

UCLA

American Indian Culture and Research Journal

Title

Searching for Haknip Achukma (Good Health): Challenges to Food Sovereignty Initiatives in Oklahoma

Permalink

<https://escholarship.org/uc/item/4cw756bd>

Journal

American Indian Culture and Research Journal , 41(3)

ISSN

0161-6463

Author

Mihesuah, Devon

Publication Date

2017-06-01

DOI

10.17953/aicrj.41.3.mihesuah

Copyright Information

This work is made available under the terms of a Creative Commons Attribution-NonCommercial License, available at <https://creativecommons.org/licenses/by-nc/4.0/>

Peer reviewed



Searching for *Haknip Achukma* (Good Health): Challenges to Food Sovereignty Initiatives in Oklahoma

Devon Mihesua

In the last three decades, tribes and grassroots organizations comprised of determined tribal members have initiated numerous food projects, including seed distribution, food summits, farmers' markets, cattle and bison ranches, and community and school gardens.¹ These enterprises are steps towards achieving what many food activists refer to as "food sovereignty," although there are various ideas about what food sovereignty is, or can be. Further, there is no universal solution to achieving food sovereignty. Tribal food self-sufficiency involves the coordination of complex social, political, religious, economic, and environmental concerns. Those efforts vary by tribe because tribes adapted to colonization differently and they do not have access to the same resources; therefore, their food sovereignty goals also differ, provided they even have any. Many do not. While British food activist Raj Patel writes about the idea of food sovereignty in general, his statement that "there are so many versions of the concept, it is hard to know exactly what it means" certainly applies to indigenous people in the United States.²

The title theme of this special issue of the *AICRJ* is "Indigenous Food Sovereignty," so as a point of departure I begin with the most complete vision of the concept as it is basically defined in the 2007 Declaration of Nyéléni: "The right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agricultural systems."

DEVON A. MIHESUAH, an enrolled citizen of the Choctaw Nation of Oklahoma, is the Cora Lee Beers Price Professor in the Humanities Program at the University of Kansas. She is the author of numerous award-winning books on indigenous history and current issues, including *Ned Christie: The Creation of an Outlaw* and *Cherokee Hero*; *Choctaw Crime and Punishment: 1884–1907*; and *American Indigenous Women: Decolonization, Empowerment, Activism*. She is former editor of the *American Indian Quarterly* and oversees the American Indian Health and Diet Project at the University of Kansas.

The declaration also asserts that food sovereignty “ensures that the rights to use and manage lands, territories, waters, seeds, livestock and biodiversity are in the hands of those of us who produce food.”³

To be a “food sovereign” tribe ideally would mean, then, that a tribe has the right to control its food production, food quality, and food distribution. It supports tribal farmers and ranchers by supplying machinery and technology needed to plant and harvest. The tribe is not answerable to state regulatory control, and follows its own edicts, regulations, and ways of governance. Its members have educational and job opportunities. The tribe collectively decides if it wants to purchase foods produced outside its boundaries and if it wants to trade with other groups. The tribe has renewable energy infrastructure, such as solar and wind power.⁴ Elders are honored for their ability to teach language and for imparting traditional indigenous knowledge about planting, harvesting, seed saving, hunting, basket and tool making, as well as ceremonies associated with sustenance. They remind us about female deities who among many tribes originally brought them sustenance. Rather than viewing environmental resources as commodities for monetary gain, tribal members show reverence for the land that sustains them. They protect and respect the natural world because thriving relationships between healthy ecosystems and indigenous peoples underlie tribal political, social, and religious systems. For indigenous activists concerned with food injustice, that is the ideal scenario. But if food sovereignty is defined in this way, is it possible?

OKLAHOMA

Oklahoma presents opportunities for discussion about food sovereignty because of its multifaceted history, environmental issues, and current politics, which include uneven food quality, poor indigenous health, intratribal factionalism, trenchant racism, and the glaring dichotomy between those tribal members who are affluent and those suffering from extreme poverty.

Oklahoma became a state in 1907. Prior to that time, it was Indian Territory. The Indian Removal Act of 1830, signed by President Andrew Jackson, was a cruel and devastating policy that forced thousands of Indians to Indian Territory in order to make way for white settlement in the Southeast and elsewhere.⁵ Today there are thirty-eight tribal nations in Oklahoma; sixty-seven tribes have lived there.⁶ For Oklahoma tribes wishing to follow their foodway traditions, there is no “one-size-fits-all” model. Some tribes have an agricultural legacy, but also depended on wild game and plants. Plains tribes that arrived in the 1870s hunted bison and other animals, but they expanded their resource base by gathering wild flora and trading with tribes and non-Indians. Some, such as Comanches (“Lords of the Plains”), had no agricultural tradition but had access to a variety of foods and were adept at taking what they wanted.

Among those Native peoples who, under great duress and loss of life, came to Indian Territory, were the “Five Tribes” (Cherokee, Chickasaws, Choctaws, Mvskoke-Creeks, and Seminoles). They found that much of their new lands resembled their

Southeastern homelands. There was plentiful game in the forests and grasslands and fertile soils allowed them to farm. They had ample water and a variety of nut trees and wild fruits.⁷ Yet despite the assortment of foods that many Natives grew, gathered, and hunted, by the time of the Civil War different foods were becoming available and many Natives began suffering the consequences of altering their diets of vegetables, fruits, and game meats to rely upon sugary, fatty, and starchy foods instead.⁸

The reasons for these health changes are complex. Boarding schools, missionaries, and intermarriage with whites contributed to the disassociation from tribal language, religion, and foodways. Particular population groups that were affected include tribal members who were affluent—a group that included full-blood Native persons, although most were racially and culturally mixed—and Native students at the boarding schools, who were fed white flour and sugar three times a day. These populations developed digestive disorders, with some becoming diabetic or pre-diabetic. In addition, as non-Native intruders surged into Indian Territory throughout the 1800s, the plants and animals Indians once used for sustenance and medicine diminished. The ecosystems were transformed by dams, mines, deforestation, invasive species, and ranching. Those Native people who could not afford to purchase store goods survived on what they could grow; some suffered from malnutrition. The bison herds diminished, drastically altering the lifeways of Plains tribes. After being placed in Indian Territory in the late 1800s, Comanches, Cheyennes, Kiowas, and other hunters were forced to depend on inadequate rations provided by the federal government.⁹

Today, at least 16 percent of Native people in the United States suffer from diabetes and 33 percent are obese.¹⁰ Among the Oklahoma population, Indians have the highest rates of heart disease, “unintentional injury deaths,” diabetes, and asthma. They eat fewer fruits than whites, blacks, and Hispanics. The Oklahoma Department of Health assigns Natives Americans a grade of “D” for low physical activity and incidences of obesity, and an “F” for “poor mental health” and “poor physical health” days.¹¹ Of the Cherokees who seek treatment at Cherokee clinics, 34 percent are overweight or obese.¹² The rate of diabetes on the Osage reservation is 20.7 percent, double that of the rate in the United States. The rate of heart disease among reservation Osages is double that of those off-reservation. Twenty-one percent of reservation Osages live in poverty compared to 10.3 percent of the US population.¹³ Children spend less time playing outdoors and adults are increasingly isolated from the land, resulting in waning interest in the natural world. Smoking and depression exacerbate their health issues.

It is not only people in Indian country who feel effects from environmental degradation, climate change, food-borne illnesses, industrial chemicals, and soil erosion.¹⁴ Water and air are polluted, seafood is overharvested, and the cost of animal feed has risen. All consumers now face prices that are 40 percent higher in recent years for bread, baked goods, canned vegetables, fruit, eggs, beef, pork and chicken.¹⁵ The avian flu, porcine epidemic diarrhea virus, and excessively dry and wet seasons have resulted in sick animals and failed wheat, lettuce, and corn crops. Food sovereignty activists are situated in an economy in which four seed companies, Dow AgroSciences, DuPont/Pioneer, Monsanto, and Syngenta, control 80 percent of the corn market, 70 percent of the soybean market, and half of the world’s seed supply.¹⁶ Ten companies own almost

every brand of food and beverage.¹⁷ Environmental activist Wendell Berry sums up what we all want: “Food that is nutritionally whole and uncontaminated by pesticides and other toxic chemical residues.”¹⁸

Many tribal members who do not qualify for government commodities find that stores are not conveniently located and the products are inadequate. For example, the 2,251 square miles of the Osage reservation in Osage County has only four grocery stores, making it a “super food desert.” Most of the land is for livestock ranching, not for agriculture, and there is no public transportation.¹⁹ Most stores on Indian land offer produce that comes from farms that use genetically modified seeds. These pest-resistant crops grow bigger and more quickly, but they are less nutritious and leave behind eroded and depleted soils.²⁰

Among Oklahoma Indians, the lack of food, or lack of nutritious food, is the result of their having no money to purchase it; being dependent on the government; having no control over resources; and being unable to produce food. Many Indians have eaten their traditional foods, hunted, and gardened their entire lives. Most, however, have not. Natives who take advantage of the commodities offered under the USDA’s Food Distribution Program have about one hundred food-buying choices, but often they opt for white flour, lard, cheese, and sugary and salty items. Notably, food distribution commodities are available to low-income tribal members who live within a tribal nation’s boundaries.²¹ Yet not all residents on tribal lands are members of that tribe and, given the differing food histories of each tribe, their food choices are both likely to be different and to affect the diets of those around them. For example, the majority of the 233,126 persons residing within the Choctaw Nation are not Choctaws.²² In addition, in Oklahoma’s program, as long as there is one member of a federally recognized tribe in the residence, non-Indians also in the home can receive commodities under the Food Distribution Program. Their food choices may not include items that are culturally connected or healthy and their preferences might influence others in the house.

“TRADITIONAL” FOODS

Health and traditionalism intertwine. Tribal members can consume nonindigenous foods and be healthy, but food sovereignty activists are hopeful that a return to traditional foodways will provide something more: empowering links to their cultures and histories. Of course, it must be determined what those traditional foodways are and if everyone agrees on what is “traditional.”²³ The Choctaw Nation’s website and the 2017 calendar, for example, feature some reasons many tribal members are obese and diabetic: a “traditional” recipes section heavy on unhealthy food items, including sugar, white flour, cheese, and butter, used for making grape dumplings, cheddar and corn chowder, crisp salt pork, cobbles, fried corn, fry bread, Indian tacos, and creamed Indian corn (sugar, flour, milk, and pork). A sweet potato dish that would be flavorful without any seasoning calls for adding two cups of sugar and one cup of flour.²⁴ The Chickasaw Nation does the same, with “Chickasaw” appearing in the names of some dishes even though the ingredients are not indigenous.²⁵ Similarly, Osage cooking

classes teach young tribal members how to make “Indian food” such as wheat flour rolled out in the “Osage custom”—that is, fried in hot grease—as well as to how to cook chicken and dumplings, and meat with wheat gravy.²⁶

Defining traditional food is tricky because some Oklahoma tribes adopted European and African foods and material goods centuries ago and some define traditional foods as what their grandparents ate. Those traditionalists who advocate for precontact foods may clash with tribal members who argue that fried bread, mutton, and grape dumplings made with wheat flour and sugar are traditional, as are dishes made with dairy, eggs, beef, pork, and chicken. Ancestors of tribespeople in Oklahoma started growing European-introduced crops on a large scale for profit by the 1840s. After the Civil War, Choctaws cultivated sixty thousand acres of corn and potatoes, but also non-indigenous wheat and oats. By this time, members of the Five Tribes used metal axes, plows, hoes, harrows, scrapers, shovels, spades, threshers, mowers, and reapers. Backyard gardens featured more European-introduced foods: lettuce, turnips, peas, and mustard. Many cultivated European-introduced apple, peach, and plum trees. Some of the farmers along the North Fork and Arkansas Rivers grew cotton and tobacco and ranchers raised non-indigenous horses, cattle, mules, sheep, goats, and hogs.²⁷

If the goal is to eat only precontact foods, then the list might include alligator, elk, waterfowl, deer, antelope, wild turkeys, and bison. Those animals have to be hunted or raised, and both options require financial planning. Tribes historically gathered flora such as mulberries, wild plums, grapes, onions, and nuts (such as pecan, hickory, walnuts, and acorns), but today those foods may only grow on private property. Traditional foods are not always available, so some food projects and families might use only a few indigenous foods as symbols of culture. For example, the Delawares were originally hunters and coastal people and were removed several times before settling in Indian Territory in 1867. They no longer have access to marine life so they stock their ponds with fish, hold annual fishing tournaments, and teach their children to hunt.²⁸

Some tribes have vested economic interests in food production such as cattle, wheat, hogs, and sorghum, none of which is indigenous. However, supplying traditional foods to their members may not be their goal. Hunting tribes followed bison herds for hundreds of miles each year and obviously, they cannot do that today. The Quapaw Tribe of Indians moved to Indian Territory in 1834 and settled on 96,000 acres in what is now Quapaw County.²⁹ Traditionally, Quapaws hunted, gathered, and farmed, but like other tribes, they were not ranchers.³⁰ In June 2016, the Quapaw Tribe opened the Quapaw Cattle Company distribution center, The Quapaw Mercantile. The store sells beef and bison ribeye steaks, beef bacon, and bratwursts from the tribe’s herds in Miami and Quapaw. They provide meat to the tribe’s elder center, daycare centers, and the Quapaw and Downstream casino restaurants. The tribe is in the process of designing its own meat-processing plant and has plans to grow feed for the animals.³¹ The Iowa, Modoc, Cheyenne and Arapaho Tribes, and Cherokee Nation raise bison. Some ranchers breed bison with cattle to create “beefalo.”

Poverty

“Food security” has been defined as members of households having, at all times, “physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.”³² Eric Holt-Giménez writes, “Where one stands on hunger depends on where one sits.”³³ Some Natives in Oklahoma are quite affluent and can buy whatever they want; others are poverty-stricken and have little opportunity for advancement.

The Choctaw Nation of Oklahoma lands consist of 10,613 square miles of rural area in 10.5 counties in southern Oklahoma. In 2016 the Choctaw Nation had 9,000 workers on a payroll of \$300 million. The tribe operates seven casinos, thirteen travel plazas, twelve smoke shops, two Chili franchises, a resort in Durant, and document-archiving companies; along with manufacturing, it manages seven Black Angus cattle ranches and provides other management services. In 2016 the Nation generated \$658 million, with \$148 million of that from state and federal funds.³⁴ The previous year, moreover, a 2015 tribal trust court settlement awarded the Choctaw and Chickasaw Nations \$139.5 million and \$46.5 million, respectively, for the federal government’s failure to protect tribes’ interests when it sold over one million acres of timberlands in the decades between 1908 and 1940.³⁵

My tribe should not be an impoverished one, yet despite the millions of dollars produced each year, some of the poorest counties in the country are within the Choctaw Nation. Atoka, Coal, Haskell, Latimer, LeFlore, McCurtain, Pittsburg, and Pushmataha counties all have high-risk factors such as smoking, obesity, physical inactivity, and low consumption of fruit and vegetables. One census tract has a poverty rate of more than 52.8 percent, with leading causes of death being heart disease and cancer.³⁶ Those who do find work receive low wages. Recognizing the dire situation, in 2014 then-president Barack Obama named the Choctaw Nation one of five “Promise Zones.” The award entails tax incentives for businesses that invest in the community and promises them “competitive advantage” when applying for federal grants.³⁷

After the Promise Zone award, the chief business and economic development officer enlisted several Choctaws with expertise about traditional foods, medicine, and gardening to brainstorm strategies for the Farm-to-Table Agriculture initiative. The focus was to be on nutrition and natural medicines, in addition to myriad other issues such as Native foods, backyard gardens, agri-art, and farmers’ markets. The new tribal chief elected that year, however, dismissed the business development officer, thereby severing ties with those of us who had contributed a plethora of ideas to the Promise Zone initiative. The initiative’s leadership then created the Choctaw Small Business Development Services (CSBDS), which currently offers advice, planning, and counseling for tribal entrepreneurs, but not financial support.³⁸

One of its stated goals is that “natural, historic, and cultural resources” serve as the foundation for initiatives, including “technology-enhanced traditional farming and ranching,” large greenhouses, and training for women-owned businesses.³⁹ Choctaws did not traditionally ranch, so it is not clear what is meant by “traditional farming and ranching.” Indeed, backyard gardens had been among the suggestions initially

submitted to the Choctaw Promise Zone initiative. Families desirous of cultivating gardens would have been given seeds, basic tools, soil, and water. The tribe would finance the plowing of land, and would provide lessons on basic gardening. That idea apparently has been discarded. The monthly tribal newspaper, the *BISKINIK*, includes columns about traditional foods, but there are no indigenous gardens or classes to teach tribal members how to grow or gather them.⁴⁰

Part of the Choctaw Nation's plan is to create an educated workforce that can succeed in the business world. This is a crucial initiative considering that Oklahoma is ranked forty-ninth in the nation in educational services and performance.⁴¹ If that workforce education strategy also includes implementing "traditional" farming methods, that workforce must know how to cultivate traditional foods and how to save seeds. The plan calls for partnerships with Oklahoma State University, Eastern Oklahoma State College, and the Kiamichi Technology Center.⁴² However, none of those schools offers courses dealing with Choctaw history and culture.

For low-income seniors residing in the Choctaw Nation's 10.5-county area, the Choctaw Nation has instituted the Senior Farmers' Market Nutrition Program. Qualified seniors receive \$50 and an additional 3,800 participants receive \$30 to purchase locally produced foods. Funded by both the USDA and the Choctaw Nation, the program is "designed to encourage participants to make better food choices and raise awareness of farmers and farmers markets." Only about half of the ninety-five farmers who sell their produce to the market are tribal members, which might defeat the purpose of supporting tribal farmers. Non-Natives over 60 years of age living in a household that includes one enrolled Choctaw are eligible for checks.⁴³

An additional concern is lack of data regarding what consumers do with the produce. The Choctaw Nation has a number of health initiatives, but there is little research revealing their successes beyond the number of people using the vouchers. The tribal newspaper includes articles about diabetes, obesity, and exercise, and the Diabetes Multi-Resource Task Force travels across the Choctaw Nation to educate tribal members about healthy lifestyles. However, as seen on the calendars, the Choctaw Nation's website, and at tribal celebrations, the tribe also provides and promotes unhealthy food.

IMPACT OF DIMINISHED HEALTH CARE FUNDING

As of March 2018, the Trump administration has weakened the Affordable Care Act and continues to seek its repeal. Through the Indian Healthcare Improvement Act (IHICA) that is part of the ACA, Indian health centers can bill third party insurers, Medicare, and Medicaid. Almost 2.2 million people who use the IHS will be impacted negatively if the ACA is repealed.⁴⁴ The IHS could potentially lose over \$800 million in funding from Medicaid programs.⁴⁵ The Choctaw Nation recently completed a 143,000 square-foot regional medical clinic, the first tribal clinic in the United States with an outpatient ambulatory surgery center. The ambitious project features dental services, podiatry, endoscopy, pediatrics, respiratory therapy, cardiology, diabetic, and pulmonology care, in addition to behavioral health services and an on-site

laboratory.⁴⁶ The tribe pays for the construction of the facility, and the Indian Health Service works with Congress to provide funding for staff. Considering that President Trump has called for a 16.2 percent cut in funding for the Department of Health and Human Services, this is cause for alarm.⁴⁷ Everyone needs medical and dental care. Nonetheless, to improve physical and mental health and avoid hospital visits to treat maladies caused by poor diet and inactivity, we know that it is key to adopt an exercise regime and a diet of unprocessed and fresh foods, and to quit smoking.

TREATIES AND ACCESS TO TRADITIONAL FOODS: HUNTING, FISHING, AND GATHERING RIGHTS

Treaties between tribes and the federal government are legally binding contracts that contain assurances of self-determination, healthcare and educational services, religious freedom, and rights to hunt and fish. The federal government has a responsibility to protect tribal treaty rights, tribal lands, and resources. Those who were forcibly sent to Indian Territory were understandably suspicious about the government, as are their descendants. Removal treaties guaranteed tribes that they would retain their lands, but Oklahoma has a long history of racism and dispossessing tribes of their property—27 million acres during the allotment period. Portraits of men such as Governor Haskell, who stole land from tribes during the allotment period, hang in the statehouse.⁴⁸ The discovery in 1897 of oil under Osage lands not only resulted in the murders of dozens of tribal citizens at the hands of unscrupulous whites intent on taking their resources, but also caused socioeconomic rifts within the tribe.⁴⁹ University of Oklahoma students are nicknamed “Boomer Sooners,” after the intrepid pioneers who illegally jumped the gun on the Appropriations Act of 1889 in order to claim land belonging to tribal peoples.

Tribes must know how to negotiate the various challenges from outside forces (e.g., racism, climate change, pollution) as they relate to the powers of their tribe, the states, and federal government, as well as abrogation of treaty agreements that guarantee water, hunting, fishing, and gathering rights. Several treaties in the 1830s guaranteed to Cherokees “free and unmolested use” of lands not within the bounds of Cherokee Nation.⁵⁰ It was not until 2015 that the Cherokee Nation became the first tribe to sign a compact giving their members hunting and fishing rights in all seventy-seven counties in Oklahoma. Cherokees over the age of sixteen can receive one “dual license” (Cherokee Nation and Oklahoma) and one free turkey and deer tag per year. Beginning in January 2017, Choctaw Nation citizens in Oklahoma did not have to pay for licenses either; the tribes pay a fee for each tag received and Oklahoma in turn receives federal monies for wildlife conservation.⁵¹

These are indeed important compacts, but one cannot (or should not) just pick up a gun and go hunting. Procuring a deer or turkey requires skill, patience, and knowledge of hunting safety and protocol. Proper equipment and clothing is expensive. Moreover, physical fitness is essential for those who stalk birds all day or who must drag a heavy animal back to camp. Then it must be dressed and butchered. Although some Natives are adept at using traditional blowguns, rabbit sticks, and bows to hunt small animals, it should be pointed out that not everyone has the wherewithal to hunt game.

TRADITIONAL FOODS AND ECOSYSTEM CHANGES

A return to traditional ways of eating requires access to healthy ecosystems and its resources. After the 1830s removal to Indian Territory, human actions brought about serious environmental changes and resource depletion, including building fences, dams, and railroads, harvesting timber, mining, and digging lakes, as well as drought and overgrazing. For example, in the 1830s much of the Choctaw Nation's fertile lands were crossed by streams of clear water and lush with edible plant foods. After removal, my family settled in Atoka County, then moved to the Kully Chaha ("high spring") township in the shadow of Nvnih Chufvk (Sugar Loaf mountain), once deemed both by Choctaws and newspaper reporters as an "oasis" of springs, bountiful game, nuts, and berries.⁵² Despite its relative isolation, the nearby cattle ranching, diversion of waterways, and deforestation caused the disappearance of many wild fruit plants, turkeys, deer, and pollinators. Many Natives stated that they were careful not to over-hunt, and throughout the Choctaw Nation the complaints were the same: when white intruders arrived onto their lands the herds and flocks declined—some said to the point of "extinction"—mainly because whites engaged in unchecked sport hunting.⁵³ In response, in 1895, the Oklahoma Territorial Legislature created the first game laws to address severe wildlife depletion.⁵⁴ Fish, game, and environmental problems remain, however.

BLUNDERING INTRUDERS AND ENVIRONMENTAL DAMAGE

Turner, et al. use the term "blundering intruders" to describe policies and external projects that impede indigenous peoples' efforts to protect their cultures, resources, and independence.⁵⁵ A major blunderer is Oklahoma's fracking industry, which opens fissures into the earth in order to extract oil and gas with high-pressure forcing of sand, liquid, and sometimes chemicals. Fracking's waste liquid often flows into underground aquifers and pollutes water and soil.⁵⁶ The rocks fracture because of the force of the injection. Disposal wells with millions of gallons of liquid cause faults to slip, resulting in earthquakes; the state of Oklahoma has the highest number of induced earthquakes in the country. There were 889 earthquakes in 2015 and 1,055 from March 2017 to March 2018.⁵⁷ The September 2016 earthquake damaged the Pawnee Nation's administrative buildings and tribal members' homes. The Nation responded by filing suit against the Bureau of Indian Affairs (BIA) and Bureau of Land Management (BLM) in an effort to rid their nation of drilling permits and oil and gas leases on their land, which the agencies approved without consulting the tribe or adhering to natural-resource protection laws.⁵⁸

Fracking is not the only problem. In June 2017, the Oklahoma Department of Environmental Quality warned that fish in fifty-four Oklahoma lakes have high levels of mercury and that consumers should limit their intake.⁵⁹ The Poncas, who were removed to Indian Territory from Nebraska in the 1870s, find that fish in the nearby Arkansas River are polluted from raw sewage and a ConocoPhillips refinery and other factories in Ponca City. They also battle air pollution from carbon-black emissions. The Poncas suffer from what Mekasi Horinek, the coordinator of Bold Oklahoma, calls a

“tirade of cancer” because of “environmental racism.”⁶⁰ The problems are so severe that the Ponca Nation will be the first tribal nation to add a statute to enact the “Rights of Nature.”⁶¹ Osage oil still causes serious environmental problems because the BIA will not enforce oil and gas drilling regulations.⁶² The Cherokee Nation established the Inter-Tribal Environmental Council (ITEC) in 1992 for protecting tribal national resources and their environments. The consortium consists of thirty-nine tribes in Oklahoma, Texas, and New Mexico. Recently, the Cherokee Nation filed a restraining order against Sequoyah Fields Fuels Corporation to prevent it from dumping radioactive waste into the Arkansas and Illinois rivers.⁶³

Conservationists will continue to resist those who emphasize economic development over a healthy environment. In February 2017, President Trump appointed Oklahoma Attorney General Scott Pruitt to head the Environmental Protection Agency (EPA). Pruitt’s office previously sued the EPA at least a dozen times in efforts to curb environmental protection regulations, including pollution policies.⁶⁴ A few months later, Oklahoma Governor Mary Fallin signed into law House Bill 1123, which makes it illegal for anyone to trespass on property containing a “critical infrastructure facility,” and that includes pipeline interconnections for oil, gas, and chemicals. Trespassers could receive a \$1,000 fine, six months in jail, or both. Those who damage or destroy property might face a \$100,000 fine and/or ten years in prison.⁶⁵ The Diamond Pipeline will cross 491 waterways and is set to transport almost 200,000 barrels of crude oil each day from Cushing, Oklahoma, to Memphis, Tennessee. Peaceful protesters have camped at the Oklahoma Coalition to Defeat the Diamond Pipeline’s Oka Lawa Camp (Choctaw for “many waters”) since March 2017. The camp is located on private, allotted land east of McCurtain, Oklahoma, and from that safe spot protesters can educate the country about the pipeline without being harassed.⁶⁶

POACHING, INVASIVE SPECIES, AND LOSS OF POLLINATORS

Poachers illegally take many deer, elk, fish and other animals every year in Oklahoma and trespass onto private land. For example, the Mihesuah family allotment on Little Beaver Creek in southern Oklahoma is 180 acres of forest and grassland that the family has hunted and fished since 1902. Multiple times a year my husband hunts for deer, turkeys, and quail, and every time he removes illegally placed deer stands and cameras and contends with poachers, who invariably argue that they were “lost.” There also is the problem of runoff from the multitude of cows that graze on ranchland surrounding the allotment. Cows destroy vegetation, contaminate ground water, and emit nitrogen into the atmosphere. Cattle need pastureland and ranchers often cut trees. In fall 2016, one neighboring white rancher clear-cut an entire swath of cottonwoods to make way for more pasture, thus causing more contaminated drainage. The bass, carp, catfish, crappie, perch, and turtles that used to inhabit Little Beaver Creek are almost gone now.

Non-indigenous flora and fauna such as Poison hemlock (*Conium maculatum*), Dutch elm disease (a fungus), Eastern Red Cedar (out of control because of fire suppression), salt cedar, tamarisk, Chinese bush clover, musk thistle, and Bradford pear have spread throughout Oklahoma.⁶⁷ *Sericea lespedeza*, a perennial legume, was

introduced in Kansas in 1900 to control erosion, but now it has spread far beyond that area and is considered a hard-to-eradicate noxious weed. It has, for example, overgrown the bison-grazing area in the Seneca-Cayuga Nation and the animals will not eat it.⁶⁸ Many of the more than two hundred lakes in Oklahoma (all but sixty-two of which were created by dams) now contain non-indigenous Zebra mussel, bighead carp, golden algae, and hydrilla, among others. Wild boar (also known as wild pigs and wild hogs) can weigh hundreds of pounds. The aggressive and intelligent animals now inhabit all seventy-seven Oklahoma counties. They reproduce quickly and destroy agriculture, livestock, and ecosystems. Rush Springs, also known as the “Watermelon Capital of the World,” is my family’s favorite place to acquire watermelons, but feral hogs now destroy multiple acres when the fruits are ripe.⁶⁹

Pollinators—butterflies, moths, flies, beetles, wasps, and hummingbirds—collect nectar from flowering plants and in the process spread pollen. Their activity is crucial to the survival of fruit, vegetable, and nut plants. Residents of Indian Territory and Oklahoma observed healthy populations of pollinators until habitat loss and pesticides reduced their numbers.⁷⁰ In recent years, Oklahoma has lost more bees than any other state to drought, pesticides, undernutrition, and varroa mites.⁷¹ Natives stated that during the late 1800s they had access to plenty of bee trees and hives in caves and under cliffs, and many men and women kept aviaries. One man recalled finding a hive so big that he collected a “washtub” of honey.⁷² In an effort to increase the pollinator population, the Monarch Watch Program at the University of Kansas and the Euchee Butterfly Farm in Bixby were awarded a \$250,000 grant from the National Fish and Wildlife Foundation dedicated to planting milkweed and other plants for monarchs and pollinators. TEAM (Tribal Environmental Action for Monarchs) consists of Chickasaw, Citizen Band Potawatomi, Miami, Muskogee-Creek, Osage, Seminole Nations, and Eastern Shawnee tribes that have pledged to plant 35,000 milkweed plants and 28,000 native wildflowers in the next two years.⁷³

THE FAMILY AND COMMUNITY GARDENING MODEL

A challenge facing those tribes desiring to provide food for all their members is how to produce it on a large scale in a safe and sustainable manner. Tribes historically did raise crops in just that way, but it was a community effort. Today, larger farms invest in machinery and other technologies that make production easier, maximize profits, and minimize costs.⁷⁴ Many of those large-scale agricultural endeavors, however, use technological innovations such as fertilizers and pesticides that result in depletion of groundwater.⁷⁵

Anthony “Chako” Ciocco, National Program Coordinator of the Ancestral Lands Program on the Navajo Nation and former communications coordinator for the Mvskoke Food Sovereignty Initiative in Okmulgee, believes that “Our agricultural practices are a major part of who we are. If we were really sovereign we’d be living in the Mvskoke way.”⁷⁶ Prior to the removal of the Mvskoke-Creeks in the 1830s, each town worked a large garden divided into family parcels. Everyone worked them: women cared for the small family gardens and in summer, when men did not hunt,

men helped women tend the larger community gardens. Other times, women did the bulk of the labor with the assistance of older men who could no longer hunt.⁷⁷ One man blew a conch shell to call the men to work. They arrived at the garden with their hoes and axes while the women arrived with food for the day. William Bartram, who observed them farming in the eighteenth century, described them as “marching in order to the field as if they were going to battle.” Those who did not work were fined. The farmers sang as they worked, usually through early afternoon, when they sometimes broke to play games. Children sat in small shelters that were interspersed in the fields in order to scare away pests such as birds and raccoons. Men patrolled the fields at night to deter deer. When it was time to harvest, each family gathered plants from their parcel and donated a portion of their corn crop to the “king’s crib,” a cache of corn for use in hard times, for guests, and for war parties.⁷⁸

Their main foods were corn, sweet potatoes, rice, squashes, and pumpkins, as well as the non-indigenous watermelons. Creeks pounded, boiled, and then strained hickory nuts to extract the oily, sweet liquid to use in corn dishes. In addition to produce, they consumed waterfowl, rabbits, turkey, venison, alligator, bear, deer, trout, catfish, sunfish, bream, and soft-shelled tortoise, as well as the European-introduced beef, goat, and pork.⁷⁹ Creeks had festivals every month and almost all were dedicated to hunting or agriculture, most notably their principal festival that takes place when their corn crops mature in August, called the “feast of first fruits.”⁸⁰

Choctaws also used a plethora of flora and fauna, including acorns, alligators, blackberries, chestnuts, chinquapin, several varieties of corn (dent, flint, flour, and pop), deer, fish, geese, wild grapes, hickory nuts and oil, mulberries, mushrooms, pecans, persimmons, wild plums, potatoes, pumpkins, strawberries, sunflowers, squirrels, sweet potatoes, turkey, walnuts, and wild onions.⁸¹ Each Choctaw family was responsible for their own sustenance and families cultivated backyard gardens. Men and women procured game. Families often lived far from each other, but feasts and religious ceremonies necessarily brought families and clans together.⁸²

After removal to Indian Territory, many families continued with their small gardens around their houses, what nineteenth-century residents of Indian Territory referred to as “patches” and “roasting-ear patches.”⁸³ Some family gardens were larger. One Atoka family that moved to Indian Territory from Mississippi in 1889 maintained an ambitious garden of corn, potatoes, pumpkins, beans, peas, and peanuts, together with an orchard of apple, peach, plum, pear, and cherry trees, as well as berry bushes and grapevines. They managed cattle, hogs, and horses, along with chickens, turkeys, and bees. Another resident cultivated five acres of corn, peas, beans, and pumpkins. When planting corn he dropped a minnow into the hole along with a corn kernel.⁸⁴ The variety of cultivated plants allowed farmers to recycle nutrients and organic matter. Choctaw seed-savers took great pride in saving the best kernels and stringing cobs in a dry place.⁸⁵ If people lost kernels or seeds or had a poor growing season, they could trade something of equal value with a neighbor for more seeds.

I recount the importance of family gardens as a lifeline to cultural, emotional, and physical survival through multiple generations in my first novel, *Roads of My Relations* (2000). My ancestors were removed from the Southeast in the 1830s, and like many

other Choctaws and Chickasaws, they cultivated backyard gardens that supplied a good portion of their diet. Understanding the seasons and knowing when to plant and harvest were crucial to survival. My parents had a variety of plant foods growing around their home, but I have duplicated the large garden my grandparents cultivated in Muskogee, which was a copy of what came before them.⁸⁶ As I write this in July 2017, there remains in one of our freezers frozen peppers, okra, dried tomatoes, and squash soup from plants grown last summer, as well as approximately one-quarter of a white-tailed deer, a wild turkey, two pheasants, numerous quail, and catfish from our pond. Our modest greenhouse and inexpensive cold frames allow me to start planting in early spring and to keep foods going into the cool fall and cold winter. Since spring we have harvested potatoes, herbs, carrots, beets, spinach, bok choy, kale, broccoli, raspberries, mulberries, and strawberries. Corn, peppers, green beans, okra, squashes, and another round of potatoes are yet to come. We save seeds, make compost, use rain barrels, and created four large pollinator gardens around the property. Not all the foods are indigenous and the gardens do not supply us with everything we need. Still, this kind of gardening provides quite a bounty and is realistic for families willing to spend time outside and to exert themselves. If tribal members are physically unable to garden, the tribe should provide a workforce to do it for them.

Comanches and the Need for Food Initiatives

Not every tribe now in Oklahoma farmed historically and therefore they do not have an agricultural tradition to revive. It can be a dilemma for those Kiowas, Cheyennes, Arapahos, Plains Apaches, and Comanches who are looking for cultural connections to traditional foods. Comanches, for example, once roamed over “Comancheria,” a vast area of various ecosystems with myriad resources.⁸⁷ They historically ate mainly game meats, but they also relied on a variety of wild fruits and trade items (as well as food they stole, notably corn, squashes, and sheep).⁸⁸ The Comanche Nation has a diabetes awareness program and an environmental program that monitors hazardous materials in eight Oklahoma counties, but as of November 2017 it has no food sustainability plan. The monthly publication, *Comanche Nation News*,⁸⁹ includes recipes for untraditional and unhealthy foods: patty melts with one stick of butter and eight slices of cheese; cabbage casserole with butter, Cheez Whiz, and grated cheese; pecan pie with butter, sugar, and dark Karo syrup; cottage pudding with flour, sugar, milk, and shortening; and a host of other recipes that include overabundances of fat, lard, sugar, and salt. Cultural disconnection and the lack of both resources and food initiative planning are among the reasons why Comanches suffer from high rates of diabetes and obesity.

SUSTAINING ENTHUSIASM AND INSTITUTING BIOSAFETY

Producing food in the backyard sounds enticing, but the reality of the work involved deters many. To illustrate, in 2006 the then-provost of the University of Kansas allotted me an acre of land on campus to establish an indigenous demonstration garden that would operate out of the Indigenous Studies Department. Funding provided fencing, equipment, soil, a water line, benches, birdbaths and feeders, gloves, plant labels, a

kiosk, composting, water barrels, and an information center. Colleagues with similar weather from around the country promised to donate heirloom seeds. The idea was to give students a hands-on experience in cultivating plants their tribes used. Planning was to be done by students so they could research their tribes' agricultural techniques, ceremonies associated with food, the names of foods and animals in their tribes' language, and how to save the foods for cold months. They would take that knowledge home to their families and tribes. Indigenous students expressed excitement at the idea of a garden featuring foods of their ancestors, but what ultimately killed the initiative was that only one student was willing to get his hands dirty.

Maybe that attitude is changing. Individuals often feel they have no say in their tribes' decisions. However, many understand that their collective actions can go a long way towards creating tribal cohesion and supplying food for their households and communities. In 2014, the Cherokee Nation distributed heirloom corn, beans, squash, and gourd seeds to more than 1,500 Cherokees.⁹⁰ In 2013, the Cherokee Nation began its "Learn to Grow" project, teaching children how to plant, cultivate and harvest. The next year, over 3,500 children cultivated a variety of garden produce.⁹¹ In August 2010, AmeriCorps awarded the Osage Nation a \$1.1 million grant to create a 12-acre Wah-Zha-Zhi "ecological park" and develop the Bird Creek Farm located near Pawhuska to include walking trails, gardens, and a farmers' market. Plans include classes on cooking and "traditional Osage dishes."⁹² Vann Bighorse, who directs the Wah-Zha-Zhi Cultural Center, is attempting to collect heirloom seeds, grow crops, and then distribute seeds to tribal members.⁹³

It will be interesting to learn the fate of tribal heirloom seeds. Do any individuals who receive seeds sell theirs to non-Indians? Do any of them work for biotech companies? Many tribes have instituted strict research guidelines in order to protect their intellectual and cultural property, but enforcing a ban on nontribal use of heirloom seeds will be challenging, especially when those seeds leave the tribal nation.⁹⁴ In addition, blunders include allowing GMO plants to cross-pollinate with fields of heirloom plants. Without biosafety policies, tribal plants will become endangered.

SOVEREIGNTY AND FOODWAYS SYSTEMS: NOW WHAT?

A common goal among activists is to achieve tribal autonomy and the ability to supply nutritious and affordable foods to tribal members.⁹⁵ At the very least, there must be clean air, uncontaminated water, fertile soil, regular weather patterns, adequate pollinators, clean energy, farm equipment, and a recycling and composting system. There also must be laws to protect the environment and resources.⁹⁶ A solid healthcare system must be in place. Indeed, significant hurdles must be overcome in order to return to traditional ways of eating (or to have nutritious food), to maintain a healthy environment, and to inspire tribal pride through recovering cultural knowledge.

Webster's defines a "sovereign state" as autonomous, free from external control.⁹⁷ The federal government declares that tribes are sovereign entities with the right to govern themselves, but the United States also deems them "domestic dependent nations" and ultimately holds power over every tribe. As Corntassel and Bryce wrote in 2012, "the

indigenous rights discourse has limits and can only take struggles for land reclamation and justice so far.”⁹⁸ Tribes can attempt revitalization of traditional foodways and will succeed in many endeavors, but until they have control over their lands and resources and are independent from neoliberal food policies, they will not achieve food sovereignty. Kanien’kehaka activist Taiaiake Alfred reminds us that “sovereignty” is a European concept and does not adequately describe indigenous peoples’ traditional philosophies.⁹⁹ Indeed, if the goal is to revert to traditionalism, then the quest for food sovereignty is further complicated because not only are many tribal governments patterned after the US government, many tribal members have vested interests in keeping them that way.

Highly motivated individuals instigate food initiatives and the entire tribe does not always support them. Not every Indian has an emotional investment in eating tribes’ traditional foods and not everyone is concerned about the environment. Many avoid political activism because it can be emotionally exhausting. There are vast socio-economic differences among members of some tribes and the internal politics among some are volatile. Some community-based food autonomy and health endeavors are hampered by inadequate management, shortage of finances, lack of nutritional knowledge, absence of long-range planning, and intratribal factionalism. As Hope Radford discovered after an investigation of food sovereignty efforts among seven tribes in Montana, “Tribes are making progress, but many people are still hungry, many people are still unhealthy, and many people are still left without a voice in deciding what their community eats and where it comes from.”¹⁰⁰ Anyone familiar with tribal politics knows that one tribal council might approve a project requiring tribal funds, but future councils can deny that venture. That includes food initiatives.

Tribes cannot overhaul their foodways system without assistance from outside entities and without adhering to governmental laws and regulations. Many business owners need loans and food project organizers seek aid from indigenous and non-indigenous foundations. Institutes such as the Intertribal Agriculture Council,¹⁰¹ Native Food Systems Resource Center,¹⁰² Seeds of Native Health,¹⁰³ and the Indigenous Food and Agriculture Initiative at the University of Arkansas School of Law¹⁰⁴ have assisted tribes with heirloom seed distribution, community and school gardens, business and cattle ranching initiatives. However, these organizations are in turn funded by, or partnered with, foundations such as W. K. Kellogg Foundation, American Association of Retired Persons, and Walmart Foundation, among other non-indigenous entities. The grants and advice offered by these institutes are crucial in helping certain projects flourish, but it takes much more than a few projects to make tribes truly food sovereign.

In order for food initiatives to prosper (that is, to be sustaining), plans must be long range, taking into account available finances and resources, and identifying people committed to the goals. Tribal and community discussions are crucial in order to determine what is already being attempted, identify the most critical concerns, pinpoint policies that have negative impact, ascertain what resources are needed and which endeavors are successful, and decide how best to proceed. The decision-making entity should be comprised of tribal members with knowledge about traditional plants, seed saving, cultivating, harvesting, and animal processing, as well as those with political, economic, and scientific expertise. These knowledgeable and culturally connected

tribal members (not just friends and political cronies of the current leadership) should have major roles in food education and Native-owned farms.

There are numerous indigenous food success stories. Schoolchildren cultivate garden plots, more conference papers about traditional foodways are presented each year, indigenous haute cuisine is a new trend, and more grants are forthcoming. Many Native people are just now discovering their traditional foods, and any news story about an indigenous chef or a successful garden harvest is felt to be unique and an exciting step towards their vision of food sovereignty. It remains to be seen, however, if schoolchildren are inspired enough to continue gardening; if recently formed pan-Indian indigenous food organizations benefit communities; and if indigenous foodie gatherings and summits will serve only those who can afford to attend them. Moreover, research is needed to determine if the tribal food initiatives that have emerged across the United States improve health. Indeed, gatherings, chefs' cooking demonstrations, food tastings, and philosophizing are easy compared to the work of confronting the political, economic, and social realities of building food sovereignty. That is why the indigenous food sovereignty movement might stay in a state of "sovereignization"—that is, continual planning and constructing, including negotiation, protest, and debate—until these questions are answered.¹⁰⁵

In January 2017, Michael Wise wrote a blog entry, "Native Foods and the Colonial Gaze," asserting that "if there are important lessons to be learned by the food movement that are buried in the Native American past, they aren't embodied by ancient vegetables or archaic fishing techniques, but by stories of Indigenous resistance and accommodation to forces of colonialism and capitalism that have refashioned the lives, livelihoods, and dinner plates of us all over the last few centuries."¹⁰⁶ Wise is partially correct. A common way for the Five Tribes to catch fish, for example, was to daze them by dragging the mashed perennial herb white snakeroot (*Ageratina altissima*) through the water, then netting or shooting the paralyzed fish with arrows.¹⁰⁷ This "Devil's Shoestring" is toxic and today the practice is illegal in Oklahoma.¹⁰⁸ Some, however, still catch fish in an "archaic" way by spearing or shooting them with a bow (my son catches catfish in our pond in this manner). Yet Wise overlooks key facts: those "ancient vegetables" in large measure accounted for the good health of Native peoples and the foundation of their cultures is their relationship to the Earth that produced those plants. Many of us will continue what Wise refers to as our "quixotic quests for authenticity." We know that past diets, activities, and reverence for the natural world can help us avoid many modern health problems.

Regardless of the challenges, we will endeavor to accomplish what is realistic for our tribes and communities.

Acknowledgments

Thank you to Peggy Carlton, Anthony "Chako" Ciocco, Jeff Corntassel, Pat Gwin, Nicky Michael, and Chip Taylor.

NOTES

1. Indigenous Food and Agriculture Initiative, *A National Intertribal Survey and Report: Intertribal Food Systems* (Fayetteville: Indigenous Food and Agriculture Initiative, 2015) (funded by W. K. Kellogg Foundation).
2. For a discussion of the history of the term “food sovereignty,” see Raj Patel, “What Does Food Sovereignty Look Like?” *The Journal of Peasant Studies* 36, no. 3 (July 2009): 663, <https://doi.org/10.1080/03066150903143079>.
3. “Declaration of Nyéléni: Declaration of the Forum for Food Sovereignty,” February 27, 2007, <https://nyeleni.org/spip.php?article290>.
4. See, for example, “Winning the Future: Navajo-Hopi Land Commission Leverages DOE Grant to Advance Solar Ranch Project,” October 22, 2015, <https://energy.gov/indianenergy/articles/winning-future-navajo-hopi-land-commission-leverages-doe-grant-advance-solar>; Katherine Saltzstein, “Hopi Woman Brings Power of the Sun to the People,” *Native Sun News*, October 9, 2014.
5. Act of June 30, 1834, Pub. L. No. 23–161, § 12, 4 Stat. 729, 730 (codified as amended at 25 U.S.C. § 177 (2006)).
6. See Blue Clark, *Indian Tribes of Oklahoma: A Guide* (Norman: University of Oklahoma Press, 2009).
7. See Mihesuah, “Sustenance and Health among the Five Tribes in Indian Territory, Post-Removal to Statehood,” *Ethnohistory* 62, no. 2 (April 2015): 263–84.
8. See Mihesuah, “Historical Research and Diabetes in Indian Territory: Revisiting Kelly M. West’s Theory of 1940,” *American Indian Culture and Research Journal* 40, no. 4 (2016): 1–21, <https://doi.org/10.17953/aicrj.40.4.mihesuah>.
9. See Devon A. Mihesuah, “Comanche Traditional Foodways and the Decline of Health,” *Great Plains Journal* 50 (forthcoming).
10. Anne Gordon and Vanessa Oddo, “Addressing Child Hunger and Obesity in Indian Country: Report to Congress” (Princeton, NJ: Mathematica Policy Research, January 12, 2012), 5–7.
11. Oklahoma State Department of Health, *2014 State of the State’s Health*, 13, 15, 24, 26, 28, 30, 35, 36, [https://ok.gov/health2/documents/SOSH 2014.pdf](https://ok.gov/health2/documents/SOSH%202014.pdf).
12. Sarah McColl, “With Heirloom Seeds, Cherokee Nurture Cultural History and Future Health,” *takepart*, January 29, 2016, <http://www.takepart.com/article/2016/01/29/choerokee-seeds/>.
13. Benny Polacca, “Health Survey: Reservation Osages Report ‘Poorer Health’ than Osages Living Elsewhere,” *Osage News*, August 30, 2010.
14. “Oklahoma Academy of Science Statement on Global Climate Change,” November 8, 2013, http://www.oklahoaaacademyofscience.org/uploads/4/6/0/5/46053599/oas_statement_of_global_climate_change__2013_.pdf.
15. Alexander Kent, “20 Grocery Items that Are Driving Up Your Food Bill,” *USA Today*, February 22, 2016.
16. Ken Roseboro, “The GMO Seed Monopoly: Fewer Choices, Higher Prices,” *Food Democracy Now*, October 4, 2013.
17. Kate Taylor, “These Ten Companies Control Everything You Buy,” *Business Insider*, September 28, 2016.
18. Wendell Berry, *The Unsettling of America: Culture and Agriculture* (San Francisco: Sierra Club Books, 1977), 218.
19. See <http://www.nationalservice.gov/blogs/2014-03-07/gardening-osage>.
20. See Mark Shepard, *Restoration Agriculture* (Austin, Texas: Acres USA Inc., 2013); Akihiko Michimi and Michael C. Winnerly, “Associations of Supermarket Availability with Obesity and Fruit

and Vegetable Consumption in the Conterminous United States," *International Journal of Health Geographics* 9, no. 1 (October 8, 2010): 49, <https://doi.org/10.1186/1476-072X-9-49>.

21. Food Distribution Program on Indian Reservations (FDPIR), <https://www.fns.usda.gov/fdpir/eligibility-how-apply>.

22. Choctaw Nation, "When Catastrophe Strikes: Responses to Natural Disaster in Indian Country," <https://www.choctawnation.com/news-events/press-media/when-catastrophe-strikes-responses-natural-disasters-indian-country>.

23. This is discussed in detail in Mihesuah, "Indigenous Health Initiatives, Frybread, and the Marketing of Non-Traditional "Traditional" American Indian Foods," *Native American and Indigenous Studies* 3, no. 2 (Fall 2016): 45–69, <https://muse.jhu.edu/article/641379>.

24. Choctaw Nation, "Food," <https://www.choctawnation.com/history-culture/choctaw-traditions/food>.

25. Chickasaw Nation, "Foods," <https://www.chickasaw.net/our-nation/culture/foods.aspx>. Chickasaws did not grow corn, squash and beans together in the manner of the "Three Sisters."

26. Shannon Shaw Duty, "Osage Cooking Classes Begin with Young Crop of Students," *Osage News* (Pawhuska, OK), August 20, 2010.

27. Muriel H. Wright, "A Report to the General Council of the Indian Territory Meeting at Okmulgee in 1873," *Chronicles of Oklahoma* 34, no. 1 (1956): 9–10.

28. Delaware tribal council member Nicky Michael, personal communication. See also C. A. Weslager, *The Delaware Indians: A History* (New Brunswick: Rutgers University Press, 1990).

29. Barbara Harper, "Quapaw Traditional Lifeways Scenario," Superfund Research, Oregon State (2008), http://superfund.oregonstate.edu/sites/superfund.oregonstate.edu/files/harper_2008_quapaw_scenario_final.pdf.

30. W. David Baird, *The Quapaw Indians: A History of the Downstream People* (University of Oklahoma Press, Norman, 1980).

31. Kimberly Barker, "Quapaw Tribe Opens New Meat Distribution Center," June 7, 2016, *Miami News-Record*; "Bumpers College, School of Law Help Quapaw Tribe With Processing Plant," December 7, 2016, University of Arkansas News, <http://news.uark.edu/articles/37330/bumpers-college-school-of-law-help-quapaw-tribe-with-processing-plant>. Pima and Maricopa tribal members in Arizona also are attempting to revitalize their food traditions by cultivating as many of those traditional foods as they can. They face resistance from federal food safety laws that restrict their food production and processing, so now they are writing their own laws. These regulations will ensure that foods will be properly refrigerated, and free of contaminants such as salmonella and E-coli. The challenge is that bison is considered "exotic," each animal must be inspected (for a fee), and the animals have to be processed in facilities approved by the FDA. Tristan Ahtone, "Tribes Create Their Own Food Laws to Stop USDA from Killing Native Food Economies," *Yes!* Magazine, May 24, 2016, <http://www.yesmagazine.org/people-power/tribes-create-their-own-food-laws-to-stop-usda-from-killing-native-food-economies-20160524>.

32. Food and Agriculture Organization of the United Nations (FAO), World Food Summit, "Rome Declaration on World Food Security," November 13–17, 1996, <http://www.fao.org/docrep/003/w3613e/w3613e00.HTM>.

33. Eric Holt-Gimenez, "Food Security, Food Justice, or Food Sovereignty?" in Alison Hope Alkon and Julian Agyeman, eds., *Cultivating Food Justice: Race, Class, and Sustainability* (Cambridge: MIT Press, 2011), 319.

34. *The 2016 State of the [Choctaw] Nation*, 4, [https://www.choctawnation.com/sites/default/files/\[2016 State of Nation.pdf](https://www.choctawnation.com/sites/default/files/[2016 State of Nation.pdf).

35. "U.S. Government, Chickasaw, Choctaw Tribes Announce Historic Settlement Worth Millions," *Times Record* (Fort Smith, AK), October 7, 2015.

36. Oklahoma State Department of Health, "2014 State of the State's Health."
37. Amy Pereira and Trymaine Lee, "Hope on the Horizon for Choctaw Nation," March 19, 2014, MSNBC, <http://www.msnbc.com/msnbc/choctaw-nation-hope-on-horizon - slide1>.
38. Choctaw Nation Small Business Development Services, <https://www.choctawnation.com/business/division-commerce/small-business-development-services>.
39. The White House, "Fact Sheet: President Obama's Promise Zones Initiative," January 9, 2014, https://www.choctawnation.com/sites/default/files/pzwhitehousefact_original.pdf.
40. See <https://www.choctawnation.com/biskinik-newspaper-archive>.
41. Jessica McBride, "The Cost of Education," MvskokeMedia.com, June 13, 2017.
42. The White House, "Fact Sheet," 3.
43. Peggy Carlton, director of the program, personal communication; "The 2016 State of the [Choctaw] Nation," 17.
44. Dana Hertneky, "Oklahoma Native Americans Concerned About Future of Indian Healthcare," January 31, 2017, *NewsOn6.com*: <http://www.newsOn6.com/story/34394277/oklahoma-native-americans-concerned-about-future-of-indian-healthcare>.
45. Amanda Michelle Gomez, "Native Americans and Alaska Natives Will Disproportionally Suffer Under the GOP Health Care Plan," *ThinkProgress*, June 7, 2017.
46. Ronni Pierce, "A Healthy Outlook: New Regional Clinic to Open its Doors," *BISKINIK* (Talihina, Oklahoma), February 2017.
47. Mark Trahant, "How Bad Could It Be? Don't Get Sick if Senate (or House) Bill Becomes Law," June 23, 2017, *TrahanReports.com*: <https://trahanreports.com/>.
48. See in particular, Angie Debo, *And Still the Waters Run: The Betrayal of the Five Civilized Tribes* (Princeton University Press, 1940).
49. Terry Wilson, *The Underground Reservation: Osage Oil* (Norman: University of Oklahoma Press, 1985); David Grann, *Killers of the Flower Moon: The Osage Murders and the Birth of the FBI* (New York: Doubleday, 2017).
50. Ralph Keen II, "Tribal Hunting and Fishing Regulatory Authority within Oklahoma," *Oklahoma Bar Journal* v 86 #24 (September 12, 2015): <http://www.okbar.org/members/BarJournal/archive2015/SeptArchive15/OBJ8624Keen.aspx>.
51. *Choctaw State of the Nation* 2016, 21.
52. Muriel H. Wright, "Notes and Documents: Sugar Loaf Mountain Resort," *Chronicles of Oklahoma* 36 (1960), pp. 202–3. South McAlester Capital, July 12, 1894; Interview with Elijah Conger, Indian and Pioneer Papers (hereafter IPP) vol. 2: 196–7, at the Western History Collections, University of Oklahoma, Norman.
53. Limon Pusley interview, December 28, 1937, IPP 73: 346; J.T. Poston, September 16, 1937, IPP 72: 286; Elijah W. Culberson, November 4, 1937, IPP 72: 215–16; Sarah Noah and Robert Noah, April 12 1937, IPP 67:254 Jim Spaniard, June 25, 1937, IPP 86: 7.
54. Oklahoma Department of Wildlife Conservation, *Fishing in the Schools Manual* (Oklahoma Department of Wildlife Conservation: Oklahoma City, 2014), 4.
55. Nancy J. Turner, Fikret Berkes, Janet Stephenson, Jonathan Dick, "Blundering Intruders: Extraneous Impacts on Two Indigenous Food Systems," *Human Ecology* 41, no. 4 (August 2013): 563–74, <https://doi.org/10.1007/s10745-013-9591-y>.
56. Darryl Fears, "This Mystery Was Solved: Scientists Say Chemicals from Fracking Waste-water Can Taint Freshwater Nearby," *Washington Post*, May 11, 2016; Jim Kelly, "On Oklahoma, Earthquakes and Contaminated Water: The Fracking Connection," *A New Domain*, December 8, 2015, <http://anewdomain.net/oklahoma-earthquakes-contaminated-water-fracking-connection/>.
57. See "Recent Earthquakes Near Oklahoma," *Earthquake Track*, <http://earthquaketrack.com/p/united-states/oklahoma/recent>; Katie M. Keranen, Matthew Weingarten, Geoffrey A. Abers,

Barbara A. Bekins, and Shemin Ge, "Sharp Increase in Central Oklahoma Seismicity since 2008 Induced by Massive Wastewater Injection," *Science* 345, no. 6195 (July 25, 2014): 448–51. See also "Oklahoma and Fracking," http://www.sourcewatch.org/index.php/Oklahoma_and_fracking; and Jessica Fitzpatrick, "Induced Earthquakes Raise Chances of Damaging Shaking in 2016," March 28, 2016, *USGS Science Features*, https://www2.usgs.gov/blogs/features/usgs_top_story/induced-earthquakes-raise-chances-of-damaging-shaking-in-2016/.

58. Matthew L. M. Fletcher, "Pawnee Nation and Walter Echo-Hawk Sue over Fracking," *Turtle Talk*, November 21, 2016, <https://turtletalk.wordpress.com/2016/11/21/pawnee-nation-walter-echo-hawk-sue-over-fracking/>. See also Liz Blood, "Fracking in Bad Faith," *The Tulsa Voice* January-B, 2017, <http://www.thetulsavoices.com/January-B-2017/Fracking-in-bad-faith/>.

59. "14 More Oklahoma Lakes Have Elevated Mercury Levels in Fish," *NewsChannel 4*, June 22, 2017, <http://kfor.com/2017/06/22/14-more-oklahoma-lakes-have-elevated-mercury-levels-in-fish/>.

60. "Batling Pollution on Our Lands: Mekasi Horinek," *Cultural Survival Quarterly Magazine*, September 2016, <https://www.culturalsurvival.org/publications/cultural-survival-quarterly/batling-pollution-our-lands-mekasi-horinek>.

61. Movement Rights, "Ponca Nation of Oklahoma to Recognize the Rights of Nature to Stop Fracking," *Intercontinental Cry*, October 31, 2017, <https://intercontinentalcry.org/ponca-nation-oklahoma-recognize-rights-nature-stop-fracking/>.

62. Chalene Toehay-Tartsah, "Osage County Landowners Speak Out against Bad Drilling Practices," *Osage News*, August 18, 2014.

63. Inter-Tribal Council, <http://itec.cherokee.org/>; "Cherokee Nation Files, is Granted Emergency Restraining Order," *Anadiso*, February 9, 2017, <http://www.anadiso.com/archive/1519-cherokee-nation-files-is-granted-emergency-restraining-order-halting-disposal-of-radioactive-waste-near-the-arkansas-and-illinois-rivers>.

64. Kristin Hugo, "Native Americans Brace for Impact as EPA Undergoes Changes," *PBS Newshour: The Rundown*, February 17, 2017, <http://www.pbs.org/newshour/rundown/native-americans-brace-impact-epa-undergoes-changes/>.

65. See House Bill No. 1123, House of Representatives-Floor Version, State of Oklahoma, 1st Session of the 56th Legislature (2017), http://webserver1.lsb.state.ok.us/cf_pdf/2017-18%20FLR/HFLR/HB1123%20HFLR.PDF; Alleen Brown, "Oklahoma Governor Signs Anti-Protest Law Imposing huge Fines on 'Conspirator' Organizations," *The Intercept*, May 6, 2017, <https://theintercept.com/2017/05/06/oklahoma-governor-signs-anti-protest-law-imposing-huge-fines-on-conspirator-organizations/>.

66. Casey Smith, "The Diamond Pipeline," *Tulsa World*, February 3, 2017; Mark Hefflinger, "Fight Against Diamond Pipeline Spans Three States," *Bold Oklahoma*, January 30, 2017; Oka Lawa Camp, <https://www.facebook.com/OkaLawaCamp/>.

67. Oklahoma Invasive Plant Council: <https://okipc.wordpress.com/the-dirty-dozen/>; Brianna Bailey, "The Bradford Pear: Oklahoma's Worst Tree or Just Misunderstood?" *NewsOK*, March 5, 2017.

68. Chip Taylor, personal communication.

69. Oklahoma Department of Wildlife Conservation, "Feral Hogs in Oklahoma," <https://www.wildlifedepartment.com/feral-hogs-in-oklahoma/>; "There Was Nothing I Could Do," *Oklahoma News 4*, September 5, 2017, <http://kfor.com/2017/09/05/there-was-nothing-i-could-do-feral-hogs-wreaking-havoc-on-oklahoma-watermelon-farmers/>.

70. For an overview of pollinators in Oklahoma in 1917, see Sister M. Agnes, "Biological Field Work," *Oklahoma Academy of Science* 1 (1917): 35–38, http://digital.library.okstate.edu/OAS/oas_pdf/v01/p35_38.pdf.

71. Logan Layden, "Why Oklahoma Had the Nation's Highest Percentage of Bee Deaths Last Year," *National Public Radio*: StateImpact-Oklahoma, June 25, 2015, <https://stateimpact.npr.org/oklahoma/2015/06/25/why-oklahoma-had-the-nations-highest-percentage-of-bee-deaths-last-year/>.
72. Edmund Flint interview, April 23, 1937, IPP 3, 527; Ben Cartarby, June 29, 1937, IPP 19, 203; Josephine Uray Lattimer, September 23, 1937 IPP 33, 84; T. P. Wilson, n.d., IPP 11, 498; Elijah W. Culberson, Nov. 4, 1937, IPP 22, 216; W. C. Mead interview, January 17, 1938, IPP 62, 17; Johnnie Gipson interview, April 21, 1927, IPP 34, 175.
73. Chip Taylor, personal communication. See also *Tribal Environmental Action for Monarchs*: <http://www.nativebutterflies.org/saving-the-monarch/>; "Native American Tribes Pledge to Save the Monarch," *Trilateral Committee for Wildlife and Ecosystem Conservation and Management*: http://www.trilat.org/index.php?option=com_content&view=article&id=1197:native-american-tribes-pledge-to-save-the-monarch&catid=17&Itemid=256.
74. Tamar Haspel, "Small vs. Large: Which Size Farm is Better for the Planet?" *Washington Post*, September 2, 2014.
75. Bhat, "Food Sustainability Challenges," 2, 4.
76. National Family Farm Coalition and Grassroots International, *Food Sovereignty* (Washington, DC: Grassroots International, 2010), 11.
77. William Bartram, "The Creek and Cherokee Indians," *Transactions of the American Ethnological Society* 111 (1789): 39–40. See also the series of "Mvskoke Country" articles authored by James Treat, <https://mvskokecountry.wordpress.com/category/mvskoke-country/>.
78. William Bartram, *Bartram: Travels and Other Writings* (NY: Literary Classics of the United States, 1996), 506–7. See also James Adair, *History of the American Indians* (London: Edward and Charles Dilly, 1775), 405–10.
79. Bartram, *Travels*, 56, 319, 557–60.
80. *Ibid.*, 404–5.
81. T. N. Campbell, "Choctaw Subsistence: Ethnographic Notes from the Linccum Manuscript," *Florida Anthropologists* 12 #1 (1959): 9–24; H. B. Cushman, *History of the Choctaw, Chickasaw, and Natchez Indians* (Greenville, TX: Headlight, 1899), 74, 168, 231–32, 250, 272.
82. Campbell, "Choctaw Subsistence," 10–11; John R. Swanton, "Aboriginal Culture of the Southeast," in *Forty-Second Annual Report of the Bureau of American Ethnology* (Washington, DC: US Government Printing Office, 1924–1925), 695. There is no evidence that Choctaws planted corn, squash, and beans in the manner of the "Three Sisters."
83. See Mihesuah, "Sustenance and Health among the Five Tribes in Indian Territory."
84. J. C. Moncrief interview, November 1, 1933, IPP 64: 57.
85. Meton Ludlow interview, April 26, 1934, IPP 56: 182.
86. I expound on this in "The Garden Meal," in Linda Murray Berzok, ed., *Storied Dishes: What Our Family Recipes Tell Us about Who We Are and Where We've Been* (Santa Barbara: ABC–CLIO, 2010), 57–60.
87. For general works on the Comanches, see John Frances Bannon, *The Spanish Borderlands Frontier, 1513–1821* (Holt, Rinehart and Winston, 1970); Pekka Hämäläinen, *The Comanche Empire* (New Haven: Yale University Press, 2009); Ernest Wallace and E. Adamson Hoebel, *The Comanches: Lords of the South Plains* (Norman: University of Oklahoma Press, 1952); Elizabeth A. H. John, *Storms Brewed in Other Men's Worlds: The Confrontation of Indians, Spanish, and French in The Southwest, 1540–1795* (Texas A&M University Press, 1975); Thomas W. Kavanagh, *The Comanches: A History, 1706–1875* (Lincoln: University of Nebraska Press, 1999); Stanley Noyes, *Los Comanches: The Horse People, 1751–1845* (Albuquerque: University of New Mexico Press, 1993); W. W. Newcomb, Jr., "Comanches: Terror of the Southern Plains," in *The Indians of Texas: From Prehistoric to Modern Times* (Austin: University of Texas Press, 1961), 155–91.

88. Gustav G. Carlson and Volney H. Jones, "Some Notes on Uses of Plants by the Comanche Indians," *Papers of the Michigan Academy of Science* 25 (1940): 517–42. See also Miheuah, "Comanche Traditional Foodways and the Decline of Health," *Great Plains Journal* 50 (forthcoming).
89. *Comanche Nation News*, http://www.comanchenation.com/index.php?option=com_k2&view=itemlist&layout=category&task=category&id=109&Itemid=171.
90. Rick Wells, "Cherokee Seed Bank Program Provides Connection to Past," February 3, 2017, *NewsOn6.com*.
91. Sheila Stogsdill, "Cherokee Nation Garden Project Seeks to Teach Nutrition in Oklahoma," *The Oklahoman*, June 15, 2014.
92. Lenzy Krehbiel-Burton, "Osage Nation Awarded AmeriCorps Grant for Park, Gardens to Address Diabetes, Obesity," *Tulsa World*, August 20, 2015.
93. Tara Madden, "Community Gardens Being Grown by Osage Nation TA-WA AmeriCorps," *Osage News*, August, 14, 2014.
94. Pat Gwin, personal communication. .
95. Kyle Powys Whyte, "Indigenous Food Sovereignty, Renewal, and US Settler Colonialism," in Mary Rawlinson and Caleb Ward., eds, *The Routledge Handbook of Food Ethics* (London: Routledge, 2016), 354–65.
96. Rajeev Bhat, "Food Sustainability Challenges in the Developing World," in *Sustainability Challenges in the Agrofood Sector* (New Jersey: John Wiley and Sons, 2017), 3–4.
97. "Sovereignty," Merriam-Webster, <https://www.merriam-webster.com/dictionary/sovereignty>.
98. Jeff Cornassel and Cheryl Bryce, "Practicing Sustainable Self-Determination: Indigenous Approaches to Cultural Restoration and Revitalization," *Brown Journal of World Affairs* 18, no. 2 (Spring/Summer 2012): 152.
99. For discussion about the implications of using the term "sovereignty," see Taiaiake Alfred, "Sovereignty," in Philip J. Deloria and Neal Salisbury, *A Companion to American Indian History* (Malden, MA: Blackwell Publishing, 2004), 460–74.
100. Hope Radford, "Native American Food Sovereignty in Montana," August 2016, 6, <http://aeromt.org/wp-content/uploads/2016/10/Native-American-Food-Sovereignty-in-Montana-2016-1-1.pdf>.
101. Intertribal Agriculture Council, <http://www.indianaglink.com/our-programs/technical-assistance-program/>.
102. Native Food Systems Resource Center, <http://www.nativefoodsystems.org/about>.
103. Seeds of Native Health, <http://seedsofnativehealth.org/partners/>; "Smokehouses, Farmers' Markets and More," *Indian Country Today*, June 20, 2017.
104. University of Arkansas School of Law Indigenous Food and Agriculture Initiative, <http://indigenousfoodandag.com/about-us/>. The initiative offers strategic planning and technical support for tribal governance infrastructure in the areas of business and economic development, financial markets and asset management, health and nutrition polities, intellectual property rights. It also supports the increase of students into land grant universities, and creating academic programs in in food and agriculture.
105. Food sovereignty construction is discussed in Christina M. Schiavoni, "The Contested Terrain of Food Sovereignty Construction: Toward a Historical, Relational and Interactive Approach," *The Journal of Peasant Studies* 44, no. 1 (2017): 1–32.
106. Michael Wise, "Native Foods and the Colonial Gaze," *Process: a blog for American History*, January 10, 2017, <http://www.processhistory.org/wise-native-foods/>.
107. Elizabeth Ross, June 10, 1937, IPP 109, 190–92; Emiziah Bohanan, May 10, 1937, IPP 9, 139; T. J. Johnson, July 16, 1937, IPP 48, 402; Elizabeth Witcher, April 18, 1939, IPP 99, 390.
108. 29 OK Stat § 29-6-301a (2016), "Prohibited Means of Taking Game or Nongame Fish - Poison, Explosive, or Electrical Shock Devices," <http://law.justia.com/codes/oklahoma/2016/title-29/section-29-6-301a/>.