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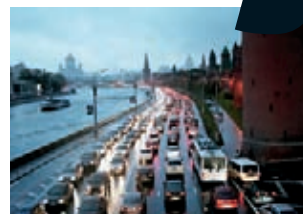
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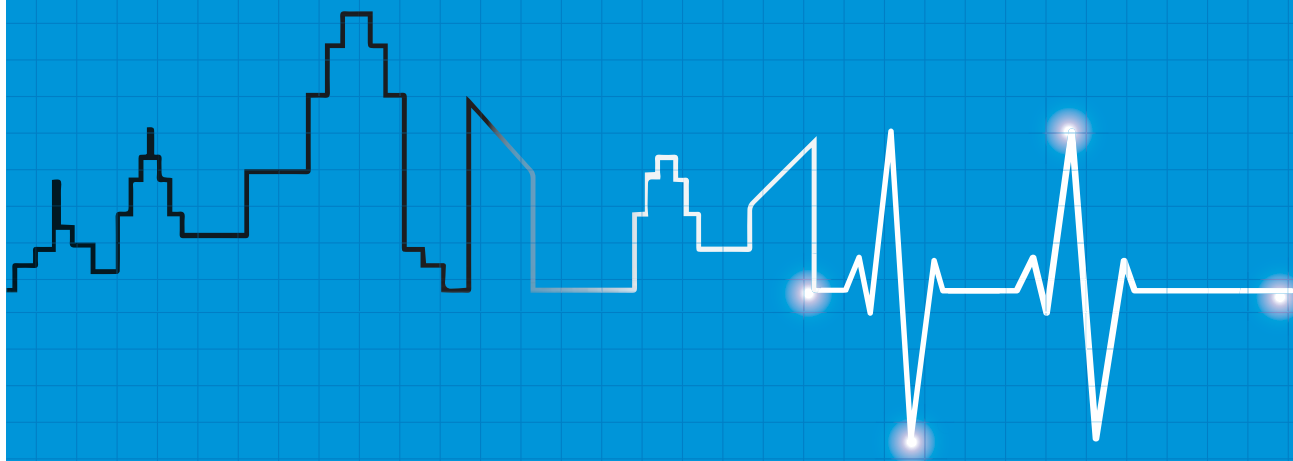


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Conserving Yesterday for Tomorrow

The indigenous and ancient cultural practices of a place must be preserved for the environment to prosper. **Jacelle Ramon-Sauberan** and **Lindsay Mulcahy** give us a healthy example

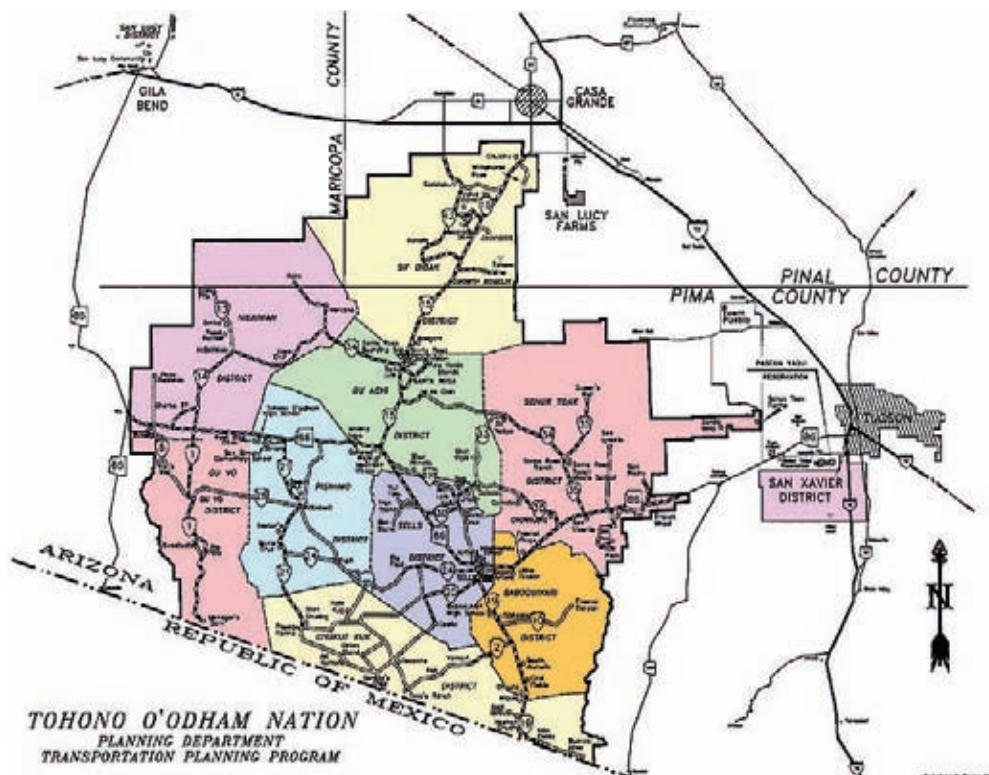
“It should be unnecessary for sticky notes to remind us what a desert place is. A place dependent on rains of summer, light dusting of snow, the rarity of dry beds as rebel rivers. It is real desert people who lift their faces upward with the first signs of moisture. They know how to inhale properly. Recognizing the aroma of creosote in the distance. Relieved the cycle is beginning again. These people are to be commended. . .” - From Proclamation written by the Tohono O’odham poet, Dr. Ofelia Zepeda

Advocating for healthy cities demands an integrated approach to environmental sustainability and food justice that reflects the unique social and ecological history of a place. The Traditional Ecological Knowledge (TEK) held by Indigenous communities is a crucial

framework for addressing both physical and cultural health. In many parts of the world, centuries of colonialism have suppressed traditional ways of caring for the environment and one another. While traditional foodways – both crops and cultivation methods – have evolved in response to this history, they have not been lost. In the face of climate change and widespread food insecurity, investing in TEK and Indigenous keepers of this knowledge is more urgent than ever.

The foodways of the Tohono O’odham, or ‘Desert People’, are deeply rooted in their ancestral lands of the Sonoran Desert, which spans the territory now known as southwestern United States and northern Mexico. While O’odham TEK is a unique product of their specific environment

In many parts of the world, centuries of colonialism have suppressed traditional ways of caring for the environment and one another



MAP: TOHONO O'ODHAM NATION PLANNING DEPARTMENT

Map of Tohono O'odham Nation



PHOTOS: MARYA MILES

and cultural heritage, communities across the globe can learn from the traditional land stewards of the territory they occupy. By respecting the inherent tribal Sovereignty of Indigenous communities and the relationship between the cultural and productive value of land, cities can promote environmental and social justice.

O’odham are an oral society, with knowledge passed down from generation to generation. Drawing from conversations with O’odham elders, this article begins with the history of O’odham agricultural practices and describes the ways in which the O’odham resist colonisation and sustain their community through traditional foodways. Highlighting the work of the San Xavier Co-op Farm (SXCF) and the Tohono O’odham Community College (TOCC) Farm Extension Programme, we examine how O’odham assert their inherent Sovereignty in order to reintroduce traditional farming practices and explore the value of TEK for O’odham self-determination, environmental sustainability and cultural heritage. We conclude by describing the impacts of O’odham foodways beyond the Tohono O’odham Nation and what non-Native communities can learn from the keepers of the land.

History

For over six decades, Clifford Pablo has carried forward the seeds and traditions of Tohono O’odham, growing *bawi* (teparty beans), *huñ* (O’odham 60-Day Corn), and *ha:l* (O’odham squash) on the same swath of land his ancestors have cultivated for generations. “When I asked the elders and my grandfather where all these foods came from, they said *I’itoi* [the Creator] gave it to us and told us this is what you eat,” Pablo said in a 2018 interview.

Pre-contact, Tohono O’odham inhabited an enormous area of land in the southwestern U.S. that extended south to Sonora, Mexico, north to

Central Arizona, west to the Gulf of California and east to the San Pedro River. O’odham agricultural practices date back 4,000 years to their ancestors, the Huhugam. The Huhugam, O’odham for ‘those who came before us’, harvested wild plant foods and built canals that carried water from the Santa Cruz River to their fields. The Tohono O’odham community *Wa:k*, ‘where the water goes underneath’, marks where the Santa Cruz River descends underground into an aquifer.

“I saw the tail end of it when I was a child,” recalled tribal elder and San Xavier Co-op Board member Julie Ramon-Pierson. “They were all family farms (in San Xavier).” According to Ramon-Pierson, there are three different groups of Tohono O’odham traditionally based on the terrain. The O’odham in San Xavier and those who live along the Gila and Salt Rivers are considered riverine people. The O’odham who live by the Quinlan Mountains and surrounding areas were traditionally semi-nomadic and practiced Ak-Chin farming by flooding the fields. The third group of O’odham, further west near Organ Pipe National Monument, were historically hunters and gatherers.

Settler colonialism dramatically reshaped the physical landscape, as well as political and social organisation of the O’odham. In 1854, the imposition of the U.S./Mexico border severed O’odham communities and migration paths and in 1874 the U.S government established the San Xavier Reservation, confining O’odham to a fraction of their lands. In 1890, the Dawes Act further disrupted collective land ownership by dividing the Reservation into land parcels, or ‘allotments’ for individual O’odham. Water was also stolen; as the nearby city of Tucson grew, officials diverted Santa Cruz water from San Xavier to support the settler population.

Left: Hay being baled at the San Xavier Co-op Farm in May 2020
Right: Mesquite pods stored in the San Xavier Co-op Farm’s greenhouses



PHOTOS: MARYIA MILES

The division of community-held land and loss of water access ruptured the cycle of traditional farming practices and the fabric of the O’odham community. Throughout the 20th century, the cottonwood trees and riparian vegetation that lined the banks of the Santa Cruz died and production of the tepary bean, a nutritious and drought-resistant legume, drastically declined. The cultural practices associated with traditional foodways suffered as well. By the 1990s, only two O’odham villages practiced the *jukida* (rain) ceremony. The marks of colonialism on O’odham food systems continue to reverberate today. The present-day Tohono O’odham Nation encompasses 2.8 million acres across southern Arizona but there is only one full-service grocery store.

U.S. government policies and practices designed to strip O’odham Sovereignty of their land and culture have had devastating impacts on the health of the community and the environment. Despite this, O’odham farmers, leaders and community members resist colonisation by continuing traditional ways of working with the land and one another.

Traditional Farming and Inherent Sovereignty

In the face of drastic changes in the physical and political environment, oral histories kept traditional ways in peoples’ consciousness and spurred their resurgence. “The elders would talk about the time when the water was still running and there was so much vegetation,” Ramon-Pierson explained. “And they talked about when they were eating [traditional] foods and how healthy they were back then and how long they lived.”

In 1971, San Xavier tribal members coalesced to form the San Xavier Co-op Farm (SXCF) to bring back traditional land ownership and farming practices. Pablo, a founding member of SXCF, remembered San Xavier tribal chairman Arnold Smith giving him a list of names of allottees in order to get permission to reaggregate the land parcels for farming. After coming together to reclaim communal ownership of the land, O’odham leaders set out to regain water Sovereignty. After a long legal battle, the Southern Arizona Water Rights Settlement Act in 1982 granted San Xavier District 50,000 acre-feet of water a year from the Colorado River through the Central Arizona Project, which according to Ramon-Pierson spurred “the

Wheat growing at the San Xavier Co-op Farm with the San Xavier Del Bac Mission in the background

The ability to grow traditional foods is a form of resiliency

movement to return to farming”.

In 1991, tribal members who held ‘allotted land’ or ‘allottees’ formed the San Xavier Allottees Association to maintain collective O’odham Sovereignty and environmental protection of their land beyond the farm. That summer, Ramon-Pierson said, the San Xavier farmlands “started to come back to life”. Using one well, she and Pablo planted an acre of O’odham squash “and each year after that we increased the acreage.” Today, O’odham squash, 60-day corn, tepary beans, chilis and yellow watermelon grow across 860 acres of farmland composed of 1,400 allottees’ land parcels.

The existence of SXCF is an act of Tohono O’odham inherent Sovereignty. Guided by Himdag, the ‘Desert People’s Lifeways’ board and staff members make decisions about the farm that align with values of respect for elders, land, animals, plants and sacredness of water. SXCF shifts the historic dependence on the U.S. Government by increasing access to culturally-relevant foods and providing employment opportunities for tribal members.

The ability to grow traditional foods is a form of resiliency. Beyond providing food to the community, SXCF democratizes knowledge of traditional foods. Through Wild Harvest workshops, staff teach tribal members how to gather *ciolim* (cholla buds) and *wihog* (mesquite pods) that grow organically throughout the Sonoran Desert. According to former SXCF Farm Manager Cie’na Schlaefli, “Knowing how to harvest food and preserve it [is] a tool that community members now have when they need it.”

As Farm Manager of TOCC’s Farm Extension, Pablo empowers tribal members to grow Native food through an internship programme and classes at the community college. A recent programme, ‘Oidag (garden) for Everyone’ has attracted both traditional and

non-traditional O’odham students. In it, Pablo teaches tribal members how to grow traditional foods and provides them with starter kits with seeds from his own collection. After completing the class, students have the knowledge and tools to start gardens in their homes. The SXCF and TOCC programmes are crucial due to the lack of nutritious food options in the Nation.

By appealing to Tohono O’odham’s inherent Sovereignty, San Xavier tribal members fought for what was rightfully theirs. Access to land and water is foundational for O’odham to continue practices that support health, economic opportunities and community empowerment.

Traditional Ecological Knowledge and Environmental Sustainability

The relationship between farming practices, environmental sustainability and cultural heritage is bound together by Traditional Ecological Knowledge (TEK). TEK refers to the knowledge or information acquired by Indigenous people over thousands of years through direct contact with the environment and is passed on through oral tradition and ceremonies.

TEK offers many lessons for environmentally sustainable agricultural practices. TOCC and SXCF’s efforts to reintroduce drought-resistant crops like tepary beans serve a dual purpose of minimising water and protecting the Sonoran Desert’s unique biodiversity. At TOCC, Pablo has implemented a rainwater harvesting system and farms without pesticides. Pablo’s co-instructor and environmental scientist Melanie Lenart says, “getting down to food is a really important part of the cycle for environmental sustainability”. Traditional agricultural practices are integral to efforts to conserve natural resources and restore ecological equilibrium.

For elders like Pablo and Ramon-Pierson,

Left: Maryia Miles makes *cecemait* (tortillas) for a San Xavier Co-op Farm food sale in March

Right: The San Xavier Co-op Farm grows and harvests traditional O’odham foods such as Mesquite Flour, Red Tepary Beans and White Tepary Beans



PHOTO: SXCF



PHOTO: JACELLE RAMON-SAUBERAN

passing on TEK to the next generation is important to tribal members' individual and collective identity as O'odham. Through a partnership between TOCC and Head Start, a cohort of Early Childhood Educators, took Pablo's class to bring traditional gardens to preschools across the Nation. Pablo says, "The knowledge I hope [students] go away with is not only basic gardening but the O'odham culture: language, history, stories, meanings and uses of the seeds and food we grow and harvest." By bringing tribal members into the desert to cultivate crops and harvest wild plants, O'odham elders share TEK in the environment that gave birth to those practices. This reinforces the relationship between spiritual and cultural practices and the land. Passing on farming traditions rooted in TEK is vital to the health of the Sonoran Desert and the future generations of O'odham.

Beyond the Nation: Regional Efforts for Food and Environmental Justice

The O'odham shape movements for food and environmental justice across their ancestral lands, particularly in the nearby City of Tucson. Over the years, SXCF has partnered with organisations like the Community Food Bank of Southern Arizona to supply crops to children throughout the Tucson Unified School District. The Indigenous and Latinx collective 'Flowers and Bullets' plant traditional crops in Tucson's Barrio Centro neighbourhood as a way to reclaim their cultural roots. In recent years, these foods have also begun to influence non-Native chefs and commercial products.

O'odham foodways are not static, but have evolved in response to new economic systems and food traditions. SXCF grows apples, apricots, pomegranates, hay and Sonoran white wheat – crops that were introduced over 300 years ago by Spanish colonisers. Ramon-Pierson explained, "We still have the Mexican cowboy culture, so they're the customers for the hay." SXCF also combines Native and non-Native crop ingredients to make what Ramon-Pierson describes as 'modern food', like mesquite flour scones made of ground mesquite pods. Rather than breaking from Himdag, SXCF's use of non-Native crops to help sustain their work is an example of continued Indigenous resilience.

These programmes demonstrate the confluence of cultures and food traditions in Tucson and the importance of cross-sector partnerships. However, it is crucial to understanding how the legacy of colonialism shapes access to power and resources. Because the U.S. Government has systemically stripped O'odham of their land and culture, recognising O'odham's inherent Sovereignty and the cultural significance of food traditions is necessary for ethical partnerships.



PHOTO: SXCF



PHOTO: SXCF

Top: San Xavier Co-op Food Production Team harvesting carrots in 2019

Bottom: San Xavier Co-op Food Production Team planting green chili transplants in 2018



PHOTO: SXCF

The 2018 Community Garlic Harvest at San Xavier Co-op Farm

O'odham people shape movements for food and environmental justice across their ancestral lands

Conclusion

In the decades that Pablo has been farming, one thing has become clear: it's getting hotter. Last summer, he was forced to replant his crops three times because after "a few days of 117-degree Fahrenheit weather... the seeds burned up."

If crops cannot grow, how can today's youth learn about TEK and traditional O'odham farming? Across the U.S. and many parts of the world, Indigenous, Black and other communities of colour are most impacted by global warming and environmental hazards. Returning to traditional agricultural practices and foodways is therefore crucial to the health and Sovereignty of these communities. For O'odham and many other Indigenous people, elders are the keepers of knowledge. If the knowledge is not shared, it will be lost. "I always talk about the legacy of farming at San Xavier," says Ramon-Pierson. "I go back to the elders and the people that believed in the farm. It's best that we continue the legacy. I think that's what the elders wanted."

TOCC and SXCF reassert O'odham relationships to land and community by looking

back to traditional farming and harvesting practices and adapting them to meet their current needs. TEK demonstrates that the natural environment is inseparable from the cultural practices and ideologies of the people that have stewarded the land for centuries. Cities and non-Native people seeking to address environmental sustainability and social and economic inequity must start by learning from and supporting the efforts of local Indigenous communities. ●

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