

Current State of Hopi Food and Farming

EXECUTIVE SUMMARY

The 2004-2005 Hopi Food Assessment may represent the most comprehensive survey of Hopi food and farming practices to be conducted in recent times. It may also represent one of the most detailed contemporary assessments of food practices in an indigenous community. The data was gathered and compiled by Hopi community members through the Indigenous Pride Health Workers program and reveals a picture of Hopi food purchasing and farming practices, economy, and community health.

HIGHLIGHTS

The Hopi Food Economy

Food and farming plays a significant, though often overlooked, role in the overall Hopi economy. The food economy includes not just the value of food purchased, but also the food grown and distributed locally as well as the amount spent by community members to personally transport food to Hopi. Given the changes to community health and economy, we may well consider how dependence on outside food sources and the great costs incurred to bring food to Hopi in effect contributes to a loss of community sovereignty.

- The total size of the Hopi food and farming economy is between \$18 and 22 million dollars a year. This includes the cost of food, the amount Hopi personally spend to bring food on to the reservation, and the value of food grown locally.
- If we include the health care costs associated with diet-related illness, the total annual cost of food at Hopi may very well exceed \$35 million dollars per year.
- Hopi spend nearly 7 million dollars a year to transport food into their communities. Because of personal transportation costs, Hopi in effect pay a 66% premium on food purchases. On average, each Hopi shopper spends an extra \$2000 per year bringing food into their households and villages.

Food Shopping at Hopi

- Hopi spend between 8.1 and 11.2 million dollars each year on food. The majority of these food dollars - between 5.8 and 8 million dollars - are spent off reservation.
- Hopi travel a total of 15 million miles each year to buy food with each individual shopper spending on average 100 hours a year driving to stores and back.
- Most survey respondents felt dissatisfied with the grocery offerings at local stores. 84% stated that they would shop locally more often if local stores offered better choices.
- The transporting of food to Hopi releases nearly 7000 tons of carbon dioxide into the atmosphere each year. To offset this carbon dioxide, each Hopi would need to plant 5 trees a year.
- Hopi primarily shop at local stores for snacks and beverages while going off reservation to purchase meat, fruits, and vegetables.
- Shoppers went off reservation because of better prices, better selection, and the overall freshness and quality of the food.
- Approximately half of the respondents wanted a chain store at Hopi. Community members expressed concerns about disruptions to Hopi culture and the potential to drain money away from the local economy.

Food Access

The tightly knit community at Hopi provides a tremendous social net, ensuring that many community members are fed and cared for. Nonetheless, socially disadvantaged groups overall still have less access to quality, reasonably priced, nutritious food. Because of the health impacts, we should consider not just the economic role played by local stores, but the social impacts as well. Fundamentally, food access is a moral issue.

- Elders, those without transportation, and members of low income families had greater difficulty in getting to stores and in general were more likely to shop at on-reservation stores that have less selection and higher prices.

- Strikingly, soda consumption was tied directly to how frequently individuals shopped at local stores. Individuals who shopped exclusively at local stores consumed 2-3 times as much soda as those who shopped predominantly off-reservation.

Food Assistance

Food assistance includes Food Stamps, WIC and commodity programs. Food assistance programs can close the food access gap, but can also reinforce habits of dependency.

- Despite relatively high unemployment rates and low household incomes, only a small minority of respondents participated in food assistance programs.

Soda Consumption

Soda consumption may be the single food choice that has the greatest impact on overall Hopi health. Community leaders should remember that this beverage was largely unavailable on reservation as recently as 60 years ago.

- On average, Hopi consume 2.27 sodas per day with some respondents drinking as many as 12 per day.
- In total, Hopi consume between 5.3 million and 7.4 million cans of soda each year.
- On average, socially disadvantaged groups consume 40% more soda than higher income families.
- As well, residents who shopped more frequently at local stores also purchased significantly more soda.

Community Health

Diet and lifestyle changes are the leading cause of the diseases most commonly afflicting Hopi.

- Between 15% and 21% of all respondents had been diagnosed with high blood pressure, diabetes, and obesity.
- The majority of respondents (76%) had Body Mass Indices (BMI) indicating that they were overweight or obese.
- Hopi who had been diagnosed as obese were also 4 to 6 times more likely to experience other diseases.
- 60% of respondents who were obese had not been formally diagnosed. These individuals also knew less about obesity and the possible health risks.
- Males, elders, youth and individuals from low income families had significantly less knowledge about obesity and the health consequences.
- More than 1/4 of the respondents who were overweight thought that their bodies were within the normal range.

Farming and Local Food Consumption

Historically, Hopi has demonstrated tremendous cultural resiliency. Although many indicators point to a decline in local farming practices, it is also quite possible that shifting conditions can and will lead to a strengthening of the highly evolved farming practices that have sustained Puebloan people for so long. If this is to happen, older practitioners will need to work hard to ensure that younger generations are equipped to carry on the practices.

- Although at one time Hopi was almost entirely self-sufficient, presently less than a third of the respondents farmed. If farming is indeed the foundation of Hopi cultural and religious life, community leaders may well want to consider what it means if the majority of all food grown is produced elsewhere.
- Community members cited lack of water and access to productive lands as the chief barriers to farming.
- Respondents who did not farm were 10 times more likely to cite access to land as an issue.
- Many respondents said youth were not interested in learning about Hopi food and farming.
- Nearly 75% of young respondents, however, cited the contrary, stating that they were in fact interested in learning how to farm.

RECOMMENDATIONS

Culturally distinct and geographically isolated, Hopi has sufficient cause to restore the local food and farming practices that have sustained it for so long. We need to recognize, however, that our food choices are often shaped by large forces that supersede the power of any single individual. To support and revitalize a local food culture at Hopi will require cooperation between villages, tribal agencies and non-governmental organizations. Putting aside differences and seeking solutions that accommodate differing points of view will be necessary. Unlike other larger communities, Hopi is in a unique position to affect positive change within a short period of time. Hopi is only two generations removed from a strong local food system. Returning to such a culture of self-sufficiency may in fact be the easiest way forward.

Recommendations have been broken out to address specific policy makers and constituents. We urge you as a reader of this report to examine the different roles you serve in the community and to examine in what ways you personally can take meaningful steps toward restoring a healthy diet and food habits here at Hopi. As individuals we have allowed the current state of affairs to develop as they have. It will be up to us as individuals to change it for the better.

Hopi Villages

Village leaders, boards and community service administrators are able to encourage the revitalization of village farming areas, as well as support the development of village-based stores and food enterprises. Since so much community activity occurs at the village level, the villages can work to encourage and support activity in their farming areas. Possible action includes:

- Sponsor programs through village administrations to revitalize village garden and spring areas.
- Establish farming programs and community gardens as part of the village youth programs.
- Through youth and elder programs encourage intergenerational sharing about food and farming practices. Encourage elders to reach out to youth to teach them about Hopi food and farming.
- Support planting in traditional clan farming areas.
- Re-establish village orchard areas that can be shared by village and clan members.
- Support village-based stores that are Hopi-owned and that provide locally produced food or healthy food choices at a reasonable cost. This could include the development of community stores, food purchasing cooperatives, or community food enterprises (community kitchens).
- Host community listening sessions on supporting Hopi farming and restoring a local food system.
- Redirect large construction projects away from farm lands or flood plains.
- Encourage restoration of degraded riparian and wash areas that are within village boundaries.

Tribal Government

The Hopi Tribe can establish broad policy guidelines and establish programs that would support the re-establishment of Hopi farming practices and strengthen local food production. Specific activities could include:

- Establish an interagency community-based Food and Agricultural Policy Council to establish policy and priorities that would strengthen the local food system.
- Develop a tribal plan for building a local food “economy” at Hopi in 25 years in which a majority of all food consumed is grown and shared locally.
- Further assess local food availability and the secondary economic impact of encouraging local food production.
- Host a reservation-wide summit to develop strategies for encouraging local food production and supporting the expansion of local food stores and food enterprises.
- Develop policies and guidelines for local stores and restaurants that support local health and the creation of a strong local economy (i.e. do not encourage outside chain stores or franchises that can drain money away from the local economy).
- Prioritize agricultural activities (over ranching) within the Department of Natural Resources.
- Preserve and maintain water resources, including washes, draws, and spring sites, for agricultural purposes.
- Ensure that road construction and infrastructure improvements take into account drainages and support the collection, and low impact redirection of water to support agricultural activities.
- Provide incentives and possible subsidies to support the creation of local food enterprises (canning, value added products, restaurants, etc.) to retain Hopi food dollars at home.
- Encourage Hopi to purchase foods locally and keep their food dollars at home.
- Establish policy, guidelines and incentives to reduce the sale of sodas at on-reservation stores.

- Structure on-reservation jobs and employment to accommodate farming activities.
- Support agricultural activities through workforce training (e.g. Workforce Investment Act).
- Encourage farming activities and agricultural training for incarcerated community members.
- Provide food education and outreach through the Department of Economic Services. Participate in the Elderly and WIC Farmers Market Nutrition (FMNP) program.
- Conduct a comprehensive survey to better determine how many Hopi families presently farm.

Health Care Services

Hopi Health Care Center, Hopi Health and Human Services and other local health providers are in a unique position to educate the community about healthy food practices. Dietary habits are difficult to change and will require a sustained effort and collaboration among multiple agencies and institutions. Specific recommendations include:

- Establishing Food Security and Food Sovereignty Indicators for Hopi. These could include measures like numbers of acres under cultivation, diabetes and obesity rates, WIC participation rates, etc. Metrics could be used to track progress toward gaining greater food self-sufficiency at Hopi.
- Encouraging traditional food practices through outreach and education.
- Offering healthy-cooking or “whole foods” cooking classes through the Special Diabetes Program, Community Health Representatives, Women’s Health Program, and the HHCC Health Promotions and Disease Prevention department.
- Conduct food education to help low-income families stretch their food dollars (ie purchasing whole foods vs. processed foods).
- Conduct education and outreach on body image since there are widely differing perceptions on what constitutes a healthy body size.
- Launch a reservation-wide, inter-agency education campaign on obesity and the potential health complications with the goal of ensuring that 90% of the adolescent and adult population know their BMI and understand the health risks of being overweight or obese.
- Provide more health education for men and encourage men to be checked for health and weight.
- Provide targeted outreach and education to economically under-served groups since they are more likely to not have knowledge about obesity and the related health risks.
- Expand health education and outreach about traditional foods, food practices, obesity and diabetes to youth.

Schools and Parent Teacher Organizations

Local schools offer an ideal arena for teaching a new generation about healthy eating habits and Hopi farming culture. In the United States, the generation currently in school may be one of the first in human history that fundamentally does not know how to feed itself. Long-term change must begin at this level. Around the country there are many models of how food education, gardening, and healthy foods can be integrated into school activities.

- Establish a school Wellness Policy that encourages the consumption of healthy foods at school and at home.
- Establish school gardens.
- Provide training and support to food service staff to include healthy and locally produced foods into school lunches.
- Research model “Farm to School” programs that exist elsewhere in Arizona in the Southwest.
- Set goals and plans for serving local food in 5% of school lunches.
- Establish Farm-to-School pilot programs that would make local and regional foods available in the schools. This could include linking schools to local farmers who can provide locally produced ingredients as part of school meals.
- Include nutrition education as part of school meal programs. Programs could be modeled on similar initiatives in New Mexico (e.g. Santa Fe’s Cooking with Kids)
- Promote traditional farming activities and training as part of the school curriculum.
- Encourage bringing healthy or traditional foods to school events and fundraisers.
- Initiate a Stop the Pop campaign at your school and encourage youth to drink water.
- Stock vending machines with water and healthy snack items (this sets an example for youth and children and promotes healthy food choices).

Local Stores and Restaurants

Local stores and restaurants are not just economic enterprises. In a remote rural community, they fill an important community need while also serving as a tool for providing education and outreach to the public. In many cities, food outlets (e.g. the Puget Consumer Coop in Seattle), have served as key advocates for changing food and dietary habits within their communities. Given the epidemic rates of diabetes and obesity at Hopi as well as the amount of revenue lost to off-reservation stores, local enterprises can play a unique role in educating and serving the public. Local stores and restaurants can:

- Survey community members and hold community listening sessions to identify local food needs. In particular, work with elders and elder services to better understand their food needs.
- Offer different selection and higher quality produce to recapture the 5 - 8 million dollars lost to off-reservation stores.
- Work with community members and organizations to change beverage consumption patterns.
- Reduce stocks of sodas and increase other beverages and non-snack food items. Data suggests that local stores can play a pivotal role in shaping food choices.
- Launch a Buy Local campaign to encourage shopping at local stores and enterprises.
- Provide a larger variety of fresh vegetables and local foods.
- Procure as much food as possible from local or regional providers.

Community Members

Ultimately the viability of a local food system will depend on the decisions and habits of local consumers and community members. As an individual, you can:

- Farm or garden.
- If you know how to farm or garden, identify 1-2 youth or community members who you can teach.
- If you are young, volunteer to work with an uncle or aunt who farms or gardens.
- Incorporate more home-grown and traditional foods into your daily diet.
- Bring traditional foods, natwani to ceremonial activities.
- Drink water instead of purchasing soda for your household. Children will consume what is purchased for them.
- Set a good example for your children by bringing healthy food choices into your household.
- Don't bring soda to community or school events.
- Limit consumption of processed foods.
- Learn where your village spring sites and ancestral garden areas are.
- Teach your children how to farm in the traditional manner.
- Plant 3-4 fruit trees a year. Assume that two of them will not survive.
- Support local food initiatives and ventures.
- Set goals for local purchase and production of food at Hopi.
- Organize your work activities around the Hopi agricultural and ceremonial calendar. Encourage employers to make allowance for farming activities. Community members cited lack of time as an impediment to farming. Other agricultural communities shift community activities to accommodate planting and harvest time.
- Learn about cooking with local foods and whole un-processed foods
- Run.
- Visit health care providers, health care representatives and learn your BMI. Learn if you are at risk for health complications so that you can take positive steps to improve your health and well being.
- Inform tribal and village leaders how you feel about food and agriculture.
- Eat fast food only once a month.
- Let your local stores know what healthy items you would like them to stock and commit to purchase them.

HOPÍ FOOD MAP

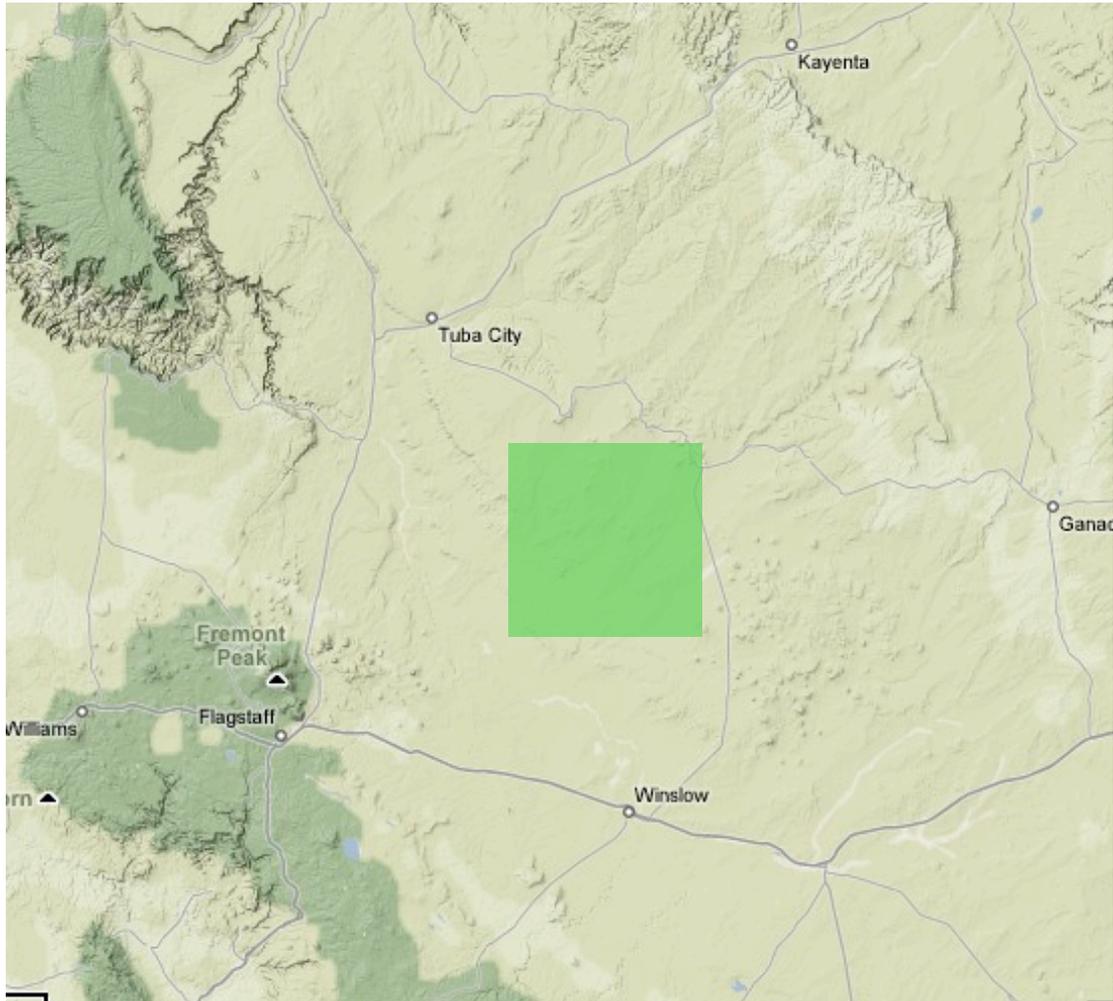
The two maps illustrate in simple terms the nature of the Hopi food system pre-contact and how it has changed in contemporary times. In looking at the two illustrations, it helps to keep in mind the full nature of any food system. It involves not just the food we eat, but the ways we transport it, how far we travel, how much time we spend procuring food, and the nature of ceremonial food and how it binds together the land, the people and the natural elements that together constitute a community.

The growing and procurement of food and sustenance has always entailed cost and hardship. This is one of the great lessons of Hopi. When Hopi grew and distributed food in past times in a traditional manner, they paid with their own sweat as well as with isolated periods of famine. And though the current food system can supply a diverse array of food, we pay an economic cost, as well as through epidemic rates of diabetes and obesity.

The first map shows the size of the Hopi food economy as it stood before contact. The green square represents the relative value of all food consumed at Hopi. We can assume that 100% of the food was grown, hunted, or harvested on Hopi ancestral lands that encompassed the Colorado Plateau.

The second map shows the Hopi food system today. The area represented by the green square indicates the percentage of food that is still grown by Hopi. The red squares show the percentage of food that is purchased at each of the on-reservation and off-reservation stores. The value of purchased food also includes the transportation costs associated with bringing the food home from off-reservation or other villages.

Hopi food system pre-contact



Hopi food system today

