THE BIODIVERSITY PHOENIX PROJECT

RETURN of AMERICAS ORIGINAL ECO - FARMERS

THE AMERICAN INDIAN
2007

"Vision without action is merely a dream,
Action without vision just passes time
Vision with action can change the World"

Sunset Resource Group
And
The Bio-Diversity Centre

Combine their efforts and offer assistance to the help the *Phoenix*
A mythical bird that rises from the ashes become reality and return America's original eco-farmers and believers in Bio-diversity to life.

American Indian Agriculture

The American Indians began farming on the North American continent approximately 7,000 years ago, when Native people in the area of present-day Illinois raised squash. During the next several thousand years, Indians east of the Mississippi River domesticated and cultivated sunflowers, goosefoot, and sump weed or marsh elder.

Ancient farmers in Mesoamerica domesticated corn, or *Zea mays,* the cultivation of which spread northward after 3,400 B.C. and reached eastern North America about 2,000 years ago. By A.D. 800, many Indian groups had adopted maize agriculture, and by A.D. 1000, they had developed a complex agriculture based on three major crops—corn, beans, and squash—with a host of other plants providing supplemental crops. By The time of European contact they were raising all types of corn known today: flint, flour, pop, dent, and sweet.

Agricultural Practices

Indian agriculture in the Southwest began as early as 4,000 years ago, when traders brought cultigens into this region from Mexico. By The beginning of the common era, the Indian farmers of the Southwest had made the seed selections and developed plant varieties best suited for the climate conditions in the region, from the cool, moist mountains to the hot, dry desert. Indian farmers in the Southwest began raising corn about 500 B.C. Southwestern farmers also cultivated several varieties of squash and beans. In contrast to eastern farmers, the southwestern agriculturists did not cultivate beans among the corn plants. Instead, they developed bush varieties that were self-supporting rather than vining. The development of bush beans was important because in the Southwest closely planted cultigens could not compete successfully for the limited soil moisture without irrigation. Besides corn, squash, and beans, southwestern farmers also cultivated cotton. Cotton probably reached the Southwest from Mexico about 300 B.C. The southwestern Indians valued the cotton fiber for weaving and the seed both for eating and for vegetable oil.

East of the Mississippi River, the men traditionally prepared the soil, but the women had the responsibility of planting, weeding, and harvesting the crops. Outside of the Southwest, Indian women had the major responsibility for domesticating plants, cultivating crops, and controlling the use of the land. They cleared the land for garden plots along streambeds or floodplains, where they could till the soil with their bone and stone hoes and plant with wooden dibble or digging sticks. Indian women domesticated and bred plants to the requirements of specific geographical locations. They bred corn plants to mature in a growing season that averaged from 200 days in Mesoamerica to 60 days in the northern Great Plains. They also bred corn to withstand the heat and desert conditions of the Southwest as well as the cool, moist areas of the present-day northern and eastern United States. Indian women maintained relatively pure corn varieties by planting seeds, such as blue, yellow, or red, sufficiently far apart in fields to prevent cross-pollination. Indian farmers used similar selection and planting techniques for beans, squash, and cotton.

Indian farmers did not fertilize their fields with organic matter. East of the Rocky Mountains they maintained soil fertility by planting beans in the same hills with their maize to add nitrogen to the soil. Indian agriculturists also used fire to control weeds and brush and to mineralize nutrients. Although burning depletes nitrogen and sulfur, it recycles organic-bound nutrients such as phosphorous, calcium, potassium, and magnesium. Contrary to popular belief, the Indians did not fertilize their corn with fish or teach the European immigrants to do so. Squanto apparently showed the Pilgrims how to use fish for fertilizer in 1621, but no evidence proves the Indians customarily followed this practice. Instead, Indian farmers abandoned exhausted croplands and cleared new areas for cultivation. Squanto knew about fertilization, but he probably gained that knowledge while a captive in Europe. *The Indians preferred to rotate their fields instead of fertilizing to maintain crop productivity.*

Land Tenure

In the present-day northern United States, the Indians adopted two forms of land tenure. Villages claimed sovereignty or exclusive ownership over an area, which other bands recognized. Within this general area of communal ownership, they recognized individual control of the gardens and fields. Family lineage usually determined who controlled and cultivated the land. The eldest woman of each lineage exerted overall control of the land. Each lineage retained the right to use those lands as long as the village remained on the site and the women cultivated the fields. Thus, ultimate land tenure depended upon village sovereignty over a particular area, and immediate, individual control of a field depended upon actual occupation and use. If a plot was cleared of trees and brush and planted with crops, it was automatically removed from the communal domain as long as the family continued to use it.

In the desert Southwest, land tenure differed slightly from that east of the Mississippi River. In contrast to eastern farmers, the women in the Southwest usually did not control the land. Their labor in the fields, however, gave them a right to a portion of the crop and the freedom to dispose of it without the permission of their husbands. Hopi women, however, controlled the land, inheriting it through a matrilineal system.

Several generalizations, then, can be made concerning the nature of Indian land tenure for agriculture. Title to a general territory was a group right, not an individual right. Usually, the Indians of North America did not think of private property as an absolute individual right or consider farmland a commodity that could be bought, sold, or permanently transferred in some fashion. The community owned the land, and the individual created a control or use claim by cultivating a specific plot. If arable land was plentiful, the individual's claim lapsed whenever the land became exhausted or abandoned. This characteristic of tenure was common in the present eastern United States. In the Southwest, where the climate limited arable land, an individual's claim to the fields remained valid even when they lay fallow. Tenure or control was not vested in an individual but with the lineage or household. This control unit could be either patrilineal or matrilineal, depending upon the particular Indian culture. Although a family or individual could claim additional land by clearing wasteland for cultivation, clan lineage determined the paramount right to it.

U.S. Government Policies

During the late eighteenth and early ninetieth centuries, some Indian groups, such as the Cherokees, adopted the Anglo-American practice of raising cattle, but they did not practice extensive agriculture, in part because whites often seized their lands. With the removal of many of the eastern nations west of the Mississippi River during the 1830s, the federal government attempted to teach these and other western nations the white man's methods of agriculture. The nomadic Indians of the Great Plains, however, rejected agriculture because the government attempted to remake their culture by insisting that the males learn to farm, whereas in the past only the women tended garden plots. Moreover, the federal government never provided adequate lands, instruction, technology, or

financial support for the western nations to become self-supporting agriculturists. In 1887, the Dawes General Allotment Act enabled the federal government to begin the process of breaking up reservations by giving land to individuals, such as heads of households, to encourage farming. This legislation also opened Indian lands for white settlement, and it proved disastrous for Indian farmers. Many allotted Indians soon lost their lands to un-scrupulous whites. At the same time, if an Indian landowner died without a will, federal policy mandated the division of all property equally among all the heirs. By the early twentieth century, many private Indian lands had been divided into sections too small to support farming operations. Heirship policy had removed approximately 7 million acres of Indian lands from cultivation by the mid-twentieth century. Heirship lands so fragmented reservations on the Great Plains that cattle raising proved impossible, and a lack of credit for seed, implements, and livestock prevented even subsistence agriculture. Consequently, the Bureau of Indian Affairs often leased Indian heirship and allotted land to white cattlemen because the Indian owners could not afford to use it for agriculture.

During the twentieth century, environmental limitations in the West and federal Indian policy designed to assimilate and acculturate the Indians into white American society prevented the development of commercial agriculture on most reservations. In the Southwest, insufficient rangeland hindered agricultural development. Inadequate technical and financial support by the federal government also prevented the development of irrigation and further limited Indian agriculture. Many Indians in the Southwest, however, relied on stock raising for their income, and the San Carlos Apaches ranked among the most successful Indian cattlemen.

By 1950, however, Indian farmers averaged only $500 of income annually compared to white farmers, who earned $2,500 annually. At mid-century, most Indians still lived in rural areas, but they were not an agricultural people. By 1960, less than 10 percent of the Indian people farmed, down from 45 percent in 1940. Indian farmers could not meet their own basic economic and nutritional needs by farming because they did not have the necessary capital, technology, and expertise to practice successful agriculture. Indian farmers could not qualify for loans, and their farming operations prevented them from acquiring the capital to make improvements. Without land reform, few Indians had sufficient acreage to become commercial farmers. As a result, most Indians continued to lease their lands to white farmers and cattlemen. The continuation of these problems prevented the development of a viable Indian agriculture, and the matters of insufficient capital, inadequate credit, and heirship policy remained unsolved. By the late twentieth century, although Indians controlled 52 million acres, including 10 million under private owner-ship, few Indians had any opportunity to become farmers. By 1997, only 10,638 Indian farmers remained and only 3,543 farmers earned $10,000 or more from agriculture. By The turn of the twenty-first century, Indian agriculture in the United States was insignificant and federal Indian agricultural policy had failed to help make the Indians successful small-scale farmers capable of meeting their needs for both subsistence and an adequate standard of living.

Sunset Resource Group Proposal

Sunset Resource Group has combined the expertise of its international associates from the Bio-Diversity Centre and a Locally based privately held company that has over 60 years experience in planting, cultivating and processing products in the arid conditions of Arizona and New Mexico to form a team of experts to work in conjunction with the Federal Government and the indigenous tribes to return portions of their land to productive commercial eco-friendly farming.

It is anticipated this International cooperative effort will produce several all natural products from a sustainable source of broad base competitively priced commodities that yield equally shared benefits for all participants including the growers, processors, distributors and the consumer, while at the same time preserving the land and environment for many future generations.

Research Credits

Hurt, R. Douglas. *Indian Agriculture in America: Prehistory to the Present.* Lawrence: University Press of Kansas, 1987.

Matson, R. G. *The Origins of Southwestern Agriculture.* Arizona Press, 1991.