Co-Management of Natural Resources: The Long View from Northwestern Spain

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ABSTRACT

Stakeholder co-management, a relatively new approach to environmental management, has come under criticism in recent years. The ethnographic and ethnohistorical record of co-management offers a rich body of experiences in responding to these criticisms. To illustrate, the history of local resource management of forests, water, land, and pastures in the upper Duero basin of Spain from the Reconquest to the liberal administrative reforms of the nineteenth century is discussed.

KEY WORDS

Ancient Regime, Duero, local resource management, Spain, stakeholders

In the last two decades, a new approach to the management of natural resources has come to the fore. This approach, known as co-management, follows the discovery of the benefits of co-ordinating input from all interested parties in environmental management. In complex ecosystems, such as watersheds or coastal maritime zones, numerous stakeholders may be charged with aspects of natural resource management. For example, multiple government agencies, at the national, provincial, and municipal levels, may exercise oversight over administratively distinct, but ecologically intertwined, features of a watershed. The allocation of surface and groundwater to irrigation associations becomes the responsibility of a regional watershed authority. Irrigation associations, in turn, distribute the water to towns and villages. Municipal councils assign the water, either directly or through a special-purpose body, to farmers to irrigate their fields. Other municipal authorities distribute water for domestic purposes to

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residences. An industrial development agency allocates water to industrial users. Crosscutting the work of these organisations, a national environmental agency may be responsible for monitoring and safeguarding water levels and water quality to maintain habitat and wildlife. The level of technical expertise and managerial competence may vary greatly among the agencies. Activities carried out independently create chaotic, uncoordinated, situations.

Co-management facilitates the planning and co-ordination of these efforts through the collection and sharing of the information necessary for collaborative decision making. All stakeholders in the resource share responsibility. Ideally the state stands as equal partner with other stakeholders in the apportioning of power. If the state dominates, however, co-management may devolve into state management. In situations in which stakeholders divide into those at the local level and those at the state level, the dynamic of co-management turns on the inherent conflict of local knowledge and governance, on the one hand, and centralised guidance and institutional resources on the other. In these situations, successful co-management recognises the role of local autonomy over resource management decisions while facilitating the contribution of the state.

While promising in concept, difficulties surround the implementation of co-management initiatives and many fall short of expectations. Often projects formulate unclear goals and lack criteria to evaluate their sustainability and success or failure. Not infrequently, articulate stakeholders dominate decision making at the expense of the less aggressive. In this way, intended beneficiaries may become passive recipients of project assistance. And projects are often overly short-term, lacking follow-up and the long-term support needed for sustainability.

Co-management projects also fall subject to criticisms surrounding the asocial, ahistorical and apolitical assumptions behind their approach to community management. These assumptions notwithstanding, common property resource managers are fully embedded in historical contexts and state action. Political considerations are part of the environment in which they act.[1] The 'conventional wisdom' of resource management they bring to their work includes cultural knowledge structured as a framework for understanding previous problems and suggesting solutions for new ones.[2]

This paper argues that an appreciation of past experiences can recentre, and help redress, the criticisms surrounding co-management in the current policy discourse. The ethnographic and historical record suggests long-lasting and sustainable examples of co-operation in natural resource management in the recent and not so recent past, among state societies throughout the world. In this record of past experiences, Spain looms large. It has a rich history of local resource management of forests, water, land, and pastures. The *huerta* irrigation systems of Valencia in Eastern Spain, in operation since at least the fifteenth century, have been singled out as unusually long-lived and successful, locally-managed, common property regimes.[3]

This paper will examine the interaction between locality and the state in the upper Duero basin from the Reconquest to the liberal administrative reforms of the nineteenth century. In this region, fast-flowing rivers descending geologically young mountains provide easily diverted water to irrigate fertile alluvial terraces called *riberas* and *vegas*. In the ninth through the twelfth centuries the area was resettled following the expulsion of the Muslims.[4] In one form of colonialisation, the king, either directly or by delegating power to a magnate or a bishop, initiated the founding of large cities. Ordoño I (850–866), for example, founded Astorga and León. Alongside of this formal process, small groups of free or freed peasants, or a bishop, abbot, or count, and their clerics, monks, oxen and herds set out spontaneously to settle the land in small nuclei of perhaps four to five families. The marriage of Ferdinand and Isabella in 1469, followed by the fall of the last Muslim stronghold Granada in 1492, brought the reconquest to an end. In the subsequent age of political unification, villagers and towns were caught up as subalterns in constantly changing power struggles pitting the Crown, the church and feudal lords against one another.

CO-MANAGEMENT IN SPAIN'S ANCIENT REGIME

Several classes of private and public goods have their origins in the settlement of the upper Duero. Free peasant colonialists claimed land and other resources through a tradition of squatter's rights, *presura*. These claims eventually sorted out into public and private goods. One class of public goods came to be communal property with access open to citizens, *vecinos*, of the settlement: examples include the *dehesa*, or common pasture, the *monte* where firewood and building materials were gathered, and the *eras*, or communal threshing grounds. Still another was common property with restricted access, or *propios*, lands or other resources treated as the private property of the municipality and usually rented out. Cultivable land and house-plots, on the other hand, were held individually as private property. These forms of private property and open- and restricted- access common property survived throughout the late nineteenth and early twentieth centuries.[5]

The management of public goods was a prerogative of the municipal council, *concejo*, or assembly of the citizens of villages, towns and cities. Kings recognised the importance of municipal councils and worked with them in a variety of ways. The primary vehicle was the promulgation of decrees and their ratification through a national assembly during and after the realm of Philip II.[6] In one form, villages and towns would be directed by decree to attend to the management of a specific resource and their municipal council charged with implementation. Another was the provision of the institutions needed to manage resources, such as a system of documentation and a system of universal weights

and measures. By far the most important was the definition and defence of property rights. This required the creation of legal and juridical institutions to codify law, guarantee contracts and resolve conflicts.

These decrees found their way into the practice of governance through administrative guides, particularly Jerónimo Castillo de Bobadilla's *Política para corregidores y señores de vasallos* in the second half of the sixteenth century.[7] Bobadilla's *Política* was an important handbook for *corregidores*, royal judges appointed by the king to preside over a city or royal town and its municipal council. *Corregidores* possessed extensive judicial, administrative and financial powers to oversee governance practices and monitor the performance of lesser civil officeholders. Their judicious appointment afforded kings a vehicle for the centralisation of power, the domination of the nobility and the improvement of municipal administration. Bobadilla's *Politica* went through several editions and remained an important source for administrative practice through the eighteenth century and the position of *corregidor* remained in force until the nineteenth century reforms.

While decrees enabled kings to influence natural resource management, local conditions often made central directives difficult to implement. To work as intended, legal and judicial institutions needed to be sufficiently flexible to allow councils to adjust them to local situations.

DECREES DIRECTED TO THE MANAGEMENT OF SPECIFIC NATURAL RESOURCES

Decrees directed to the management of a natural resource specified the general guidelines to be followed but left their implementation up to villages and towns. A good example is the management of woodlands, the *montes*. In response to widespread defoliation of woodlands, Charles V issued a decree in 1518 to the cities, towns and villages in his kingdom, directing them to reforest their *montes* with new trees and to create ordinances to ensure that they remained forested. The guidelines were rather specific, ordering the planting of oaks and pines along the edges of fields and willows and poplars along the river banks. Villages and towns were directed to hire a guard to monitor established trees and keep new plantings from being lopped, cut, or uprooted. The guard's wages were to be paid by a portion of rent from income-generating communal property; if this proved insufficient, councils were required to assess a fee from *vecino*. Finally, every village and town in the kingdom was required to compile a set of ordinances to regulate the use of their *montes* and ensure that their provisions were obeyed.[8]

The decree of Charles V found its way into the *Nueva recopilación* of Phillip II, a major new compilation of laws, and from there into Bobadilla's *Politica*.[9] Bobadilla stressed the importance of the conservation of the *montes*, His directions repeated the general thrust of the decree, in particular, the making of

ordinances and the creation of fines as well as more specific directions such as the circumscription of the right to cut trees.[10]

Ruth Behar has described the implementation of the decree in Leon in her work of Santa María del Monte, a village situated squarely in the forested lower slopes of the Cantabrian Mountains north of the city of Leon.[11] Following its confirmation by the Cortes of Valladolid in 1537, the decree was read aloud in the plaza of Santa Maria del Camino in the city of Leon on a market day in 1547. Eventually villages and towns implemented the decree. Santa Maria del Monte drew up ordinances in response to the king's decree in 1588 and the neighbouring village of Villamayor in 1599.[12]

Both villages, rich with forests and woodlands, drew up rather similar ordinances. A preamble describes the problems plaguing their woodlands: incursions, night and day, by neighbouring villagers to cut trees and shrubs, and fines insufficiently high to stop anyone, even their own *vecinos*, from devastating the *monte*. There follows a detailed set of fines for cutting, clearing, and uprooting trees and shrubs without permission, set high enough, presumably, to deter the deleterious practices. Upper limits are set on the amount of wood one could carry out by cart, horse or mule, or strapped to one's shoulder. The production of charcoal in the wood-lots was particularly frowned upon; fines were steep and increased depending on the quantity and whether produced by day or at night. Villamayor levied 'the highest penalties established by the laws of these kingdoms' for causing a fire in the *monte*. In a tacit acknowledgement of their limitations, both villages call on higher authorities to take their ordinances seriously and help enforce them.[13]

KINGS PROMULGATED DECREES VIS-À-VIS INSTITUTIONS

Directing municipal councils to husband the natural resources under their control was one thing, giving them the tools to do it was another. As the *concejo* of Santa María del Monte realised, the co-operation of higher authorities was necessary to enforce their regulations of the *monte*. Sensing the needs of villages and towns, successive kings sought to establish an institutional framework to help councils exert control over their natural resources. These institutions took several forms.

Boundaries

In order to manage the private and open- and restricted- access common property under the control, councils had to be able to delimit their boundaries. Unclear boundaries keep one from knowing exactly what is being managed or for whom. Others who have contributed nothing to it can then reap the benefits of the resource. Firm boundaries help exclude such potential 'free riders' from access

to common property. In this way, 'open access' common property, notoriously subject to the Tragedy of the Commons, can be transformed into 'restricted access' common property.[14]

In the upper Duero watershed, boundaries were particularly important to delimit common property under continual threat of incursions by neighbouring villages and towns and feudal lords. Some resources were more readily bounded than others. The perimeters of cultivated and fallow fields, pastures and woodlots were rather easy to establish when compared with the service area of the water under community control. Water's fluidity increases the costs of marking, monitoring and enforcing property rights in it, particularly in comparison with stable natural resources such as land and forests.[15]

Irrigation systems illustrate this difficulty.[16] Throughout northern Spain, villages and towns joined ranks to build canal systems to divert water from rivers to irrigate their fields. Water rights, in turn, were attached to land; ownership of a field within the irrigable area of a municipality brought water as a right. In return, landowners were expected to contribute their labour to maintain the infrastructure of dam, canals and sluice gates. For a variety of reasons, however, farmers often cultivated fields outside the village or town where they lived. From the perspective of the town or village where the field was located, one who farmed the field but lived elsewhere was an outsider, or *forastero*. The right to claim water to irrigate one's field obtained, irrespective of the landowner's residence. This created a problem. Free-riding could occur when a farmer claimed water for land in a village or town but resided elsewhere and failed to contribute labour to the maintenance of irrigation infrastructure. To address the problem, *forasteros* were distinguished from residents, *vecinos*, and subjected to special treatment.[17] The opposition between *vecino* and *forastero* was a key feature of rural social structure. Territorial boundaries were essential in distinguishing structurally between the two groups and in managing the free-riding inherent in communal resource management.

During the early years following the reconquest, low population density kept incursions and free-riding from being problems. By the end of the fifteenth and through the sixteenth centuries, conflicts over land triggered by population growth forced the promulgation of a spate of laws and decrees to impose order over chaotic territorial jurisdictions. Initially regional polities needed to be kept separate. In 1534 the National Assembly called for markers to be established to delineate the boundaries between the Kingdoms of Castile and Aragon. With the subsidence of the political crisis of the beginning of the sixteenth century, local jurisdictions came under scrutiny. In 1576 *corregidores* and local officials were directed to inspect municipal boundaries annually or submit to the partial retention of their salary for failing to carry them out.[18] To fit the rhythms of the agrarian calendar, boundary inspections were to be scheduled during slow periods and prohibited during the harvest months of June, July, and August. Not all municipalities carried out annual inspections and their timing varied consid-

erably, but, by the late sixteenth century, annual or periodic boundary renovation had been incorporated into local governance throughout Castile.[19]

In some areas, municipal boundaries were renewed whenever circumstances demanded. Each village or town named a committee of the oldest and most knowledgeable residents and the two committees jointly walked the terrain, checking on the location of boundary markers and cleaning and resetting them in their proper location. In other areas, one day, usually during the Carnival season, was set aside for boundary maintenance. The residents assembled and then broke up into small groups, setting off in different directions to walk the perimeter of their municipality and reset the boundary markers. Often, half of the boundary maker corresponded to one of the adjoining villages and the other half to the other. Villages were responsible for maintaining their half of the boundary marker. New markers could be established by the agreement of adjoining towns and villages to clarify boundaries and avoid conflicts. Once the resetting was finished, a well marked circle of earth was left around their half of the marker. Custom, reinforced by censure and fines, prohibited entering this circle.[20]

Boundary practice was particularly pronounced in the fertile alluvial terraces, or *riberas*, of the Orbigo and Esla rivers in Leon. *Ribera* villages and towns used boundary maintenance to help defend communally controlled land, forests, pastures and water against third-party access. One of the first obligations imposed on new council officers was to renew and monitor municipal boundaries.[21]

Eventually the textural documentation of annual or regular inspections became incorporated into boundary practice. From the earliest stages of the repopulation, scribes had helped illiterate free peasants document their sales, rentals, mortgages and leases of houses and land and shares in mills, water and pasture.[22] Privileges and municipal charters or *fueros* and *cartas de poblacíon* often contained references to the geographical limits of the villages and towns they chartered.[23]

Textual documentation elevated boundary practice from a local, albeit recurring, event into the domain of state-building, within the arena of state judicial institutions. Local authorities approached the closest regional authority with a request to order the boundary renovation. This was the *alcalde* and municipal judge (*justicia ordinaria*) in towns or villages not under seignorial jurisdiction and the Royal judge (*merino justicia*) in those under seignorial jurisdiction. The town of Santa Marina del Rey, for example, in 1739 petitioned the appellate judge of the Adelantamiento del Reino de León for a *remurio* or boundary renewal. The petition requests that the adjoining villages and towns of Villamor, Coto Redondo de Moniquilla, San Martin del Camino, Celadilla, Sardonedo, Palazuelo and Gabilanes, Turcia and Armellada, Villadangos and Benavides, be cited to appear. The appellate judge acceded to the petition, issuing an order to carry it out with copies sent to the adjoining villages and towns.[24]

By adding boundary renewals to documented transactions, the state extended its control over weakly incorporated internal territory. Archived texts documenting boundary renewals legitimised the hegemonic account of the jurisdictional power of the King and lords over villages and towns.[25] The practice separated texts from the local historical reality they were supposed to represent: The documentary basis of an organisation objectifies knowledge, producing a form of social consciousness that is more the property of the organisation than the actors who produced the document.[26] Latour and Woolgar use the term inscription to refer to the translation of an event into textual form, objectifying knowledge and transcending local historicity in the process: 'In this process, the organisation's perception and ordering of events is preordained by its discursive scheme, and the locally historical is greatly determined by nonlocal practices of institutions, embedded in turn in textual practices.'[27]

Aside from its benefits to the state, boundary documentation was clearly advantageous to villages and towns, giving them a potent legal weapon to use in defending their pastures, fields and gardens from rapacious landlords, expanding cities and transhumant herders. Textually documented boundary renewals permanently fixed local boundaries and endowed them with legitimacy in state, manorial and ecclesiastical judicial arenas. For this reason, the local authorities towns and villages often initiated the process even though state law placed this burden on regional authorities.[28] Municipalities derived power from the state to compel often reluctant, adjoining, villages and towns to participate jointly in renovating their mutual boundaries.

Municipal ordinances

Ferdinand and Isabel note in 1488 that municipal ordinances were being written in Valladolid, Granada and elsewhere.[29] In 1500, *corregidores* were instructed to review the ordinances of the town and villages under their jurisdiction and to require their renewal when needed.[30] Largely unwritten in the early years, by the sixteenth century shifting social relations and new agrarian regimes, in particular agro-pastoralism, motivated many rural communities to codify their informal systems of private governance into municipal ordinances.

In the irrigated *riberas*, for example, by the sixteenth century, the agrarian regimes had taken on their characteristic features: intensive cultivation of kitchen gardens, vineyards and orchards; small-scale irrigation; biennial cultivation and open fields; and animal husbandry. These regimes represented an intermediate stage between the long-fallow, transhumant grazing regimes of the north and the extensive grain agriculture of the table-lands of Castile. Controls over land use were essential to the success of these agro-pastoral systems and even extended to privately held cultivable land. Crops and animals have quite different requirements. Unless kept in stalls and stall-fed, animals must be taken from pasture to pasture and to fields following harvest. Co-ordinating the labour

demands and special needs of grazing and farming required complex scheduling in space and time. The only way this could be accomplished was by extending control over the use of private as well as public land. These controls over use could exist quite independently from the right to alienate land.

The rights of the owners of privately owned fields were attenuated in two ways. First, at the end of harvest, all fields became open to communal grazing. Municipal councils prohibited landowners from fencing their fields and keeping out the animals of others. Second, water was allocated in line with publicly agreed-on cropping practices, indirectly affecting the freedom of landowners to cultivate their fields as they wished. The Leonese *riberas* of the Orbigo and the Esla rivers, contrast markedly in this regard with other regions in León, such as the *montaña* [Bierzo] and the *meseta* [Páramo, Oteros, Tierra de Campos]. Outside of the *riberas*, communal resource management was associated with marginal land, economic depression and strong class differences. The mountain villages were economically dependent on herding, linked to communal control and collectivisation. The lack of moisture restricted the communities of the *meseta* to extensive, rain-fed, cereal and wine grape production. Clergy and feudal lords dominated these communities. Similar contrasts mark the differences between the Orbigo and Esla Riberas and La Mancha, the heartland of Castille, another economically depressed region of agro-pastoralism and communal pasture management.[31]

Throughout the upper Duero watershed, agro-pastoralism created enormous pressures to formalise customary practices, codify them in municipal ordinances and submit them for ratification to higher jurisdictional authorities. An economic recovery in the first half of the sixteenth century brought these pressures to a head, as towns and villages increasingly interacted with the state and jurisdictional señorios. And in 1539 Carlos I issued a decree directing each town and village to convene assembles to review customary laws and write ordinances. In some instances, such as the Orbigo Ribera, the management of woodlands and pastures held in common was being transferred at this time from the seigniorial lord holding jurisdiction to the respective villages and towns. In these instances, the creation of ordinances occurs as an outcome of the transfer of control.[32]

The possession of a set of ratified ordinances, together with a collection of notarised boundary inspections, enhanced the autonomy and identity of rural settlements. Those commingled with others under the jurisdiction of a seigniorial lord particularly felt the need to distinguish themselves and to secure the approval of their ordinances by the jurisdictional power. Lastly, compiling customary practices also allowed municipalities to update their procedures adjusting them to the new times and remove the temptation for individualistic interpretation of norms.

On the other hand, the novel politico-economic situation at the beginning of the eighteenth century was ramified in local governance since many communities continued administering themselves by customary procedures and newer

agreements which over time joined the normative order; others that already possessed ordinances took advantage of the new directives to introduce reforms and add clauses without breaking with their ancient structure

Archival Practice

Eventually the documents held by villages and towns grew to include accords, property records, boundary inspections, ordinances, *fueros*, *cartas de poblacíon*, results of litigation. Archival practice worked hand-in-hand with textual documentation and the regulation and defence of privately and publicly controlled natural resources. The state required municipal councils from the sixteenth century on to house their documentary collections in an archive, *arca*, with three locks. One key was to be held by the most senior councilman, *regidor*, and king's representative, *alferez mayor*, respectively. [33] The village of Estebanez de la Calzada, stated in its ordinances the obligation of the *regidor* to keep notarised boundary renewals in the village archive under penalty of fine.[34] Armelada specified in its ordinances that documents and income from communal property were be kept in an *arca*, with two keys, one retained by the representatives, *procuradores*, and the other by the appellate judge, *merino*.[35] And the town of Vecilla, the head of a large irrigation system of ten villages and towns, maintained an *arca* with three locks. Every year three member villages were each given one of the keys; the next year three other villages were chosen, and so on. The president of the municipal council of each of the three villages in question was required to be present for the *arca* to be opened.[36]

LEGAL AND JUDICIAL INSTITUTIONS

Establishing boundaries, requiring ordinances, standardising weights and measures and creating a system of archives helped localities immeasurably in the management of their natural resources.[37] Without a system of property rights, however, there was no way to exclude access to those lacking entitlement to communally controlled resources. In the case of water, for example, farmers who did not contribute to the costs of the construction and maintenance of an irrigation system could divert it for their own use. Upstream users could, at least potentially, take water first, leaving none for downstream users. Assigning rights to consume, obtain income from, and transfer water to individuals or groups solved the problem. But to enforce these rights, villages and towns acting alone would have had to assemble a private army sufficiently numerous to monitor all of the territory under their jurisdiction, a costly proposition. The economies of scale to law enforcement and the rent-dissipating character of private armies render public enforcement much more cost-effective. Once again, the state came into play.

In expanding and consolidating its power, the state offered localities legal and judicial institutions to define and defend the system of property rights that had evolved since the Reconquest. The contract guarantees, codification of property rights and system of courts they provided were essential to enforce private and public claims to natural resources. Stable property rights were necessary to the economic development underlying the political stability of an expanding and centralising state.

The Siete Partidas

Three Castilian kings, Ferdinand III the Saint (1199–1252), his son Alfonso X the Learned (1221–84), and Alfonso XI (1311–50) embarked on a project of unifying the excessively fragmented and diverse body of state and local law and clarifying its content. The most important product of this effort was, by far, the seven-volume legal code, *Las Siete Partidas*, attributed to Alfonso X, and produced in the second half of the thirteenth century. The *Partidas* divided public property into two classes. The first included communal property with access open to *vecinos*: 'propiamente del comun de cada cibdad o villa de que cada vno puede vsar.' Such property could include the *eras*, or communal threshing grounds, common pasture, and the woodlands used for the collection of firewood and construction materials.[38] Restricted access common property, the *propios*, on the other hand, was not accessible to every *vecino*, 'non puede cada vno vsar', even though it was 'del comun de la cibdad o villa'.[39] These lands or other resources were treated as the private property of the municipality and usually rented out.

One of the most important contributions of the *Partidas* was to establish a structure of property rights over water. During the Reconquest, groups of colonialists claimed riparian rights to the water running next to land they settled. The *Partidas* confirmed these rights and extended them by permitting the owner to authorise others to use the water.[40] Municipal councils owning land across which flowed water, or on which originated a source, could appropriate the water for communal use. Adjacent or downstream users could not suffer damage from such uses as would occur, for example, by a municipal council restricting water flow to an existing mill.[41] While seigniorial grants could include rights to water, the appropriation of a village or town by a feudal lord did not necessarily mean the disappearance of local resource management. In the Orbigo valley, when villages and towns were appropriated by the seigniorial Quiñones family, villages retained this prerogative.[42]

The effort by the Crown to use the Partidas to legitimise and structure the system of property rights emerging after the Reconquest was of unquestionable value. The *Partidas* endowed villages and towns with protections against the acquisition of title to their common property by reason of uninterrupted possession of specified duration. This was an important defence against usurpation of

their *dehesas*, *montes*, and *eras* by individuals, neighbouring settlements and feudal lords. On the other hand, the *Partidas* also included legal channels to establish property rights to other classes of goods through the documentation of long-term use. This was used in two ways. First, it gave villages and towns another legal means to defend their common property against usurpation. To this end, towns and villages commonly inserted the phrase 'uso y costumbre desde tiempo inmemorial' in their municipal and special-purpose ordinances and other legal documents dealing with common property. Second, prescription allowed villages and towns to lay claim to natural resources to which they lacked property rights. This was extremely important for towns and villages needing to acquire water for irrigation. The *Partidas* established an avenue for this in providing for the acquisition of right of way through prior use.[43] There were two provisions. Daily use of a right of way for a period of ten years without opposition from the landowner entitled one to an unencumbered right. Regular use, even if sporadic or periodic 'for so long a time that men cannot remember when they began to do so' was also sufficient. It could be established through oral testimony by elderly witnesses. These provisions were extremely important for the irrigation systems of the upper Duero. Acceptance of this claim provided an opportunity for obtaining a permanent right of way.

In the 1580s, for example, the Parcionería, an irrigation confederation of villages and towns along the Orbigo river presented testimony of elder witnesses to substantiate a long-standing pattern of accustomed use in an appeal to the Chancillería of Valladolid over a challenge to their water rights. The Chancillería ruled in favour of the Parcionería and a final writ to this effect was issued in 1587.[44] The final writ, with its signatures of the judges and Royal Seal was kept under lock and key in the archives of the village of Villares. It was used to establish a claim for water rights when the Presa de la Tierra successfully sought recognition in 1946 as an irrigation community, *comunidad de regantes*, under the provisions of the 1879 Water Law.[45] Establishing a pattern of long-term use was part and parcel of the defence of their property rights.

The *Partidas* remained a very real influence in Castile through successive codifications, including the *Nueva Recopilación* of 1567 and the *Novisima* of 1809, until the promulgation and acceptance of the Civil Code in 1889. Neither local law nor the *Partidas* were eclipsed entirely by the Civil Code, however. Absent any applicable statutory provision, local custom is followed, and in its absence, the general principles of law, including those of the *Partidas*, are decisive.[46]

System of courts

Equally important to the codification of property rights in state law were the courts and the procedure established to defend them. Lawsuits could be heard in a wide array of municipal, royal, ecclesiastical, and manorial law courts and legal

tribunals. While forum-shopping was not unknown, villages and towns preferred the Royal Court system for its impartiality over other courts, particularly manorial courts administered by feudal lords.[47] The royal system had three levels. *Corregidores*, named by the king, administered trial courts at the lowest of the levels. Their decisions, and those of the other courts and tribunals, could be appealed to one of five regional high courts or *audiencias*, of which the *Chancillería* of Valladolid was the pre-eminent. It was, in effect, the final court of appeals for most suits involving resource management. Certain important cases could be appealed to the third and highest tier, the Royal Council of Castile, the kingdom's superior court.

THE ABILITY TO ADJUST PROPERTY RIGHTS IN STATE LAW TO LOCAL SITUATIONS

While normative in its uniformity, completeness, and generalisability, state law was embedded in lengthy and costly procedures. Localities were reluctant to start down long and expensive paths to resolve conflicts. But property rights had to be made to work; too much depended, for example, on secure access to irrigation water to let it fall prey to insecure and uncertain claims. In modifying property rights to adjust to local situations, localities drew on cultural models of resource management. In his approach to cultural models, Shore, for example, distinguishes abstract and wide ranging models, or foundational schemas, from their concrete and specific instantiations, reserving the term models for the latter. Foundational schemas are grounded in experience and learning, shared and instituted. In their public form, they often take on symbolic attributes. Foundational schemas as well as their instantiations can also exist as mental constructs; yet, unlike public and instituted schemas and models, the cognitive properties of mental constructs are relatively inaccessible.[48]

In the external social world, formal legal codes or informal local legal ordering systems structure the form property rights can take, rendering them 'appropriate,' recognised and respected. In drawing on cultural models of resource management, municipalities were able to accumulate a body of local law to operationalise otherwise unworkable property rights. These cultural models were generated on the basis of close to a thousand years of collective experience with private (cultivable land, house-plots) and open- and restricted-access common property (forests, threshing grounds, irrigation associations, pastures, water mills). This rich body of experience has been culled and reduced to a set of foundational schemas of property rights. Implicit and taken-for-granted, these schemas are drawn on in explaining past experiences with property rights and in structuring new property rights arrangements.

Experiences in structuring rights to collectively-managed public goods gave rise to an abstract proposition-schema useful for application to a specific type of

good. Goods to which it was applied were costly, beyond those affordable by an ordinary individual. A group could then pool capital and labour to meet the start-up and maintenance costs. The good also had to be divisible into units of time. The amount of labour and capital one contributed to the start-up costs could then be used to calculate on a proportionate base one's entitlement to a time share. Time shares were taken in rotation. The schema has its origins in the tenth century and over time became reinforced through customary law.[49] The schema was flexible enough to be applied to public goods held by municipal confederations and allocated to municipalities, by municipalities and allocated to *vecinos*, and by small partnerships of farmers and allocated to members. The need to minimise transaction costs governed the size and nature of the group managing and distributing shares of the resource. The application of this schema resulted in a partnership form of common property.

The schema was used in the thirteenth and fourteenth centuries to create confederations of municipalities, called *presas*, to divert water from the Orbigo River for irrigation.[50] The dam and main canal from the river to points where water was shunted to a municipality was considered jointly owned by members of the confederation. The initial contribution in cash, kind and labour to the start-up costs and to the subsequent maintenance of the infrastructure of dam and main canal was used to calculate each municipality's right to water. Water was divided into units of time, usually days, and these units were used to assign rights to municipalities. water-driven grist mills.

The schema was also applied to water mills built with communal labour and operated as restricted access common property. Access to the mill was allocated to *vecinos* on the basis of units of time. Milling rights were divided up into days or hours according to the number of original shareholders and scheduled in rotation. Time shares could subsequently be transferred through sale and passed on through inheritance.[51]

These cultural models were brought to bear in operationalising property rights defined in state law, which proved unworkable in practice. The domain of property rights attached to water is a case in point. In many ways, the property rights attached to water in the *Partidas* were more appropriate for the slow flowing, high volume rivers of the great plateaux of Old Castile than the geologically young, wide, and flat river beds and annual flooding rivers of the upper Duero watershed. The *Partidas* considered *agua sobrante* – water in excess of the immediate requirements of a *presa*, municipality, or irrigator – which flowed downstream a public good, inalienable and usable by anyone. One could possess no rights to it nor could it be subject to concession.

Excess water was, and is, a very important complement for *presas* to water diverted from the river, particularly during the months of July through August when river levels fell drastically. *Presas* were engineered to connect their main canal with the drainage of an upstream *presa* to collect its excess water before

it returned to the river. No matter how efficient upstream users were, some excess always flowed downstream to lower *presas*.

The *Partidas* notwithstanding, the scarcity of water endowed excess water with more finely discriminated property rights than those of a free good. The nature of these rights varied according to the parties involved in the contractual relations, i.e. *presas, presas* and municipalities, and municipalities and end-users, and the volume, variability and predictability of the water. In some instances, excess water was sufficiently predictable and abundant to motivate groups of downstream irrigators to organise to exploit it. Local practice transformed excess water into a resource with specified rights of exclusivity and transferability in formal and informal contractual relationships between *presas, presas* and municipalities, and municipalities and end-users. It was simply too precious a commodity not to extract value out of its transfer to others. Ownership of excess water was not allocated homogeneously, however, but varied in the degree to which the flow could be ascertained. In some instances, flow was variable but not fully predictable, a situation where rights are generally easy to ensure as is the case when the flow is not certain but is unalterable.[52] In the worst cases, excess water was highly variable and not fully predictable.

Local law lowered the costs of the state legal system by providing precedents for the codification of law and the system of courts. Local law enabled property rights that though specified in state law would have been unworkable in practice. Litigants often bypassed the formal system of courts and tribunals, preferring to submit voluntarily, or under mandate by a higher official, to private arbitration. While simple in form, arbitrated agreements, known variously as *conciertos, convenios, concordias* and *compromisos*, could treat contentious disputes, including basic property rights issues, inexpensively and with dispatch. Unlike judicial resolution of disputes, arbitration was predominantly oral, although the final agreement was recorded by a scribe. Recourse to written law was infrequent since judgments were based almost entirely upon traditional usages and customs. *Conciertos, concordias, convenios* and *compromisos* became legal documents kept in village and town archives and often surfacing years, or centuries, later in formal court proceedings.

Private arbitration had clear advantages over disputes submitted to an administrative or judicial tribunal: arbitrators possessed special expertise and access to remedies tailored to the situation. Control over the choice of arbitrators helped restore confidence and trust to the social fabric more efficiently than unnamed and unknown bureaucrats.[53] Arbitrated agreements were an essential strategy in private governance throughout northern Spain. Arbitrated agreements soon filled notary, village, town, and church archives and, together with formal contracts, concessions, regulations and ordinances played an important role in the definition and defence of property rights.

CONCLUSION

Clearly, one would have to look hard to find in Spain's Ancient Regime anything even remotely similar to what is considered co-management in the contemporary sense. Unlike today, the stakeholders, usually municipalities, landowners, seigniorial lords, the church and the state were few. Most commonly, localities interacted with other bordering localities or directly with the state or the jurisdictional authority, be it church or seigniorial lord. The rather clear and straightforward array of stakeholders helped lower the transactions costs of resource management. The proliferation of public and private stakeholders began in the nineteenth century administrative reforms and reached its epitome in the post World War II era.[54]

Nor did co-management proceed by assembling stakeholders face-to-face to plan and co-ordinate joint efforts and to collect and share information on the state of natural resources. With few exceptions, the state had little to offer in the provision of specialised knowledge of the biological principles of natural resource management. Such information was highly localised in the shared wisdom of communities of farmers and pastoralists. Rarely was it articulated in categories recognisable to modern resource management science (e.g. the hydrological cycle, forest succession, carrying capacity). These categories, and their elaboration by natural resource ministries, universities, research stations, and extension agents, were to come later. Only then did the state begin to help accumulate the sophisticated data necessary to make these tools work.

The form co-management took in Spain's Ancient Regime rested on institutions of private governance that had evolved synchronously with the accumulation of local knowledge. The state came to accept, albeit reluctantly, local autonomy and control over resource management. In this, it was not entirely politically naïve. Granting autonomy to localities and conditioning it on their acceptance of the hegemony of the state helped in state-making and in weakening potential competitors to power. The adjustment of localities of property rights defined in state law to local practice and the often positive outcome of judicial reviews of these adjustments were pragmatically respected.

The long and traumatic path of the codification of property rights has been followed in one form or another by all states. What varies among these experiences is the role of local law in the definition and defence of property rights. The treatment of private governance and customary law is a key element in the success of natural resource management prior to the emergence of contemporary forms of co-management.

NOTES

[1] Mosse 1997.
[2] Guillet 2001.
[3] Ostrom 1990.

[4] Garcia de Cortázar 1985, 1988; Rubio Pérez 1993.
[5] Vassberg 1984: 21–6.
[6] O'Callaghan 1989.
[7] Castillo de Bobadilla 1978[1704]; Gonzalez Alonso 1978: 33.
[8] Behar 1986: 249–50.
[9] Castillo de Bobadilla Vol. 2. p. 137, 629–30 .
[10] 'como costa tan importante, pues dellos procede la leña y carbon para el fuego, las maderas para los templos, casas, y navios, la bellota, pasto y abrigo para los ganados.' Castillo de Bobadilla Vol. 2 p. 137.
[11] Behar 1986: 248–51.
[12] Behar 1986: 248.
[13] '… if a person leaves the district of said place taking anything from it with him, whether by cart, by beast or in any other fashion stated above, someone is to go to his house and by the Path to ask him for the fine which he has incurred or for a prenda [pledge], and if he does not give it of his own will, that in such a case it be asked of him before any Justice or Alcalde of the land and the Magistrate of the City of León, by virtue of it, of whom we shall ask and implore that Justice be done us, because otherwise we will not be able to guard and conserve our Montes and Trees as his Majesty ordains …' Behar 1986: 251.
[14] Ostrom 1990: 91–2.
[15] Libecap 1989: 26; Guillet 1997 .
[16] Guillet 1998.
[17] Ordenanzas de Villares. AHP 1701 Caja 9.961 folios 13–30v; Ordenanzas de Benavides. AHP 1739 Caja 10.221 folios 190–221 .
[18] Córtes de Castilla Vol. 1 p. 304.
[19] Vassberg 1984: 76–7.
[20] López Morán 1984 [1897].
[21] Rubio Pérez 1993: 36. The municipal ordinances, for example, from 1701 of Cebrones del Rio in the Orbigo Ribera obliged 'los Regidores que son o fueren de esta villa … a levantar y hacer que se levanten fitar y amojonar las arcas que dividen sus términos con los comarcanos, por cada el día segundo de Pascua de Espíritu Santo, para que se escasen los pleitos.' Capitulo 35. Ordenanzas de la villa de Cebrones del Rio. 1701 Rubio Pérez 1993: 384. A virtually identical clause can be found in the ordinances of the village of Palacios de Jamuz 1630, Rubio Pérez 1993: 404.
[22] Sanchez-Albornoz found written records of the sale or donation of landed property as early as 935 (Sanchez-Albornoz 1980:1470).
[23] Delano Smith 1979: 89–90; Hinojosa y Naveros 1974: 289ff; Guerra García and Fernandez del Pozo 1978.
[24] 1740 AHP Caja 10.222 folios 465–6v .
[25] Scott 1990: xii.
[26] Smith 1984: 62.
[27] Escobar 1995: 108.
[28] Libro VII, Titulo XXI, Leyes XVI Novísima Recopilación.
[29] Libro VII, Titulo III, Ley IV Novísima Recopilación.
[30] Libro VII, Titulo III, Ley III Novísima Recopilación.
[31] Rubio Pérez 1993: 24.
[32] Rubio Pérez 1984: 120.
[33] Castillo de Bobadilla 1978[1704]: 110–11, 123. Bobadilla justified the practice in these words: 'porque guardandose con este recato y seguridad, hazen fe y prueba en muchas cosas, y no de otra manera.'

[34] Martínez Martínez 1989 [1674]: 223.
[35] Armellada ordenances 1548 No. 39.
[36] Teijón Laso 1948: 30.
[37] The variety of the systems of measures existing in Castile and the difficulties this entailed in transaction costs motivated public authorities to set out on different occasions to systematise measures. The first attempt was a decree in 1261 by Alfonso X in 1261 and others continued through the medieval and early modern periods (Toledo 1780: 7–11). In 1801 Carlos V attempted once again to 'equalise' weights and measures among the different realms. But unification of weights and measures in Spain had to await until the final implementation of the metric system, a long process which occurred during the 19th century (Gutiérrez Bringa 1996).
[38] Vassberg 1984: 21–6.
[39] The specific law in the *Partidas* is referenced by a Roman numeral indicating the *Partida*, followed by Arabic numerals indicating the Title and the Law. Title 28 of the third *Partida* states: 'Apartadamente son del comun de cada vna cibdad o villa, las fuentes e las plac fazen las ferias o los mercados o los lugares o se ayuntan a concejo e los arenales que son en las riberas de los rios e los otros exidos e las carreras o corren los caballos, e los montes e las dehesas, e todos los otros lugares semejantes destos que son establecidos e otorgados para pro comunal de cada cibdad o villa. See also Carlé 1968: 26–7 and Gallego Anabitarte 1986: 129–38.
[40] III, 28, 31.
[41] III, 37, 8; III, 37, 14–15 .
[42] Gallego Anabitarte (1986: 140ff.) discusses water rights under seigneurial dominion. The Quiñones señorio in the Orbigo valley is analysed by Merino Rubio (1976) and Alvarez Alvarez (1982).
[43] III, 21, 15.
[44] AJVV 1587 Carte ejecutoria.
[45] Ministro de Obras Publicas, Registro de Aprovechamientos No. 12.367.
[46] Kleffens 1968: 260.
[47] Kagan 1981: 36.
[48] Shore 1996.
[49] Alonso Gonzalez 1993.
[50] Guillet 1998.
[51] 'The organisation of the use (of the mills) has antecedents in the ancient system of the *vices* or turns practised since the 10th century, which over time became incorporated into customary law' (Alonso-Gonzalez 1993: 18, my translation); see also, Vassberg 1984: 56; Sánchez-Albornoz 1980: 1464).
[52] Barzel 1989: 5.
[53] Williamson 1985: 250–2.
[54] Spanish liberal administrative reforms in the 19th century impacted many resource management arenas. Since the mid 18th century, the socio-economic functions of public woodlands began to shift from the provision of firewood, pasture, and construction materials for subsistence to meeting commercial and industrial ends. In the 19th century the state began to actively pursue forest management (Ordenanzas Generales de Montes de 1833, Ley de Montes de 1863 and the Ley de Repoblación Forestal de 1877) subjecting public woodlands increasingly to internal market forces. The process of disentailment, *desamortización*, of mortgaged property owned by the church and municipal councils also took place in the 19th century.

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