farmers associations. Also, all of the conflict cases were manifested through public manifestations and three of them also by means of court appeals of the local communities. The resolution of the conflict in those cases where the NGO mediated was legitimized either by the consensus or the recognition of the parties.

Framework for the promotion of public participation. The planning process, which is not formally regulated, has been developed in the following way: The water agency divided the Ebro river basin according to smaller river basins and elaborated a first draft for each one of them including forecasts about water demand and consumption, needs related to the hydraulic infrastructure, environmental concerns and other issues. Quite often, large sub-river basins were divided in two and three sections (i.e. upstream, midstream and downstream). Then, the water agency identified key stakeholders in each sub-river basin and sent them a copy of the draft. Afterwards, the water agency scheduled separated meetings with stakeholders according to their status: economic actors (irrigators, industry, tourism), social actors (local associations and environmental groups), and public officials (majors of the neighboring localities). In the meetings, stakeholders transmit their claims to the water agency representatives. Ultimately, the water agency is in charge of compiling the demands and elaborating a final draft that will go through a period of public information and comments.

CONCLUSIONS

The case of the Spanish dam-building policy and the Water Commission is illustrative of how the historical context can influence the scope of public participation in co-managed systems. Embedded in a context of economic and political crisis at the beginning of the XX Century, dam-building policy was created with the clear intention of promoting irrigation. Dam-building was considered to be the solution to the water scarcity problem, the underdevelopment of agriculture and the economic crisis of Spain. The main challenge at that point was to effectively finance dam-building and assure the management of the hydraulic infrastructure over time. The promotion and inclusion of irrigation communities into the water agencies' apparatus fitted logically with the mission of the agencies. The same instrumental logic justified the integration of the hydropower industry and urban users into the system. Spain was a world pioneer in developing a system of co-management. In that context, it is at last doubtful that ideas promoting the need to let the rivers flow or to give voice to local communities affected by the dams would have had any echo in the public or political arenas. Although the period of autocracy might have perverted the co-management system over time, its institutional basis had already been set at the beginning of the Century.

The context by the end of the Century was completely different. The exhaustion of the dam-building policy, the transition to democracy, the influence of the European Union and the appearance of environmental ideas favored further considerations about the environmental and social costs of dam-building and gave room to the voice of stakeholders other than the irrigation communities or the hydropower industry.

Beyond the above observation, this paper aimed to answer four initial questions related to the case of the Water Commission in Aragon: Why did the water agency fail to solve the conflict that blocked the implementation of the projects? What motivated and facilitated the regional government's entrepreneurship? Why was the conflict-solving

process more successful than the planning process? What impact did the Water Commission have in the water governance system in Aragon beyond conflict-solving? Some of the provisional answers to these questions point to theoretical puzzles about the scope of public participation in co-managed systems, the issue of institutional resistances and the role of conflict and power for the promotion of institutional change and effective participatory management.

1. Why did the water agency fail to solve the conflict that blocked the implementation of the dam-building projects?

Several facts seem to be behind of the water agency's "unresponsiveness" to the conflict:

- The water agency's collective choice rules and historical practices did not include the direct participation in the water agency's decision-making process of non-"water users" such as local communities or environmental groups. Non-"water users" were supposed to be represented in the co-management system by elected public officials, namely the representatives of the provincial public authorities and of the regional government.
- Institutional changes introduced by the 1985 Water Act did not have much effect on the water agency's decision-making process with regard to public participation. The "water users" boundary rule did not change, the Water Council was inoperative in practice and public works engineers continued dominating the water agency's personnel structure and supply of expertise.
- The opposition movement grew through a bottom-up process as new dam-building projects were being released by the water agency. It was not until the 1990s that the opposition movement showed a fundamental discourse against the existing dam-building policy paradigm (see Annex 3). Even if the water agency had been prepared to solve disagreements over dam-building policy, it was difficult to interpret the first protests against dam-building projects in the 1980's as the evidence of a fundamental problem of decision making to tackle at early stages of the policy-making process.
- The public information and comments mechanism that the water agency had in operation to receive public input collapsed given the mobilization capacity of the opposition movement and the limitations to facilitate feedback of information with outsiders.

2. What explains the regional government's entrepreneurship to sponsor the Water Commission?

The regional government did not have formal authority over dam building policy and, according to the 2001 Water Act, the Water Commission was created under the jurisdiction of the regional government; however, the Water commission and thus the regional government ended being the venue for the resolution of the conflict over the water agency's dam projects and the elaboration of a blueprint on water policy in the region.

A configuration of several causes seems to have facilitated the regional government's intervention in the dam building policy:

- Conflict over dam building policy extended from the local to the regional scale and from the public arena to the courts in the 1990s. The opposition movement, in particular the environmental groups, had previous experience in using the public arena and courts and proved to be very effective in blocking the implementation of dam-building projects during the 1990s, making the situation unsustainable by the end of the decade.
- It was in the interest of the regional government to solve the conflict over dam-building policy in order to fast forward the implementation of at least some dam-building projects. This would make happy the irrigation lobby, main constituency of one of the political parties steering the regional government. Besides, solving the conflict over the dam projects would give the regional government credibility as a leading actor in the dam-building policy, critical domain over which it had not formal powers. Alternatively, the National Hydrological Plan (NHP) was approved in 2000 and included interregional water transfers. This urged the regional government to increase the regions' storage capacity in order to minimize the impact of those transfers in the region's water availability. Solving the conflict would facilitate the implementation of at least some of water storage projects. The issue of interregional water transfers entailed the politization of water issues, the regional government leading "a war on water transfers" on behalf of Aragon's people. In this context, the creation of the Water Commission by the regional government was not seen as an illicit interference in the water agency's affairs.
- In 2000, the European Parliament approved the Water Directive Framework (WDF), which postulated the use of participatory instruments to facilitate the elaboration of river basin management plans in the member states. Nothing prevented any public authority or social actor to promote public participation on behalf of a Directive that certainly had reached high levels of publicity and popularity.

These observations point to the discussion of the role of conflict as a trigger for institutional change (Castro 2001, Buckles 1999, Sulliman 1999). It is not sure in this case if the blockage of dam building policy and the subsequent public conflict was a necessary condition for the creation of the Water Commission. What seems to be clear is that conflict was not sufficient. The creation of the Water Commission in 2001, and not before, could be further explicated in regard to the politization of water issues and the enlightening role played by the WDF at the beginning of the new Century.

It is still to be explained the ultimate motivation of the leaders within the regional government to intervene in the dam building policy the way they did it. Justifying the public entrepreneurship of those leaders at a more micro level will complete the scenario here presented and might clarify the role conflict played for the intervention of the regional government and the ultimate creation of the Water Commission as a participatory venue for water management.

3. Why was the conflict-solving process more successful than the planning process?

The Water Commission's Conflict-solving Working Group was relatively successful. Collaboration and mutual accommodation of confronted parties resulted in the design of commonly accepted alternatives to the controversial dam building projects. The Water Policy Guidelines Working Group also fulfilled its mission but failed in doing it in a non-conflictive way.

The implementation of the Public Works Working Group was embedded in a series of circumstances that could explain its success.

- Although the 2001 Act did indicate the possibility of creating *ad hoc* working groups within the Water Commission, it did not regulate the operational rules of those working groups nor the process to solve the existing conflicts over dam-building projects.
- The regional government used its discretionary power to integrate the work of the NGO EcoDes in the working group's operations (see Annex 4). After making the agreement with EcoDes, the regional government intervened minimally in the conflict-solving process.
- The NGO set the basic de facto operational rules and strategy of the conflict-solving process
 - The agreement between the regional government and the EcoDes was formalized through a contract that allowed the NGO to choose in which conflicts to mediate. The NGO EcoDes had previous experience in mediation and knew well the conflict situation and the parties involved in each case. Mediation was used only in those conflicts where the parties recognized the usefulness and legitimacy of a mediating third party (4 out of 5 conflicts).
 - The NGO used the model of the ISM, an initiative of mediation built on the NGO's social capital (i.e. the 38 public personalities' mediation team) and on a minimal organizational structure, proving to be flexible enough to adapt to the parties' schedules and the intensity of meetings.
 - EcoDes' goal in the conflict-solving process was brokering communication among parties, not encouraging decision making. If parties did not reach agreement, the NGO would not force it.
 - All in all, the implicit collective decision rule was consensus.
 - The conflict-solving process was tackled project by project, involving project-specific stakeholders. Indeed, there were as many conflict-solving processes as controversial dam-building projects.
- The local communities and environmental groups, bulk of the opposition to the dam projects, had a veto power under the form of lawsuits and the effective gridlock of dam building policy advancement. If any dam project was to be feasible, it had effectively to take into account the claims of the opposition movement.

The implementation of the Water Policy Guidelines Working Group was embedded in a different series of circumstances than the Conflict-solving Working Group:

- The 2001 Act was very explicit about the operational rules for the elaboration of the Water Policy Guidelines and the consultative role of the Water Commission.
 - The Policy Guidelines had to include considerations about controversial topics such as the role of irrigation for the region, the development of measures to control water demand or the role and conditions for the use of dam-building in water management.
 - The elaboration process would follow a top-down model: the regional government's Division of Environmental Management would elaborate the first draft, which would then be sent to the Water Commission (Water Policy Guidelines Working Group). During the Water Commission's deliberation the regional government would open a three months period for public comments. Finally the DEM would be given the Water Commission and the public's amendments and would elaborate the final document that would be sent to the regional parliament for final approval.
 - The Water Commission had an advisory role.
 - The decision rule in the Water Commission was majority voting, meaning 2/3 of the official membership in the General Assembly.
- The regional government (i.e. the Chair of the Department of Environmental Management) used its discretionary power to mediate the Water Commission's deliberation process by means of non-transparent, private meetings with stakeholders (see Annex 5). This was interpreted by the opposition movement as a disloyalty to the spirit of the Water Commission.
- The opposition movement did not have the gridlock power as in the case of the conflict-solving process. Alternative sources of bargaining power failed; the strategy of exiting the Water Commission was not sufficient to reverse the majority voting result.

The above features illustrate two very different ways of implementing participatory management. The conflict-solving process could be classified as a case of empowerment and autonomy of stakeholders and the planning process could be classified as case of consultation (Bruns, 2003). Interestingly enough, these two different co-management experiences were developed within the same participatory organization, namely, the Water Commission.

It seems that a configuration of both institutional and power constraints could explain the different developments of the conflict-solving and planning processes. On the one side, both processes followed different institutional models for decision making. While the 2001 Act had explicitly prescribed the rules of the planning process according to a top-down model, operational rules and work strategy in the Conflict-solving process were de facto designed by an experienced local NGO according to a bottom-up model. On the other side, developments in the conflict-solving and planning processes were

affected by the discretionary decisions of the regional government and the different bargaining power of the opposition movement (Pinkerton 1992)⁸.

It is difficult to discern where the explanatory capacity of the Water Commission's institutional framework ends and where the influence of power dynamics begins. It is also difficult to explain why the success of the conflict-solving process did not generate spill over effects in the planning process. Maybe the key mediating role played by the NGO, party after party and conflict after conflict, prevented the emergence of collective learning that favored a smoother planning process. Further research about the details of the Water Commission's "life and work", the motivations and learning of stakeholders and the lessons of other cases of participatory management is needed.

4. What impact did the Water Commission have in the water governance system in Aragon beyond conflict-solving?

The case here presented is illustrative of the circumvention of institutional resistances by means of the creation of a new organism (Streeck and Thelen 2005). The Water Commission was created outside the direct jurisdiction of the water agency and deviated significantly from the conventional institutional framework. Contrary to the water agency's policy making process, the Water Commission included a multiplicity of stakeholders, public authorities and experts, and aimed to build decisions upon consensus when possible and partially through a bottom-up process.

For this circumvention to be effective, the Water Commission found its authority in different sources:

- The regional parliament and its 2001 Participatory Water Management Act were the main formal source of authority for the Water Commission. The Act counted with the approval of all the political parties in the parliament.
- The water agency accepted the creation of the Water Commission and Representatives of the water agency effectively participated in the Water Commission.
- The new national Secretary of Environment in 2004 endorsed publicly the Water Commission initiative and engaged to ratify any decisions approved in the Water Commission with regard to the water agency's dam projects.
- The Water Commission's membership was really broad in scope. The Water Commission was formally composed of 65 members representing 18 different interests groups and public authorities. Although there emerged some protest about the scope and distribution of votes, the Water Commission adapted to them effectively.

It seems that the creation of the Water Commission outside the realm of the 1985 Water Act's institutional framework facilitated such a deviation from "mainstream management" (Kapoor 2004); however, it is important to notice that the circumvention of the existing institutional framework can be both an advantage and a weakness. The 2001 Act and

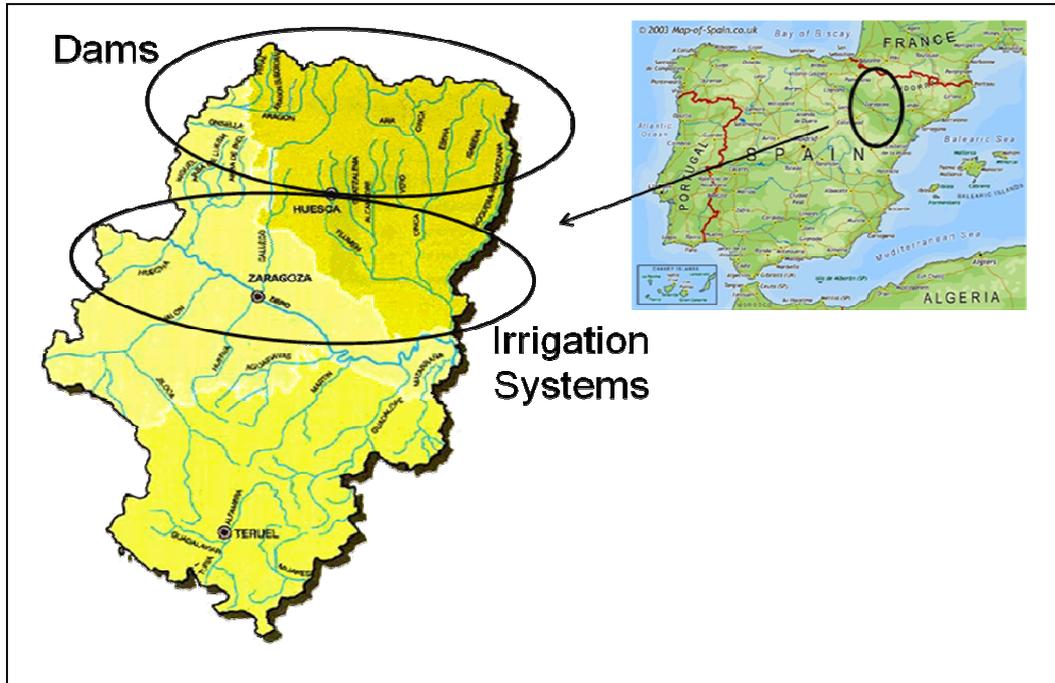
⁸ Interestingly enough, the case of Yesa illustrates that the bargaining power of the local communities was not enough to guarantee a sustainable resolution of the conflict.

the Water Commission did not affect existing institutions. In other words, the 1985 Water Act's institutional framework is still in force. This means that regardless of any Water Commission's positive experiences, the water agency, which still has formal authority over the bulk of dam-building policy, may continue doing policy conventionally.

The current efforts of the water agency to accommodate the Ebro's basin planning process to the WDF's requirements about public participation contrasts with the model used in the Water Commission's conflict-solving process as much as the elaboration of the Water Policy Guidelines did. While the water agency's planning at the basin level is necessary (the water agency has finally the formal authority over water management), it seems that few of the lessons of the Water Commission have been capitalized. Further inquiry is needed to assess the result of the water agency's planning process and clarify possible synergies between the Water Commission experience and the water agency's functioning.

ANNEXES

Annex 1: Map of Aragon (Spain)



Source: Elaborated from <http://usuarios.lycos.es/comarcasdearagon/rios.htm>

Annex 2: Composition of Water Commission's Assembly

	<i>Pro Dams</i>	<i>Against Dams</i>	<i>(Not clear)</i>
<i>Stakeholders</i>	<ul style="list-style-type: none"> - Irrigation Communities (4) - Energy sector (6) - Agriculture coops (6) 	<ul style="list-style-type: none"> - Local movement (4) - Environmental groups (4) - University (2) 	<ul style="list-style-type: none"> - Consumer assoc. (1) - Neighbor assoc. (2) - Tourism sector (2) - Experts hydrology (4)
<i>Public Authorities</i>	<ul style="list-style-type: none"> - (Water agency)(3) - (Regional government)* 	<ul style="list-style-type: none"> - Majors representing affected localities (4) 	<ul style="list-style-type: none"> - District representatives (3) - County representatives (3) - Regional parliament's caucus. (5)

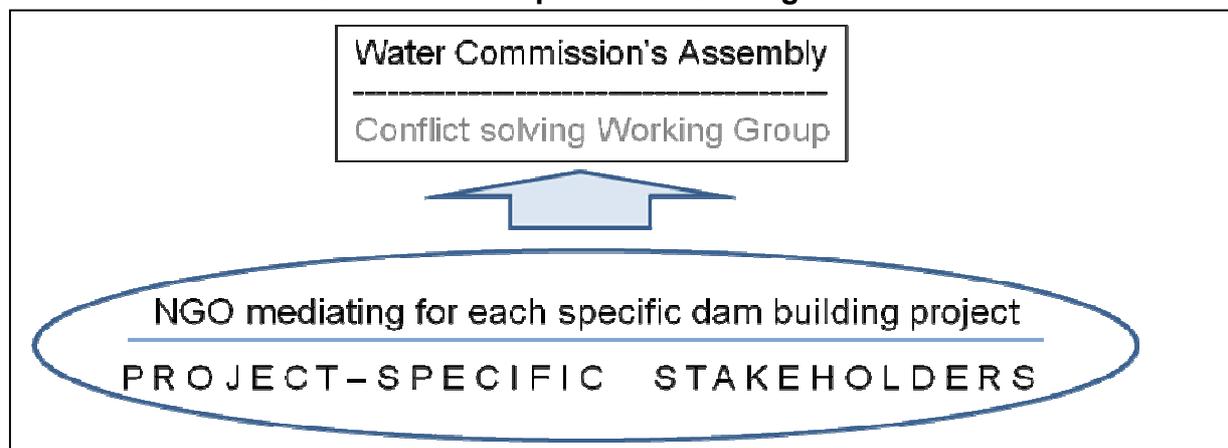
Source: Elaborated from BOA (2001). *President and Director of Water Commission.

Annex 3: Illustration of discourse of Opposition Movement over Time

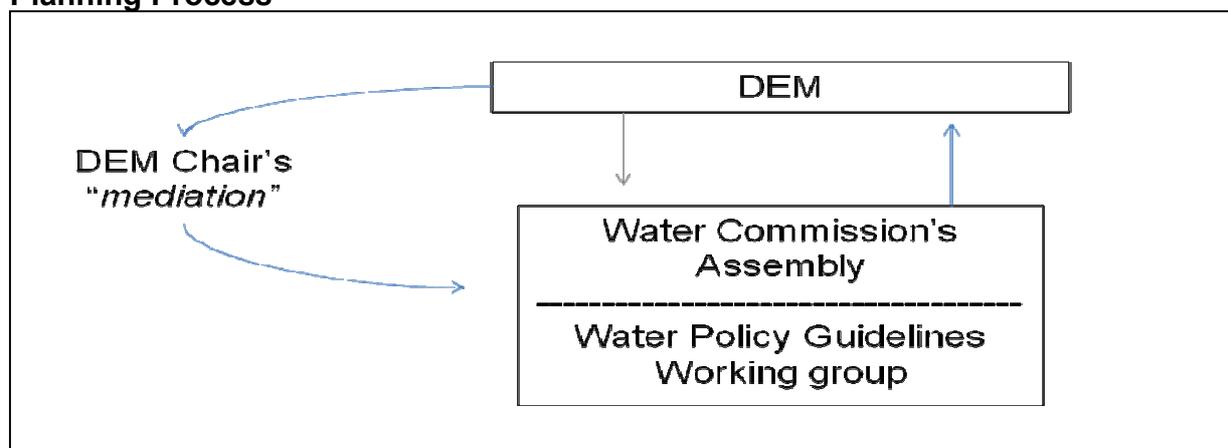
1980s: <i>Social Justice</i>	1990s: <i>New Water Culture</i>
<i>Local Communities</i>	<i>Local Communities, Environmental Groups and University Professors</i>
- "... dam-building policy has transformed our valleys into simple warehouses of kilowatts and in a bunch of depopulated localities without a future" - "Development plans have to avoid creating wealth in some localities at the expense of others"	- "Dams perturb the natural flow of water, affecting the ecosystems that rivers support such as trout populations [and species of mollusks...]" - "Water flowing through rivers is the most appreciated source of wellbeing in every place (...) and dams play against it"

Source: Elaborated from public comments to the projects of Santaliestra and Yesa (CHE).

Annex 4: Role of NGO for Bottom-up Conflict-solving Process



Annex 5: Intervention of the Division of Environmental Management's Chair in the Planning Process



Annex 6: Case of Santaliestra's conflict solving

The case of Santaliestra is paradigmatic of the length and intensity of the conflicts over dam-building policy in Aragon. Santaliestra is one of the multiple localities neighboring the basin of the Esera River in the north-east of Aragon. The conflict was originated in the 1970s, when the water agency decided to build a dam in the Esera river basin. The river basin already had one big reservoir, which had entailed the inundation of one locality. The new dam would put under water three more localities and would supply water for a new irrigation system that the state was promoting down the river.

In the context of transition to democracy, the opposition managed to mobilize public opinion against the project and blocked its implementation. By the end of the 1980s, in response to the demands of the irrigation lobby (i.e. the *Irrigation Community of the Aragon and Cataluna's Canal*), the water agency reinitiated the process and issued a new project in a different location. Due to the local opposition and some issues related to the cost of the project and the geological risks, the water agency decided to suspend again the process. Once more, at the beginning of the 1990s, the water agency issued a new project in a new locality, Santaliestra, provoking the reemergence of the local opposition movement, this time in alliance with environmental groups. The inclusion of the project in the Water Pact in 1992 and its subsequent inclusion in the NHP added intensity to the opposition of local and environmental groups. During the second half of the 1990s, the dam project was never suspended or implemented but the demonstrations of the irrigation lobby and the opposition movement, this time through COAGRET, rose in public visibility. In 1999, the majors of the main localities affected by the Santaliestra's project sued three high-ranking officials of the central government and the water agency. The officials were accused of corruption in the elaboration of the project's Environmental Impact Assessment and the award of the dam-building contract. The initiation of the judicial process entailed the suspension of the dam-building project.

By the time the Water Commission and *EcoDes* started the conflict-solving process, the Irrigation Community of the Aragon and Catalunya's Canal had renounced to the Santaliestra's project and proposed an alternative that consisted on the construction of another dam involving less impact in the basin. The irrigator's proposal counted on the consensus of the local community and environmental groups; however, the ultimatum resolution of the conflict needed the majors to retire the lawsuits against the high-ranked officials and the development of a plan that compensate the localities retroactively for the historical damage caused to the communities in the Esera river basin. *EcoDes* was in charge of facilitating both agreements by means of multiple meetings with the parties. *EcoDes* reached the consensus of the parties over two final resolutions that were sent to the working group for ratification. The resolutions were approved by the working group and subsequently by the assembly of the Water Commission in December 2004.

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