

**CULTURE NEW INSTITUTIONALIST THEORY AND THE COMMONS**  
***Linking Intractable Policy Controversies and Institutional Ethos***\*

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Why is it that the architects of modern water resource policy continue to believe that it is only through competition promoted by free market principles that the resource will be used efficiently and that this 'efficient usage' will ultimately halt degradation of the resource? For what happens all too often in reality is that the 'free market' principles promote conflict over 'competition' that results in intractable policy controversies. Intractability is the term used to describe policy disputes that are controversial – that is - policy disputes that are immune to resolution by appeal to the facts<sup>1</sup>.

In the modern Australian context, intractable policy controversies over water resources can be linked to the mobilisation of market forces through water resource policy, with no room for cooperation and trust to emerge between the users and those public authorities concerned with implementing and regulating the market. Trust and cooperation between governments and users are obligatory given the nature of the changes required for successful water resource governance in the 21<sup>st</sup> century. In Australia, this means the separation of access and usage property rights as well as the introduction of water markets to promote the type of competition that, so governments hope, will lead to efficient usage. The 'hostility' that emerges is the result of the formulation and implementation of policy that attempts to introduce new playing fields in terms of water resource-usage and conservation to suit the modern context.

There exists in the Namoi Valley located in northwestern New South Wales an intractable policy controversy. The focus of this paper is to analyse the reasons why this intractable policy controversy exists. The policy dispute is over what group – government or the groundwater users – are to bear the costs<sup>2</sup> of the introduction of the new playing field. To help understand the

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<sup>1</sup> Schon, D.A. & Rein, M., *Frame Reflection Toward the Resolution of Intractable Policy Controversies*, 1994, Basic Books, New York

<sup>2</sup> costs include the financial, transaction and transformation costs associated with changes in the use and conservation of water

issues involved in such structural change I want to draw some lessons from the Alto Vinalopó comunidades de regantes (irrigating communities) and huertas<sup>3</sup> of Spain, where policy for the introduction of a new playing field has been framed, so that the associated costs are shared between the European Union and the State of Spain, as well as the Alto Vinalopó irrigating communities.

Using this comparison the aim of the paper is to demonstrate that it is possible to avoid intractable policy controversies through the collective management of a resource. In the Alto Vinalopó irrigating communities one can trace at least 5 centuries of common property arrangements<sup>4</sup> or collective management experience from which to draw such lessons. These institutions or water markets<sup>5</sup>, offer an excellent model from which to learn about how participatory governance<sup>6</sup> could be organised in a modern nation state.

A key challenge for the implementation of market-based structural change involving the alteration or cancelling of established user property rights is that it becomes a fractured task to design or craft institutions<sup>7</sup> to promote successful governance of the resource that must combine the State's push for efficient usage to halt degradation, with the community's concern for the socio-economic impact wrought by such changes to its playing field. The costs associated with changes to governance styles have to be borne by some group of actors involved in the governance process. This usually means the government or the users. Further this 'modern' approach to the formulation and implementation of water resource policy ultimately divorces the 'market' from the prevailing social and economic realities<sup>8</sup>, in say – a

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<sup>3</sup> the Castilian word 'huerta' is applied to describe an irrigated agricultural area (from Medieval times) that sometimes operates as a water market

<sup>4</sup> For the purpose of this research I use the definition from Wantrup quoted in Barraque (1998) which is:

*The term common-property is applied to define the distribution of property-rights to resources in which a number of owners are 'co-equal' in their rights to the use of a resource. This means that their rights are not lost through non-use. Further, it does not also mean that the co-owners are necessarily equal with respect to the quantities of the resource each uses over a period of time (these customary arrangements are not always necessarily 'democratic'). The difference between private property rights and common property rights refers to the rights of common use and not to specific use rights held by several owners. This term can only be applied when appropriate institutional arrangements exist.*

<sup>5</sup> A water market in Alto Vinalopó is understood to be 'an economic system that is absorbed in a social system – or a community' (Polanyi, K., 1944)

<sup>6</sup> NSW Department of Land & Water Conservation, *Sharing Water Newsletter*, Issue No. 2, December 2000 ...*government and community working together*

<sup>7</sup> An institution is 'social practices that are regularly and continuously repeated, are sanctioned and maintained by social norms, and have a major significance in social structure. Penguin Dictionary of Sociology

<sup>8</sup> Polanyi, K., *The Great Transformation the political and economic origins of our time*, 1994, Beacom Press, USA

groundwater irrigating community such as the Namoi Valley in New South Wales.

A groundwater irrigating community provides a good litmus test for the tractability of water resource policy because generally inefficiencies of usage and non-maintenance of infrastructure<sup>9</sup> create increases to the financial, transaction and transformation costs as has occurred in the Namoi Valley. Also, a groundwater aquifer has characteristics that set it apart from a more renewable resource such as surface water. Tractable policy will be of the kind that has as its goal the *equitable sharing* of the increased costs, whether enduring or transactional, between all of the actors involved in the governance process.

As we shall see, with the case of the Alto Vinalopó irrigating communities and huertas, this equitable sharing is an easier achievement when the relevant structural changes are sensitive to the embedding of the relevant resource and its institutional arrangements in the concerned local communities, and where these arrangements already bear the features of common property arrangements. Thus in the Spanish case users are coping far better than in the Namoi Valley with the imposition of new rules for playing the game. The adaptive and resilient characteristics of their common property arrangements render them capable of making the necessary transformations to adapt to changes in water resource governance. This is because these common property arrangements already involve the existence and operation of water markets that promote a different type of competition than that presently favoured by Australian government policy.<sup>10</sup> These common property arrangements have been crafted by groundwater users over time to be adaptive and resilient to changes associated with water resource usage. In these groundwater irrigating communities there is no apparent evidence of hostility between irrigators, nor government and user over the introduction of new rules for 'modern' river basin management in this region of Spain.

The hostility that exists between the Namoi Valley groundwater irrigators and the New South Wales government, not to mention the New South Wales government and the Federal government, relates to the proposed introduction of massive reductions in existing groundwater allocations because the resource is over-allocated, as well as changes to existing access and usage rights. The irrigators argue that the 'market' in its final form will have a negative impact on the socio-economic realities of their particular groundwater irrigating community, and will adversely affect the ability of individual irrigators to adjust to the new playing field. In the Namoi Valley context, there has been nearly a decade of what can only be described as hostile debate and constant conflict between the users and the government about just how this new type of competition will achieve efficiency of usage, as well as how this type of competition will halt further degradation of the groundwater aquifers.

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<sup>9</sup> Hunt, R.C. *Appropriate Social Organization? Water User Associations in Bureaucratic Canal Irrigation Systems*, Human Organization, Vol. 48, No. 1 Spring

<sup>10</sup> Maass, R. & Anderson, A., *...And the Desert Shall Rejoice Conflict Growth and Justice in Arid Environments*, Florida, Robert E. Kreiger Publishing Company Inc., 1986.

In the Namoi Valley context the conflict and competition that exists between those who manage and those who use natural resources are distinct groupings. Common property research connects this dichotomized system of conflict and competition over usage of natural resources and the typical design principles and practices of modern liberal institutions. Yet seminal common property research remains bound to romantic notions of the relationship between mythical 'social commons' institutions and tractable policy for natural resource governance; or at best, attempts to apply game theoretic abstractions to understanding successful common property governance. While some contend that this conflict has emerged through state reaction to pressure from interest groups and changes in public perception, it is becoming clear that state reaction to interest groups and changes in public perception is symptomatic of an overall weakness in the design principles of modern liberal institutions. Of particular importance is the way conflict is obscured by the demand that such institutions utilise *utility-maximising language* to formulate policy for the governance of natural resources like groundwater resources that predispose themselves to a participatory style of governance.

There is sufficient evidence to suggest that utility-maximising approaches to the governance of natural resources actually impedes the successful governance of those resources over time.<sup>11</sup> Collins<sup>12</sup> argues that utilitarian values undermine 'the integrity of linguistically distinct communities within a single polity.' What successful natural resource management requires is not an *imposed* linguistic homogeneity that both hides and furthers conflict, but the development and nurturing of a genuinely shared language, based on familiarity with the relevant resource base, out of which co-operative strategies may arise. If successful natural resource management is the product of institutional arrangements that encourage actors to share a language, then a 'shared language' may be the design principle that lies at the core of adaptive and resilient institutions. Certainly this principle characterises those successful pre-modern and traditional resource management regimes characterised in the literature as Common Property Arrangements, and it points the way by which we might bring the lessons of traditional land management schemes to bear on policy formulation directed to crafting modern institutions.

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<sup>11</sup> McKay, B., *Post-modernism and the Management of Modern Natural and Common Resources*, in *The Common Property Digest*, No. 54, September, 2000

<sup>12</sup> Collins, H., *Political Ideology in Australia*, in Graubard, S.R. (ed.), *Australia: The Daedalus Symposium*, Australia, Angus & Robertson Publishers, 1985

Policy formulation can have two types of constraints – *substantive* or *procedural*. Procedural constraints may be either ‘institutional’ or ‘tactical’ in nature.<sup>13</sup> The ‘gap’ that is exposed in this analysis of the participatory governance process in the Namoi Valley is a result of a weakness at the level of the River Basin Management institution. This institutional weakness can be linked to the top-down imposition of a linguistic homogeneity, that is ‘owned’ by the ‘environmental agency’ specialists and practitioners who overshadow the legitimate participation of the groundwater users in the policy formulation process. The idea that language, rhetoric or discourse is crucial to determining the tractability or intractability of environmental policy is nothing new. The idea has been pursued by many researchers - two seminal works are Hajer’s, *The Politics of Environmental Discourse*,<sup>14</sup> and Schön and Rein’s *Frame Reflection Toward the Resolution of Intractable Policy Controversies*<sup>15</sup>

Hajer’s work points to the fact that the environmental discourse is a merging of storylines owned by the various actors engaged in the governance of environmental goods. While Schön and Rein claim that policy framed around metaphors is the key to understanding the emergence of intractable policy controversies. Schön and Rein would argue for example that the global water scarcity metaphor is a generative metaphor and is one that allows modern society to identify abundance of water as being critical to ‘the good life’.<sup>16</sup> Hajer extends this thinking over the role of generative metaphors to suggest that they allow the linking of the expert languages to support the claim that there is global water scarcity based on scientific fact, in a way that the non-scientific community can identify with.<sup>17</sup> The point to be made here is that in the modern context it is not always the case that all the actors participating in the formulation of environmental governance policy owns or completely understands these metaphors or storylines. It follows then that the Namoi Valley brand of participatory governance precludes some actors from having legitimate input to the formulation of policy. My research in the Vinalopó River Basin in Spain leads me to conclude that Australian water resource policy is formulated using what I shall refer to as *two policy stems*; the first being a user unfriendly version of the economic ideology of the day, and the second being the dominant scientific paradigm of the day. This fact I believe, lies at the heart of the intractable policy controversy in the Namoi Valley in New South Wales. In the Alto Vinalopó it is simple to locate evidence of a *third policy stem* that is the sum of 5 centuries of the knowing objectives<sup>18</sup> of the groundwater irrigating community.

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<sup>13</sup> Zafurallah, H. *PUBP 311/411 Policy Analysis Handbook*, UNE Public Policy Program, University of New England, Armidale, 2000

<sup>14</sup> Hajer, M., *The Politics of Environmental Discourse Ecological Modernization and the Policy Process*, Oxford, Clarendon Press, 1995

<sup>15</sup> Schon, D., & Rein, M., *Op. Cit.*

<sup>16</sup> Schön, D., & Rein, M., *Op.Cit.*

<sup>17</sup> Hajer, M. *Op. Cit.*

<sup>18</sup> Maass, A. & Anderson, R., *Op. Cit.*

Australian water resource policy - and modern Spanish water resource policy - has to be framed from global declarations and debates that dictate the terms of governance for water resources. Currently the global water debate is framed around the metaphor of water scarcity<sup>19</sup> but the metaphors change over time to reflect the trend in expert thinking. For example, prior to the scarcity debate, expert thinking focused on the problems of social costs associated with usage of water resources<sup>20</sup> Currently in Australia, at the Council of Australian Governments (COAG) level the guidelines for the formulation of State legislation take on obscure or useless meanings for any protagonists locked into policy controversies that preclude 'appeal to the facts' of the kind available especially to concerned users of the resource because of this two stemmed policy.

To complicate matters further there is confusion over exactly what category of economic good in which water is to be placed, and over who or what has property rights to the resource. This has inspired a trend over recent decades to refer to water as 'the commons' - a generative metaphor that is property based<sup>21</sup> - in the hope that in developing countries at least commodification of water will be deferred. The use of this generative metaphor, particularly in academic circles has generated confusion over what type of good water should be and it is easy to identify such misguided definitions. A good example of this type of confusion exists in the mind of the author of the following claim that appeared in a NSW government publication -

*Water is not a common property resource where everyone has equal rights to access and to use the resource in whatever way they wish.*<sup>22</sup>

because the foregoing definition is that of an open-access common – not a common property resource. Bromley argues,

*There is no such thing as a common property resource: there are only resources controlled and managed as common property.*<sup>23</sup>

In other words natural resources are not common property resources, as a great number of experts would want the users to believe. However, there are natural resources with the physical characteristics such as water that lend themselves to being governed by common property arrangements, which is what we find in the Alto Vinalopó huertas.

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<sup>19</sup> Mehta, L., *Water for the Twenty-First Century: Challenges and Misconceptions*, IDS Working Paper III, 2000, Institute of Development Studies, Sussex

<sup>20</sup> Coase, R.H., *The Problem of Social Cost*, *The Journal of Law & Economics*, Volume III, October 1960

<sup>21</sup> Goldman, M., *The Political Resurgence of the Commons*, in (ed). Goldman, M., *Privatizing Nature Political Struggles for the Global Commons*, London, Pluto Press, 1998

<sup>22</sup> NSW Govt 1998 White Paper on Proposed Water Reform

<sup>23</sup> Bromley, D.W *The Commons, Property and Common Property Regimes*, in *Making the Commons Work Theory Practice and Policy*, Bromley D.W. (ed) Institute for Contemporary Studies, San Francisco, California, 1992

In New South Wales it is difficult to define what type of economic good water could be. The NSW 2000 Water Management Bill defines the state's water resources as being one of the following ... environmental health water, supplementary environmental water and adaptive environmental water.<sup>24</sup> These terms add to the confusion that already exists in the minds of the experts of what water could be in an economic sense.<sup>25</sup> This confusion has serious implications for users of the resource that have to adapt to changes in their access and usage rights. How then are the Namoi Valley water users supposed to determine their role as actors in the governance of water resources or find a resolution to the intractable policy controversy when it is impossible to 'appeal to the facts'?

In Spain, La Ley del Plan Hidrológico Nacional (PHN)<sup>26</sup> which is the law of State is framed using the language of the global water debate referred to earlier yet thus far it has not spawned intractable policy controversies. What you have in the Alto Vinalopó huertas is both a view of water as a public good and local governance institutions that are really common property arrangements. There is no confusion in the minds of these irrigating communities over what water is, nor their role as actors in the participatory governance of the resource. From at least 1985, there has been a shared understanding of the nature of water between the State and the irrigators and the irrigators have had a concession to manage the use of the water locally - which is still embodied in the 2001 PHN<sup>27</sup>. Further, because there is a shared language of public goods and local common property custodial management between the state and the water users, the local community can, and typically does, operate in a manner that adapts and responds to cope with the burden of added financial or other costs associated with changes in the playing field. Hence the institutional environment in Spain and the shared language it both depends upon and underpins encourages both the State and the users to engage in legitimate and equitable governance of the available groundwater resources. Thus in Spain success in managing the resource depends crucially on what I have called the third policy stem so conspicuous for its absence in the Australian governance of water context. In Australia the two stemmed policy (central economic ideology, and expert scientific knowledge) leads to a politicized ignoring of what the relevant local irrigating community could contribute to the water policy debate.<sup>28</sup>

This two stemmed policy colours the guidelines determined in the COAG Water Industry Reform Framework<sup>29</sup> that introduced a new playing field in terms of water resource usage and conservation in 1996. This framework is constructed using the two policy stems in the hope that these

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<sup>24</sup> NSW Government, *Chapter 2 Water Management Planning, 2000 Water Management Bill*, December 2000

<sup>25</sup> Mehta, L., *Op. Cit.*

<sup>26</sup> La Ley 10/2001 5 de Julio *Plan Hidrológico Nacional*

<sup>27</sup> La Ley 10/2001 5 de Julio *Plan Hidrológico Nacional, Capítulo IV, Artículo 24*

<sup>28</sup> This oversight is critical because the research in the Valenciana region of Spain leads me to conclude that in some of the huertas these knowing objectives are consistent over time in accordance with the findings of Maass & Anderson and their 1970s work in the Alicante huertas.

<sup>29</sup> ARMCANZ/ANZECC, *Report of Progress on Implementation of the COAG Water Industry Reform Framework 1996*

new rules will promote the desired level of competition to achieve 'efficient usage' over the access to and use of the nation's water resources, as well as to arrest further degradation.<sup>30</sup> But as this framework flows down from on high and is adopted at River Basin level does it really address one of COAG's desired outcomes to have the water industry arrive at industry wide consensus on '...the role and definition of a number of institutions involved in the industry'?<sup>31</sup> The Australian Federal government has obligations under the Australian Constitution to devolve the administration of water resources to the States. The States must frame their legislation using these two incompatible policy stems to identify the water resource rules for play. Challen argues, the root of problems such as the one that is at play in the Namoi Valley is because COAG guidelines contain no terms of reference from which the States can legislate for the emergence of the types of institutions to support governance of the resources by all of the actors from within the water industry.<sup>32</sup>

Is it any wonder that there is a lack of synchronicity between the COAG guidelines for reform of the water industry, the NSW 2000 Water Management Bill and its offshoot policy for the introduction of sizable reductions to groundwater allocations and the socio-economic realities in the Namoi Valley? The intractable policy controversy over the allocation and conservation of the Namoi Valley groundwater aquifers centres around the irrigators' concerns for the impact that the push for 'efficient usage' of the resource will have on both its long-term social and economic fabric. The present policy formulated by the government proposes reductions of up 80% of some annual groundwater allocations. The irrigators are claiming 'compensation' to assist them to move to 'trading' their reduced groundwater allocations in water markets for which the operating policy is formulated by technical experts<sup>33</sup>. The irrigators claim that it is not only the micro-economic consequences of this intractable policy controversy that are unsustainable but that the 'science' or the hydrogeology that supports the reductions in allocations is at best 'fuzzy' or needs to be further investigated incorporating user knowledge. As part of the Namoi Valley Taskforce submission to government to resolve this intractable policy controversy, some of the Upper Namoi Valley groundwater irrigators have formulated a proposal for local collective management of the aquifer based on the adaptive and resilient principles of the Alto Vinalopó huertas. This approach to local governance of the resource is termed Aquifer Response Management<sup>34</sup>. It was developed by the irrigators to alert the government to the fact that 'across the board' reductions in groundwater allocations in the Namoi Valley makes little sense because at best the 'numbers' that drive this type of policy are questionable when compared with the irrigators knowledge of how the aquifer responds in some localities. Aquifer Response Management can also be regarded as a local attempt to

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<sup>31</sup> The Council of Australian Governments' *Communiqué*, Hobart 25 February, 1994

<sup>32</sup> Challen, R.J., *Institutions, Transaction Costs and Environmental Policy Institutional Reform for Water Resources*, London, Edgar Allen, 2000

<sup>33</sup> Pers. Comm, President LNVWUA 19 March, 2002

<sup>34</sup> Zone 2 and Zone 4 Upper Namoi Valley Water Users Groundwater Sub-Committees, *Irrigators "ARM" Proposal*, April 2000 in *Summary of the Final Report of the Namoi Groundwater Taskforce*, October, 2000



create the types of institutions that reflect the design principles of the common property arrangements of Alto Vinalopó that contribute the third policy stem.

The NSW attempt at participatory governance of water resources pales when compared to the institutional arrangements to be found in Spain. In the Namoi Valley there is a Groundwater Management Committee (GWMC) that was established by government to provide user input into the re-allocation process. The membership of the GWMC is constituted from 2 representatives each from both the Upper and Lower Namoi Valley Water Users' Association, 2 representatives from the water users who are fully inactive users, 1 representative of local government, representatives from NSW Department of Land & Water Conservation, the Environment Protection Authority, NSW Department of Agriculture, National Parks and Wildlife Service, 1 representative from the environmental lobby area and 1 representative for the indigenous communities, as well as an independent chairman who is a Ministerial appointee, and in the case of the GWMC, not even a groundwater user.

The GWMC is charged with preparation of the Water Sharing Plan (WSP) for groundwater access and usage. The Water Users' Association believes that a draft of its WSP was returned for revision with major changes made by 'agency representatives' not only to suit the workings of the Water Management Bill, but also to alter the intent of the Namoi Valley Groundwater Users. User membership ratio would appear to be in balance with state agency membership ratio, however, the problem the water users believe lies with the fact that government agency representatives, who are supposed to be present to clarify technical questions, actually vote on issues that are to be resolved between the groundwater users. This institution is the local only forum recognised by government that the users have in which to resolve their local issues. The water users feel further marginalised because at this stage there is no understanding of how many representatives they will have when the River Basin Management Committee is in its final form.

The groundwater irrigating community of Alto Vinalopó provides a real life, not a romanticised example, of how tractable policy can be formulated using the third policy stem. For in the Alto Vinalopó huertas there exists a situation where both the government and users are dealing with the constraints of a new playing field for water resource usage and conservation, but where this change in the manner of governance of the resource is proceeding with relatively minimal tension emerging between user and user, and users and government. On one level the reasons for this are broadly "cultural" - the Spaniards have an intimate understanding of the constraints of their physical landscape which when compared to an agricultural culture such as the one that exists in Australia, is at best non-existent, or to be optimistic is thin on the ground. But on a more specific level it is crucial to notice that in Spain a groundwater user of the Alto Vinalopó variety has a legitimate avenue of appeal if he/she believes he/she is being individually marginalised by the introduction of a new playing field.

The relative success of managing change in Spain is especially notable when we consider that not only are irrigators having to adapt to the modern notion of a water market to deal with over-exploitation of their groundwater aquifers, they also have to bear a portion of the cost of construction of a 'trasvase'. The trasvase provides the connections for a systematic movement of water between the Ebro River located in the north to the degraded waterways of the semi-arid and arid Valenciana, La Mancha and Andalucian regions of southern Spain. The idea of a 'trasvase' first emerged in 1420 from water users in the arid southern regions of Spain<sup>35</sup>. Under the terms of Spain's 2001 Plan Hidrológico Nacional - which is framed using the language of experts contained in the European Union Water Directive 60<sup>36</sup> that calls for a modernisation of the traditional Vinalopó style of river basin management, the trasvase is becoming a 21<sup>st</sup> century reality.

The physical limits of the southern regions and the need for a trasvase have been water user knowledge for 5 centuries in the Valenciana region of Spain where the Vinalopó river basin is situated. As a condition of the agreement between the European Union and Madrid and these undertakings to finance the construction of the Júcar-Vinalopó trasvase the Vinalopó irrigating communities must make a sizable contribution to the total cost of approximately 228,000,000 Euros (of which the groundwater users will pay 75,000,000

Euros.<sup>37</sup> These irrigators have no argument with Madrid over how to pay for the trasvase because for at least 5 centuries these water users have born the cost of infrastructure, whether it be in the form of the 'derrama'<sup>38</sup> that they are accustomed to paying, or for the loans made by the State to cover the cost of major infrastructure works. And it is important to note that the Alto Vinalopó comunidades de regantes and huertas provide users with forums in which to resolve conflicts over issues such as finances, as well as how the community can cope both socially and economically with major changes to their playing field at a truly local level. These institutions were not crafted using the language of the state's 'environmental' or 'economic policy' experts. The adaptive and resilient characteristics these local water markets display are the result of crafting by water users whose social practices embody their knowing objectives that are communicated in a language that is not only shared by the users, but to a large extent even in the modern context, by the Spanish State.

To accommodate the construction of the trasvase, as well as to deal with over-exploitation of the groundwater aquifers, the traditional institutions of Alto Vinalopó have to adapt to a new style of groundwater management in the shape of a Junta Central. The groundwater aquifers are over-exploited not only because of agricultural practices, as in the Namoi Valley, but largely

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<sup>35</sup> Rico Amorós, A, *Escasez de Recursos de Agua y Planteamiento de Traslases en la provincia de Alicante: La Conexión Júcar-Vinalopó*, in (eds), Gil Olcina, A. & Morales Gil, A., Insuficiencias Hídricas y Plan Hidrológico Nacional, Alicante, Caja de Ahorros del Mediterráneo e Instituto Universitario de Geografía, Universidad de Alicante, 2002

<sup>36</sup> Diario Oficial de las Comunidades Europeas, *Directiva 2000/60/CE Del Parlamento Europeo y Del Consejo*, 23 de Octubre de 2000

<sup>37</sup> Pers. Comms. Dr Antonio Rico Amorós, Instituto Univeristario de Geografía, Universidad de Alicante, 9 May, 2002

<sup>38</sup> 'derrama' is the Castilian word applied to define regular contributions by irrigators to cover the cost of provision and maintenance of infrastructure

because of the massive extractions of groundwater for the purpose of supplying the heavily urbanised areas of the Alicante province (including the Costa Blanca) with potable water. During the period 1910 to 1991 there has been an increase in the consumption of potable water from 1.814.050.m<sup>3</sup> to 121.777.231m<sup>3</sup><sup>39</sup> The Junta Central is administrative body for the Vinalopó, L'Alacantí and Marina Baja (both irrigation and potable) groundwater using communities and was ratified on February 21, 2002. It is a new institution that will administer the construction of the trasvase, as well as establishing changes in access and usage rights to the resource. Yet the President, Don Andrés Martínez Esposa<sup>40</sup> has gone to enormous lengths to negotiate Ordenanzas y Reglamentos for the Junta Central which are to be confirmed by the Confederación Hidrográfica del Júcar (equivalent of the Namoi Valley River Basin Management Committee,) that embody and recognise the importance of the 'autonomous role' that individual irrigating communities have traditionally had and must retain, so that the voice of individual communities does not get overshadowed by either the legislative requirements of the European Union Council or the State. This step recognizes and preserves the importance of the third policy stem in the governance of the Vinalopó groundwater resources, as well as preserving the right of individual Comunidades de Regantes (irrigating communities) and huertas, to continue with traditional approaches to governance at the local level.

Examples of traditional governance of groundwater still exist in the Alto Vinalopó. When the Comunidad de Regantes de Benejema of the Alto Vinalopó have historically had insufficient water with which to irrigate they agree between themselves '¡si no hay, no hay!' (if there is none, there is none!) and structure their agricultural practices to accommodate this lack of water. This traditional approach to the governance of water does not mean that these irrigators are not sophisticated with their conservation methods of a scarce (as well as a polluted) resource. On the contrary, an analysis of this Comunidad's approach to governance indicates that these groundwater irrigators have built on 15<sup>th</sup> century adaptive and resilient ecological practices to arrive at 21<sup>st</sup> century understandings of the physical limits of the groundwater they rely on to supplement surface water for irrigation. The 21<sup>st</sup> century social practices of the groundwater users of Benejema<sup>41</sup> are framed from arrangements that were struck between the reigning monarch Juan II d'Aragón and the community in 1459. It was at this point in time that concessional rights to the governance of water were granted to these Alto Vinalopó irrigators. The terms of trading in this water market remain literally unchanged today since the Ordenanzas para El Régimen y Gobierno Del Riego<sup>42</sup> were ratified between the 1877 groundwater users. These 1877 rules

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<sup>39</sup> Rico Amorós, A, *Agua Y Desarrolla en La Comunidad Valenciana*, Alicante, Publicaciones de la Universidad de Alicante, 1998

<sup>40</sup> Valdés, J., '*Las conclusiones de los sondeos denotan un sobreexplotación evidente, que exige soluciones a corto plazo para paliar este déficit en las reservas*, Información, Alicante, 4 de Marzo, 2002

<sup>41</sup> The irrigating community of Benejema is a 'huerta' because these irrigation areas are located in proximity to the Vinalopó river.

<sup>42</sup> Valle de Benejema, *Ordenzas para El Régimen y Gobierno Del Riego*, 6 de Mayo de 1877

and regulations for the operation of the Benejama water market were crafted using the 1459 knowing objectives of the users of the groundwater aquifers. These rules and regulations restrict the transferability of water property rights to land within the boundaries of the Benejama irrigating community, a rule of operation that is strictly adhered to even today.

The citing of this example, many might argue, bears no relevance to the modern context, given the scarcity of water of in 2002 and the risks that face 21<sup>st</sup> century agricultural entrepreneurs such as those in the Namoi Valley. The architects of modern water resource policy would point to the differences in the history of the evolution of agriculture in the Vinalopó River Basin and the Namoi Valley in NSW to support the existing style of participatory governance of Australia's water resources. The community-based approach to the local governance of water for agricultural irrigation in this region of Spain they could argue, arose out of the Moorish occupation which dates back to at least 800AD. What relevance then do these local governance institutions have for the sophisticated 'politics and economics' that are deployed to halt resource degradation in Australia in 2002? To these critics one can reply that there are valuable lessons to be learned from these water markets because these

'...institutional patterns of a local nature which exist wherever irrigation agriculture is practiced [in Valenciana] are ecologically, more than culturally, derived.'

These huertas, common property arrangements or collective management institutions were originally framed from the Code of Hammurabi (Middle Assyrian Laws) 'bearing 3 principles in mind. The 3 principles relate to the following –

The user receives water in proportion to the amount of land he works;  
The individual user has a responsibility to the community;  
That allocation and resolution of conflict over usage of the resource are 'of a local nature'.<sup>43</sup>

It is from this simplistic and user-friendly approach to water resource governance that the shared language of the Alto Vinalopó irrigators has evolved and these fundamental pillars of successful water resource governance can be witnessed at play in these *huertas* even today.

These fundamental pillars of water resource governance underpin the modern water using practices that are reflected in the language that is shared by both the government and the Alto Vinalopó irrigators despite Spain's chequered history. This shared language that contains each irrigating community's knowing objectives, has survived and has not been overshadowed by the metaphors of Islam and Christianity, not to mention the metaphors of Spanish socialism, anarchism and those that are used to

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<sup>43</sup> Glick, T. *Irrigation and Society in Medieval Valencia*, Massachusetts, The Bellknap Press of Harvard University Press, 1970

identify with the dictatorship of General Franco. I would suggest that what lies behind the success of these participatory governance institutions as they manage what is generally recognized as a public good has more to do with adaptation to the physical constraints of the local environment, than some romantic reverence to the powers of metaphors. These groundwater markets - because of their geographical location - have to have adaptive and resilient characteristics to accommodate prolonged periods of water scarcity and the other risks associated with practising agriculture in the Alto Vinalopó simply because the region is classified as having arid to semi-arid climatic conditions.<sup>44</sup> In terms of the relationship between agricultural practices and water used for irrigation purposes nothing has changed. There always has been and will continue to be some group of actors in the water resource governance process that has to adapt and respond to change. In the Alto Vinalopó the success of participatory governance is linked to the fact that the market is embedded in the community unlike the market that is proposed for the Namoi Valley – a water market that will operate based on policy formulated by experts who, because of their geographical locations can have little or no appreciation of the prevailing social and economic conditions of individual irrigating localities.

What has changed is the emergence of global declarations and debate concerning water resources that have fuelled the emergence of a two stemmed approach to water resource policy formulation. These two stems are shaped using the language of experts – the dominant scientific paradigm and dominant economic management ideology - in the hope that competition will promote efficient water usage; and all of this with little regard as to what group of actors will bear the social and economic costs associated with the introduction of new playing fields, and absolutely no regard for the types of institutions that could ease in the new rules of the game. These new rules the Namoi Valley groundwater irrigators believe severely marginalise any legitimate role for them in the policy formulation process. They believe that these new rules prevent them as a community from legitimate participation in a style of governance that allows no room for their ‘voice’ as a community. All of which gives them grave concerns for their ability as a both community and individually to play fairly using the new rules of the water resource game, because nowhere in this environment of change is there any recourse to resolve conflict through ‘appeal to the facts’.

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<sup>44</sup> Matarredona Coll, E., *El Alto Vinalopó estudio geográfica*, Alicante, Instituto de Estudios Alicantinos, 1983

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