



Food Sovereignty and Climate Resilience

Institute of Tribal Environmental Professionals

Food Sovereignty Work in Indian Country

by Vicky Karhu

for

Institute of Tribal Environmental Professionals

Webinar

October 24, 2017



FOOD SOVEREIGNTY

Food Sovereignty is the right of peoples to define their own policies and strategies for sustainable production, distribution and consumption of food, with respect for their own cultures and their own systems of managing natural resources and rural areas and is considered to be a precondition for food security.

— Declaration of Atitlán, Guatemala, Indigenous Peoples' Consultation on the Right to Food: A Global Consultation (2002)

Taos Pueblo has a rich history of healthy food systems and prosperous agricultural economies.

A Viable, Economic, Sustainable & Sacred Past



Photo credit: taospueblo.com

- Historically, we have supported & sustained ourselves through agriculture.
- We maintained a high level of health through our foods.
- We took care of our own.

Red Willow Farm, Taos Pueblo



- ☀️ Solar powered well pump providing irrigation water for farm fields and greenhouses. Solar panels rotate to absorb maximum solar gain by means of gravity system, no outside power needed.
- ☀️ Three heated greenhouses provide local produce year-round. Average item of food on a plate on USA has traveled 1500 miles! Worldwatch Institute found that a typical meal bought from a conventional supermarket chain uses 4 to 17 times more petroleum for transport than the same meal using local ingredients. Local foods reduce fossil fuels needed for transportation, refrigeration, climate-controlled storage, etc. while providing fresher foods!



Red Willow Farm, Taos Pueblo

District Heating System “Utility”. Centered upon a Garn model 3200, the district heating system (DHS) heats three buildings and two greenhouses, and has a 7-panel solar thermal subsystem. A real-time, online data system is being refined to provide readouts of various parts of the system.

The DHS stores heat in 3,200 gallons of water with various species of cordwood and delivers heat on demand to:

- ❖ The DHS control room, which also serves as a small office and vegetable starts room
- ❖ A 2,080 ft² building with radiant floor through a Polaris furnace
- ❖ A 2,000 ft² building with radiant floor
- ❖ A 3,100 ft² greenhouse with both aboveground and root-zone heating
- ❖ A 1,920 ft² greenhouse with aboveground heating
- ❖ An attached building heated by waste heat blown in from above the Garn





White Mountain Apache, AZ





Lodge Pole Community, MT



Tyonek Village, Alaska





The S.T.A.R. School, AZ





Traditional Native American Farmers Association, NM



Tesuque Farm, NM



- ☼ Seed bank of straw bale and adobe construction.
- ☼ Powered by small solar array in back.
- ☼ Community built!





Bay Mills Community College, UP Michigan



Local meat

- ☼ through longstanding traditions of seasonal fishing and hunting.
- ☼ new techniques like “chicken tractors” moved by one person daily providing heritage chickens (a tough old breed) with natural foods of grubs, insects, etc. in-ground while removing these pests from the field.



Creating
bio fuels
on-farm



Jijak Foundation, Match-E-Be-Nash-She-Wish Band of Pottawatomis Indians





Mvskoke Food Sovereignty Initiative. OK



- ☀ More homegrown foods
- ☀ Revitalizing home food preservation and reducing need for purchasing from “the store.”
- ☀ Fresh local foods for the community at the Farmers Market. Income for farm families and local foods for all!



Northwest Indian College, Swinomish, WA



Local food tradition of harvest from the sea becomes economic development tool for the community. Locally canned salmon commercially available in Native community!



Oneida Nation of Wisconsin





San Xavier Co-op Farm, Tucson, AZ

- ☼ Commitment to organic agriculture which is “the old way.” More manpower and less fossil fuel power in production methods. No fossil fuel-based chemicals for pesticides, herbicides and the many passes with the tractor needed for application of these inputs.
- ☼ Organic methods increase soil organic matter (and thus soil organic carbon) content and improve soil structure. Plus, no nitrogen run-off.
- ☼ “We could sequester more than 100% of current annual CO2 emissions with a switch to widely available and inexpensive organic management practices, which we term “regenerative organic agriculture.””

[Regenerative Organic Agriculture and Climate Change: A Down-to-Earth Solution to Global Warming](#), The Rodale Institute





San Xavier Co-op Farm, Tucson, AZ

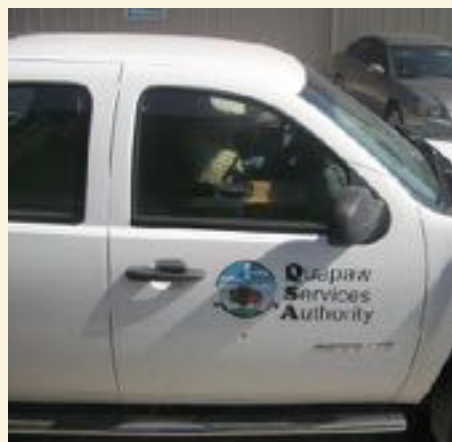
- ☼ Saving seeds of traditional and popular farm-raised foods to reduce dependence on GMO and other mass-produced seeds from commercial companies. Many seed experts know that seeds have memories and carefully saved seeds will adapt to climatic conditions of where they are grown. In these times of climate changes...seeds will adapt!
- ☼ Propagating heirloom fruit trees adapted to desert climate. Strong and resilient food producing trees for the future.





Quapaw Tribe of Oklahoma

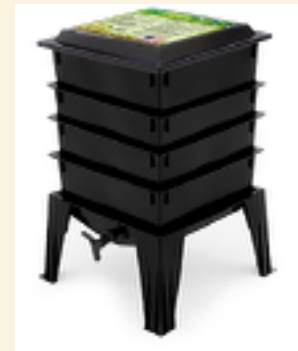
- ☼ Supplying their tribal casino and community with fresh foods, herbs, grass-fed meats, honey, ornamental plants and other value-added food products. Providing jobs for their community.



Composting: On-farm or Municipal



- ☼ Compost provides key nutrients for organic farming via completely natural processes...no fossil fuels.
- ☼ Applying organic matter to soils is one of the most effective ways to divert CO₂ from the atmosphere and convert it into organic carbon in soils.
- ☼ A compost pile undergoes aerobic decomposition so it produces CO₂ instead of methane.



Thank You!



vkharhu@gmail.com

575-495-3957