

Measurement of Household Food Security Overlooks Significance of Native Foods to Food Security:

Findings from a case study of food (in)security among the Karuk, Yurok, Hoopa and Klamath Tribes in the Klamath River Basin of California and Oregon

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Issue

Native Americans make up less than 2% of the population of the United States but suffer from some of the highest rates of food insecurity, poverty, diet-related diseases, and other socioeconomic challenges. Despite decades of government food assistance, including the USDA Food Distribution Program on Indian Reservations (FDPIR), Supplemental Nutrition Assistance Program (SNAP), and Women Infant Children (WIC), among other important social safety nets, chronic and severe food insecurity in Native American communities persists.

Household food security in the United States is measured annually using a standardized 18-question survey called the Household Food Security Scale Module (HFSSM), a supplement to the Current Population Survey administered by the U.S. Census Bureau. Yet data on Native American communities is often under-reported, due to the relatively small sample size of their populations (see Coleman-Jensen et al. 2017). Therefore, food insecurity among Native American populations is poorly understood (FNDI 2017).

Through a collaborative in-depth case study of food insecurity among the Karuk, Yurok, Hoopa and Klamath Tribes, our research sought to a) assess the rates, challenges, and experiences of and tribally-identified solutions to food insecurity among four tribes in the Klamath Basin to support a more healthy, affordable and culturally appropriate food system and b) evaluate the efficacy of national models for assessing and responding to Native American food insecurity. This policy brief outlines research methods and key findings, highlighting the vital contribution of native foods (see Box 1) and the cultural knowledge and stewardship practices that sustain them, to overall food security. These results lay the foundation for a reconsideration of how food security is defined, assessed and addressed in Native American communities in the United States.

Box 1. Native foods are native plants and terrestrial and aquatic animals (such as acorns, huckleberries, salmon, and elk) that “are traditionally prepared and consumed by Native Americans” (Agricultural Act of 2014). Depending on the community, traditional foods may be wild foods and/or domesticated foods. These foods are location- and culture-specific; cultural significance includes traits such as methods of rearing and harvest, season of harvest, methods of processing and preparation, and cultural responsibility and respect practiced by those involved in the process.



Research methods

We employed both quantitative and qualitative methods using a community-based participatory research (CBPR) approach to describe and explore unique attributes of Native American food (in)security. We adapted the USDA Community Food Security Assessment Toolkit, incorporating elements of the Native American Food Sovereignty Assessment Toolkit (FNDI) to explicitly include access to native foods and other cultural variables. Due to concerns about respondent burden, we selected and adapted a sub-set of questions commonly used in the HFSSM that were agreeable to our tribal collaborators (see Sowerwine and Mucioki et al. 2019). The questions consider access to healthy foods, running out of food, running out of money for groceries, buying less expensive meals, reducing the size of or skipping meals, and accepting food assistance (see Sowerwine and Mucioki et al. 2019). We administered a household survey to all tribal members and descendants in the region (n=711 responses) and conducted 115 key informant interviews

and 20 focus groups with tribal members and other food system stakeholders. Households were sorted into high, marginal, low, and very low food security categories based on responses similar to USDA measures (USDA 2016).

Re-defining food (in)security

In response to tribal input, we also developed a new indicator for **native foods security** in order to understand how access to and consumption of native foods relates to food security for tribal households (see Box 2). We examined the extent to which households were able to obtain all their desired native foods throughout the year, categorized by four levels (never, rarely, usually, and always).

Box 2. We define **native foods security** as having physical, economic, social and legal access to all desired native foods in the appropriate quality and quantity throughout the year, and the continuity of the cultural institutions that sustain them including indigenous knowledge, social support networks, and cultural resource stewardship.

Research findings

Legacy of Colonialism

Survey, interview and focus group results all point to the enduring impacts of colonization including genocide, stolen land, misguided resource management policies, and forced assimilation on Native American food security, food sovereignty and overall health, well-being and cultural survival. Dramatic degradation of native foodways from dams, logging, fire suppression and criminalization of traditional hunting, fishing and gathering practices set the stage for food insecurity and government dependence.

High rates of food insecurity and reluctant dependence on food assistance

Our survey revealed high rates of food insecurity and native foods insecurity and heavy reliance on food assistance (Box 3).

Based on our research findings, 92% of households in the Basin suffer from some level of food insecurity – that is, a reduction in the quality and quantity of foods consumed – compared with 11.8% nationally, with 52%

of all households experiencing very low food security (more than ten times the national rate). **These numbers represent a much higher rate of food insecurity among Native American people than any other published study to date.**

Box 3: Food (in)security trends from our survey

92% of all households are food insecure
52% of households have very low food security
64% rely on food assistance
- 84% still worried about or ran out of food
7% of all households are native foods secure
70% never or rarely get all desired native foods
83% consumed native foods in the past year
99% want access to more native foods

Notably, 64% of all households rely on some form of food assistance (compared with 12% nationally), yet of those using food assistance, 84% still ran out or worried about running out of food. Twenty-one percent of food assistance users reported they rely on food assistance because native foods are not available and nearly 40% of households rely on fishing, hunting, gathering and home-canned foods to minimize food insecurity, clearly demonstrating both the importance and shortcomings of food assistance and the value of native foods for household nutrition and food security.

“Even though I don't agree with the welfare system, just giving somebody something for nothing, it's very important that, obviously, people have food. Poor people, people in poverty, need food. I just think that it does a disservice to our community members, not just tribal, our community members just to have that welfare-based reality” (Interview #42, 5/3/2016).

Focus group participants describe how families cope with food insecurity. They strategically plan and prepare for anticipated shortages at the end of the month by stretching their money and food, engaging in food substitution (i.e. consuming cheaper or more filling foods), using coupons and buying in bulk and on sale. 41% of all households grow their own food and 62% of the households experiencing very low food security wanted to learn more about home food production. Yet in spite of the creativity, foresight and thriftiness of tribal members, as well as efforts to be self-reliant, food shortages are chronic.

Barriers to grocery shopping

Grocery shopping is challenging for 62% of households, with many lacking transportation or gas to travel to stores in urban centers where food is more affordable. Over 50% of households find meat, fresh fruits, fish or seafood, cheese, fresh vegetables, and organic foods too expensive at the grocery store closest to their home.

“The store here is more of a convenience beer and chips kind of store, the only kind of good food you can get is on the coast, so you have to travel a couple of hours, either way, to get food. You need to buy in bulk. If you don't have a car, that's really hard. You're stuck, eating the food that's here, unless you're really good at hunting and stuff” (Orleans, Interview #21, 10/27/2015).

High rates of native foods insecurity and strong desire for more native foods

Only 7% of all households report being native foods secure (i.e. always having access to desired native foods), whereas nearly 70% of all households *never or rarely* have access to all desired native foods throughout the year. Fifty percent of all respondents consumed most native foods 10 days or less throughout the year with median days of consumption ranging from 3-17.5 for surveyed native foods. Although quantity and quality of and access to some native foods may limit frequency of consumption, **82.95% of survey respondents consumed native foods in the past year. Furthermore, there is a strong desire for more native foods, with 99.56% of respondents wanting access to more native foods.**

Improved access to native foods will improve food security

Our study also shows that food security is almost directly correlated with native foods security. Households with high food security tend to have the best access to native foods (67.86% of households with high food security stated they *usually or always* have access to desired native foods). Conversely, about 77% of households with very low food security *rarely or never* have access to desired native foods. Notably, controlling for poverty, we found native foods security significantly predictive of overall food security. **This**

suggests that supporting improved access to native foods will likely improve household food security.

Barriers to native foods

Rules and permits restricting access (40.67%), limited availability (34.44%), and degradation of the environment (30.39%) are reported as the *strongest* barriers to accessing native foods; as well as the most frequently cited barrier by the most respondents. Conversely, barriers that pose relatively less of a concern are lack of space or equipment for processing (24.7%) not being familiar with native foods (32.31%), and not knowing how to prepare them (36.63%), **suggesting that if there is greater access to and availability of native foods, there will be more consumption.**

“Our food source, our main food source was the elk and the deer. Of course, we ate off the river too. The limitations are we don't have no elk or deer no more. We have to go off of the reservation, so basically, they call us outlaws, poachers, whatever. We're not poachers or outlaws. We are providers. Native man is a provider. He goes out and he gets food for his family. He ain't out there looking for trophies. He's looking for meat to feed his family. Then they turn around and label us as an outlaw, when we're doing what ... The Creator give us these animals so we can live. Now you got to go buy a ticket, a tag, a license to go out and be who you are. I don't agree with it. I've never bought a license in my life, and I never will. If I ever get caught, I'll just have to take it to court and stand on my traditional right as Native American to hunt. To provide for my family” (Interview #19, 11/10/2015).

Traditional knowledge and native food acquisition/exchange predictors of (in)security

Economic means are clearly important for assuring household food security, but our results suggest that access to and consumption of native foods as well as the retention of traditional knowledge and practice of native foods procurement and exchange are also strong predictors of food security. Our results show that:

- Regardless of food security status, all households share and trade native foods with others at similar rates, illustrating the deep-rooted culture of sharing

native foods and “taking care of one’s own relations”, even when experiencing food scarcity.

- Similarly, households that receive native foods through friends and trade have improved access to native foods, but are less food secure, with limited economic means and/or knowledge/ability to procure their own foods.
- Consuming foods from hunting, gathering, and fishing is strongly predictive of native foods security and of food security.
- Having a hunter in the household is predictive of food security *and* native foods security.
- Learning and sharing knowledge with/from family members is predictive of native foods security, suggesting the importance of involving family members and family units in the learning process to the greatest extent possible.

Policy Implications/Recommendations

How food security is framed, and by whom, shapes not only our understanding of the experience and predictors of food security, but also the kinds of interventions or solutions that are proposed. Our research suggests that current measures of and solutions to food insecurity in the United States overlook key contributions of native foods to household food security. Key policy implications relate to how food security is defined and measured in Indian Country and how to strengthen the Native food system through improvements in policies, programs and funding that support indigenous food sovereignty:

Adapt standardized food security assessment modules to be more culturally relevant

- Acknowledge the **devastating legacy of colonialism on food insecurity** in Native communities today, including denied access to native foods, land and cultural practices such as prescribed fire, ceremony, and language.
- **Revise the USDA Community Food Security Toolkit and standardized HFSSM module** to take into account native foods and cultural variables that affect food security/native foods security.
- Consider including **food assistance use as an indicator of rather than a solution** to food insecurity.
- **Include native foods and cultural and social variables** related to native foods consumption,

acquisition, exchange, and knowledge to understand how social and cultural attributes of native food systems relate to food security and native foods security.

- Adopt a measure of **native foods security** to understand how access to native foods and the various determinants of access relates to overall household food security.
- **Engage Native American communities** across the United States using a **community-based participatory research (CBPR) approach** to develop more culturally appropriate food security measurement tools.

Increase access to healthier, culturally appropriate and affordable foods

- **Integrate more locally grown fresh fruits and vegetables as well as native foods** into food assistance programs and school lunch programs.
- Make **WIC more accessible** in remote Native American communities by increasing reimbursement rates to small, remote stores, while taking into account high transportation and remote energy costs and limited food distribution options.
- Make **school lunches from healthy whole foods**, integrating native foods when possible.
- Provide **technical assistance in home food production**, processing, and storage techniques.

Strengthen tribal governance and stewardship of Native lands and cultural resources

- Restore and **strengthen traditional hunting/fishing and gathering rights** in ancestral tribal lands and waterways, currently governed by state and federal agencies.
- Promote **tribal stewardship of ancestral lands** for food and fiber provisioning and agro-ecological resilience through innovative land restitution or co-management initiatives.
- **Support the establishment of tribally-led education institutions** that integrate traditional ecological knowledge and western science to train the next generation of natural and cultural resource managers.

Increase funding opportunities to strengthen Indigenous food sovereignty

- **Increase funding and provisions in Farm Bill programs** for research, education and extension

that promote non-domesticated food production, traditional food economies, and strengthen Native food systems.

- Support tribally-led workshops on native foods acquisition, preparation, and preservation.
- Promote intergenerational knowledge transference of native foods procurement and processing opportunities through youth leadership development and strengthening elder-youth relationships.
- **Include “native foods” as a possible focal area in all USDA Requests for Proposals (RFPs)** that focus on food security, nutrition education, food assistance, diet-related disease prevention, treatment, and mitigation for Native American communities, farming, conservation, agro-forestry, local food and farmers’ market promotion.
- **Increase procurement of authentic traditional/Indigenous foods** – foods that are grown and reared following cultural norms, by Native-owned and operated entities, and are regionally/culturally relevant – for integration into FDPIR (tribal commodities program) and other federally funded nutrition programs (see Mucioki et al. 2018).
- **Develop culturally relevant workforce development/employment opportunities** for tribal members in fisheries, forestry, ecosystem restoration, wildland resource and fire management to provide jobs for Native people to restore native foods and the habitats in which they grow.

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Further Reading

This policy brief is drawn from:

Sowerwine, J., Mucioki M., Sarna, D., and Hillman, L. (2019). Reframing food security by and for Native American communities: A case study among Tribes in the Klamath River Basin of Oregon and California, *Journal of Food Security*. <https://doi.org/10.1007/s12571-019-00925-y>

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