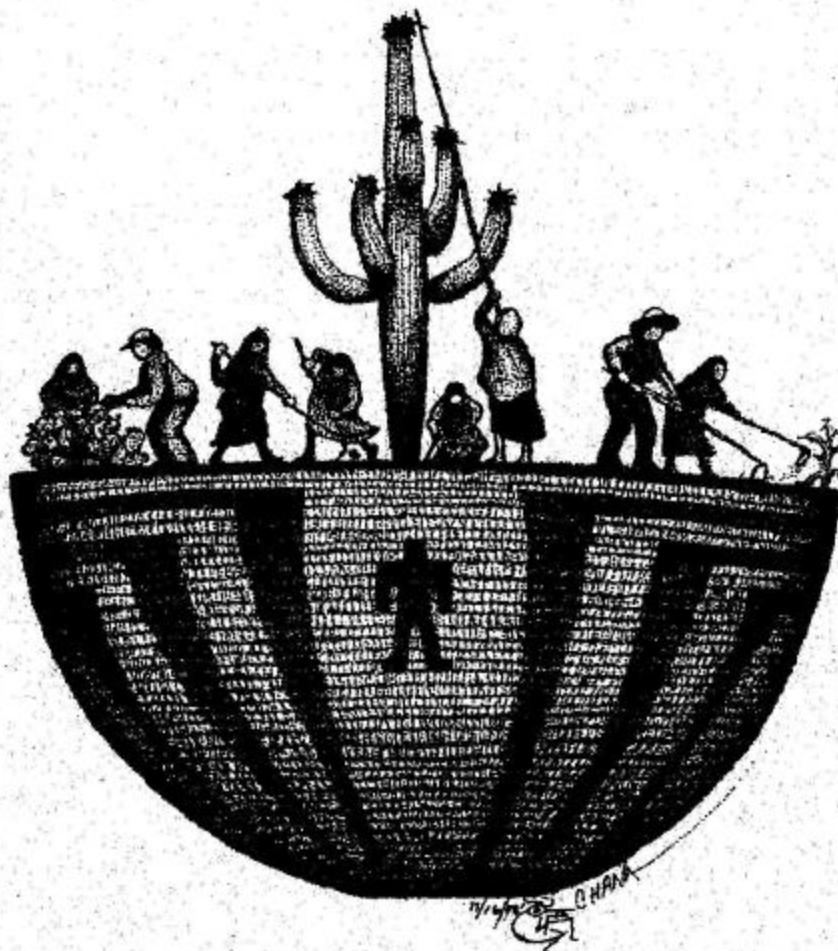


THE IMPACT OF FOOD ASSISTANCE PROGRAMS ON THE TOHONO O'ODHAM FOOD SYSTEM: AN ANALYSIS AND RECOMMENDATIONS

BY
TOHONO O'ODHAM COMMUNITY COLLEGE
AND
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I. INTRODUCTION

Wheat flour makes me sick! I think it has no strength. But when I am weak, when I am tired, my grandchildren make me gruel out of the wild seeds. That is food.

– Maria Chona, 1933, *Papago Woman*

The wisdom and practical knowledge of traditional peoples has often been discounted as anecdotal at best. However, when 90-year-old Tohono O’odham elder Maria Chona spoke these words 65 years ago, she provided an accurate assessment of the effects of nontraditional foods on the health of the Tohono O’odham.

During Maria Chona’s lifetime, no members of the Tohono O’odham tribe had ever been afflicted with Type II (adult-onset) Diabetes. Today more than half-the population – including children as young as seven-years-old – suffer with the disease.

In the Fall of 2000, Tohono O’odham Community College and Tohono O’odham Community Action joined together to initiate a research program aimed at better understanding the causes and impacts of diabetes within the Tohono O’odham community. This report represents the first in an ongoing research endeavour whose ultimate aim is to develop recommendations for how community-based organizations, tribal educational institutions, tribal programs, and federal food assistance programs can contribute to reducing both the incidence and impacts of Type II Diabetes within the Tohono O’odham community.

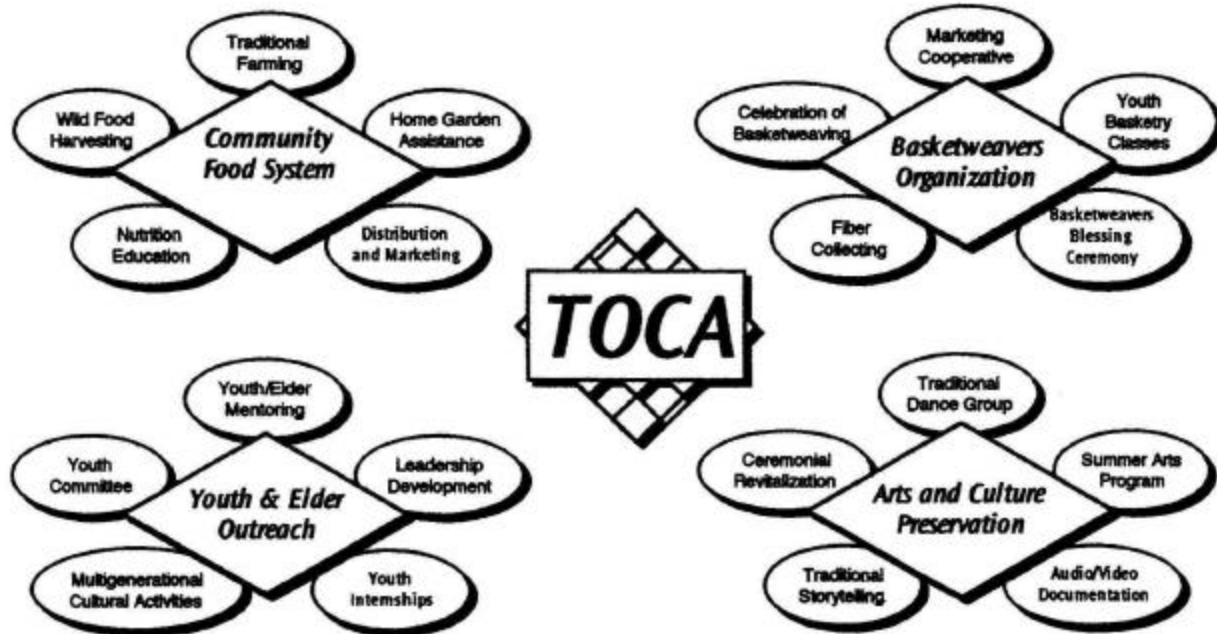
A. THE RESEARCH PARTNERS

Tohono O’odham Community College (TOCC) is a two-year tribal community college dedicated to serving the needs of the Tohono O’odham Nation. TOCC’s mission is to enhance the unique Tohono O’odham *Himdag* by strengthening individuals, families, and communities through wholistic, quality service. These services provide a variety of academic, life and development skills.

TOCC’s objectives include the following:

- To strengthen academic learning that will reinforce a strong competitive spirit to participate in an ever-changing society.
- To include elders as primary resources, instructors, advisors and counselors as a means of reinforcing the Tohono O’odham *Himdag*.
- To recruit highly qualified faculty and staff who are dedicated to the art of teaching, advising and service.
- To ensure the integration of appropriate parts of the Tohono O’odham *Himdag* in the physical environment, curriculum and precesses of the College.
- To ensure than curricular offerings are relevent to the needs of the community and individuals.
- To establish a technology core that will enable the community and individuals to meet the challenges of the future.

Founded in 1996, Tohono O'odham Community Action (TOCA) is an independent grassroots organization which strives to create effective, culturally based responses to the problems that confront our community. In pursuit of a sustainable community, TOCA's programs work directly to create: 1) sustainable economic development, 2) a community food system that keeps us healthy, 3) programs which rejuvenate our cultural traditions, and 4) ways of encouraging our young people to become strong members of the Tohono O'odham community. In order to achieve these goals, TOCA has developed four current program areas:



- **Tohono O'odham Arts and Culture Preservation Program** – Summer and afterschool arts and culture programs, artist residencies in villages, storytelling events, oral history projects, traditional singing and dancing provide at-risk youth with many opportunities to develop cultural pride and to express themselves creatively. Teaching culture is an effective way of helping youth resist the local pressures to join gangs. Additionally, it helps preserve and rejuvenate Tohono O'odham cultural traditions (art, ceremonies and stories) that are in danger of being permanently lost, traditions necessary to developing effective and sustainable community institutions.
- **Tohono O'odham Basketweavers Organization** — For more than ten thousand years, the O'odham and their ancestors have woven some of the finest baskets in the world. Today, the retail prices for O'odham baskets can be as high as several thousand dollars. However, without direct access to markets, basketweavers are at the mercy of unfair traders, often receiving less than a quarter of the retail price. In response, TOCA created a Basketweavers Organization that makes basketweaving a viable economic option and valued cultural practice for increased numbers of O'odham. By working to regulate traders, developing a cooperative to market baskets and teaching a new generation of O'odham weavers, TOCA has drawn upon the

O'odham Himdag to create sustainable economic development. In 2000, cooperative sales exceeded \$100,000.

- **Elder/Youth Outreach Initiative** — TOCA's Elder/Youth Outreach Initiative works with our community's young people to help them develop a strong sense of identity rooted in the *O'odham Himdag*. By taking significant leadership roles in TOCA and by working closely with community elders, youth participate in the rejuvenation of Tohono O'odham culture and the development a sustainable economy on the Tohono O'odham Nation. Through this process, TOCA is helping youth face into their crisis of identity, learn "who they are," and develop the skills they will need in order to lead the Tohono O'odham community into the future.
- **Tohono O'odham Food System** — Until 1960, diabetes was unknown among the Tohono O'odham. Today, the O'odham have the highest rate of adult-onset diabetes in the world. The cause for this devastating change is the destruction of the traditional food systems and diet. Drawing upon our heritage, we have worked to develop a community food system that provides the Tohono O'odham Nation with a healthy Native food supply. By combining the cultural knowledge of our elders, the assets already present in our community and innovative institutions (such as gathering cooperatives and community gardens), TOCA is working to address the root causes of the poverty and disease that are ravaging our community.

B. PRIMARY RESEARCH QUESTIONS

In conducting this research, we sought to provide initial answers to two primary questions:

- What has been the impact of Federal food assistance programs upon the Tohono O'odham food system and the health of the Tohono O'odham people?
- How could these same food assistance programs better contribute to the health of the Tohono O'odham and the vitality of their food system?

PRIMARY RESEARCH QUESTIONS:

- **WHAT HAS BEEN THE IMPACT OF FEDERAL FOOD ASSISTANCE PROGRAMS UPON THE TOHONO O'ODHAM FOOD SYSTEM AND THE HEALTH OF THE TOHONO O'ODHAM PEOPLE?**
- **HOW COULD THESE SAME FOOD ASSISTANCE PROGRAMS BETTER CONTRIBUTE TO THE HEALTH OF THE TOHONO O'ODHAM AND THE VITALITY OF THEIR FOOD SYSTEM?**

In order to answer these primary questions, a set of more specific goals were necessary. These research goals included developing an understanding of the following topics:

- The nature and structure of the traditional Tohono O'odham food system.
- The nature and structure of the current Tohono O'odham food system.
- The impacts of the change from the traditional food system to the current food system on the physical health and cultural vitality of the Tohono O'odham community.
- The role that food assistance programs have played and continue to play in the move away from the traditional food system.
- The role that these same food assistance programs *could* play in the redevelopment of a more self-sufficient and sustainable Tohono O'odham food system.

C. METHODOLOGY, DEFINITIONS AND BROAD CONTEXT

This study uses qualitative and quantitative outcome-based performance measures to analyze

the effects of food assistance programs on the Tohono O'odham traditional food system. Using current health statistics, oral histories, medical literature, ethnographic accounts, as well as reports from federal and tribal agencies, we describe and evaluate the history, past effects, and current impact of food assistant programs on the health of Tohono O'odham individuals, the traditional food system, and the native culture. We document the foods and practices which composed the traditional food system before the wide-scale implementation of food assistance programs among the Tohono O'odham. Comparing various native communities in the U.S. with the situation of the Tohono O'odham allows us to analyze which food assistance issues are relevant primarily to desert people alone, to natives on reservations only, and/or to Native Americans as a whole. Using the Tohono O'odham context as a basis, with information from other native peoples for comparison, we generate a series of recommendations on how federal and tribal food assistance programs can be altered to support increased health, self-sufficiency, economic development, and cultural vitality among U.S. American Indian communities.

For the purpose of this study, we define a *food system* as the way a community or society produces, processes distributes, prepares and consumes food. Differing cultures and economic situations create various kinds of food systems. One small food system would be an individual

THE AMERICAN DIABETES ASSOCIATION REPORTS THAT, AS LATE AS 1930, "DIABETES WAS CLINICALLY NONEXISTENT AMONG NATIVE AMERICAN PEOPLES. TODAY, SIX OUT OF EVERY 10 WILL LIKELY DEVELOP DIABETES IN THEIR LIFETIME."

family's planting, hunting and harvesting everything needed for meals. In contrast, the globalized food system relies on industrialized agriculture, commercialized animal farms, and worldwide distribution of products. While this transnational system is tied to local consumption, we will be primarily describing and analyzing the various food systems which grew from or came to a relatively limited geographical

area, that part of the Sonoran desert designated as the Tohono O'odham Nation.

One of the important concepts which drives this study is the difference between having enough to eat, on a strictly caloric basis, and having enough nutritionally and culturally appropriate food. No longer is a simple "feed the hungry" approach feasible in an era when, not only Native Americans, but all United States citizens, are adversely effected by the foods they eat. The leading causes of death in the United States, coronary artery disease and heart attacks, strokes, some cancers, as well as diabetes, are caused or aggravated by eating too much animal fat, sugar, and "empty" calories (USDA 1999a, i). The health and other costs associated with these causes of death reached, in 1995, \$250 billion (25). In this study, diabetes will be the chronic food-related disease under the closest scrutiny. Since its complications lead to general organ damage (particularly renal failure), infections, heart disease, as well of loss of limbs and eyesight, diabetes is often underreported as the underlying cause of deterioration of health and shortened life-span. While diabetes has become as serious problem among native peoples, in the United States and abroad it is an increasingly complex and costly issue. Diabetes is the seventh highest-ranking cause of death among all Americans (Brunner 810). And, worldwide, diabetes is deadly for many: In 1997, 143 million people world-wide were living with diabetes, and the number of incidents is expected to surge in the next 25 years. If predictions serve, in 2025 there will be 300 million people suffering from diabetes.

One working assumption of this study involves the high prevalence of diabetes among Native

Americans in general and the Tohono O'odham in specific. While there are debates about the etiology of the disease, there is no question of its increasingly devastating effects upon indigenous peoples. As Brenda Broussard of the Indian Health Services's diabetes program testified at the United States Senate hearings on this matter in 1997, "As recently as 1912, just 85 years ago, diabetes specialists reported essentially no diabetes among American Indian people. And for the past 20 years or more, most American Indian tribes have [been diagnosed with] diabetes at a rate several times, to more than 10 times the rate of the U.S. population" (15-16). And the American Diabetes Association reports that, as late as 1930, "diabetes was clinically non-existent among Native American peoples. Today, six out of every 10 will likely develop diabetes in their lifetime." (ADA, "Information"). Among the Tohono O'odham, in particular, adult-onset (type II) diabetes has become a disease affecting 80% of the population and numerous children under the age of seven (Weil 2000, 63-64). For the people of the desert, then, diabetes is a late-20th-century disease which will continue to demand serious action at the level of tribal peoples, medical workers, and federal policy-makers long into the 21st century.

Although diet clearly affects American Indians disproportionately, this issue of high-fat, low-fiber food extends beyond native eating habits in America. Nutritional health is not a priority for most (native and non-native) Americans; even those with access to large amounts of healthy, fresh foods often fail to eat them, choosing high-fat, highly processed foods instead. The need for individual responsibility in making healthier choices in their eating habits cannot be denied. However, the means for resolving food-related health problems is not merely as simple as individual willpower. Indeed, it is essential to examine the structural barriers to the adoption of healthy eating habits. Among the structural factors that impact the food choices of individuals and families are: cost of foods; access to retail outlets for food; the levels of availability of culturally-appropriate, healthy foods; the time/effort necessary to preparing foods. Too often people find themselves eating food based upon factors outside of nutrition, including price, availability, access, convenience, and simplified preparation.

IT IS ESSENTIAL TO EXAMINE THE STRUCTURAL BARRIERS TO THE ADOPTION OF HEALTHY EATING HABITS. AMONG THE STRUCTURAL FACTORS THAT IMPACT THE FOOD CHOICES OF INDIVIDUALS AND FAMILIES ARE: COST OF FOODS; ACCESS TO RETAIL OUTLETS FOR FOOD; THE LEVELS OF AVAILABILITY OF CULTURALLY-APPROPRIATE, HEALTHY FOODS; THE TIME/EFFORT NECESSARY TO PREPARING FOODS.

Some experts have distinguished these categories of caloric quantity and nutritional quality as a difference between what is called *food insecurity* and *food security*. The USDA's 1999 Action Plan on Food Security states that food security exists "when all people at all times have access to enough food for an active and healthy life" (USDA 1999a, C-3). The definition maintains a focus on adequate caloric intake as well as nutrition: "This includes at a minimum 1) the ready availability of nutritionally adequate and safe foods, and 2) the assured ability to acquire acceptable foods in a socially acceptable way (for example, without resorting to emergency food supplies, scavenging, stealing, or other coping strategies)." The USDA defines *food insecurity* as a situation failing to meet these minimum requirements, and as such, when uncertainty about food supplies or limitations on those supplies affect people (C-2). Hunger may accompany Food insecurity, but not necessarily and not consistently (50), and food insecurity may be either temporary

or chronic (5). The USDA reports that most Americans “do not understand the complex nature of food security,” and the resulting health, economic, and local consequences of current trends in consumption, distribution, and cost indicate a crisis in need of long-term and short-term responses from families, businesses, local governments, and federal agencies (25).

At the level of social organization, community food security is defined as “[t]he availability within a community of adequate food markets, with sufficient quality and quantity of food, and the financial and physical ability of the people in that community to acquire the available food.” The report argues that “there is a dearth of information on community-level food insecurity” so that new tools have been developed for analyzing the situation in the U.S.(49). One of the priorities of this research is to survey “high-risk subgroups that are not easily sampled in national surveys,” namely, “American Indians living on reservations” (50). This report attempts, then, to provide some historical information and analysis of contemporary native communities by describing the unique, and not so unique, elements of food insecurity among the Tohono O’odham.

While the concepts underlying definitions of community food security are helpful, they lack an element of how individuality, sociability, and cultural importance are defined, sustained, and either strengthened or weakened through the habits surrounding the daily meal. All animals digest for nutritional survival. For human beings, it must be remembered that food is not

FOOD IS NOT ISOLATED FROM PERSONAL WELL-BEING, FAMILY AND SOCIAL GATHERINGS, SCHEDULES OF WORK, AND EXPRESSIONS OF BELONGING TO A CULTURAL TRADITION OR A FAITH. THE SAYING “YOU ARE WHAT YOU EAT” MAY NOT BE LITERALLY ACCURATE, BUT WE DO DEFINE WHO WE ARE BY WHAT WE EAT, HOW WE EAT, AS WELL AS WITH WHOM.

isolated from personal well-being, family and social gatherings, schedules of work, and expressions of belonging to a cultural tradition or a faith. Whether it is a holiday or a lunch hour, what people eat differs greatly, depending upon what is easily accessible, affordable, and, perhaps more importantly, meaningful to each individual. Certain religions restrict or ban the eating of certain foods completely, or during certain times of the year. A family’s favorite recipes are often passed down to both daughters and sons. Numerous Americans (and

American Indians) hunt, fish, and plant foods as seasonal expressions of a shared identity. When so many health problems arise from an excess or imbalance of food intake, it becomes crucial to analyze how people define their family, community, and workplace through the foods they eat. The saying “you are what you eat” may not be literally accurate, but, indeed, we do define who we are by what we eat, how we eat, as well as with whom.

To the USDA definition of food insecurity, then, ought to be added an analysis of the value which food has as a form of personal preference, cultural expression, historical continuity, and/or generational wisdom. As Scott argues, food historically offers a means of celebrating and sustaining one’s ethnic identity: “Food provides a means to emphasize or deemphasize one’s differences with others, i.e. a means of denoting ethnicity and religion” (339). A person’s tastes are not merely, then, an issue of hunger, food security, or health. Beyond these concerns, and yet inextricably tied to them, is the importance of a sense of cultural integrity among native

peoples and a continuation of the specific practices which sustain this integrity. This means not that native peoples must live as they did before contact with European cultures, but rather that both the indigenous significance of food traditions and the actual native foods themselves ought to not be treated as antithetical to sustaining a kind of food security which is medically, psychologically, and socially healthy. As a cultural anthropologist, Gretchen Chesley Lang, reported at the 1987 North Dakota House of Representatives Hearing on American Indian nutrition issues: I would like to emphasize the importance of understanding the foodways and what, in a sense, the emotional attachment is to foods in a community. The ironic aspect that the older people at Fort Totten recognize is that while they say [on the] one hand, "White man's foods have made us sick," ...when they talk about the etiology of diabetes, they also know those [traditional foods] are the foods they like and have certain attachments to as symbols of group identity. In other words, foods are ethnic markers.... [T]he meanings of foods has to be understood by health professionals who work with people and try to suggest ways in which they are going to change their diet. (28)

If, as this study attempts to demonstrate, most traditional foods are both what native peoples with diabetes seek to eat and as well as being compliant with what health professionals deem a diabetic diet should be, then such "nostalgia of traditional food" may foster better management and slow the progression of the disease (27). Moreover, because nutritionists can document the health of native foods, as well as offer low-fat forms of cooking them, maintaining food as an "ethnic marker" for native peoples may help with self-esteem, community pride, and cultural survival.

RESEARCH QUESTIONS

The question becomes how federal programs, which have historically offered WIC milk, food stamps, or surplus commodities on reservations, can or will take a role in integrating native community food security with indigenous foodways. Orienting federal foods assistance toward cultural awareness is not nearly as difficult as providing steady, affordable access to traditional foods, the means of hunting, farming, and harvesting, as well as preserving, distributing, and marketing them. These challenges may require that food security policies on American Indian reservations be paired with agriculturally-based economic development, along the lines of small farms, farmer's markets, and youth training programs. This study will attempt to evaluate the feasibility of integrating cultural resources and practices into programs of federal food assistance.

THESE CHALLENGES MAY REQUIRE THAT FOOD SECURITY POLICIES ON AMERICAN INDIAN RESERVATIONS BE PAIRED WITH AGRICULTURALLY-BASED ECONOMIC DEVELOPMENT, ALONG THE LINES OF SMALL FARMS, FARMER'S MARKETS, AND YOUTH TRAINING PROGRAMS.

One thesis tested in this study, then, concerns whether or not culturally-relevant information, eating practices, farming traditions, folklore, and educational techniques are appropriate tools to use to meet the challenges of the diabetes epidemic and other results of food insecurity among American Indians. A tentative answer may be discernible from research on integrating

cultural traditions in the arena of education. If we apply the conclusions of studies of culturally-oriented educational programs, foodways from “way back,” as Lang calls them, may hold the key to increasing the success of native peoples with both native and mainstream American cultures. For studies of successful college-degree and other skilled training among native peoples, repeatedly have found that attainment of career-oriented goals was fostered by intensifying ties to one’s native cultural background rather than forsaking it.

According to Bordewich’s interviews, educators of American Indians increasingly view teaching which uses cultural resources in the classroom as “perhaps the only tool capable of reviving tribal identity and of simultaneously molding a new kind of Indian able to make his way in the modern world” (274). Evidence from a 1989 study by the Carnegie Foundation for the Advancement of Teaching, which Bordewich cites, demonstrated that “Indian students who transfer from tribal colleges to four-year universities are forty times more likely to succeed there than those who go directly from high school” as well as have “a similarly improved likelihood of finding jobs” (275).

While these results are positive, it is unclear whether or how such approaches could be applied within the setting of harvesting, preparation, eating, and health. The question is, how could such insights about the relation between cultural enrichment and good eating habits be put into practice? For while education can “teach a man to fish,” as the proverb goes, “and he will eat forever,” nutritional information is one area in which neither mainstream Americans, nor native peoples, are necessarily willing or able to act on. Otherwise, food-related diseases would not top the U.S. lists of causes of death for both populations.

While earlier educational models for Native Americans emphasized assimilation at the expense of cultural knowledge, the new pedagogical method adopts cultural involvement, including goals of fluency in one’s indigenous language and knowledge of one’s cultural history. But cultural integrity at the level of language, ritual, and other forms of knowledge attainment do not necessarily confront poor eating, or other more daily practices. Speaking in one’s native tongue may go as well with a burger and fries as speaking English. And while educators at native community colleges have forsaken assimilation as a wrong-headed approach, the American diet, with its low-fiber, high-fat diet, is one aspect of mainstream culture which many native peoples have no problem adopting. Particularly among American children, native and non-native alike, a fast food lunch is commonly considered the pinnacle of their eating experiences. So assimilation continues, to this day, in this context even as culturally-distinct educational practices celebrate native traditions. Yet, as Lang discussed above, foodways are a major element of ethnic identity. Without the foods, and the farming, preparation, and mealtime traditions surrounding them, the fluent native tongue has little use for indigenous agricultural vocabulary. Like a menu from which one cannot order, because the restaurant is out of everything, linguistic practices cannot increase without food practices to refer to.

For food-based cultural practices to occur, indigenous grains, fruits, seeds, etc. must be readily available. For, like most Americans, native peoples find that time-binds and money-binds limit the amount of exercise they do as well as tax their willingness to have complex dinner preparations. A 1999 study of Lakota adults found that not having enough time, not having child care,

and watching three hours of television daily meant they had limited motivation to exercise (Harnak, et. al). Such reporting differs little from the issues of mainstream suburbanites, who watch as much television. In fact, household television usage across all Americans amounts to seven hours daily (Brunner 717).

The issues of food insecurity are complicated by the fact that the most important reason for native and non-native Americans state for continuing to eat high fat foods is always the same: they like the taste of it more than low-fat or high-fiber foods. So, since American Indians share with other races living in the United States the same contradiction between knowing “what’s good for you” and yet eating junk food, the question of how increasing traditional knowledge may help reverse this trend needs to be tested. Our tentative thesis is that cultural knowledge is only helpful in contributing to food security and diabetes prevention if it is bolstered by the practical means of applying such knowledge on a daily, meal-based, basis.

METHODOLOGY

Given the variety of interpretations arising from scientific studies, anthropological evidence, school lunch and supermarket consumption, and indigenous people themselves, we found a qualitative approach to be crucial for researching how food systems are destroyed and sustained among indigenous peoples. As Betts, Baranowski, and Hoerr discuss, qualitative methods in the form of group interviewing has become increasingly common in nutritional studies (279). Our context for analyzing food security involved many different spheres of influence, expertise, and governance. Since the drastic changes in diabetes incidence have been documented by medical professionals, social service providers, ethnobotanists, as well as tribal members, we decided that interviews would allow us to collect data among the different groups with the greatest flexibility, sensitivity, and nuance. We interviewed Tohono O’odham elders, who often spoke only the indigenous language, as well as medical personnel and federal food assistance providers and community farmers, each of whom had different insights to contribute to our study.

FEDERAL FOOD ASSISTANCE PROGRAMS ARE NOT GOING TO “RESCUE” THE TOHONO O’ODHAM FROM DIABETES. RATHER, FEDERAL FOOD ASSISTANCE PROGRAMS WOULD BE WELL-ADVISED TO BUILD ON EXISTING COMMUNITY RESOURCES, BE THEY NATIVE FARMERS, ELDERS WITH KNOWLEDGE OF SEASONAL HARVESTS AND FOOD PREPARATION, AS WELL AS THE KNOWLEDGE GAINED BY PAINFUL EXPERIENCE AMONG FAMILY MEMBERS DEALING WITH DIABETES.

This conversational method allows for a detailed portrait of what kinds of food security potentials are realizable in the Tohono O’odham context. Most importantly, it provides the means for demonstrating that Tohono O’odham people are not without local resources for confronting diabetes and other ill effects of eating habits. Interviews yielded stories of how, only one generation before World War II, there was no known diabetes in the tribe. The details of such research will have to await a further chapter, but it is enough to say, by way of introduction, that federal food assistance programs are not going to “rescue” the Tohono O’odham from diabetes. Rather, federal food assistance programs would be well-advised, as this study will demonstrate, to build on existing community resources, be they native farmers, elders with knowledge of seasonal harvests and food preparation, as well as the knowledge gained by painful experience

among family members dealing with diabetes. By integrating quantitative and qualitative results, we would be able to offer a complex but clear description of community food insecurity in the Tohono O'odham nation.

D. RESEARCH ACTIVITIES UNDERTAKEN

Beginning in August 2000, TOCC and TOCA joined together to conduct a number of specific research activities designed to examine and understand the history of the Tohono O'odham food system, as well as the impacts of Federal food assistance programs upon the Tohono O'odham community. The specific research activities undertaken included:

- ***Tohono O'odham Community College Course*** – A semester-long community college course entitled “Tohono O'odham Food Systems” (TOC 150) was offered during the Fall 2000 semester. A copy of the syllabus for this course is attached. The course was taught by this project's key investigator, Danny Lopez with the assistance of project researcher Karen Wyndham. The class was composed of four units: an introduction to traditional Tohono O'odham foods, a history of the introduction of non-traditional foods to the U.S. Sonoran desert region, an analysis of how the Tohono O'odham eat today and the health effects of eating and lifestyle, and an introduction to contemporary community programs devoted to reviving the traditional food system. The structure of the class followed the form of a 20-30 minute lecture by the instructor or guest lecturer, followed by question and answer periods which usually generated classwide discussion. Student in the class engaged in interviews with community elders about the traditional food system, as well as the elders' perspectives on the impact of food assistance programs. Students in the course ranged from a Tohono O'odham police officer to an Anglo Doctor at the Indian Health Service Clinic in Sells. Students were trained in interviewing techniques and strategies of gathering oral histories, and their work has contributed to the raw data which is summarized in this report.
- ***Historical Research and Literature Review*** – This project Research Associate Karen Wyndham (a Ph.D. candidate at the University of Arizona) coordinated a wide-reaching literature review in order to describe the history of developments within the Tohono O'odham food system. This review also produced a significant pool of statistical information related to the project. In addition, Paul Buseck, a graduate student in Agricultural Development at the University of California, Davis, conducted extensive research into the medical and nutritional research that has been conducted on traditional Tohono O'odham foods. This literature review was quite extensive (filling several binders of information); this report presents primarily the conclusions of this review, rather than vast amount of detail in the form of original source material. Additional references and source material is available upon request.
- ***Food Assistance Program Interviews*** – Project researchers met with and interviewed staff of all of the Federal food assistance programs currently operating in the Tohono O'odham Nation, including (but not limited to) the Food Stamps, commodity distribution and WIC programs. These interview provided both a historical context for these programs and information about the current activities of these programs within the Tohono O'odham Nation. The perspectives of program staff on the impacts of their programs were sought, and statistics on program participation were also gathered during these interviews.
- ***Community Member Interviews*** – The project's key investigator, the project's research associate

and TOCA's Co-Director engaged in an intensive process of interviewing members of the Tohono O'odham community about the traditional food system and the impacts of food assistance programs on the community. These interviews varied in nature from formal interviews that were recorded on DAT audio tape, to more informal discussions that often took place during community activities. An example of this latter category was a set of interview with community members that took place during TOCA-sponsored trips to collect such traditional food as cholla buds and acorns. The total number of community-member interviews undertaken exceeded 50 over the course of the year's research, with 15 of these being formal, recorded interviews and the remaining more informal interviews.

- **Comparisons with Other Native Communities** – Through travel to conferences and working group meetings, project researchers were able to meet with people from a variety of Native communities that are also working on food system issues. Discussions with these people helped provide a broader context for our research, as well as confirm that the trends that were being documented within the Tohono O'odham community were also being seen in other communities. Among the programs/communities with which project researchers met were: the Seba Dalkai Community Food Project (Navajo); the Intertribal Agriculture Council; the Traditional Native American Farmers Association; Oneida Community Integrated Food Systems First Nations Development Institute; and the White Corn Project. These groups have offered valuable statistical information and technical know-how about the recent history of food security policy-making and its effects at the community level. Their input puts our work in perspective and helps us develop more effective recommendations for our final report. For example, the First Nations Institute has found that over 47 million acres of tillable land is owned by Native Americans, but that 70% of this land is leased to non-Indians for agricultural use. Such statistics make it possible to imagine the enormous potential for changing food systems and placing nutrition and diabetes control in the hands of native peoples.

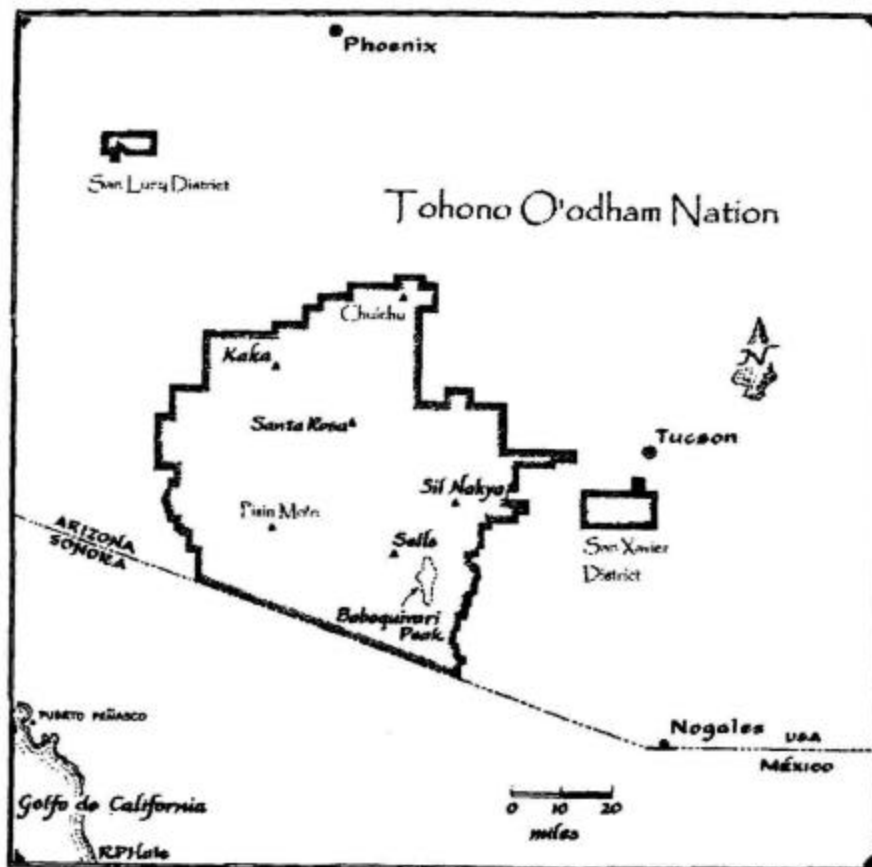
E. TOHONO O'ODHAM COMMUNITY: HISTORY AND CURRENT CONTEXT

Traditionally, the Tohono O'odham homeland extended from the Pima River in what is now Central Arizona south to the Sonora River (in today's Mexican state of Sonora), and from the San Pedro River in the east to as far as the Colorado River in the west. This vast area, provided a variety of climatic variations and food resources. Before the Gadsden Purchase of 1853, the Tohono O'odham lived in what was Mexico and were treated by Spanish colonialists as subjects to the laws and faith of Spain. Father Padre Kino did missionary work in the area, with one eventual result being the church called San Xavier del Bac. With the Gadsden Purchase, the Tohono O'odham were divided by the new U.S.-Mexico border. This division, however, did not impact the Tohono O'odham community until later in the 20th Century when the U.S. increased its enforcement of its border laws. Families in the U.S. still have members and strong ties to the O'odham living in the Mexican Sonoran desert.

ALTHOUGH THE RESERVATION IS MUCH SMALLER THAN THE ORIGINAL TOHONO O'ODHAM HOMELANDS, IT IS STILL QUITE VAST — INDEED, LARGER THAN THE STATE OF CONNECTICUT.

The Tohono O'odham (formerly known as Papago) Nation was established in 1917 and sits in the heart of the Sonoran Desert, sixty miles west of Tucson, Arizona. Approximately 18,000 of the

tribe's 28,000 members live on this main section of the Tohono O'odham Reservation. The Nation encompasses nearly 4,600 square miles. Although the reservation is much smaller than the original Tohono O'odham homelands, it is still quite vast – indeed, larger than the state of Connecticut. Moreover, unlike many other Native peoples who were forcibly removed from their homelands, Today's Tohono O'odham Nation encompasses the area that was the heart of the tribes traditional lands.



F. THE TOHONO O'ODHAM TODAY: VITAL STATISTICS

Despite the richness of the Tohono O'odham culture and the community's many assets, there are many extraordinary challenges to be faced:

- Economics — Per capita income on the Tohono O'odham Nation is \$3113 (compared with more than \$14,000 nationally), the lowest of all U.S. reservations. 65.7% of the population is below the poverty level (compared to 13.1% nationally). 62.7% of the adult population is unemployed. 47% of the households have no telephone; 29% lack plumbing; and 47% have no vehicle. (U.S. Census Bureau)

- Health — More than 50% of all Tohono O’odham adults have adult-onset diabetes, the highest rate in the world. Life expectancy is more than six years shorter than the U.S. average. (Indian Health Service)
- Violence — In the past three years, the number of Tohono O’odham juveniles charged with serious crimes has tripled, almost entirely related to the introduction of gang activity to the community. The homicide rate is nearly three times the national average and twice the average for all Native American communities. (Tohono O’odham Police Department and Indian Health Service)
- Education — Fewer than half of the Tohono O’odham community’s adults have completed high school, the lowest rate of all U.S. Native American tribes. A dropout rate in excess of 50% continues to be the norm. (U.S. Census Bureau)
- Culture — Many aspects of Tohono O’odham language, traditions and ceremonies are currently threatened with extinction.

Like other Native American reservations, the Tohono O’odham Nation exhibits the economic and rural isolation which contribute to both hunger and food insecurity. The USDA argues that “the most important cause of chronic food insecurity is poverty” (ii). Since 1995, 13.8% of the U.S.

population lived at or below the poverty level, and this rate has remained steady. This translates to about 12% of American homes experiencing food insecurity in 1995 (41). Because most American Indians and Alaska Natives live in remote locations, suffer from high unemployment and high poverty rates, they are disproportionately represented in this percentage. The report states that, in comparison to a 5.6% unemployment rate for the U.S. population as a whole, in 1995 the rate of unemployment for American Indians was 35%. Moreover, of those who did work, nearly a third (29%) of native people living on reservations earned just \$9,048 annually (43). American Indians constitute, then, a disproportionate percentage of the poverty-stricken and working-poor in the United States.

PER CAPITA INCOME ON THE TOHONO O’ODHAM NATION IS \$3113 (COMPARED WITH MORE THAN \$14,000 NATIONALLY), THE LOWEST OF ALL U.S. RESERVATIONS. 65.7% OF THE POPULATION IS BELOW THE POVERTY LEVEL (COMPARED TO 13.1% NATIONALLY). 62.7% OF THE ADULT POPULATION IS UNEMPLOYED. 47% OF THE HOUSEHOLDS HAVE NO TELEPHONE; 29% LACK PLUMBING; AND 47% HAVE NO VEHICLE.

The situation is acute in the Sonoran region. The Tohono O’odham are one of the most economically depressed nations in America. The latest statistics on the income of native peoples in the Arizona (AZDH 2000b) indicate that, on the main reservation, the Tohono O’odham live with 65% of the population at the poverty line. Moreover, nearly the whole population lives below an annual income which is twice that of the poverty-rate, with 90.8% in this category. The median income on the Tohono O’odham reservation is \$9,284. The same study finds that Arizona Navajos earn \$13,540 as a median income which, while low, is 145% higher than median earnings of the Tohono O’odham. The White Mountain Apaches similarly earn \$13,371, and the Hopi earn \$12,712. While these are still quite low, they offer between \$385 and \$286 more per month than the earnings of the Tohono O’odham allow. So the Tohono O’odham are not only in one of the most poverty-stricken categories of Americans. They are also poorer, on average, than many of those native peoples with whom they share such a designation.

The effects of such low incomes hurts children the most. Two-thirds, or 68%, of Tohono O'odham children under 12 live in poverty. And access to skill-developing education and work has been one result. Only 5% of the population has had some college experience, primarily at Pima Community College, but only 1.5% are college degree holders. This can be compared to Navajos living in Arizona, who have over 3 times the rate of college experience (16%) and 4 times the college degree holders, at 6.2%.

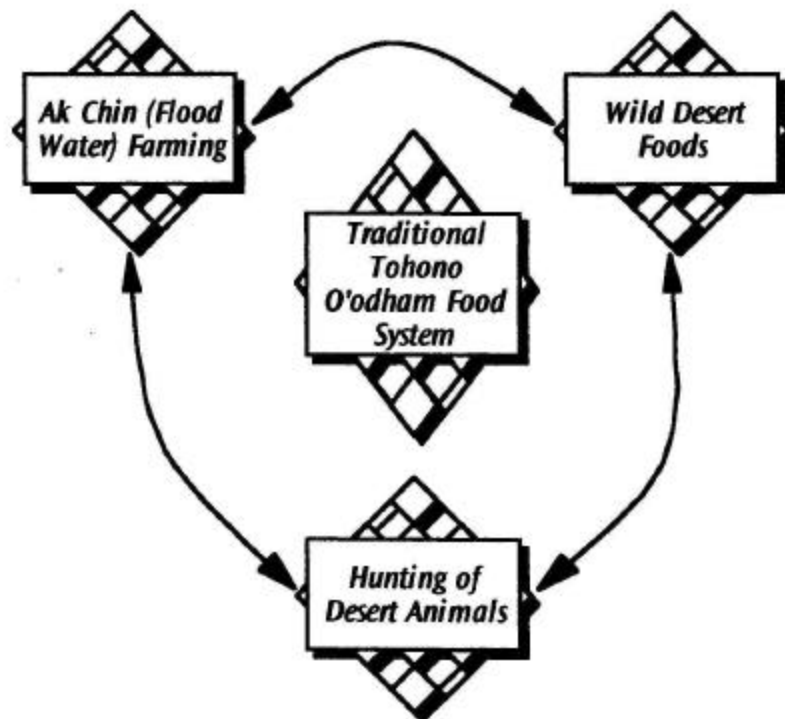
Despite IHS, 25.7% of Tohono O'odham are also enrolled in Arizona's indigent health care, AHCCS (AZDH 2000b). Hemodialysis is the leading procedure, with dialysis centers filled to overflowing, requiring often busing into Tucson for twice-weekly treatment. (AZHD 2000b). "ESRD [End Stage Renal Disease] is three to seven times higher among blacks, American Indians, and Mexican Americans than among whites" (CDC, "ESRD"). "[O'odham] suffer from kidney failure at over 20 times the rate of the U.S. general populations, and over 90% of the cases are caused by diabetes" (IHS Interim 59). In less than a decade, between 1988 and 1997, the yearly incidence of ESRD Therapy reported has doubled ((IHS Interim 60). "Natives in the Tucson IHS treatment area, which includes the Tohono O'odham Nation, had diabetes at 3 times the rate of the general U.S. population, and were 450% more likely to die of diabetes" (IHS Interim 99 -- table included). For Tohono O'odham it is the leading cause of death for adults aged 45-64.

II. AN HISTORY OF THE TRADITIONAL TOHONO O'ODHAM FOOD SYSTEM, ITS DECLINE AND ITS IMPACTS

A. THE TRADITIONAL TOHONO O'ODHAM FOOD SYSTEM

For countless generations, the traditional Tohono O'odham food system supported a local economy, maintained the people's physical well-being, provided the material foundation for Tohono O'odham culture, and provided a wealth of knowledge about the workings of the desert ecosystem. For many centuries, the Tohono O'odham and their ancestor combined a series of well-adapted strategies of producing food in the arid lands of the Sonoran Desert. The three parts of this traditional Tohono O'odham food system were:

- **Ak Chin Farming** – Using the flood waters that accompany the summer monsoons, thousands of acres were planted with crops that are nutritious and well adapted to the short, hot growing season. These foods, included tepary beans, corn, squash, melons, chiles, *cañito* ("sugar cane" sorghum") and much more. Many of these foods were eaten fresh and preserved for use throughout the rest of the year.
- **Harvesting Wild Foods** – Throughout the year, the desert provides a wide variety of wild foods that were collected and eaten. These wild foods included cholla buds, the fruit of different cacti, mesquite bean pods and acorns. Many of these foods were preserved for use throughout the year.
- **Hunting** – The animals of the desert also provided an important source of nutrition. The hunting of rabbits, deer, havalina and other desert dwellers was a significant supplement to the foods grown in O'odham fields and collected in the desert. The combination of flood-based farming during the summer rains, collection of wild desert foods, and hunting provided the O'odham with a rich and varied diet.



With the arrival of the Spaniards in the 18th Century, changes began to arrive. A new set of crops were introduced (including wheat, garbanzo beans, lentils and peas) that could be grown during the mild desert winters. Rather than interrupting traditional food system practices, the introduction of these crops served to augment them, increasing the capacity of the Tohono O'odham undertake agriculture on a year-round basis, rather than merely during the summer monsoon rains. Thus, the dependable source of low-fat, high-fiber protein offered by the traditional, desert adapted tepary bean were augmented by the crops brought by the Spaniards (Nabhan et. al., 1980).

B. DAMAGE TO THE TRADITIONAL FOOD SYSTEM

The reason Elder Brother planned this was that some day in the future... the rains would not come down all over the earth very often, only once in a while, and the crops that the people raised wouldn't be irrigated anymore by rain water.

– Tohono O'odham origin story

Until the second half of the 20th century, the Tohono O'odham were almost entirely food self-sufficient utilizing agricultural practices that date back over one thousand years. As late as the 1920's, the community utilized traditional methods to cultivate over 20,000 acres in the floodplain of the Sonoran lowlands. By 1949, that number had declined to 2,500 acres. Today that number is certainly less than 10. At the same time the once common practice of collecting and storing wild foods declined in an equally dramatic way.

The causes for this decline are complex and multifaceted. They include the following factors:

- Many Tohono O'odham were encouraged by Federal work projects to take jobs as field labor for large, irrigated cotton farms that surround the Tohono O'odham homelands. Entire families left their communities for six to eight months each year, making it impossible for them to plant, tend and maintain their fields, to engage in the ceremonial life related to agriculture, and to collect wild foods on a seasonal basis.

FEDERAL FOOD ASSISTANCE PROGRAMS — ALTHOUGH WELL INTENTIONED — OFTEN CREATED DEPENDENCY RELATIONSHIPS WHERE SELF-SUFFICIENCY HAD PREVIOUSLY EXISTED. OVER THE COURSE OF A FEW SHORT DECADES, THE TOHONO O'ODHAM COMMUNITY WENT FROM BEING ALMOST ENTIRELY FOOD SELF-SUFFICIENT TO BEING ALMOST ENTIRELY FOOD DEPENDENT.

- The introduction of and easy access to processed foods through Federal food programs and commercial outlets led many people to alter their diets and decrease the amount of traditional foods consumed.
- These same social programs — although well intentioned — often created dependency relationships where self-sufficiency had previously existed. Over the course of a few short decades, the Tohono O'odham community went from being almost entirely food self-sufficient to being almost entirely food dependent.

- As warned in the Tohono O'odham origin story, environmental factors (such as a lowering of the water table due to nearby development) combined with misguided governmental

flood control efforts to make water sources for traditional agriculture even more scarce than normal in the arid Sonoran Desert. In some of the traditional farming villages, flood waters no longer reach the fields that once fed entire communities.

- Large numbers of Tohono O'odham children were forcibly placed in boarding schools where they were prohibited from speaking their language and practicing their culture. At school, they were not exposed to the traditional ways in which knowledge was passed on within the culture. This meant that they did not learn the skills necessary to farm in the desert or how to collect, process and cook wild foods.
- During the Second World War, most young O'odham men – those responsible for most of the farming and many parts of ceremonial life – were in the military for years at a time, leaving many fields empty of crops and ceremonies unperformed.

Despite these declines in the traditional food system, there are still elders who remember when the O'odham were food self-sufficient.

It is within this context of many factors that the impacts of Federal food assistance programs must be evaluated. Rather than claiming that these programs were the sole factor in the decline of the traditional food system, they were one contributing factor that continues to have an impact on issues of food security and insecurity to this day. The specific impacts of these programs will be discussed in Section III: The Role of Federal Food Assistance Programs (below).

C. HEALTH EFFECTS OF THE LOSS OF THE TRADITIONAL FOOD SYSTEM

I just lay there awake and I think about it. The numbers of diabetics are going up and the ages are going down. People just have to wake up to what we are facing."

– Mary Antone, Tohono O'odham Community Health Representative

The most immediate and devastating effect of the loss of the traditional Tohono O'odham food system has been upon the physical health of the people. For centuries, traditional desert foods – and the effort it took to produce them – kept the Tohono O'odham healthy. The introduction of processed foods, however, changed all of that, leading to unprecedented rates of adult-onset diabetes.

As recently as the early 1960's, diabetes was virtually unknown among the Tohono O'odham. Today, more than 50% of the population develops the disease, the highest rate in the world. Adult-onset diabetes has even begun to appear in children as young as seven-years-old.

AS RECENTLY AS THE EARLY 1960's, DIABETES WAS VIRTUALLY UNKNOWN AMONG THE TOHONO O'ODHAM. TODAY, MORE THAN 50% OF THE POPULATION DEVELOPS THE DISEASE, THE HIGHEST RATE IN THE WORLD. ADULT-ONSET DIABETES HAS EVEN BEGUN TO APPEAR IN CHILDREN AS YOUNG AS SEVEN-YEARS-OLD.

As a degenerative disease, diabetes causes many subsequent health problems, including kidney failure, loss of eyesight, circulatory problems and severe organ damage. In the year 2000, Arizona and Sonoran (the northern Mexico state that borders the Tohono

O'odham Nation) health programs spent an estimated \$2 billion annually to treat Mexican and Indian diabetics. Similar, although marginally less dramatic, rates of adult-onset diabetes affect many other Native communities as well. Thus, the creation of a solution within the Tohono O'odham context – the most extreme case – can serve as a national and international model for other Native communities.

D. CAUSE OF THE DIABETES PROBLEM

Wheat flour makes me sick! I think it has no strength. But when I am weak, when I am tired, my grandchildren make me gruel out of the wild seeds. That is food.

– Maria Chona, 1933, *Papago Woman*

The wisdom and practical knowledge of traditional peoples has often been discounted as anecdotal at best. However, when 90-year-old Maria Chona spoke these words 65 years ago, she provided an accurate assessment of the effects of nontraditional foods on the health of the Tohono O'odham.

Over the past two decades, several scientific studies have confirmed what Chona already knew: traditional Tohono O'odham foods — such as tepary beans, mesquite beans, acorns and cholla (cactus) buds — help regulate blood sugar and significantly reduce both the

OVER THE PAST TWO DECADES, SEVERAL SCIENTIFIC STUDIES HAVE CONFIRMED THAT TRADITIONAL TOHONO O'ODHAM FOODS — SUCH AS TEPARY BEANS, MESQUITE BEANS, ACORNS AND CHOLLA (CACTUS) BUDS — HELP REGULATE BLOOD SUGAR AND SIGNIFICANTLY REDUCE BOTH THE INCIDENCE AND EFFECTS OF DIABETES.

incidence and effects of diabetes. Over the course of many centuries, the Tohono O'odham metabolism had become especially well adapted to the foods of the Sonoran Desert. As the majority of Tohono O'odham moved away from traditional foods and adopted a more “Western” diet, diabetes began to appear at an extremely high rate. Unlike the traditional foods which helped control blood sugar levels and increase insulin production and sensitivity, this new diet overwhelmed the O'odham metabolism, leading

to high rates of obesity as well as diabetes. In a very real sense, the destruction of the traditional food system is literally killing thousands of Tohono O'odham.

E. LIMITED EFFECTIVENESS OF CONVENTIONAL WESTERN MEDICINE

As doctors, we cannot solve the diabetes problem; we can only try to manage and treat the effects. The solution rests in the people's hands: the foods that have come from the desert for centuries.

– Indian Health Service Physician, Sells, AZ

As a degenerative disease with no cure, conventional Western medicine is extremely limited in its ability to effectively respond to this health crisis for Native communities. Although there are medicines that can help control blood sugar levels and mitigate some of the worst

effects of diabetes, the effectiveness of these treatments is usually overwhelmed by the progress of the disease.

One indicator of the limited effectiveness of conventional medicine is the number of Tohono O'odham who have experienced severe kidney damage as a direct result of diabetes. Despite the best efforts of doctors, almost one in ten Tohono O'odham diabetics are forced to undergo regular dialysis. Circulatory problems and loss of eyesight are also common among Tohono O'odham diabetics. All of this has combined to create a situation in which Tohono O'odham life expectancy is more than six years shorter than the national average. At least as important, the richness and quality of life of O'odham diabetics is also greatly reduced.

F. EFFECTIVENESS OF TRADITIONAL FOODS

The solution to the diabetes problem among the Tohono O'odham community is both extremely easy to identify and maddeningly difficult to achieve. 65 years ago, in advocating for the power of traditional foods, Maria Chona correctly identified the need for the Tohono O'odham to consume traditional foods in order to be strong and healthy. A simple return to a more traditional diet would surely be a major step in solving a health problem that is devastating the Tohono O'odham community.

Two primary attributes of traditional Tohono O'odham foods are thought to contribute to reductions in both the incidence and severity of diabetes. First, the soluble fiber, tannins and inulin in one group of traditional foods (which includes mesquite bean pods, acorns and tepary beans) helps reduce blood sugar levels, slow sugar absorption rates, and improve insulin production and sensitivity. Indeed, these foods are known to be among the 10 percent most effective foods at controlling blood-sugar levels. Second, a complimentary group of traditional foods (including prickly pear fruits and pads, cholla cactus buds, chia seeds and mesquite bean pods) contain mucilaginous polysaccharides gums that slow the digestion and absorption of sugary foods. Combined, these two categories of desert foods prevent and reduce the effects of diabetes.

*GIVEN THE EXTREME DAMAGE TO THE TRADITIONAL FOOD SYSTEM IT IS NOT OBVIOUS HOW A PERSON WHO WANTED TO RETURN TO SUCH A DIET WOULD BE ABLE TO DO SO. **THUS, IT IS ESSENTIAL THAT FEDERAL FOOD ASSISTANCE EFFORTS FOCUS ON HOW TO OVERCOME THIS OBSTACLE.***

As easy as this solution might appear on the surface, however, two major stumbling blocks remain. First, after decades during which most members of the Tohono O'odham community have abandoned the traditional diet, a great deal of culturally-appropriate education, asset development and capacity building is required in order to help people to reverse this trend. Second, and perhaps more fundamental, given the extreme damage to the traditional food system – the forms of producing, distributing and preparing traditional foods – it is not obvious how a person who wanted to return to such a diet would be able to do so. Thus it is essential that Federal food assistance efforts focus on how to overcome these two obstacles.

G. CULTURAL EFFECTS OF THE LOSS OF THE TRADITIONAL FOOD SYSTEM

Traditional people often use culinary customs as primary indicators of a particular culture.

– Gary Paul Nabhan, *Cultures of Habitat*

Farming is not seen just as an economic necessity, but as a religious duty.

– Emory Sekaquaptewa, Hopi

Destruction of the Tohono O'odham food system has led to a dramatic loss of Tohono O'odham language and cultural traditions, as equally devastating as the loss of the people's physical health. Virtually all elements of traditional culture – ceremonies, stories, songs, language – are directly rooted in the system of food production. O'odham culture is truly an *agri/culture*. As a result, destruction of the traditional food system has contributed to the significant loss of many elements of the *O'odham Himdag* – Desert People's Way.

Perhaps the most sacred of these cultural practices is the saguaro wine ceremony. Designed to “sing down the rain” that makes agriculture possible in the dry desert, the saguaro harvest and the wine ceremony served as a cornerstone of O'odham ceremonial life, marking the

DESTRUCTION OF THE TOHONO O'ODHAM FOOD SYSTEM HAS LED TO A DRAMATIC LOSS OF TOHONO O'ODHAM LANGUAGE AND CULTURAL TRADITIONS, AS EQUALLY DEVASTATING AS THE LOSS OF THE PEOPLE'S PHYSICAL HEALTH.

beginning of the new year. Today, however, only a tiny portion of the O'odham community participates in this sacred rite. The reason for this decline is relatively simple: today, few O'odham produce their own food. Grocery stores and federal commodity programs – rather than the desert – are the source of food. The endangerment of this essential element of O'odham culture is the direct result of changes

in the material foundation: People did not stop planting the fields because the ceremony was dying out; the ceremony began to die out when people stopped planting their fields. The saguaro wine ceremony is but one of many examples of O'odham culture's reliance upon and connection to the traditional food system.

H. EFFECTIVENESS OF PRESERVING THE MATERIAL BASE OF CULTURE

Every year, I sang the songs that called down the summer rains. But this year, I had a garden filled with devil's claw and corn, melons and squash. This year, I sang for them. This year, I sang like I really meant it.

– Christine Johnson, Basketweaver from Nolic Village

Given the connections between the Tohono O'odham food system and cultural traditions, it is virtually impossible to imagine a scenario in which the O'odham language, songs, ceremonies, stories, dances – the *O'odham Himdag* (Desert People's Way) itself – can remain a vital and living tradition without the rejuvenation of the food system.

However, as cultural practices are reconnected with their material foundation, they once again take on their central role in the community. The recontextualization of ceremonies, songs, stories and other cultural traditions strengthens them, providing a firm rationale and increased community motivation to preserve them. At the same time, efforts to revitalize key cultural practices (e.g., ceremonies, legends and songs) help motivate individuals and the general community to work toward the redevelopment of a sustainable food system. Thus, TOCA works to integrate its Community Food System and its Arts and Culture programs in a holistic manner, thereby strengthening both.

III. GOVERNMENT FOOD ASSISTANCE PROGRAMS ON THE TOHONO O'ODHAM NATION

A. HISTORY AND CURRENT STATUS OF FOOD ASSISTANCE PROGRAMS

Before summarizing the perspectives of Tohono O'odham community members on Federal food assistance programs, it is necessary to present an overview of their history and current activities in the Tohono O'odham community. Below is a program-by-program description.

FOOD DISTRIBUTION PROGRAM ON INDIAN RESERVATIONS (FDPIR)

One common misconception is that surplus commodities have always been distributed primarily to Native Americans. As Champagne reports, the commodities program operated for 20 years, serving mainstream Americans, before any native peoples received them. The practical results of commodities, from the Great Depression and through World War II, were experienced only by non-native people. Navajos and Tohono O'odham school children were some of the first indigenous populations to receive commodities, beginning in the early 1950s. Before this time, numerous church charity programs brought canned goods to American Indians.

However, even before the federal commodities program, arguments were made to offer surplus farm yields to American Indians, and to allow for indigenous control of the traditional preparation of these supplies. In 1933, "The Chamber of Commerce in Ponca City, Oklahoma, suggested giving the slaughtered pigs weighing under eighty pounds 'to the Indian tribes of this locality not only for their immediate meat supply but for them to jerk and cure, as is their custom, for the next winter use' (Poppendienck 122). The Federal Surplus Commodities Corporation was created as a result of such sentiments, and in 1935, the USDA took over control of the corporation, and by 1942 the Agricultural Marketing Administration was in charge of distribution (177). This history demonstrates the manner in which the FDPIR was developed primarily to meet the needs of food producers to find a government-subsidized market for their surplus, rather than to meet the needs of the Native communities which receive the benefit.

**THE FDPIR ON THE TOHONO O'ODHAM NATION
SERVES AN AVERAGE OF 475 HOUSEHOLDS/MONTH,
INCLUDING PEOPLE FROM 54 VILLAGES SPREAD
ACROSS THE TOHONO O'ODHAM NATION.**

In order to understand the history of which foods have been distributed within the Tohono O'odham Nation, it is valuable to look at both history and today's FDPIR food lists. A 1954 study found that Tohono O'odham school children found that BIA schools served a lunch of "Spanish rice, green beans, carrot sticks, bread and jam, milk, and canned peaches" one day, and "roast beef, mashed potatoes, peas, cabbage salad, bread and honey, jello and fruit juice" on another (Vavich et. al., 124). In the 1950s, according to Champagne, a package of commodities "consisted almost entirely of staple grains and nonfat dried milk with and occasional ration of butter or cheese" (242). The Food Distribution Program on Indian Reservations offered little few vegetables outside of the school setting, and to this day offers none of the traditional foods that are so important to physical health and cultural vitality within Native communities.

In 1988, a hearing on a U.S. Senate bill designed to limit the effects of diabetes among Native Americans brought the debate about the helpfulness of commodity surplus foods to the fore. At that hearing, a member of the Fort Berthold Tribal Business Council, Reba Walker, criticized the lack of nutrition supplied by commodities and sought better quality foods (22). Although some significant strides have been made in improving the nutritional quality of the foods distributed through FDPIR, they still fail to meet the specific nutritional needs of particular tribal communities.

Today, the FDPIR on the Tohono O'odham Nation serves an average of 475 households/month, including people from 54 villages spread across the Tohono O'odham Nation. Tribal members living in an additional seven towns off the Reservation are also served. The per capita casino revenue payout of \$2000 in 2000 dramatically reduced the number of eligible recipients (down to just 18 households) for the month immediately following the payout. Within three months the number of recipients had returned to the previous average of 475 households.

SPECIAL SUPPLEMENTAL NUTRITION PROGRAM FOR WOMEN, INFANTS AND CHILDREN (WIC)

After being established in 1972, the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) started modestly. It had "approximately 344,000 participants in 1975 and has grown to provide services to nearly 6 million participants" (Owen & Owen 1997). For native women, WIC has not always guaranteed healthy babies. A 1982 study of 266 intertribal mothers and children in Nevada found that, despite service, babies were still introduced to solid foods as early as four months of age, and over half were obese (Read and Boling). Formula, purchased with WIC allocations, was investigated for contributing to infant anemia.

THE WIC PROGRAM ON THE TOHONO O'ODHAM NATION PROVIDE BENEFITS TO AN AVERAGE OF 700 TO 800 PEOPLE (MOTHERS AND THEIR CHILDREN) EACH MONTH.

Clearly, WIC was offering milk, baby food, and services, but the effects were not necessarily clearly beneficial. One third of 1990s projects funded by the IHS National Diabetes Program offer nutrition, cooking, and other training in healthy foods to women receiving WIC (IHS Interim 39).

Today, the WIC Program on the Tohono O'odham Nation provide benefits to an average of 700 to 800 people (mothers and their children) each month. For residents of the Tohono O'odham Nation, WIC does not use income as a factor in establishing qualification to receive program benefits. Tribal members who do not live on the Reservation, however, are subject to income guidelines. There are currently only three locations within the Tohono O'odham Nation that accept WIC Coupons.

FOOD STAMPS PROGRAM

Today, the Food Stamps program on the Tohono O'odham Nation administers three programs: food stamps (FS), cash assistance (CA) and medical assistance (MA). The number of recipients of these services on the Tohono O'odham Nation in June 2001 was the following:

- Cash Assistance only – 3 cases
- Medical Assistance only – 211 cases
- Food Stamps only – 369 cases
- Cash Assistance and Food Stamps – 3 cases
- Food Stamps and Medical Assistance – 203 cases
- Cash Assistance and Medical Assistance – 100 cases
- Cash Assistance, Food Stamps and Medical Assistance – 320 cases

IN JUNE 2001, 1209 DIFFERENT HOUSEHOLDS RECEIVED BENEFITS THROUGH THE FOOD STAMPS PROGRAM ON THE TOHONO O'ODHAM NATION.

For Medical Assistance a "case" refers to an individual. Food Stamp "cases" and Cash Assistance "cases" refer to heads of households. Thus, in June 2001, 1209 different households received benefits. There are currently only two locations within the Tohono O'odham Nation that accept food stamps.

OTHER FEDERAL FOOD ASSISTANCE PROGRAMS

Currently, programs such as the WIC Farmers' Market Nutrition Program and Farm-to-School projects do not operate with the Tohono O'odham Nation. It is possible that these programs would provide assistance in addressing the challenges outlined in this report.

B. TOHONO O'ODHAM PERSPECTIVES ON FOOD ASSISTANCE PROGRAMS

Several common themes emerged from the various interviews conducted as a part of this research project. Although these perspectives were not universally shared, each of these points represents one or more segments of the Tohono O'odham community. Rather than being fully documented "facts" about the impact of Federal food assistance programs on the Tohono O'odham community, they are perspectives that are essential for 1) understanding the perception of these programs within the community, 2) developing a set of further research priorities, and 3) developing recommendations for the ways in which Federal food assistance programs can more effectively respond to the needs and desires of the Tohono O'odham community. Although no formal research has been conducted in other Native communities as a part of this project, discussions with representatives of other programs and communities indicate that many of these perspectives may be shared across "Indian Country."

- ***Positive Impact of Food Assistance Programs*** – There was almost universal agreement that Federal Food Assistance Program as they are administered today have some positive impacts within the Tohono O'odham community. Given the extremely high rates of poverty, many families rely upon these programs for putting food on the table.

- ***Concerns About Dependency*** – Despite the positive impacts, however, there is also a sense that historically these programs contributed to the decline of the traditional food system. Indeed, many Tohono O'odham elders have witnessed a transition from 100% food self-sufficiency to 100% food dependency within their lifetimes. Although these programs can hardly be blamed as the sole cause of the decline of the traditional Tohono O'odham food system, they do nothing

to decrease dependency through the stimulation of food system and/or economic development. Thus, although Federal food assistance programs serve a vital role in providing for the “emergency” food needs of the community, this “emergency” has become endemic and perpetual. There is a widespread feeling that the programs could and should work toward assisting the community achieve greater self-sufficiency and decreased dependency.

ALTHOUGH THESE PROGRAMS CAN HARDLY BE BLAMED AS THE SOLE CAUSE OF THE DECLINE OF THE TRADITIONAL TOHONO O’ODHAM FOOD SYSTEM, THEY DO NOTHING TO DECREASE DEPENDENCY THROUGH THE STIMULATION OF FOOD SYSTEM AND/OR ECONOMIC DEVELOPMENT.

• ***Culturally-Appropriate Nutrition Education is Needed*** – “I remember when they came to my village and told us not to eat our traditional foods,” said one elder of a food assistance effort thirty years ago. “They told us to eat the healthy foods they were bringing to us. Now we find out that we were right all along. Now we know that our foods kept us healthy.” This sentiment is common within the Tohono O’odham community. Not only is there a need for accurate nutrition information, but there is a strong desire that it draw from the *O’odham Himgdag* – the O’odham culture. Although most Federal food assistance programs have a nutrition education component, it is usually a generic set of resources developed for the general U.S. population and rarely (if ever) draws upon the knowledge of the local community. Even materials developed for other Native communities may not be particularly appropriate; the particular nutritional and cultural needs of the Tohono O’odham may be extremely different from those of the Inuit in Alaska. Thus, the desire for community-specific educational resources is strongly expressed.

• ***Desire for Traditional Foods within Federal Food Programs*** – One of the most common themes expressed during the research project was the very strong desire to have greater access to traditional Tohono O’odham foods in general and through food assistance programs in specific. These foods are currently unavailable through any Federal food assistance program. None of the retail stores that accept food stamps sell traditional foods; WIC coupons do not cover these foods; and FDPIR does not stock or distribute them.

There are many obstacles to making these foods available through food assistance programs that have little to do with how those programs are designed and administered. For example, current levels of production of many of the traditional foods may not allow for a regular supply of these foods for distribution through food assistance programs. The challenges of a food system infrastructure need to be addressed by a broad coalition of Federal, tribal, non-profit and private entities. However, there are obstacles within Federal food assistance programs that could be removed in order to stimulate food system development and open their programs to the distribution of traditional foods.

One such obstacle can be seen in the FDPIR. A common defense of the list of foods offered through the FDPIR is that many recipients have complained when healthier alternatives have been substituted for particular items. For example, the attempt to substitute reduced-fat cheese for regular cheese was met with strong resistance. Such examples are often used as evidence that recipients will not accept change to the foods they receive to healthier selections. Within

the Tohono O'odham context, however, this may well be a faulty assumption. Because people have resisted *particular* substitutions does not mean that they would resist *all* healthy substitutions. For example, if the pinto beans currently available through the program were substituted by tepary beans – a traditional Tohono O'odham food with as much protein as soy beans, higher mineral content and higher levels of extracellular mucilage that controls blood sugar levels – there is little doubt that recipients would eagerly embrace the change. Similarly, many Tohono O'odham are lactose intolerant; if dried cholla buds which once-for-ounce have four times the amount of available calcium as milk and help regulate blood sugar levels – were substituted for a portion of the dried milk and/or cheese in the commodity package, it would likely be extremely popular. Indeed, cholla buds are one of the most sought after and popular traditional Tohono O'odham foods. Thus, it is critical to understand that it is not substitution of items in the commodity food packages, *per se*, that is opposed. Rather it is substitution of familiar items with unfamiliar items that is opposed.

The removal of these types of obstacles – often the result of cultural differences or miscommunication – would provide a tremendous opportunity to respond to the desire for traditional, healthy foods within the Tohono O'odham community (and perhaps other Native communities).

• **Eligibility and Casino Per Capita Payouts** – One current problem, born of the era of Indian casinos, involves the relationship between distribution of these revenues across a tribal population as it relates to food assistance programs. Because the Tohono O'odham Nation provides a per capita dividend of \$2000 every two years, many food assistance recipients become ineligible to receive benefits. The per capita payouts create the situation in which tribal member's earnings exceed food stamp cutoffs, often the result is removal from the rolls (Dodie). As a result, the dividends of gambling cannot significantly assist families to make large, but necessary investments (e.g. cars, college funds, home repairs) that might decrease dependency on these programs in the long-run. Instead, the dividend must make up the difference for food assistance. Once the funds have been spent, people simply return to receiving food assistance. Casino dividends basically replace food stamps for a month or two before being depleted. Such a situation does not allow for long-term planning or savings, nor does it contribute to a long-term decrease in the number of eligible recipients.

IV. RECOMMENDATIONS FOR FEDERAL ACTION

FEDERAL RESPONSES

Although hundreds of millions of dollars of Federal funds have been and are being directed toward diabetes prevention efforts, the rates of diabetes in Native American communities continue to skyrocket. This argues compellingly for the creation of pilot programs which encourage innovation and the creation of new prevention strategies that are culturally appropriate as well as medically sound.

PRINCIPLES FOR ACTION

Any proposals aimed at supporting innovative diabetes prevention efforts in Native American communities should respond to two factors:

- *Encourage Self-sufficiency* – Food assistance and nutrition programs in Native American communities have too often encouraged dependency relationships which destroy the sustainable structures that have previously supported the people. For example, although well-intentioned, the introduction of federal food programs helped devastate the traditional Tohono O'odham food system, which has led directly to a high incidence of diabetes. These programs created destructive dependency where self-sufficiency had previously existed. New programs must work to helping individuals, families and communities achieve greater self-sufficiency. Whenever possible, projects should encourage economic development and the development of a strong food system infrastructure.
- *Encourage Innovation* – For more than 40 years, rates of Type II Diabetes have been skyrocketing despite the best efforts of many Federal and tribal programs aimed at combatting this trend. Quite simply, our best efforts have not been sufficient to reverse the diabetes epidemic. The need for innovative and effective programs aimed at reducing diabetes among Native Americans cannot be over emphasized.
- *Culturally appropriate* – Too often prevention efforts fail to adequately respond to the unique cultural, environmental and historical attributes of various Native American communities. Most Native cultures developed in close relationship with their traditional food system. For the Tohono O'odham ("People of the Desert") the ceremonies, songs and legends developed hand-in-hand with the ways of producing food in the desert just as the Inuit culture of Alaska developed in association with fishing and the sea. Food and nutrition cannot be separated from culture for Native peoples. Thus, prevention programs must take into account both the particular nutritional needs and unique cultural components of various Native communities, rather than seeking a "one-size-fits-all" approach.

RECOMMENDATION #1: WIC AND SENIORS FARMERS MARKET NUTRITION PROGRAM

Congress should allocate funds to waive the matching requirement for the successful WIC Farmers Markets Nutrition Program on Native American reservations. The current required 50% cash match from tribal communities dramatically limits the program's ability to provide pregnant women, infants, children and seniors with culturally appropriate, nutritious traditional foods as a supplement to regular WIC and social security benefits. For a relatively small investment, recipients would be provided with supplementary coupons which could be exchanged for locally produced, traditional Native foods that have been demonstrated to prevent nutrition-related disease.

Benefits:

- The program would encourage the most vulnerable parts of the population (elders, pregnant women and young children) to develop healthy eating habits, focussing on the foods that have kept their people and cultures healthy for generations. This would, in turn, reduce the incidence and severity of nutrition-related disease (particularly diabetes) in Native American communities.
- The program would stimulate increased production of traditional, nutritionally beneficial foods

within Native communities by providing producers with an economic incentive to once again produce traditional, healthy foods. By providing a market incentive to producers in the form of WIC supplemental coupons, the economic viability of traditional food production would be increased, contributing to job creation, economic development, the redevelopment of sustainable food systems and increased self-sufficiency.

RECOMMENDATION #2: NATIVE AMERICAN COMMUNITY FOODS PROJECTS COMPETITIVE GRANTS PROGRAM

This program would provide grants to programs aimed at increasing the production, distribution and consumption of traditional, healthy foods within Native American communities. Modeled after the USDA's Community Food Projects Competitive Grants Program, this program would increase food security by assisting Native American communities assess strengths, establish linkages, and create systems that improve the self-reliance of community members over their food needs.

Benefits:

- Helps prevent diabetes and other nutrition-related diseases by encouraging increased production, distribution and consumption of healthy, traditional foods within Native American communities, thereby augmenting other prevention efforts and reducing the costs of treatment programs.
- Contributes to increased self-reliance by supporting the redevelopment of food system infrastructures within Native American communities. Investing in the ability of individuals, families and communities to increase their own food security helps break the chain of dependency that too often plagues Native American communities.

These grants should be available to nonprofit organizations as well as Federally recognized tribes. Non-profits and community-based institutions, rather than tribal governments, are often the sources of innovation and solutions in Native American communities, and should be eligible for participation in all programs. Often these community-based institutions are the most effective at bringing together the public, private and nonprofit ("third") sectors to develop solutions to the challenges facing Native communities.

RECOMMENDATION #3: FOOD DISTRIBUTION PROGRAM ON INDIAN RESERVATIONS LOCAL PURCHASING

This pilot project would provide funding to a limited number of local FDPIR programs to allow them to purchase locally-produced, traditional foods for distribution within a particular tribal community. Each participating FDPIR office would work with nutritionists and community members to determine which traditional foods would be both nutritionally beneficial and culturally appropriate. This approach would mark a dramatic change in the FDPIR program, making the desires and health of the community – rather than the market needs of various commodity groups and large producers – the determining factor in which food get distributed within tribal communities.

Benefits:

- The program would encourage a vulnerable parts of the population (those at high risk of contracting diabetes) to develop healthy eating habits, focussing of the foods that have kept their people and cultures healthy for generations. This would, in turn, reduce the incidence and severity of nutrition-related disease (particularly diabetes) in Native American communities. This in turn would decrease the amount of funding necessary for medical treatment of Native American diabetics.
- The program would stimulate increased production of traditional, nutritionally beneficial foods within Native communities by providing producers with an economic incentive to once again produce traditional, healthy foods. By providing a market incentive to producers in the form of IHS purchases, the economic viability of traditional food production would be increased, contrib-

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uting to job creation, economic development, the redevelopment of sustainable food systems and increased self-sufficiency.

RECOMMENDATION #4: INDIAN HEALTH SERVICE LOCAL PURCHASING

Given the scientific evidence that many traditional Native American foods contribute to the prevention and treatment of Type II Diabetes, IHS hospitals and clinics should be mandated (and funds should be appropriated to cover any additional costs) to purchase these foods to be included in patient meals whenever they are available. The list of approved foods would be developed in cooperation with each participating tribal community to insure both nutritional and cultural criteria are used.

Benefits:

- The program would encourage a vulnerable parts of the population (those already suffering from illnesses, including diabetes) to develop healthy eating habits, focussing of the foods that have kept their people and cultures healthy for generations. This would, in turn, reduce the incidence and severity of nutrition-related disease (particularly diabetes) in Native American communities.
- The program would stimulate increased production of traditional, nutritionally beneficial foods within Native communities by providing producers with an economic incentive to once again produce traditional, healthy foods. By providing a market incentive to producers in the form of IHS purchases, the economic viability of traditional food production would be increased, contributing to job creation, economic development, the redevelopment of sustainable food systems and increased self-sufficiency.

RECOMMENDATION #5: FOOD STAMP QUALIFICATION FOR TRADITIONAL FOODS

Food Stamp Programs in Native communities should develop a list of traditional foods which qualify for purchase under the food stamps program. In addition to distributing this list to benefit recipients, it should be distributed to management at grocery stores and other retail outlets, thereby encouraging them to stock these foods (and purchase them from local producers). If there are farmers markets or other forms of informal marketing of traditional foods within the particular tribal community, the local Food Stamps Program should proactively seek ways of expanding the number of producers/distributors who qualify to accept food stamps.

Benefits:

- See Recommendation #3 (above)

RECOMMENDATION #6: IHS DIABETES PREVENTION COMPETITIVE FUNDING

Over \$100 million of Federal funds has been appropriated for use in developing diabetes prevention programs in Native American communities. A portion of these funds, administered by the Indian Health Service (DHHS), should be earmarked for programs which stimulate the production, processing and/or distribution of healthy, traditional foods within Native communities as a strategy of diabetes prevention and economic development. These funds should be distributed through a competitive grant program in which IHS service units, nonprofit organizations and tribal governments are eligible to compete on equal footing.

Benefits:

- The program would encourage the development of innovative, culturally-based projects that strengthen the food systems that are necessary to prevent diabetes and/or control its negative impacts. In addition, such projects would contribute to the economic viability of traditional food production, job creation, economic development, and increased self-sufficiency.

RECOMMENDATION #7: CULTURALLY-APPROPRIATE NUTRITION EDUCATION EFFORTS

All federal food assistance programs should develop culturally-appropriate nutrition education

materials and programs. Although some of these resources may be broadly applied throughout Indian Country, resources should be made available to local offices if Federal food assistance programs to develop specific resource materials for particular tribal communities.

Benefits:

- The development of educational resources for use in particular tribal communities would make nutrition education efforts more effective, thereby increasing community health.

RECOMMENDATION #8: STUDY NUTRITIONAL NEEDS OF NATIVE AMERICANS AND REVISE NUTRITION GUIDELINES FOR FEDERAL FOOD ASSISTANCE PROGRAMS

Rather than relying so extensively upon the nutritional guidelines of the general U.S. population, a comprehensive study of the particular nutritional needs of Native Americans should be undertaken, including careful examination of any potential difference between various tribes. Such a multi-year study should be undertaken by the USDA in conjunction with the Indian Health Service and the National Institutes of Health. The results of this study should then be used to develop new nutritional guidelines for Federal food assistance programs in Native communities (e.g., WIC and FDPIR), including making allowances for regional/tribal differences.

Benefits:

- A thorough understanding of the particular nutritional needs of Native Americans in general and particular tribal communities in specific will allow for Federal food assistance programs to more effectively provide the specific foods that contribute to physical health and prevent diabetes within Native American communities.

RECOMMENDATION #9: EXEMPT PER CAPITA PAYMENTS FROM INCOME QUALIFICATION CALCULATIONS

Income under a certain threshold (e.g., \$2000/year/person) through per capita payments to Native Americans should not disqualify a person from receiving Federal food assistance if utilized to increase the long-term self-sufficiency of the individual/family. Because such income is often a one-time infusion of cash, it does not significantly change the long-term food security of the person or family, and disqualification to receive benefits requires that this income be directed to providing for the immediate food needs of the recipient, rather than her or his long-term financial sustainability.

Benefits:

- This policy would permit individuals and families to spend per capita payment income in ways that contribute to an increase in the long-term self-sufficiency (e.g., purchase of a car to drive to a job or payment of educational expenses that will lead to increased employment opportunities). In addition to the benefits to the individual/family, Federal programs will benefit from a long-term reduction in the number of people requiring food assistance.

RECOMMENDATION #10: EXPAND GRANT ELIGIBILITY TO NON-PROFIT ORGANIZATIONS

In many cases (e.g., Administration for Native American grants), only tribal governments are eligible to compete for funding and/or have priority over other applicants. However, many of the most effective and innovative solutions to community problems are developed by nonprofit organizations. Nonprofit organizations serve as the "Third Sector," complementing and providing a bridge between the efforts of the "Public Sector" (i.e., government) and the "Private Sector" (i.e., business). Federal granting programs should make nonprofit organizations eligible to compete on equal footing with tribal governments based upon factors such as the quality of the proposal, the comprehensiveness of the workplan, demonstrated organizational capacity, etc. Reasonable qualifications – such as Native American control of governing boards and a history of success working within the specific tribal community – should be established.

RECOMMENDATION #11: TOHONO O'ODHAM PILOT PROJECT

The Tohono O'odham and neighboring Pima communities have the highest rates of Type II Diabetes of any Native American tribe – the highest rate in the world. The development of a comprehensive, community-based prevention and treatment program aimed at reversing the diabetes epidemic within the Tohono O'odham community would provide a model which could be adapted to fit the specific cultural contexts of other tribal communities; success within the most extreme context would demonstrate the effectiveness of such an approach to other Native communities. Federal investment in such a program – aimed at increasing self-sufficiency, innovation and cultural appropriateness – would pay tremendous dividends in decreased rates of diabetes, dramatically reduced medical costs, and increased economic and social self-sufficiency.

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