The introduction of water banks in Spain: perspectives and possibilities

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Abstract In 1999, the Spanish Government reformed the Water Act in order to introduce some measures theoretically proposed to favour the transmission of the concessions that dictate water use rights. One of these measures is termed 'water use rights exchange centre' which is mainly prompted by the Central Administration. Recently, the constitution of these exchange centres has been approved in the Guadiana River, Jucar River and Segura River Basins. The Spanish Government announced that it expects to lay the foundations for the creation of future 'Public Water Banks'. This paper seeks to analyse the current situation and the limits imposed by legislation related to concessions that have already been granted, as well as the characteristics of the proposed exchange centres and the available alternatives for the regulation of the new water banks.

Keywords Water banks; water markets; water property rights

Introduction

The 1985 Spanish Water Act defined water resources as publicly good. That implies that when the Administration grants a concession, the only concern is the nature of its use.\(^1\) However, the possible decrease of the resource availability is not considered. The granting of such concessions is discretionary as established by the Administration in accordance with the priorities of the Hydrological Basin Plans.\(^2\) The Water Act established that water concessions cannot be used for a different use than the one granted. The Administration also has the authority to replace whole or part of the volumes assigned for a specific use and can redirect it for a different use in order to rationalise the utilisation of the resource.

Besides considering the water as public domain good, the law of 1985 established that water use could not yield or be sold, unless there was a specific authorisation from the Administration that ordered the replacement of volumes or a change of granted concession. The development of this law through the Regulation of the Hydraulic Public Domain in 1986, confirmed that the intention of the legislator was not to provide such transactions but rather to avoid them because of the long and complex procedure that was established to dissuade anybody that could be interested. That meant the transactions were not carried out or executed in an irregular way bordering on illegal procedure (Arinío and Sastre, 2000).

The reform of the Water Law in 1999 introduced several measures destined to make the concessions system less rigid. Amongst these, a legal mechanism that allows for the transfer of concessions through a contract was emphasised. This implies that the resource

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\(^1\)Although there are provisional concessions, the deadline is around 75 years. So far, none of these have expired yet, but it is predictable that the concessions will be almost automatically renewed. This means that, in practice, the situation wouldn’t be very different from a permanent concessions system.

\(^2\)However, the Water Law establishes an order of preference, of auxiliary character, that grants priority to urban supply, followed by irrigation, industrial supply and non-consumptive uses. The aforementioned basin plans can modify this list of priorities, whenever they do not remove urban supply from a position of priority.
can be utilised for different uses from those initially granted, although with certain limitations, that refer to:

- Water use can only be yielded to a similar or greater rank according to the hierarchy uses established in the Water Law (or the Hydrological Basin Plan).
- A previous authorisation from the Administration to sign a contract is required.
- The yield of the concession cannot imply higher volumes of water than those initially granted (although nothing about the procedure is established to determine these volumes).
- Expiration of the right is transmitted, because the transfer cannot surpass this time limit.
- The possibility of maximum prices imposed by the Administration (the norm does not establish the circumstances where this would occur).
- Several formal requirements that should be confirmed.

Likewise, the creation of the so called ‘water use rights exchange centres’ (henceforth referred to as CID, from Centro de Intercambio de Derechos in Spanish) was approved. This is an institution that can be included in the framework of what, in general terms, is known as ‘water banks’,  and whose action is predicted only in exceptional situations, as in periods of drought or over-exploitation of aquifers. The management of CID is to be the duty of a public agency, the Hydrographical Confederations (Confederaciones Hidrográficas) that will act as the purchaser of rights to transfer them subsequently to other users by means of the price established by the CID, in both cases through public procedures of contracting.

In this paper we will examine the characteristics and functions of these exchange centres and attempt to offer some useful guidance with a view to the transformation into ‘Public Water Banks’, as proposed by the Central Government with the foundation of the first exchange centres.

**Water exchange centres in Spanish legislation**

As stated earlier, the current regulation foresees the work of the CIDs only in very specific circumstances, and mostly due to the scarce availability of water resources. It is in such cases in which the Counsel of Ministers, at the suggestion of the Ministry of Environment, will allow the establishment of these institutions. The exchange of water rights will take place in two phases: firstly, the acquisition of rights will be carried out by means of an offer of purchase that is public; secondly, these rights will be alienated through a public sale offering.

The beginning of the first of these two phases will be produced through the initiative of the managing institution of the CID or through a request from the autonomous region to develop such operations in order to satisfy autonomous interests. The public offering of acquisition (OPA) should satisfy the following demands:

- To establish maximum volumes of water for transfer and the characteristics of the uses this transfer can yield.

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3The owners of non-consumptive uses could only yield their concessions to the same rank of use, according to hierarchy settled at Water Law or River Basin Plan

4Johansson (2000) has defined water bank as an ‘institutionalized mechanism specifically designed to facilitate the transfer of water use entitlements’

5Confederaciones Hidrográficas are autonomous institutions belonging to Central State Administration. These institutions are attached administratively to the Environmental Ministry, and are in charge of administration and control of the hydraulic public domain within the allocated basin. These institutions are also responsible for planning, building and exploitation of hydraulic works as devolved by the Central Government
To establish the necessary technical requirements as required by the OPA (especially the ones referring to the quality and return of the water transferred).

To mention the maximum and minimum financial compensations and also the conditions and the mechanism for the payment.

To specify the time limit of the transfer, which can be definitive (unlike with what occurs with concessions broadcast contract, that can only be a temporary transfer).

To determine the basin agency criteria to select the offer, by observing publicity and concurrence.

To establish the criteria to determine the price of the transfers (this will include 5% to cover the expenses incurred by the transaction).

To establish the limit for present requests. This time limit will commence at the moment that the OPA is published in the Official Bulletin of the State (besides, the transaction should be also published in the Official Bulletin of the Autonomous Regions affected and in, at least, two newspapers with extensive coverage).

In order to not only determine the rights that are going to be acquired but also to establish the value of the financial compensations, two factors should be taken into account: firstly, the priorities of uses and the compatibility of the exchanges with the River Basin Plan and exploitation systems of the resource, and secondly, the minimisation of the price of acquisition of the rights of transfer.

All the use rights holders that have their right registered in the Water Register or in the Basin Water Use Catalogue will be able to make an offer of water for sale. These requests show the identification of the user, the justification of the property water use right, the volume of water that the user is willing to yield and the documentation that prove the fulfilment of any other requirements established by the Confederacion Hidrografica.

A public offer of sale (OPV) should serve to transmit the rights previously acquired, yet this is a concrete regulation that has not been established (it is only stated that this should be based on the principles of publicity and concurrence). Nevertheless, it is easy to believe that, by analogy, the OPV could develop by means of a similar procedure to the OPA (Navarro, 2004).

In this sense, the CID is constituted as a field for the exchange of water use rights, based on a regulated mechanism and managed by a public agency. In October last year, the Government agreed to constitute three CIDs in the Hydrographical Confederations in the Segura, Jucar and Guadiana River Basins, with the purpose of arranging a part of the water resources of those areas and to correct the high water shortage registered there. A senior official of the Ministry of the Environment has announced that the rights devolved to the CID will be able to yield by means of an OPV (establishing their price according to the cost recovery principle). Also, the Confederaciones will be able to use them in the recharge of aquifers, or not use them and keep the water stored in existing dams, or avoid extracting it, in order to favour the recovery of the Environment. Although the Government foresees that the volume of transactions will be reduced, it trusts that the experience of the CID will be useful to provide some experience towards the creation of the future ‘Public Water Banks’, projected in the ‘Water Utilisation and Management Programme’ (known as AGUA). Up until now, there is no reliable information about the characteristics of these institutions and the possible differences between them and the CID (the only thing considered in the aforementioned programme of actions is that a...
Water Bank will be created in each River Basin that will permit reassignment of the historic water rights with criteria of equity, efficacy and transparency.

The CIDs are managed by a public agency, establishes requirements and prices. This approach can suppose excessive public intervention in a procedure that should try to generate the incentives and the mechanisms of a market. Nevertheless, it can also be argued that public involvement can be useful to obtain fair results, the diffusion of information and to favour the observance of rules providing, in short, an efficient and transparent tool for improving the assignment of the water resources. There are those who consider the same as Navarro (2004) that the broadcast of the rights through the CID is more harmonious with the legal regime of a good public domain (and, particularly, with Spanish Water Legislation) than the transfer of the same through contract. Navarro recommends that all the transfers of such rights should be promoted and carried out by the Basin Agency through this mechanism.

Subsequently, it is timely to consider the capacity of the CID to favour the development of market mechanisms for the exchange of water use rights.

Water exchange centres as ‘water markets’
Contrary to what has been affirmed on some occasions, neither the creation of the CID nor the authorisation for the transfer of rights by means of contract should be considered as actions in order to create a ‘water market’, at least in a strict sense. First, because water resources are considered as public domain goods, consequently these do not fit the transactions of a market: in fact, the only possible thing is to transfer the right to use it, and this can only be done if certain conditions are satisfied. Secondly, because the determination of the price, at least in the case of the CID, is not made through the interaction between supply and demand, but by means of a procedure in which first a sort of auction is summoned to grasp the use rights of the resource and later, such rights through a public supply of sale are alienated, to a price established by the agency that manages the CID and through a procedure that is not sufficiently defined in the regulation (for example, it does not say what if the requests surpass the availability of resources).

On the other hand, and though it is not possible to discuss the market in a strict sense, it seems opportune to affirm that the CID can facilitate the development of certain market mechanisms, because they introduce the possibility of confronting supplies and demands around prices and allow for changes in the property concessions rights.

Johansson (2000) has demonstrated that the capacity of any mechanism of market to determine the assignment of the resource mainly depends on four factors:
- **Certainty**. What requires that the right object of exchange be well defined, so that there is no doubt on the volume of water to which it affects, its quality and location, the time during which it is possible to be used, etc.
- **Transmissibility**. What requires that obstacles to the free transfer of the right do not exist and the mechanisms that allow transferring it easily are available.
- **Absence of externalities**. For what it is necessary that the transfer of the right does not cause damages to third parts.
- **Competition in the market**. So much from the side of the demand as from the supply. When the capacity of the CID to assign the resource effectively is valued, we should wonder to what extent these four conditions are fulfilled. With regard to the first we should indicate that when very clear formal requirements for the right of sale offers exist, there is no doubt about the validity that it is guaranteed, and in the last instance, by

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9The AGUA programme can be looked up at the Environment Ministry website (http://www.mma.es)
the River Basin Agency as the manager of the CID. This entity establishes the conditions under which the transaction should proceed and who determines if the transmission of rights is possible. Another reason for concern is that when a good part of the uses are not registered (see Table 1), a certain percentage of such remain out of the CID, but this should not affect the security of the transactions that are carried out, since the right object of exchange should be well defined.

The fulfilment of the second of the aforementioned conditions seems more difficult. As stated earlier, the CIDs have been conceived only for exceptional situations, so that, if they do not work in a regular way, it will not be possible to discuss exchange systems and their ability to fit uses and resources. Therefore, when the right holders make decisions concerning the use of water and whether it will not be used, they also need to consider the existence of this alternative as an origin of their supply or the destiny for their surplus. The CID will be only perceived as an adjustment gear reserved for rare circumstances, and cannot be used to compare water availabilities to demands. In addition, as stated earlier, all the users whose rights are not correctly registered cannot participate in this procedure, and probably, also those who registered them according to the law, prefer not to offer their excesses because of fear of revealing their existence.

As Riesgo and Gómez-Limón (2001) point out, the exchange of rights can originate certain external effects, as much on third parties as on the environment, among which it is possible to differentiate several categories: those that affect the volume of returns (the part of the water assigned to a user which is not consumed in the use process and can be used by others), to the volume yielded (caused by distortions in the functions that the carry out like means of assimilation and dissolution of waste, habitat for the flora and the fauna, surroundings to enjoy the spare time, etc) and to the zone of origin of the same one (that is exposed to negative repercussions of very diverse nature). In the present regulation, the CIDs managing agency (Confederación Hidrográfica) is responsible for the analysis and the control of possible externalities. The problem is that a precise procedure for this is not established. Besides the high costs that involve the collection of the necessary information, and the slowness of the administrative procedure, we should keep in mind the foreseeable reaction of those affected that consider his interests damaged and, logically, will seek to defend them. It is also necessary to add, once again, the existence of tolerated but not registered uses, and on which also external effects are difficult to value and control.

Finally, and with regard to the fourth condition, we have to indicate that it seems improbable that the exchange system i.e. the CIDs, are reserved only for exceptional situations and not working in a regular way, and for which, it easy to foresee that only a few participants will concur because they can be really competitive, on the side of the supply. Furthermore, the possibility that competitive pressures on the side of demand depend, to a great extent, on the mechanism adopted for the settlement of the prices. As these prices

Table 1 Situation of the water use registry

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<th>Estimated</th>
<th>Declared</th>
<th>Registered</th>
</tr>
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<tbody>
<tr>
<td>Surface water</td>
<td>88,900</td>
<td>80,700</td>
<td>52,932</td>
</tr>
<tr>
<td>Ground water</td>
<td>458,966</td>
<td>244,703</td>
<td>109,021</td>
</tr>
<tr>
<td>Total</td>
<td>547,866</td>
<td>323,403</td>
<td>161,953</td>
</tr>
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Under the present legal framework, right transfers destined to cover permanent needs are subjected to transmission covenants.
are established by means of an administrative procedure the guarantees will favour competitiveness between the plaintiffs with water use rights.

Conclusions and proposals

According to the present regulation, CIDs are an institution created exclusively for exceptional situations, and as they are not going to operate regularly they will be incapable of becoming an ordinary adjustment mechanism between the availabilities and demands for water that each user has. In addition: when announcing that the creation of these institutions is based on previous experience and will provide an example for the subsequent creation of public banks, the Government itself gave them a transitory character. However, this does not mean that we dismiss this intention. Rather the opposite, the fact that these institutions are going to serve as reference to develop the future water banks requires deeper analysis.

One of the aspects that should be corrected is the existence of imprecision, ambiguities, and sometime absences in the regulation. Thus, for example, the procedure to carry out the OPV is barely defined (the current Ministry has even left opened the door to the possibility that the grasped rights are not yielded). Although the OPA procedure is more precise, the River Basin Agency is still responsible for some important and fundamental decisions like the establishment of limits for financial compensation, or to fix the criteria for the selection of supplies, with minimal restrictions rather than respect to the preference of uses or the minimisation of costs. The same thing has to occur when the control of the possible effects of the transactions between third parties is entrusted to these Basin Agencies ignoring, at least, in legal terms, some of the problems that can arise at the time of carrying out this work. One of these and no less important, will be the derivation of the existence of non registered uses, often tolerated, as a result of the lack of capacity of the Hydrographical Confederations to correct anomalies in the water governance process. Probably, this circumstance supposes one of the main limitations for the effectiveness of any market mechanisms which is intended to improve the management of the resource.

Therefore, the introduction of market mechanisms for the allocation of water use rights requires, initially, a greater knowledge of existing uses, not only with the objective to extend the reach of the present registries, but also to improve the capacity to allocate these market mechanisms. Moreover, the new water banks should be created as institutions with a permanent character, that operate in a regular way, to provide all of the users with the possibility of using them with regularity (with such an aim, the transfers should be temporary and terms should not extend beyond a year). Likewise, the Administration would have to guarantee the right holders that the transferences would never be used as an excuse to seize them, or not to renew them when the moment arrives.

As far as the operation of future water banks, it seems timely to indicate that if market mechanisms are adopted to try to slightly modify the present allocation of rights, a greater percentage of rights holders need to be included when price settlement is granted. Therefore, it would be advisable that users interested in buying or selling could propose several prices and quantities, in order to define corresponding demand and supply functions. The function of the agency managing the water bank would be to act as a clearing-house, fitting together the prices of different operations to guarantee the balance between costs and payments.

Also, a more precise definition of the problems associated with the externalities generated by the exchanges is required. The experience of California (Hanak, 2003) demonstrates that if the transactions of rights to surface water use harm the groundwater users.
important obstacles can arise for the execution of exchanges (the more affected counties have to establish administrative limitations). In addition, it is possible to verify in California how the sale of use rights affect the socioeconomic situation of donor areas, where decreases of the general levels of economic activity are registered, decreases in the incomes of local administrations, increases in unemployment rates etc, are registered. Likewise, and given that citizens usually do not perceive the economic value of the environmental or recreational uses of water, the possibility of introducing some measurement that allows to attend those aims, e.g. to urge River Basin Agencies to take part in those exchanges or establish restrictions on the transfers.

Finally, we should indicate that, generally, and for the future regulation of the water banks, the existing infrastructures are not going to permit more than intrabasin transfers. This will ultimately produce a spatial segmentation of the exchanges and will limit their capacity to improve economic efficiency.

References