

Building Sustainable Food Systems on the Colorado Plateau

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Introduction

Visited for its scenic landscape of red sandstone, beautiful canyons and American Indian cultural significance, the Colorado Plateau is situated in the Four Corners region of the southwestern United States (Figure 1) with elevations varying from 3,000 – 14,000 feet.

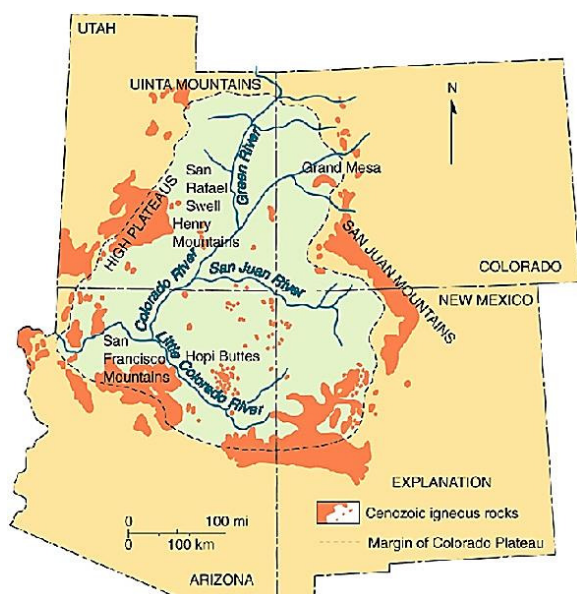


Figure 1 – Location of the Colorado Plateau¹

The Colorado Plateau is approximately 130,000 sq. mi. surrounded by mountain ranges, basins and high plateaus to the west. Within the boundaries of this intermontane plateau lies a region characterized by high deserts, deep canyons, mesas and barren badlands with agriculture and domestic water use reliant on the Colorado River and its three major tributaries, the Little Colorado River, the San Juan River and the Green River.

For centuries American Indian tribes have sustained themselves off the land, developing farming techniques that coincided with seasonal monsoon patterns and runoffs, mastering the local ecosystem and establishing regional trade routes, elements that are considered key in the establishment of a sustainable food system.

However, with the introduction of new technologies, trade routes have given way to highways and agriculture has geared toward greater emphasis on growing faster and bigger, generating a culture that puts traditional farming practices and ecological stewardship on the back burner.

This paper presents a synopsis of work being conducted by seven Native communities and organizations located on the Colorado Plateau in their efforts to revive local food systems and agriculture and regain control of ecological stewardship. It will also share applied strategies and essential organizational elements that contribute to their organizational and programmatic sustainability in an environment that many rural Native communities face, which include the lack of resources, geographic isolation, and limited infrastructure.

Since 2011 First Nations Development Institute (First Nations) has been working with American Indian communities, community groups, and Native nonprofits located on the Colorado Plateau to strengthen organizational capacity of grassroots organizations that serve local producers, to assist in developing strategies that increase participation of Native producers in USDA programs, and to generate first steps in shifting ecological stewardship from federal agencies into the hands of Native producers and local communities. In this capacity, First Nations has been witness to the success, achievements,

¹ Levin, Harold, *The Earth Through Time*, 8th Edition, Chapter 15, pg 4.

and innovative approaches that Native communities and organizations are taking in regaining control of food systems and revitalizing communities,

This paper shares strategies that focus on five consistent themes that have emerged among the partnering communities in their effort to strengthen local food systems and economic opportunities on the Colorado Plateau. The author does not wish to discount other innovative concepts but rather to focus on consistent strategies and areas that have been shared by participating partner communities. The emerging elements identified have contributed to the longevity of the organizations and programs and to the impact they are making in their communities.

The following five areas covered in this paper include:

1. Reviving Traditional Agricultural Practices
2. Ecological Stewardship
3. Regional Networking and Partnerships
4. Education and Outreach
5. Continuous Improvement

First Nations' Native Agriculture and Food System Initiative (NAFSI)

In 2000, First Nations initiated NAFSI with the understanding that without access to healthy food a nutritious diet and good health are out of reach. To increase access to healthy foods, First Nations supports tribes and Native communities as they build sustainable food systems that improve health, strengthen food security and increase the control over Native agriculture and ecological stewardship.

First Nations' work on the Colorado Plateau and information consolidated in this paper is the result of two projects conducted simultaneously in 2012-2013. The first project is the Colorado Plateau Native Food Systems Capacity Building Project, generously supported by The Christensen Fund and USDA Rural Community Development Initiative (RCDI) and the second is the Navajo – Hopi Technical Assistance Project generously

funded by the USDA's Office of Advocacy and Outreach (OAO).

For their participation, each grantee organization was provided technical assistance, training and financial assistance that provided them the opportunity to:

- increase access to fresh foods through the revitalization of community gardens and implementation of greenhouses,
- expand new markets for their producers,
- develop new partnerships, and
- participate in regional gatherings providing peer learning and networking opportunities.

Although each project varied in its food systems focus, all emphasized the importance of ecological stewardship and respect for the land in their efforts. Each is working to regain control of resource management in a manner that balances and incorporates traditional values and culture with environmental regulations set forth by federal, state and tribal policies.

First Nations acknowledges the following tribes and organizations for their efforts in restoring local food systems and for their contribution to identifying proven methods for success outlined in this paper:

- Ute Mountain Ute Tribe
- Diné be liná (Navajo Lifeway) – Navajo Nation
- Dennyhotso Chapter- Navajo Nation
- Nahata Dziil Community Governance – Navajo Nation
- Tsaille-Wheatfields Diné Water Users Association – Navajo Nation
- Sipaulovi Development Corporation – Hopi
- White Mountain Apache Tribe People's Farm

Reviving Traditional Agricultural Practices

Reviving agriculture on the Colorado Plateau in an environment where the median annual precipitation is 11.8 inches per year² coupled with the diminishing Colorado River requires

² Hereford, Richard, R. H. Webb, and S. Graham, U.S. Geological Survey, *Precipitation History of the Colorado Plateau Region, 1900-2000*, Fact Sheet 119-02

innovation and conservation on part of producers and communities.

To address this challenge, communities are building on traditional agricultural practices by integrating technology and new strategies for agriculture. One such example can be observed on the Navajo Nation where the Dennehotso Chapter is working to implement solar pumps to increase access to water resources. Working together and with leadership, in 2013 the Dennehotso Chapter implemented 68 30' x 30' gardens 44 more gardens that Dennehotso Chapter cultivated in 2012. The produce harvested from local garden sites was provided to garden workers, Tribal elders and served at community events.

At Hopi, the Sipaulovi Development Corporation, a Native nonprofit organization, is working to revive traditional dry farming techniques and community garden plots (Figure 2). In their efforts, they have explored options to increase value to their raw goods by engaging community members in canning and food preservation workshops.



Figure 2 – Hopi Garden Plots

At a more regional level, Diné be liná (Navajo Lifeway) is working to revive the traditional way of raising sheep, wool harvesting, and weaving across the Navajo Nation. Since trading posts/centers have long disappeared, the art of rug weaving, harvesting wool and raising sheep has diminished. Diné be liná is working with community members to restore traditional weaving practices that will the revive livelihood of sheep, wool, and weaving. Moreover, they are incorporating new techniques in hopes of

expanding existing markets. Each year the organization coordinates the Sheep is Life Celebration, a four-day event dedicated to educating and teaching participants traditional Navajo rug weaving techniques as well as other topics that may include Native plant dyeing, carding and spinning wool, and felting.

While each organization is reviving traditional practices, they are also integrating new strategies and technologies to better position their communities to respond to new capital market opportunities. However, each organization is balancing the incorporation of new technologies with traditional practices. These traditional practices are tried and proven strategies for resource management that generations of Native communities on the Colorado Plateau have utilized to sustain themselves for centuries.

Ecological Stewardship

Under this project, First Nations explored strategies to transition control of resource management and ecological stewardship from federal agencies to the producer and communities. In collaboration with the Arizona office of USDA Natural Resource Conservation Service (NRCS), training and technical assistance was provided to individuals on the reservation to assist in their efforts to become certified conservation planners (Figure 3).



Figure 3 - Conservation Planning Field Training

By increasing the number of Navajo speaking conservation planners, Navajo producers will have increased access to local conservation resources so that local producers are better positioned to engage in USDA opportunities. Prior

to the start of this project, Navajo producers only had access to one certified Navajo speaking conservation planner. Having Navajo speakers involved in this process is essential as Navajo is still the primary language spoken by Navajo producers across the Navajo reservation.

With the understanding that a conservation plan is required to participate and qualify for most USDA programs and are important for preserving the land and communities, organizations are exploring strategies to incorporate conservation planning in their efforts.

At the Nahata Dziil (New Lands) Community Governance Padres Mesa Demonstration Ranch, producers are regaining control of natural resource management and acknowledging its role in creating a viable cattle enterprise.

As a result of the Navajo-Hopi relocation, many Navajo families were relocated to Nahata Dziil. Relocation agreements provided for 14 range management units to be allocated for families to begin raising cattle (designated as 14R producers) as a means to generate new economic opportunities for newly relocated families. As a result, Padres Mesa Demonstration Ranch has been providing training and technical assistance to assist producers in raising source-verified beef and in obtaining a fair market value for their cattle.



Figure 4 - 14R Producer, Nora Pahi

Padres Mesa Demonstration Ranch provides technical assistance and training in the form of community workshops and field training that cover a broad range of topics related to building

sustainable ranching enterprises in combination with conservation planning. By incorporating conservation practices such as monitoring vegetation, soil, and water, 14R producers are on the way to regaining control of their local environment and utilizing available resources most effectively and efficiently.

In 2013, 14R producers in partnership with the Padres Mesa Demonstration Ranch and LaBatt Food Service entered into an agreement with the Navajo Nation to become a supplier to casino restaurants located on the Navajo Nation. In addition they have created the Navajo Beef Brand signifying source-verified grassfed beef produced by Navajo ranchers.

In Tsaile, Arizona, the Tsaile-Wheatfields Diné Water Users association is working to revive farming and livestock production. In their approach they are incorporating conservation practices as a collective group of producers instead of a single producer approach. This form of collective natural resource planning encourages social trust among all producers. With this collective planning all producers understand that crops will not be jeopardized, limited resources maximized and shared among producers, and traditional conservation practices are incorporated into growing and planning.

Integrating industrialized conservation planning practices into Native communities that view ecological stewardship as a cultural connection with the soil, land, and water can be challenging. Native communities understand the importance of maintaining and reviving the regional ecosystem. However, Native communities still require consensus, a collective acceptance that will be used for conservation planning and the incorporation of traditional knowledge and practices. This is balance that must be achieved for successful ecological planning in Native communities. Thus, federal agencies that provide oversight in developing and implementing federal conservation guidelines in Native communities need to be aware of this balance when looking to advance Native producers and agriculture.

Regional Networking and Partnerships

"Well, you have no choice but to keep running faster just to stay in place. If you rely solely on your ability to implement internal change, you may not make it."

Curtis E. Sahakian
Managing Director
Corporate Partnering Institute

Critical to the success of each project showcased in this paper is their capacity to establish successful partnerships and their commitment to participating in regional networking opportunities.

Partnerships vary for each organization, but most often consists of community members, tribal leadership, federal agencies and other regionally-based organizations that contribute and can benefit from participation and engagement. Creating community partnerships were identified as a key element to the sustainability of the programs and projects that each organization documented above is striving to implement.

At White Mountain Apache, The People's Farm (Figure 5) is working with the University of Arizona to develop their Good Agricultural Practices (GAP). Developing and implementing GAP standards on the farm will expand their participation in new local markets including schools, senior centers, and daycare centers. The People's Farm has developed other partnerships that have resulted in the implementation of small gardens and in the development of a conservation plan and a water plan. With these new partnerships have come confidence, new opportunities, additional resources, and community participation.

At one time, community members and organizations were reluctant to accept produce from The People's Farm. But as a result of new partnerships, standards, and overall capacity, The People's Farm is now actively receiving requests for produce to be grown and harvested, actively seeking out seeds for planting and encouraging the production of traditional foods.



**Figure 5 - Clayton Harvey
White Mountain Apache People's Farm**

Similarly, on the Navajo Nation, the partnership between Nahata Dził Community Governance, the Padres Mesa Demonstration Ranch, the 14R producers and LaBatt Food Service demonstrates the potential of partnerships working in unison to positively impact Native communities. Like the White Mountain Apache People's Farm, the partnership has generated new opportunities, built confidence, increased access to additional resources and has impacted the lives of community members that they serve.

Education and Outreach

While First Nations' intent on the Colorado Plateau was to strengthen local food systems and develop first steps in transitioning ecological stewardship to Native producers, it was also important to strengthen the capacity of grassroots organizations who serve Native producers by providing them with financial and technical assistance so that they are better equipped to serve their constituents.

As a part of their participation, a large majority of the organizations conducted outreach and education to Native producers and community members to increase producer knowledge on new agricultural practices through demonstrations, workshops, and field training.

Due to their geographic location, many of the Native communities included in this report do not

have immediate access to learning opportunities. In most instances, individuals that participate in workshops and trainings have to travel long distances to attend trainings and network with other regional organizations, which is often not feasible due to lack of financial resources. To address this challenge, the organizations are taking their efforts directly to producers, working with them to develop curriculum and collaborating with local extension offices, tribal colleges and universities, to assist in educating producers on opportunities and best practices.

A few examples of outreach and education events being conducted by the organizations have included:

- Food-tasting events at the local farmer's market;
- Workshops on food preparation that included canning, drying, and processing;
- Workshops on conservation planning and water harvesting; and
- Workshops on organic composting and erosion control.

At Ute Mountain Ute, their food systems initiative is in startup mode. In this capacity, their primary focus is on education and outreach. However, most recently they have started transitioning to implementation of community gardens with an emphasis on GMO-free foods and traditional seed preservation.

Continuous Improvement

Each organization discussed above acknowledged that, one resounding element contributing to their success in generating positive impact in their communities is their ability to be adaptable, innovative, cooperative, and mindful in their efforts.

They are engaged in the issues on a local, regional and, in some instances, a national level. They are open to peer learning and to contributing to the dialog on how to advance American Indian communities.

They have been deliberate in their evaluation and monitoring strategies. They have tracked workshop attendees, weighed produce,

monitored foods stocked at the local grocery stores. They've assessed their producers and have tracked sales all while remaining mindful of the land and natural resources required to revive agriculture and local food.

"We are stewards of the land and should be thinking of our children. We should be managing for our future generation. I am here today to serve as legal council for native plants."

Rangeland Management Specialist
Navajo Nation, 2012

Conclusions

First Nations' food systems initiative on the Colorado Plateau has been focused on three primary areas: 1.) strengthen the capacity of organizations that serve local producers; 2.) assist in developing strategies to increase Native producers' participation in USDA programs; and 3.) generate first steps in shifting ecological stewardship from federal agencies into the hands of Native producers and communities at the grassroots level.

The projects and communities showcased in this paper have not gone without challenges. Like many other Native communities they are constantly faced with the complexities of abiding by federal policies with regard to agriculture, food, and operating on trust lands. However, as demonstrated above, they have become innovative and creative in their strategies to revive local foods systems and regain control of their natural resources.

First Nations acknowledges the numerous other Native communities and organizations on the Colorado Plateau that are working to address issues in local food systems and ecological stewardship. They are deserving of the spotlight for their efforts, commitment and perseverance.

First Nations wishes to thank each project partner for their participation and for sharing best practices.

To learn more about each organization, visit their websites as listed below:

Diné be liná (Navajo Lifeway)

Website: www.navajolifeway.org

Navajo Nation Dennehotso Chapter

Website: dennehotso.navajochapters.org

Padres Mesa Demonstration Ranch

Nahata Dziil Community Governance

Website: <http://padresmesaranch.com/>

Sipaulovi Development Corporation

<http://www.sipaulovihopiinformationcenter.org/>

Tsaile-Wheatfields Diné Water Users Association

Website: <http://tsaile.navajochapters.org/>

Ute Mountain Ute Tribe Environmental Dept.

<http://www.utemountainuteenvironmental.org/>

White Mountain Apache People's Farm

<http://edibleschoolyard.org/node/11823>

About the Author

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In addition to serving as Director of Programs & Administration she currently serves as a project team member on the Native Agriculture and Food Systems Initiative (NAFSI); administers the Colorado Plateau Native Food Systems Capacity Building Project and the First Nations Navajo Nation Technical Assistance Project.

She received her B.S. in Mining Engineering from New Mexico Tech and is an enrolled member of the Navajo Nation. Her maternal clan is Tsinaajinii (Black Streak People) and maternal clan is Honaghaahnii (One Walks Around One).

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