

Emergence and persistence of Groundwater User Collectives in Spain

Marta Rica Izquierdo¹, Elena López-Gunn² and Ramón Llamas³

¹ PhD student, Water Observatory, Madrid. marta.rica@geo.ucm.es

² Project leader, Water Observatory, Madrid. e.lopez_gunn@geo.ucm.es

³ Director, Water Observatory, Madrid. mrllamas@geo.ucm.es

1. Introduction

This communication shows a preliminary analysis of an ongoing research framework evaluating groundwater governance in Spain, with particular focus on collective action initiatives and its impact. Decentralization and self-regulation have been incentivised by the government with the purpose of a more rational use of the resources, particularly where it has been intensively used. In a context where the “command and control approach” had rarely been successful, Spain, together with countries like Mexico (Wester *et al*, 2009) or India (Shah, 2005), has accumulated valuable experience on a range of self-regulation initiatives led by users that have resulted in better outcomes in terms of more effective groundwater resource use. Here we analyze the factors that foster or inhibit this kind of collective action, and present the obtained results from the study of different multilevel groundwater user Associations (GWUAs), which embed smaller collectives, individual users, and water suppliers (table 1).

Key words: institutional diversity, self-regulation, legal framework

2. Factors influencing the creation, diversity and development of GWUAs

The governance arrangements to regulate groundwater resources and their use are relatively complex in Spain, with a weak central control often due to lack of resources in terms of knowledge, information, capacity or finance. Despite the administration made attempts as required by law, it failed to stimulate self-regulation and co-management in the so called over-used aquifers and the elaborations of management plans, with the notable exceptions of the Eastern Mancha aquifer, some aquifers in Catalonia and increasingly in the region of Almería. This failure, however, cannot necessarily be equated, as possibly was the case in the early to mid 1990's, with a lack of will to collaborate as more often other complicating factors derived from e.g. a complex regulatory framework in terms of water rights and existing allocation.

Table 1. Factors influencing the creation and success of GWUAs

Factors	Fact
Imposed creation (top down)	Over-exploitation Declaration, forced constitution of GWUA, often lack of exploitation plan. <i>Mancha Occidental users' General community, Alto Vinalopó users General Community</i>
Emergence (Bottom up)	Common interest, joint exploitation, precursor drought, rights defence and reclamation. <i>Junta Central Poniente Almeriense, User Association from La Loma aquifer, Private users community of Campo de Montiel</i>
Legitimacy to the basin board	Recognition, collaboration through inter-institutional agreements <i>Eastern Mancha Users Community, Groundwater Communities from Cataluña internal basin</i>

Legitimacy to users (social capital)	Firm social networks, trust, leadership <i>Users from Mijares-Plana de Castellón</i>
---	---

Top down creation, following what the Water law stated for overexploited aquifers in Spain, and which forced by decree the creation of water user groups, has on balance proved not to be a successful policy. Only three General Users Communities, or *Comunidad General de Usuarios*, out of fifteen aquifers legally declared over-used, had been created twenty five years after the 1985 Spanish water law. Meanwhile, the spontaneous emergence of collective organizations has been lead by user common interest, due to water scarcity perception, the clash with the administration over the exercise of their private water rights or the flexibility and devolution to these users' organizations. The parallel process of defining groundwater rights, which is the first requisite under successful collective action institutions, lacked of coherence. Groundwater resources were declared part of the Public Domain, therefore regulated by the Administration; however rights of abstraction granted before the water law remained under the private law (Fornés et al, 2007). The coexistence of private and public water rights has also been mirrored in the emergence of different types of collective organizations and institutional norms regarding the management and regulation of groundwater resources, also operating in parallel systems of so called private law and administrative law. Evidence from fieldwork indicates that in the case of private entities, there is a greater diversity of legal forms than for public corporations, mainly due to tax purposes. The constitution or emergence of private or public associations has also been correlated with the nature of the relationship among users and the river basin authority. Where there exists collaboration, evidence shows less controversial management of the resource. Still, the experience in Spain is varied regarding the different river basin authorities recognition and support for the already existing private law or public organizations. Furthermore, control and sanctioning regimes are in theory equally applied to both juridical natures, but this has had variation in practice. In Eastern Mancha the users community (public) shares responsibilities with the authorities, unlike many parts of Spain where control is done exclusively by the water board, if done. Lastly, one of the most important and underpinning factors which is being examined for the success of collective action institutions- beyond their nature as either public or private organisations, is the fundamental importance of existing social capital and networks, both within users and also with high level authorities in order to achieve the sound management of groundwater and reach e.g. pre-determined collective objectives.

3. A new dimension of collective action thanks to the Water Framework Directive (WFD)

The WFD has implied the determination of new defined limits of groundwater bodies and therefore, in the immediate future additional groundwater body user associations -called "communities" (Comunidades de usuarios de Aguas subterráneas or CUMAS) are supposed to be constituted where the quantitative status of the resource is bad according to the new basin plans. This opens an important window of opportunity for establishing and realizing the full potential of these formal and informal collective action institutions, due to the need to implement protecting measures. However, at this stage it is too early to evaluate the effectiveness of Plans of Measures for groundwater bodies at risk, i.e. to know if the new policy to reverse the bad quantitative status will be more successful than the old (Spanish) declaration on over-use still in force. The new Andalusian water law (2010) has already adopted the WFD terminology talking about CUMAS, stating "the declaration of aquifer overexploited established before the release of this law will have similar effects to what is provided to groundwater bodies at risk of not achieving a good status", thus effectively unifying the concept of declared overexploitation with a bad status groundwater body. However, the definition of groundwater body user community still leaves some doubts, for example for the case when both

groundwater and surface water is applied, and if private right water user holders can also constitute CUMAS. At present, there are some claims to unify the juridical nature of all Spanish groundwater user associations, despite the legal origin of their right to use water.

4. Conclusions

The next few years are an interesting period for the analysis and study of collective management institutions in Spain because of the accumulated experience on the creation and emergence of groundwater user groups and the lessons learnt which could be transferable to the new European framework on good quantitative status programme of measures which also contemplates the use of alternative and complementary measures beyond pure command and control (Gouldson et al 2008), economic measures, and collaborative and devolved approaches to groundwater management as embodied by groundwater user groups.

5. References

Gouldson, A; Lopez-Gunn, van-Alstine, J Ress, Davies, M and Krishnarayan, V. (2008) New alternative and complementary environmental policy instruments and the implementation of the Water Framework Directive *European Environment* 359-370

Fornés, J. M., La Hera, Á. de, Llamas, R., & Martínez-Santos, P. (2007). Legal Aspects Of Groundwater Ownership In Spain. *Water International*, 32(4), 676-684.

Shah, T (2005) **The New Institutional Economics of India's Water Policy** International workshop on 'African Water Laws: Plural Legislative Frameworks for Rural Water Management in Africa', 26-28 January 2005, Johannesburg, South Africa

Wester P., Hoogesteger J., Vincent L.,(2010), Local IWRM organizations for groundwater regulation: The experiences of the Aquifer Management Councils (COTAS) in Guanajuato, Mexico, *Natural Resources Forum* volume 33 issue 1, pages 29-48