

**Documentary Evidence for Hopi Agriculture and Water Use  
in the Spanish and Mexican Periods**

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### **Introduction**

This report is based on a survey of documentary references to Hopi agriculture and water use during the periods in which Spain and Mexico claimed sovereignty over the region in present-day northern Arizona, where Hopi peoples have lived continually for centuries. Research involved the examination of both primary and secondary sources, many of them published but with an additional scrutiny of manuscript sources such as the Spanish Archives of New Mexico and the Mexican Archives of New Mexico. The documentary evidence supports the conclusions that Hopi settlement and occupancy of their current Reservation area predated European contact and that they sustained themselves primarily through agriculture and, in the historic period, by raising livestock. These endeavors required communal efforts to carefully manage and use surface and ground water.

### **Problems with documentation**

At first glance, the period before the Pueblo Revolt of 1680—a time when Spaniards exercised real political and spiritual authority over the Hopi people—appears to be a potentially a rich source of documentary evidence. However, Pueblo groups, including the Hopis, destroyed Spanish government records during the Pueblo Revolt of

1680. For the pre-Revolt period, then, we are left with a documentary base drawn mostly from the chronicles of early explorers and reports of Franciscan missionaries in New Mexico who provided information to their superiors in central New Spain or Spain.<sup>1</sup>

Documentary records are relatively abundant for the period dating from don Diego de Vargas's reconquest of the province of New Mexico in 1692 to the end of Spanish rule in 1821 and for the period of Mexican sovereignty (1821-1848). Unlike the various Pueblo groups who inhabited the upper Rio Grande and the west-central areas of modern New Mexico, however, the Hopi peoples never again fell to Spanish or, later, Mexican authority but, rather, maintained their political independence. Far from the centers of Hispanic population, and posing no real military threat to the colony/territory, the Hopis encountered only sporadic attempts in the colonial period to reassert Spanish political control of their country. Thus, the documentary sources bearing specifically on Hopi agriculture and water use in the Spanish and Mexican periods are scant.

Bear in mind, too, that the Hopis produced no first-hand written accounts during the Spanish and Mexican periods. While they may have served as informants to Hispanic observers, the Hopis themselves did not leave any documentary record. Thus, the extant information is from Spanish or Mexican sources—always filtered through an alien, Hispanic lens.

### **Sixteenth century**

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<sup>1</sup> The Franciscan Order claimed jurisdiction over the Hopis (known at the time as moquinos) and ministered to them as a part of the Custody of Saint Paul (Custodia de San Pablo), headquartered in present-day New Mexico. After the Pueblo Revolt of 1680, however, Franciscan jurisdiction was nominal, for the Hopis rejected Franciscan overtures to reestablish their missions.

Documentary references to Hopi agriculture in the sixteenth century are sparse and non-specific as to exact locale. Still, the fragmentary and sketchy evidence that survives indicates that Hopi peoples farmed successfully enough to sustain several large communities. The first encounters between the Hopi peoples and Europeans occurred in 1540, during the entrada of Francisco Vázquez de Coronado and his well armed band of followers. Coronado himself made no visits to the Hopi country during the nearly two years that he spent in the Greater Southwest, but he sent Pedro de Tovar to make contact with various Hopi villages in the province of “Tusayán,” as the Spaniards called it. Tovar mentioned no fields or crops growing in the region, nor did another of Coronado’s followers, García López de Cárdenas, who headed a follow-up expedition to (what later would be called) the Grand Canyon. On the other hand, Tovar had a run-in with natives at one of the villages—perhaps Kawaika or Mishiptonga—described as being “built in terraces” and, after establishing the peace, the villagers presented to the Spaniards gift offerings including “quantities of flour.”<sup>2</sup> This evidence of villages and presence of corn flour suggests that the Hopis were sedentary agriculturalists at the time of first Spanish contact. The principal chronicler of the Coronado expedition, Pedro de Castañeda de Nájera, reinforced this notion when giving a general description of the area.

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<sup>2</sup> George P. Hammond and Agapito Rey, ed. and tr., Narratives of the Coronado Expedition, 1540-1542 (Albuquerque: The University of New Mexico Press, 1940), 214, 215. On the possible nomenclature of the village, see George P. Hammond and Agapito Rey, ed. and tr., The Rediscovery of New Mexico, 1580-1594: The Explorations of Chamuscado, Espejo, Castaño de Sosa, Morlete, and Leyva de Bonilla and Humaña (Albuquerque: The University of New Mexico Press, 1966), 188 n. 76.

The Indians [of the province of Cíbola, or Zuñi] plant in holes, and the corn does not grow tall, but each stalk bears three and four large and heavy ears with 800 grains each....Tusayán lies twenty leagues away between north and west. It is a province with seven pueblos of the same type, dress, ceremonies, and customs as those of Cíbola.<sup>3</sup>

Much more substantial is the documentation from another sixteenth-century Spanish entrada into the area, this one led by Antonio de Espejo in 1582-1583, which entered Hopi country in April 1583. Espejo offered only a sketchy account of the Spaniards' stay in the area, though he did note that the province of "Mohoce" consisted of five pueblos and an estimated "fifty thousand souls." On the other hand, another chronicler of the expedition, Diego Pérez de Luxán, provides much more information. Luxán estimated that there were "over twelve thousand Indians in the province, armed with bows and arrows...." According to Luxán, natives at "Aguato" [Awatovi] greeted the Spaniards initially with "tortillas, tamales, roasted green-corn ears, corn and other things."<sup>4</sup> Two days later, upon taking formal possession of the village, the Spaniards were greeted by "about one thousand Indians..., laden with corn, ears of green corn, pinole, tamales, and firewood. They offered all these as a gift, together with six hundred pieces of cotton cloth, small and large, white and figured, so that it was a marvelous sight to behold." This passage suggests the diverse nature of Hopi agriculture during the sixteenth century.

After spending several days at Aguato (and having taken formal possession of the village), the party traveled two leagues [one league = 2.6 miles] to the pueblo of "Gaspe"

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<sup>3</sup> Hammond and Rey, Narratives of the Coronado Expedition, 252-53.

<sup>4</sup> Hammond and Rey, Rediscovery of New Mexico, 189.

[Walpi]. There, Espejo's men were attended by "more than one thousand souls, laden with very fine earthen jars containing water, and with rabbits, cooked venison, tortillas, atole (corn-flour gruel), beans, cooked calabashes, and quantities of corn and pinole." The natives also presented to the Spaniards "six hundred pieces of figured and white cloth and small pieces of garments." At Gaspe, Luxán noted, water was scarce—the inhabitants drew this precious resource from "very deep wells." Luxán further observed that the soil was "very fertile for corn, cotton, and everything sown in it.... The natives cultivate sandy places without difficulty because they carefully guard [i.e., "save"] the moisture from the snow."<sup>5</sup> Tellingly, John T. Hack's investigations in the middle third of the twentieth century observed this same technique of cultivation and environmental management on the part of the Hopis.<sup>6</sup>

Continuing their journey, the Spaniards traveled two leagues—"one of them through cotton fields"—before they arrived at a plain that separated the villages of "Comupai" [Shongopovi] and "Majanani" [Mishongnovi], situated on present-day Second Mesa. As at other Hopi villages, the Spaniards were regaled with food and beverage—"They brought us plenty of water in large earthen jars and vessels, as well as calabashes, cooked vegetables, and corn, and whatever was necessary, as in the other pueblos."<sup>7</sup> After taking possession of the two villages, Espejo's party continued to "Olalla" [Oraibe], which Luxán judged to be the largest of Hopi pueblos. At the foot of the mesa upon which Oraibe sat, the intruders established their camp "close to a well with

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<sup>5</sup> Hammond and Rey, *Rediscovery of New Mexico*, 190-91.

<sup>6</sup> John T. Hack, *The Changing Physical Environment of the Hopi Indians of Arizona* (Cambridge, MA: Peabody Museum of American Archaeology and Ethnology, 1942), especially 19-38.

<sup>7</sup> Hammond and Rey, *Rediscovery of New Mexico*, 192.

water,” the meager supply of which gave out that same day. The natives, however, brought additional water, carried “from other wells.”<sup>8</sup> The act of possession took place at Oraibe, as at the other Hopi villages that Espejo’s group visited, a ceremony that the Europeans construed as creating a binding political relationship between the Spanish crown and its native subjects.

Antonio de Espejo and company returned to Awatovi, whereupon the group divided—one half the party of ten returned to Cíbola, and the other five (including Diego Pérez de Luxán) went with native guides in search of reputedly rich mines located south of the Hopi villages. On the last day of April 1583, Luxán’s group traveled five leagues southward from Awatovi to a sparsely supplied water hole, which they dubbed “El Ojo Triste.” (Hammond believes that Ojo Triste may have been either Comar Spring or Pyramid Butte Spring.) After a day’s journey of ten leagues, the party reached “a beautiful and exceptionally fine river, almost as large as the Del Norte [i.e., the Rio Grande], containing many groves of cottonwoods and willows. This river flows from the south toward the north. Its shores are settled by warlike, mountain people.”<sup>9</sup> This river was the Little Colorado, which the group arrived at near modern day Winslow, Arizona. The inhabitants of the area, however, were not of the same cultural group as the Hopi or other Puebloan groups of New Mexico.

Luxán and his companions never did locate rich mines, but as they continued southward into the mountainous terrain of east-central Arizona, they encountered a variety of non-Puebloan peoples, described by Luxán as “mountain people.” Finding only copper ore of poor quality (near modern Jerome, Arizona), the party made its way

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<sup>8</sup> Hammond and Rey, Rediscovery of New Mexico, 193.

back to the Zuñian pueblo of Halona.<sup>10</sup> Antonio de Espejo and his followers continued their reconnaissance of New Mexico as they headed eastward from the Zuñi villages to the Rio Grande, and then continued on to Pecos Pueblo. From there they made their way down the Pecos River, and in mid September 1583, returned to the starting point of the expedition, the valley of San Bartolomé (or San Gregorio) in the present north Mexican state of Chihuahua.

Another sixteenth-century source echoes these general observations about Hopi agriculture and water use. Baltasar de Obregón, a criollo (i.e., a Spaniard born in the New World) conquistador from Mexico City, took part in several expeditions of conquest on the northern fringes of New Spain (though not in New Mexico or Arizona) and wrote in 1584 a chronicle of his exploits. He also made reference to various expeditions to New Mexico, including those of Coronado and Espejo. In describing the cultural attributes of the Hopis, Obregón declared that they had “good houses, cotton, maize, beans, and calabashes; the people are refined and they enjoy good lands, woodlands, and water.”<sup>11</sup> He mentioned, too, that Espejo’s party rested at a site “one-quarter league from the city [of Awatovi], at a fountain that is below the pueblo.”<sup>12</sup>

Other Spanish expeditions—those of Chamuscado, Castaño de Sosa, Morlete, and Leyva de Bonilla and Humaña—also entered New Mexico in the sixteenth century, but none of these arrived at the Hopi villages, nor did they have direct contact with Hopi peoples. In all, the documentary evidence for the sixteenth century indicates that Hopi

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<sup>9</sup> Hammond and Rey, Rediscovery of New Mexico, 194-95; quote at 195.

<sup>10</sup> Hammond and Rey, Rediscovery of New Mexico, 196-98;

<sup>11</sup> Baltasar de Obregón, Historia de los Descubrimientos Antiguos y Modernos de la Nueva España, Escrita por el Conquistador en el Año de 1584 (Mexico City: Editorial Porrúa, 1988), 24.

peoples were sedentary farmers, dependent for their livelihoods primarily on farming techniques that involved various forms of water collection. Because rivers in the immediate vicinity of the three mesas did not flow year-round, Hopi villagers apparently did not construct the same types of acequia irrigation systems as other Puebloan groups, but given the vitality of their communities, the Hopi seem to have practiced effective water management.

### Seventeenth century

The formal conquest of the Kingdom of New Mexico occurred in 1598, under the leadership of don Juan de Oñate, scion of a wealthy mining family from Zacatecas. Previous entradas into the region had been exploratory in nature, but Oñate's endeavor differed markedly in that it represented a bona fide effort at colonization. For the Hopis, the renewed Spanish presence marked a departure from previous experience. Instead of episodic encounters with strange outsiders, Oñate's colony reconfigured Hopi-Spanish relations. Henceforth, Spain sought—in the end, unsuccessfully—to assert political and cultural hegemony over the Hopi peoples. The seventeenth century figures as the high water mark of Spanish efforts at achieving this aim.

The leader of the colonization effort, Adelantado don Juan de Oñate, reaffirmed the subject position of the natives in the kingdom of New Mexico when he visited a number of pueblos to exact oaths of obedience to the crown. This he did in the province

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<sup>12</sup> Obregón, Historia de los Descubrimientos Antiguos, 295.

of “Mohoqui,” where the “four pueblos” submitted.<sup>13</sup> Oñate did not describe agricultural practices of the Hopis, but upon leaving the area he did make note of the river “which flowed towards the north, of moderate width and carrying considerable water.” The reference is to the Little Colorado, but no mention was made of any crops, fields, or inhabitants in the immediate vicinity.<sup>14</sup>

Efforts to evangelize among the Hopis, which began in earnest in 1629, led to further native contact with Spaniards (and generated pertinent documentation). These contacts were almost exclusively with the Franciscan missionaries who lived among the Hopis. Awatovi experienced the first, and most successful, evangelization among the Hopis, though the Franciscans also established missions at Oraibe and Shongopovi, along with two visitas at Walpi and Mishongnovi.<sup>15</sup> The presence of missionaries gave rise to a number of official Franciscan reports that provided general overviews of the region and emphasized the order’s successes at winning souls. Consequently, these reports rarely comment on Hopi water use or agricultural practices.

Fray Alonso de Benavides, whose influential Memorial (1630) helped win support for continued evangelization in Spanish New Mexico, focused on the trials and triumphs of the faith, and his only mention of the province of “Moqui” had to do with the martyrdom of his confreres in Hopi country.<sup>16</sup> More celebratory (and informative) was Fray Esteban de Perea’s account, published in 1633. As the Franciscan custos, Perea had

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<sup>13</sup> Herbert Eugene Bolton, Spanish Exploration in the Southwest, 1542-1706 (New York: Charles Scribner’s Sons, 1916), 236-37.

<sup>14</sup> Bolton, Spanish Exploration, 237 and 240 n. 4.

<sup>15</sup> J.O. Brew, “Hopi Prehistory and History to 1850,” in Handbook of North American Indians: The Southwest vol. 9 (Washington, D.C.: Smithsonian Institution, 1979), 519-20.

<sup>16</sup> Alonso de Benavides, The Memorial of Fray Alonso de Benavides, 1630

arrived in New Mexico in 1629 to continue the mission work of the order. With respect to Moqui, he wrote in glowing terms that “the land is more temperate and the fruits and grains here are more similar to Spain. They collect much cotton, and the houses are of three storeys, well laid out. The inhabitants are great farmers and solicitous in their work.”<sup>17</sup>

Spanish intrusion into the area in the seventeenth century was limited mainly to religious personnel and an occasional *alcalde mayor* (a civil magistrate appointed by the provincial governor). So far removed were the Hopis from the Hispanic heartland that Father Nicolás Martínez opined in 1664 that travelers to and from Hopi country did so at great peril and that “the most dangerous part of this kingdom...lies between the pueblos of Aguico [Hawikuh] and Aguatubi.”<sup>18</sup>

Despite the close contact with Franciscans, who kept their superiors informed on many aspects of mission life, the handful of extant documents from the seventeenth century shed little light on Hopi water use or on the exact locations of agricultural lands. We can surmise, however, that the Hopis farmed with skill sufficient to maintain relatively large, sedentary communities. The paucity of the historical record is, no doubt, the result of the most dramatic episode in the history of the Greater Southwest—the Pueblo Revolt of 1680. Native resentment over abusive conditions and forced cultural change (especially in religious life) exploded in a fury of violence and destruction in

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(Albuquerque: Horn and Wallace, 1965), 28.

<sup>17</sup> Estevan de Perea, Segunda Relacion de la Grandiosa Conversion qve ha avido en el Nuevo Mexico (Sevilla: Luys Estupiñán, 1633), n.p.

<sup>18</sup> Charles Wilson Hackett, ed., Historical Documents Relating to New Mexico, Nueva Vizcaya, and Approaches Thereto, to 1773 (Washington, D.C.: Carnegie Institution of Washington, 1937), 3: 245-46, “Declaration of Fray Nicolás Enríquez,” Santa Fe, May 1664; quote at 246.

August 1680. The Hopi peoples joined in this rebellion against Spanish rule. Like other Pueblo groups, they killed the missionaries assigned to their villages and destroyed most vestiges of Spanish authority, including the books and manuscripts of the religious. Perhaps these documents, lost forever, offered further insight into Hopi economic and social life of the period.

### **Eighteenth century**

In the 1690s, Spain reestablished its control over most Pueblo groups in the province of New Mexico. The Hopi, however, proved problematic. Not only did they resist Spanish political and spiritual authority, but they also afforded a haven for disaffected Pueblo Indians who fled from their villages along the Rio Grande valley and its tributaries. From 1693 to 1780, Spanish religious and civil officials made numerous attempts to win back the Hopi—all of them unsuccessful—and surviving documents detail many of these efforts. To the frustration of modern researchers, however, references to Hopi water resources are rare.

Don Diego de Vargas headed the reconquest and recolonization of New Mexico from 1692 to 1693. To underscore Spain's authority, he met with Pueblo leaders and with them performed the act of ritual repossession, exacting declarations of submission to the Spaniards. In 1692, Vargas entered Hopi country to carry out these acts of obedience, which he accomplished at the villages of Awatovi, Walpi, Mishongnovi, and Shongopavi. In his campaign journal, Vargas concentrated on the political aspects of his entrada, but he also noted carefully the watering places available throughout the area. This was a

crucial consideration, for, as Vargas observed, Indians had informed him that “there is no water hole in the pueblos where the horses can drink, because the only water the Indians have to supply themselves with is in pools that are so shallow there is scarcely enough for them.”<sup>19</sup> Indeed, so scant was the supply of water in the region that Vargas called off his plans to exact obedience from the pueblo of Oraibe, the westernmost village. Fearing the loss of his horses and mules—“no water hole had been found for the horses because there was none, and the land was very dry”—Vargas simply returned to Zuñi.<sup>20</sup>

Ritual acts of repossession were one thing, but real imposition of authority was another. Despite Vargas’s ceremonies, the Hopi villages generally resisted Spanish intrusion throughout the remainder of the eighteenth and early nineteenth centuries. Wary of their recalcitrance as subjects of the crown and their apostasy as Catholics, Spanish authorities sought repeatedly to bring the Hopi back into the fold. Franciscan missionaries, for example, attempted but failed in 1699 and 1700 to win over any of the villages, save Awatovi (which then was annihilated by its Hopi neighbors). In 1701, Governor Pedro Rodríguez Cubero led a military expedition to Moqui, as did Governor Francisco Cuervo y Valdés in 1707, both of which likewise failed to subjugate the Hopis.<sup>21</sup>

A more concerted effort to win back the Hopis took place in 1716, under the leadership of Governor Félix Martínez. The governor’s declared battle strategy was to wage war

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<sup>19</sup> John L. Kessell and Rick Hendricks, eds., By Force of Arms: The Journals of Diego de Vargas, 1691-1693 (Albuquerque: University of New Mexico Press, 1992), 557-70 passim; quote at 565.

<sup>20</sup> Kessell and Hendricks, By Force of Arms, 573.

<sup>21</sup> Hackett, Historical Documents, 3: 385-87, “Notes upon Moqui and other recent ones

against the said Apostate Moquinos and other rebellious nations found with them, the [sic] which shall consist in laying waste all the fields and crops they may have, taking from them their herds, flocks and horses, that they may thereby feel the rigor of the punishment which they deserve for their great obstinacy.<sup>22</sup>

Martínez carried out his promise. The Spaniards and their Indian allies first sought to attack the naturally formidable “Peñol de Gualpi,” which they found to be protected by additional trenches that the natives had built. The leader of this particular sortie, Cristóbal de la Serna (or Zerna), then sought out a native of Jémez, named Cristóbal, who was familiar with the terrain and led them to a watering place. The water source must have been important to the inhabitants of Walpi, for they sought to stop the Spaniards’ advance to the site and engaged them in a battle that lasted “more than an hour.” Eventually, Serna and his men reached the “watering-place which is about the distance of a league from the said Peñol.” Although Serna deemed it to be “a small spring and ha[d] not sufficient water” to maintain the Spanish forces, it nevertheless supported some agricultural endeavor of the local inhabitants. Adhering to the battle plan, Serna and his men “carried out such destruction and waste as he could in their crops and fields, having seized 24 horses and some colts.”<sup>23</sup> Several days later Governor Martínez ordered Maestre de Campo Tomás López Olguín to wreak havoc on the crops and fields belonging to “Mosonavi” and “Jongopavi.” The party reached a stream “in sight of the

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upon New Mexico,” Senecú, October 7, 1732.

<sup>22</sup> The following account is drawn from Lansing B. Bloom, “A Campaign Against the Moqui Pueblos,” New Mexico Historical Review 42 (April 1931): 158-226, quote at 213.

<sup>23</sup> Bloom, “Campaign Against the Moqui,” 216.

said pueblos, at a distance of half a league,” which had water sufficient for the larger Spanish force. The Spaniards built a small catchment of earth and grass, in order to store as much water as possible, and commenced to make camp “in the middle of the said fields, where the horses and cattle could feed and the men-at-arms of the said army could enjoy its fruits.” The following day, Spanish forces proceeded to “destroy the fields and bean and squash patches as far as [they were] able to do, which was accomplished by the entire army and Christian Indians, the said Apostates looking on from the peñoles of Gualpi, Mosonavi, and Jongopavi.” The destruction continued, as Governor Martínez ordered other fields along the road to be likewise laid to waste and commissioned Cristóbal de la Serna to carry out an additional devastating raid on Hopi crops and fields.<sup>24</sup> Satisfied that the “apostate Moqui” and other rebels had been punished, Governor Félix Martínez’s force returned to the colony’s heartland.

Although Spanish authorities continued to approach the moquinos in hopes of reasserting their jurisdiction, the Hopi villagers showed little interest. One period of considerable activity was the decade of the 1740s, when the Franciscans pushed civil officials to support their attempts to relocate former rebels (mostly Tiguas) and several hundred moquinos and settle them in the Rio Grande Valley. This endeavor culminated in the founding of Sandía Pueblo, but the documentation generated by this or later events is not particularly helpful with respect to Hopi water use.<sup>25</sup> Other, scattered references

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<sup>24</sup> Bloom, “Campaign Against the Moqui,” 221-25.

<sup>25</sup> For a general overview of these efforts, see Henry W. Kelly, “Franciscan Missions of New Mexico, 1740-1760,” in John L. Kessell and Rick Hendricks, eds., Spanish Borderlands Sourcebooks: The Spanish Missions of New Mexico II, After 1680 (New York and London: Garland Publishing, 1991); and Jim Norris, After “The Year Eighty”: The Demise of Franciscan Power in Spanish New Mexico (Albuquerque: University of New Mexico Press, in cooperation with the Academy of American Franciscan History,

dating from the mid and late eighteenth century, however, are helpful. Fray Juan Sanz de Lezaún, for example, a missionary who toiled for decades in New Mexico, wrote in 1760 a critique of civil administration in the province. His "Account of Lamentable Happenings in New Mexico" is a wide-ranging indictment of provincial affairs and touches briefly on the question of the Hopi, who continued to defy Spanish authority. Lezaún believed that that the province of Moqui could be regained, for "the towns are so situated that they might soon be taken by siege force, since they have no water except at a distance, and their wood supply and their crops are also remote."<sup>26</sup>

One interested observer of the province of Moqui was Fray Silvestre Vélez de Escalante, who wrote in 1775 a rather lengthy report to New Mexico Governor Pedro Fermín de Mendinueta on the possibility of renewed evangelization among the Hopi. Vélez de Escalante detailed the locations and sizes of the various villages and made note of Hopi livestock. His observations on Oraibe are particularly interesting.

Two leagues and half [sic] to the west of this mesa [i.e., Second Mesa] is the third on which is situated the seventh pueblo called Oraibe which is the best formed and larger than any known in the Interior Provinces. It has eleven habitations or blocks of houses quite large and well arranged with streets laid out for all winds. It would have about eight hundred families. They possess good horseherds, droves of sheep and some cattle. Although it has only little spring water, distant more than a mile towards the north, it has on the mesa itself, very near, six large cisterns in which when it snows and rains much water collects.<sup>27</sup>

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2000), 89, 104-05.

<sup>26</sup> Hackett, Historical Documents, 3: 468-79, Fray Juan Sanz de Lezaún, "An account of lamentable happenings in New Mexico..." November 4, 1760; quote at 479.

<sup>27</sup> Alfred Barnaby Thomas, ed. and tr., Forgotten Frontiers: A Study of the Spanish

The following year, Vélez de Escalante teamed with Fray Francisco Atanasio Domínguez on an expedition that headed northwest from Santa Fe, into the modern states of Colorado and Utah, then circled back through northern Arizona and ended in New Mexico. On their return route, as the party approached Oraibe, they came upon a “small lake and several banked pools of water,” which they believed served “as ponds and watering places for the Moqui cattle.” They named the area “Cuesta de los Llanos, because from here begin the spreading plains...which extend southeastward far beyond Moqui.”<sup>28</sup>

Under the command of Governor Juan Bautista de Anza, an expedition of a different sort arrived in the province of Moqui in 1780, the purpose of which was to bring the Hopi under the aegis of the Spanish crown. At that time, the Hopis had experienced several years of drought and famine, and once-numerous villages had dwindled drastically in population. Governor Anza noted that, because of the drought and constant attacks from Utes and Navajos, prospects for the Hopis were bleak. In reference to agriculture, he observed that their crops “have done badly as much as being in sandy soil as because it has not rained. We calculate they will not harvest in all two hundred fanegas of all grains.” He continued:

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Indian Policy of don Juan Bautista de Anza, Governor of New Mexico, 1777-1787 (Norman: University of Oklahoma Press, 1932), 151, Escalante to Mendinueta, October 28, 1775.

<sup>28</sup> Angélico Chávez, tr., and Ted J. Warner, ed., The Domínguez-Escalante Journal: Their Expedition Through Colorado, Utah, Arizona, and New Mexico in 1776 (Provo, Utah: Brigham Young University Press, 1976), 108.

Today we see it [the province of Moqui] in the last stages of its extermination, because it lacks the most fundamental things for its preservation since, in the four leagues or a little more in which Moqui is situated, where they are sowing there is no spring with which to irrigate ten bushes of any plant whatever. What they call fields are sand hills which consequently need double rains. Drinking water for the people and animals is extremely scanty and the most of it stagnant. Fire wood and trees, too, are scarce.

Despite his reputation as an Indian fighter, this career military man conveyed in his campaign journal a sense of pity for the Hopi and sorrow over such suffering. Anza believed that he and his men were “witnesses...to their final destruction.”<sup>29</sup> The Hopis, as we know, proved Anza wrong.

In sum, the few and scattered references to Hopi agriculture and water use in the eighteenth century indicate that Hopi villagers continued to farm and to make use of water where they might find it, typically in pools and storage wells near their habitations and in natural depressions in the areas below the lofty, nearly impregnable mesas upon which their communities stood. Eighteenth-century references to farming indicate the Hopi practice of cultivating in fields below the mesas—strategically located along washes, on flood plains, and in sand dunes. These techniques provided sufficient water, except in times of severe drought. Hopi dependence on livestock raising, which also required sources of water, seems to have increased in this period.

### **Nineteenth century**

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<sup>29</sup> Thomas, *Forgotten Frontiers*, 227-39, “Diario de la expedición que haze a la provincia del Moqui el infraescrito Teniente-Coronel, don Juan Bautista de Anza, Governador y

Spanish interest in the province of Moqui apparently waned at the end of the eighteenth century and early in the nineteenth century, and no significant contemporary documentation furthers our understanding of Hopi water use during the late Spanish colonial period. Independence from Spain in 1821 brought great change for the inhabitants—now citizens—of the new country of Mexico. Scholars debate the extent to which Mexican political ideology affected Hispanic-Pueblo relations in New Mexico; but for the Hopis, this point is moot. The Hopis remained beyond the control of the Mexican government, just as they had the Spaniards after the Pueblo Revolt.

Beset with innumerable problems of political stability, financial solvency, and foreign intervention, Mexico experienced the pangs of nation-building throughout the mid nineteenth century. New Mexicans, on the distant northern frontier and far from the minds of most of their countrymen, fended for themselves as best they could. Constant attacks by mounted Plains and Apache raiders worried New Mexicans more than the Hopis, who seemed content enough to be left alone. Little wonder, then, that documentation relative to the province of Moqui is sparse for the Mexican period of sovereignty in the region (1821-1848).

One important source for the period is the campaign diary of José Antonio Vizcarra, governor of New Mexico from 1822 to 1825. While this military campaign was aimed at the Navajos, Vizcarra's troops passed through Hopi country in pursuit of the enemy. In July, 1823, the Mexican soldiers approached First Mesa. Vizcarra scouted the pueblo in search of Navajo livestock and, finding none, he retired for the evening

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Comandante del Nuevo Mexico"; quoted material, in order, at 237, 237-38, and 238.

“locating my camp opposite the pueblo near a water well, where we watered the horse herd, drawing water in canteens and dippers.”<sup>30</sup> The party continued westward, toward Oraibe and beyond, where Vizcarra found abundant water for his animals and troops in various washes that descend to the Little Colorado. (Summer rainfall must have been plentiful that year.) Of special interest is the entry made for August 3, 1823, in which Vizcarra noted that he “marched in the direction of Los Algodones.”<sup>31</sup> Anthropologist David Brugge explains that Los Algodones “is a translation into Spanish of the Navajo name for Moencopi.... The Navajos state that their name for the locality came from Hopi cotton fields there, suggesting that both tribes used the springs in the vicinity (as they did in the 1870s, when the Hopis farmed, but did not have a permanent village there).”<sup>32</sup> While Brugge’s linguistic analysis may be subject to disagreement, the matter nonetheless shows that the Navajo collective memory recalls the Hopi as cultivators of this particular location.

### **Conclusion**

Evidence drawn from Spanish and Mexican period documentary sources establish firmly that the Hopis were sedentary agriculturalists, capable of maintaining relatively large populations through their various farming endeavors and, later, by raising livestock. Water resources in their desert homeland were scant, however, and life could be precarious when rainfall failed to materialize (as the drought and famine of the late 1770s

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<sup>30</sup> David M. Brugge, “Vizcarra’s Navajo Campaign of 1823,” Arizona and the West 6 (Autumn 1964): 231.

<sup>31</sup> Brugge, “Vizcarra’s Navajo Campaign,” 235.

and early 1780s demonstrates). The historical record shows that Hopi villagers farmed mostly in areas below their fortress-villages and that they did not employ the acequia system of irrigation, but that they did manage communally their water resources effectively and with care.

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<sup>32</sup> Brugge, "Vizcarra's Navajo Campaign," 235, n. 52.

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