Safeguarding Valencian Acequias: History and Values of a Millennial Water Sharing Culture

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1. THE VALENCIAN ACEQUIA CULTURE: BRIEF HISTORICAL BACKGROUND
Irrigation in Valencia before the Romans is a matter of pure speculation.
Roman hydraulics left unquestionable testimonies in Valencia, but the question of the relationship of the urban-oriented Roman aqueducts with irrigation and agriculture remains open to discussion.
Peña Cortada Roman aqueduct (Chelva, Valencia province).

Photo: Petercero  Available at: http://www.arteypiloto.com.ar/2565/fotos/24927/
Most of the Roman hydraulics collapsed during the long lasting crisis of the Late Roman Empire and the Dark Ages, which had in the ruin of urban life a clear exponent.
Peña Cortada Roman aqueduct (Chelva, Valencia province).

Photo: Luis Pablo Martínez
The Valencian acequia culture was a product of the settlement policies promoted by the Muslim conquerors of the Iberian peninsula, from the year 711 A.C. on.
Al-Andalus, Muslim Spain, experienced a general economic, social and cultural renaissance from the X century on, thanks to the construction and development of acequia systems.
Old cities like Valencia or Orihuela were revitalized by the improvement of their surrounding agrarian landscape, and many other new medinas (like Murcia, Elche or Granada) where built in parallel to the construction of new acequia systems.
Far from destroying the Andalusian acequia culture, the Christian conquerors assumed and promoted it. In Valencia, acequia irrigation kept on growing until the XX century.
The only written document preserved from the Muslim kingdom of Valencia is an acequia document (sentence of the qadi of Morvedre in a case opposing upstream and downstream irrigators of the river Palancia, 1223 A.C.).

2. PRINCIPLES AND VALUES IN THE DESIGN OF THE VALENCIAN ACEQUIA SYSTEMS
Complexity and environmental adaptation are two defining features of the Andalusian acequia systems.
Acequia systems were complex because, in spite of their size, they all were able to integrate fairly different and *a priori* contradictory uses.
The waters of any given acequia system were able to meet agricultural uses (irrigation), artisanal uses (crafts processing of raw materials), industrial uses (watermills) and village uses (washing places, public baths, sanitation infrastructures), as well as to quench the thirst of men and animals.
How was it possible?
By means of an adequate design, reflected both in the tangible (physical) and intangible (norms and institutions) dimensions of the system.
Through a mindful territorial pattern of use setting, the physical design tried to reconcile the equitable and sustainable access to water of all users with less room for the emergence of technical and environmental conflict.
It was achieved by means of:
(a) The adequate design of the canal network (water intake, mother ditch, main branches, drainage ditches), with regard to the characteristics of the water available, the terrain gradient, the location of the lands to be irrigated and that of the main population settlements, existent or planned.
(b) The insertion of measurable spillways, water dividers and (if necessary) water tanks at critical points of the ditch network.
Dam of the Acequia de Tormos (Valencia). All the dams feeding the main canals of the Huerta de Valencia had a sluice gate to return to the river all the water retained in case of severe drought, when a strict turn of access between the acequias was customarily enforced.

Photo: Luis Pablo Martínez
Water divider of the Acequia de Tormos (*partidor del Raig*). This carefully leveled structure, that divided in two equal parts the waters of the Benicalap branch of the Acequia de Tormos, used as metrological pattern the Egyptian cubit. It’s a *llengua* (tongue) type water divider, typical of the Huerta of Valencia.

Source: http://llenguesdelraig.blogspot.com.es/
Water divider of the Séquia del Terç de Castelló, a branch of the Séquia Comuna de l’Enova.

It’s a *dentell* (small tooth) type water divider typical of the huertas between Xàtiva and Gandia.

Photo: Luis Pablo Martínez
Dentell type water divider: the Casa Fosca, located at Potries. It divides the waters of the Séquia Reial d’Alcoi between the Séquia del Rebollet and the Séquia Comuna de Gandia i Oliva.

Photo: Luis Pablo Martínez
Dentell type water divider: the Casa Clara (Potries). It divides in two the waters of the Séquia Comuna de Gandia i Oliva.

Photo: Luis Pablo Martínez
(c) The spatial arrangement of the different water uses (a function of the cultural hierarchy of uses combined with the water reuse capacity of each particular use).
[First, fountains and watering places for human and animal consumption; second, watermills, that don’t consume water; third, village uses that reuse, consume and/or pollute waters; fourth, irrigation, that bleeds the acequias.]
Font de la Mata (Benirrama, Vall de Gallinera).
Human and animal consumption at the starting point of an acequia system.

Photo: José Cambrils Sendra
Irrigation system of the Barranc dels Molins (Ibi). Cluster of different water uses arranged in sequence before irrigation.

Upstream, non visible: (1) fountain & (2) battery of flour watermills

(3). Paper watermill

(4). Communal washing place (ordinary)

(5). Communal water tank (for irrigation)

(4). Communal washing place (for the sick people)
Orihuela, 19th c.: watermills as the first users in an acequia system. The mills, built in the river bed, took advantage of the dam’s overflow waters.
[Being the last in receiving water didn’t mean that the irrigators were subdued by the other water users. On the contrary, each acequia system incorporated physical devices whose function, in correspondence with the system norms, was to guarantee the irrigator’s priority in the case of water scarcity]:
(d) The construction of canals bypassing the watermills.
Watermill of Moncada, on the main canal of the Reial Séquia de Moncada (Huerta de Valencia)

By-passing canal

Mill water intakes

Photo: Miguel del Rey
The design of the intangible side of the system provided additional mechanisms to guarantee its sustainability, like:
The formulation of norms of use (oral and written) known to all users.
The proclamation of the right of all users to an equitable access to water.
The use of a known, fixed metrical pattern.
The proclamation of the water shares corresponding to different communities and/or groups of users served by the system.
The establishment of turns between the different groups of users.
The prohibition of certain uses in certain sections of the system.
The prohibition or restriction of certain uses in times of drought.
The promotion of certain crops (and eventually the prohibition of some others).
The medina of Elche and its Acequia Mayor were built to the end of the X century a.C. The irrigation system carried the salty waters of the Vinalopo river. It performed well thanks to the associated cultivation of salt-tolerant species like date palms, pomegranate trees and alfalfa.

Photo: Jaime Brotons
The prohibition of certain forms of irrigation and water management.
“De cavallonar” (on furrowing), chapter 52 of the Ordinances of the Séquia de Favara (1446). Irrigation without previous furrowing of the field was prohibited.

Photo: Luis Pablo Martínez
A furrow-irrigated field in the Huerta of Valencia.
The regulation of the obligations of all users regarding the maintenance of the system.
The establishment of institutional mechanisms of control and fraud deterrence (supervisors, legal bodies, coercive sanctions).
45 - VALENCIA. El Típico Tribunal de las Aguas a la puerta de la Catedral
The imprint of the intangible is clearly visible in the tangible side of the system, and vice versa.
“The Book of Agreements, Regulations and other Acts of the Acequia de Favara”

Photo: Luis Pablo Martínez
The book, which includes the ordinances approved by the community of irrigators from 1446 on...

Photo: Luis Pablo Martínez
...begins with a copy of a detailed description of the many water dividers of the system written in 1363, on the eve of a Castilian attack to Valencia, whose impact on the system’s checkpoints the irrigators feared the most.
In the Pouet district of Campanar, huerta of Valencia, the irrigation ditches were named after the days of the week, reflecting the customary calendar of water distribution in the fila de Campanar, one branch of the Séquia de Tormos.

.3. RESISTENCE AND RESILIENCE: PROSPECTS FOR THE VALENCIAN ACEQUIAS
Nowadays, the Valencian acequia culture faces the risk of extinction, because of the pressure put by the speculators on the huerta irrigated lands and on the water for irrigation, plus the crisis of the agricultural sector.
Nevertheless, there are signs that indicate that there is still a future for the Valencian acequias, such as:
The commitment of the civil society to the safeguarding of the acequia systems and the huerta landscapes, now considered a fundamental constituent of the Valencian cultural heritage and a source of healthy food, biodiversity and quality of life.
“Let’s leave the Horta alive. Asphalt is not edible”. Motto of the 8th Summer University organized by the civic platform Per l’Horta.

Source: http://perlhorta.blogspot.com.es
Billboard of the activity organized by the Assut Foundation (Fundació Assut) on February 16, 2013, celebrating the World Wetlands Day.

Available at: http://fundacioassut.org/
All around the region, more and more local groups organize in defense of the acequia heritage and culture.

Banyeres de Mariola
http://assuts.banyeres.com/

Ibi
http://saginosa.wordpress.com/

Benimaclet (Valencia)
http://avvbenimaclet.wordpress.com/proyecto-huertos/
A similar trend is occurring in other acequia regions in Spain

http://www.huermur.es/
Acequia tourism emerges as a real value for locals and
tourists.

L’Horta de Valencia is 5 minutes from a big city like Valencia, but retaining the charm and culture of a
historic rural area. It is one of the six peri-urban “huertas” that remain in Europe, with 3 or more annual
crops of tasty vegetables.

For centuries, the mixture of water, land and the wisdom of the farmers have formed a cultural landscape
of global relevance, as demonstrated by the recent statement by the Tribunal de las Aguas as intangible
heritage of humanity.

From Horta Viva we want to show you this place from inside, so we are also farmers, and we want to
share with you our passion for L’Horta and his beauty that you can find in the next video. Are you coming
with us?
The commitment of governments to the safeguarding and valorization of acequias (most noteworthy at the municipal level).
Celebration of the International Day for Monuments and Sites 2011 dedicated to the Cultural Heritage of Water organized by the city council of Banyeres de Mariola

Available at:
The city council of Potries has established a water route with the acequia culture tangible elements.
The commitment of the researchers and the findings derived from their recent work.
The studies on the Valencian acequia culture have multiplied over the last twenty years.
An increasing number of researchers is getting deeply involved in the safeguarding of the Valencian acequia culture.

Manifiesto por la vida del campo

Una treintena de instituciones, asociaciones y científicos firmaron el pasado 24 de noviembre el Manifiesto de Guardamar, un documento que aboga por defender y mantener los sistemas de riego tradicional como clave para el futuro ambiental, social y económico del campo de las comarcas del Baix Vinalopó y la Vega Baja del Segura.

VICENTE LÓPEZ DELTELL La firma, hace unos días, por parte de una treintena de entidades, asociaciones y científicos, del Manifiesto de Guardamar, trata de poner de relieve un problema del sur de la provincia de Alicante que está pasando desapercibido por la sociedad y cuya importancia ambiental, social y económica preocupa. La conservación de los sistemas de regadío de las comarcas del Baix Vinalopó y la Vega Baja del Segura entra así en un necesario debate "ante la constatación de la rápida degradación de estos enormes valores en los últimos años", señala el documento.
Academic acequia activism is spreading all over Spain.
[Beyond pointing out the many cultural and natural values of traditional irrigation, the new research reveals the magnitude of some of the general environmental services provided by the acequias]:
Water pumping causes fatal quake

DEBORAH ZABORENKO

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An earthquake that killed nine people in Spain last year may have been triggered by decades of pumping water from a nearby natural underground reservoir, suggesting human activities played a role in moving Earth's crust, scientists reported on Sunday.


In addition to the nine deaths, this relatively modest earthquake of magnitude 5.1 damaged numerous buildings in Lorca, an agricultural centre.

http://www.stuff.co.nz/science/7856497/Water-pumping-causes-fatal-quake
Professor Millán Millán has linked the reduction of traditional irrigation with the decrease of rainfall in the Mediterranean.
Most important, the rising awareness and commitment of the acequia irrigators.
The irrigators of the Séquía de Mislata, one of the communities of the Tribunal de las Aguas, have created a foundation for the safeguarding of huerta lands.

Los regantes de Mislata crean una fundación para preservar la huerta

La Comunidad de Regantes de la Acequia de Mislata, una de las integrantes del Tribunal de las Aguas de la Vega de Valencia, presentó la Fundació de la Comunitat Valenciana Séquía de Mislata para “preservar la huerta y del Tribunal de las Aguas de Valencia”.

2008-04-03 08:15:00

El acto de presentación contó con la presencia del presidente del Tribunal Superior de Justicia de la Comunitat Valenciana (TSJC), Juan Luis de la Rúa; el secretario autonómico de Agricultura, Vicente Ramírez; el director general de Justicia, Antonio Gastaldi; la subsecretaria de Gobernación, Juana María Forés; el director técnico de la Confederación Hidrográfica del Júcar (CH), Joaquín Andreu, el síndico de la Acequia de Mislata y presidente del Tribunal de las Aguas de Valencia, Ricardo Berenguer Vicent, y el secretario de la Acequia de Mislata y de la Fundació, Javier Pastor, entre otros.

Pastor explicó que la constitución de esta institución responde a “la firme convicción de los regantes de que su patrimonio, su cultura, su forma de pensar, de ver y valorar la vida deben de ser primero respetados”, así como “admirados y luego preservados para el futuro, como ejemplo para las generaciones que están por llegar, e incluso por las que están y viven al margen de esta realidad concreta”.

The community of irrigators of Carrizales is promoting the setting of a Natural Agrarian Park in their irrigated lands in Elche.

Source: http://www.carrizales.es/

En defensa del medioambiente en Carrizales

23.02.2013 | 01:33

Anillamiento de aves y restauración de un azafrán. Voluntarios de la Asociación de Naturalistas del Sureste (ANSA) y de la Asociación de Amigos de los Humedales del Sur de Alicante (AHSA), junto a miembros de la Comunidad de Regantes de los Carrizales, han participado en los últimos días en sesiones de anillamiento de aves paseriformes en la charca de Carrizales. Además, la delegación también ha procedido a la restauración de un azafrán en el entorno del humedal creado recientemente. La intervención ha consistido en la planta de medio centenar de árboles, con especies como los álamos blancos.

As a conclusion, I would only say…
¡¡¡Que vivan las acequias!!!

Source: http://perlhorta.blogspot.com.es