Acequia Irrigation as an Example of Sustainable Water Management in Arid New Mexico

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Spanish settlers brought the acequia, or earthen ditch irrigation, system to New Mexican valleys in the late 16th century. It has an origin in the Islamic (Moorish) penetration into the Iberian Peninsula thus originally developed in North Africa. Spanish colonizers followed the path of the Rio Grande. They brought a body of law and experience and that knowledge was fused with the Puebloan (indigenous) people’s experience. This system was fully developed by the time Anglos arrived in the mid-1800s. Acequias are most extensive in north-central NM, a high desert region with an annual precipitation of no more than 12 inches. Thus the overriding factor in this environment is water scarcity. Researchers have examined the New Mexican acequia from an ecological perspective; the extension of the riparian habitat, as well as from the anthropological and sociological perspectives. Acequias extend the riparian (land adjacent to a waterway) habitat so that from an ecological perspective, valleys today are very different than before the Spaniards arrived. Evidence indicates a positive feedback scenario; that the more you irrigate, the more you replenish the aquifer and the more water you have available. Thus a new riparian ecology was created by the installation of acequias. From the anthropological and sociological perspectives, attachment to place, ritual, identity and ethnic relations are paramount. For example, in the Taos area, irrigation communities are arranged around three Catholic parishes that had their origin in Spanish land grants. But this all actually has its origin in the Islamic culture of fairness. In the western USA, US custom allows for whoever arrived first to gain the right to water resources. Before the arrival of the Anglos, it would have been unthinkable to separate the land from the water. Although in the present day, the acequia system is commonly practiced, it runs into conflict with the fact that water is now a commodity and water rights adjudication is a constant debate and struggle. So, the acequia system is worth studying; it’s not just an anachronistic system. It may contain the seeds of understanding of how to have a sustainable water supply system to satisfy human populations and the environment and may be a model for water sustainability challenges globally.