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Southwestern Acequia Systems and Communities; Nurturing a Culture of Place

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"*El Aqua es La Vida*" (Water is Life) is a ubiquitous bumper sticker on trucks, mini vans and tractors in New Mexico, Colorado and the greater southwest. Besides a succinct, pithy statement for natural resource management, the maxim references a land ethic that is particularly evidenced in *acequia* communities. Put simply, acequias are human-constructed hydrological systems that deliver water to agricultural fields. These community-governed irrigation systems are common in southwestern states– particularly northern New Mexico and southern Colorado. However, the English connotation of 'irrigation ditch" fails to reflect the different levels of meaning associated with these important water channels. A comprehensive understanding of the importance of acequia irrigation systems and communities, in the southwest requires an interdisciplinary exploration of history, technology, ecology, language and culture.[1]

Aquel que no Conozca su Historia no Conoce su Futuro (If you do not know your history you will not know your future)

Acequia design and construction reflect the idiosyncrasy of landscape and cultural technologies spanning intercontinental millennia. At the time of the European exploration of the Americas, indigenous populations had their own extensive agricultural strategies. Anasazi communities had elaborate networks and built spectacular structures. They also employed irrigation canals, dams, and rainwater diversions. Conterminously, the Spanish were also designing elaborated irrigation systems in the Iberian Peninsula. These formulas for landscaping, agricultural planning and colonization strategies are the result of many cultural influences contributing to Spanish technology and governance. Perhaps the most impactful were the Moorish Arabic people that ruled Spain for 700 years. Moorish science and agriculture influenced the Spanish and transformed the Iberian Peninsula into a second level of agricultural revolution and instilled many concepts for land stewardship. Spanish colonizers brought these designs and intertwined with Native American land wisdom and technology to create enduring and resilient agricultural systems balanced to landscape and climate.

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1. *See generally* JOSE RIVERA, ACEQUIA CULTURE: WATER LAND & COMMUNITY IN THE SOUTHWEST (University of New Mexico Press 2014).

Much of our current terminology concerning acequia irrigation governance and culture reflect this Islamic influence. The word acequia stems from the Arabic word al-sāqiyah (ةيقاسلا).[2] Besides an etymological understanding of middle eastern foundations, the nomenclature of acequias also reflect a philosophical understanding of human geography, natural resource management, sustainable agriculture, community cohesion, and cultural identity formation. Acequia terminology employ terms such as *sangrias, venitias* and *linderos* (arteries, veins, and capillaries) reflecting water flowing to extremities. The terminology and discourse suggest that irrigation systems and actions are similar to the human corporal systems and functions. Foundationally, this cultural nomenclature emphasizes the principle that "water is life" and is therefore sacred. What is particularly unique of the New Mexico and Colorado acequias is the incorporation of indigenous knowledge augmented with the Spanish technologies. Esteban Arellano elaborates on the incorporation of Old and New World technologies.[3]

La Costumbre hace Ley (Custom makes law)

Acequia governance is the oldest system of European resource management in the United States. Within a two-week span of the original settlement of San Juan de los Caballeros (Ohkay Owengeh Pueblo), Governor Juan de Onate established a project (with mostly indigenous pueblo and Tlazcaltecan laborers) to dig the first acequia channels. Thus, acequia construction was a key determinant for the ability of colonial expansion into new areas. For the colonizers several royal mandates provided instruction and patterns for planning and governance. The *Ordenanzas de Descubrimiento Nueva Poblacion de las Indias dadas por Felipe II en 1573* (Ordinances for the Discovery and new Population in the Indies Issued by Felipe II in 1573) suggested survey and design of irrigation and agriculture to sponsor expansion. These suggested strategies were aligned with local topography and population considerations.

During the Spanish colonial period, *mercedes* (land grants) awards were given as private and communal land. Much of the land designated by the Spanish and subsequent Mexican government systems included *ejido* (common) land. These "commons" lands were determined for community usage not to be divided, owned, or sold for perpetuity. This concept of shared responsibility and stewardship of natural resources reflects both Spanish and indigenous beliefs.

Agua, lumbre, consejo, o sal, a ninguno que los pida se le debe negar. (Water, fire, advice, or salt; whoever asks should be given.)

Many of the cultural behaviors and cultural values that anchored acequia communities continue to the day. *Tierra y agua en común* (land and water commons) are deeply associated with one another and are necessary for subsistence and sustainability. Besides *querencia,* a shared value of *mutualismo* (mutualism) is still

2. *See* Luis Pablo Martinez Sanmartin, *Editor's* Preface, ACEQUIAS OF THE SOUTHWESTERN UNITED STATES: ELEMENTS OF RESILIENCE IN A COUPLED NATURAL AND HUMAN SYSTEM, 3 (2020). https://aces.nmsu.edu/pubs/research/water/RR796.pdf.

3. *See generally* JUAN ESTEVAN ARRELLANO, ENDURING ACEQUIAS: WISDOM OF THE LAND, KNOWLEDGE OF THE WATER (University of New Mexico Press 2014).

viable in acequia communities. Jose Rivera synthesizes the concept of mutualismo as the social capital of a community that fosters a relationship of interdependence based on mutual trust and reciprocity for the common good.[4] In New Mexico and Southern Colorado cooperation and sharing are important practices. Mutual assistance practices are similarly expressed in other community entities such as the Mutual Aid Societies (*mutualistas*) and Penitente brotherhoods (*cofradias*). However, like many cultural descriptions, we should resist an over-essentializing romanticism in considering the mentioned value systems are exacted the same in all communities. Cultural change, strife and competition can also be evident in an acequia organization. More so, with the incursion of fully developed capitalism in acequia communities, water commodification practices challenge traditional water wisdom.

"La Necesidad es Madre de la Habilidad" (Necesity is Mother to Ability)

The long-established structures for common natural resource utilization and community collaboration have led to villagers maintain a powerful sense of place and adherence to principles of land stewardship. These anchors can be summarized in the concept of *querencia. Querencia* supports the idea that we are one with the land and that land stewardship reflects a mutual respect. Esteban Arellano explains it as "that communion with the landscape ties us to the enduring code of brotherhood just as the poet makes the landscape itself the carrier of memory".[5] It is a cultural concept that is not limited to a verbal transmission from elders. It is a oneness with the land that one develops after having experienced the land physically and aesthetically. It is a developed respect and love of nature.[6]

Many acequia communities include a spiritual moral structure to their cultural practice. The feast day of San Isidro (Saint Isidore, patron saint of farmers, May 15) is often celebrated and may include a *bendición de los aguas* (blessing of waters) at the acequia headgate. Social events and celebrations such as feast days harvest celebrations *el cambalache* (exchange) *la matanza* (pig roast) and other cultural events all lend reverence to the bountifulness of the land.

***Uno para mi uno para vos y uno para los animalito que rinde Dios.* (One for me, one for you and one for the animals that god has given.)**

Acequia waterways contribute significantly to the local ecosystem. Foremost, they augment riparian areas by distributing water in a capillary fashion. Acequias contribute to biodiversity in vegetation and animal species. Boykin Samson & Alvarez identify a spectrum of "ecosystem services" provided by acequia

4. *See* José Rivera, *The Roots of Community in Northern Rio Grande: Acequia Mutualism, Cultural Endurance and Resilience*, ACEQUIAS OF THE SOUTHWESTERN UNITED STATES: ELEMENTS OF RESILIENCE IN A COUPLED NATURAL AND HUMAN SYSTEM, 14 (2020). https://aces.nmsu.edu/pubs/research/water/RR796.pdf.

5. Juan Estavan Arellano, *La querencia: La raza bioregionalism*, 72 N.M. HIST. REV., 31–37 (1997).

6. *See generally* SYLVIA RODRÍQUEZ, ACEQUIA: WATER-SHARING, SANCTITY AND PLACE (School of Advanced Research 2006).

systems.[7] Hydrological impacts include elaborated riparian vegetation, aquifer recharge, beneficial seepage, filtration and return flow into streams. Many acequia ditches are often lined with fruit trees, berries, bushes, traditional medicine, and other useful plant species. Much of acequia management recognizes the extent of benefits created by these waterways for plants and animals outside of irrigated fields.[8]

This modest introduction hopes to present an orientation to the complexity and ongoing importance of understanding acequia technology and culture. An interdisciplinary approach to the discussion requires that we include this knowledge within other practical discourses concerning land, water, agriculture, community, and sustainability. For more work from the author please see: Eric Romero, Acequias in Nuevo Mexico: A New MexicoHistory Anthology: Semos Unlimited (2009).

7. *See generally* Kenneth G. Boykin, Elizabeth A. Samson, & Guillermo Alvarez, *Acequia Ecosystems*, ACEQUIAS OF THE SOUTHWESTERN UNITED STATES: ELEMENTS OF RESILIENCE IN A COUPLED NATURAL AND HUMAN SYSTEM, 14 (2020). https://aces.nmsu.edu/pubs/research/water/RR796.pdf.

8. *See generally* SYLVIA RODRÍGUEZ, *Key Concepts for a Multidisciplinary Approach to Acequias*, ACEQUIAS OF THE SOUTHWESTERN UNITED STATES: ELEMENTS OF RESILIENCE IN A COUPLED NATURAL AND HUMAN SYSTEM, 4-10 (2020). https://aces.nmsu.edu/pubs/research/water/RR796.pdf.