

UNIVERSITÉ PARIS/NANTERRE



THE EVOLUTION OF INDIGENOUS LABOR



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Abstract

Before settlers came to America, Native American had developed unique farming techniques. Indeed, they succeeded in developing a technique of agriculture called the "three sisters". It allowed them to grow several plants in the same place while avoiding degrading the soil in order to preserve the soil for other plantations. They also developed medicinal techniques by using the medicinal plants that they grew. For many years, these techniques were shared with the European settlers who came to conquer America because their relationship was, at the beginning, based on learning and sharing. Moreover, it was, thanks to these farming techniques and knowledge that the natives began to trade with the European settlers.

Things quickly changed when the settlers decided to colonize America and decimate the indigenous peoples driving them out of their own territory.

As time went by, the natives ended up having less and less rights and freedom. Because of certain laws, the indigenous people found themselves with less and less land, which prevented them from cultivating and making a living from it. Moreover, with the world's population growing, companies preferred to do business with Non-Native farmers who favored mass agriculture with pesticides, rather than quality agriculture in small quantities, as the indigenous people did.

Because of these policies and the changes in society, the indigenous people had no choice but to change their jobs to other sectors such as gambling and the service industries. However, due to social factors such as discrimination and lack of education, indigenous people are among the poorest populations in the United States.

Indeed, because of the history of the country, the indigenous people have always been marginalized and this was especially confirmed with the COVID-19 outbreak during which the indigenous population was put aside by the American government.

Introduction

The United States of America is a country that has been founded on racial principles and merit. While White people have all the rights, people of color and racialized people are seen by the American society as undeserving people who must be removed and marginalized from society. Indigenous people are among the main targets of this racist American mentality.

As a result, they were forced to live in Indian reservations away from the rest of the American society. According to dictionary.com, discrimination is “a treatment or consideration of, or making a distinction in favor of or against, a person or thing based on the group, class, or category to which that person or thing belongs rather than on individual merit: racial and religious intolerance and discrimination.”

When the European settlers came for the first time in the land of what it is now The United States of America, there were approximately 60 million indigenous people. According to dictionary.com, indigenous can be defined as “relating to or being a people who are the original, earliest known inhabitants of a region, or are their descendants.” Nowadays, the indigenous population is 3,8 million people. This drop was caused by the extermination done by former Europeans settlers since they set foot on the new world but also by the discrimination that is facing the indigenous community of the United States of America. Furthermore, tribes in the U.S. are divided in two sections, the recognized tribes and the unrecognized tribes. The American Government officially recognized 574 Indigenous tribes and unrecognized almost 400 tribes.

At first, the indigenous people helped European settlers when they arrived in the “New World”, by giving them food, water and many other things. It was during their first encounter with the Iroquois tribe that the European settlers learned the "Three Sisters" technique.

The "Three Sisters" is an agricultural technique used by the Native American groups, mainly by the Iroquois (indigenous groups of the current state of New York). This technique consists in the combination of three plants, corn, beans and squash, which allow to feed an individual by providing all that the human body needs. This ancestral technique has recently become very popular to non-indigenous people because although it nourishes the body, it is also cultivated

in an organic way. The organic market has recently boomed as people are paying more and more attention to what they eat and their health.

The indigenous tribe also showed them how to cure wounds with medicinal plants. Medicinal plants are, even today, very important for medicine because about 118 drugs are based on medicinal plants. However, according to the Royal Botanic Garden, there are 723 medicinal plants in risk of extinction because of over-collection.

Because of the history of colonization, Indigenous people face discrimination and even in the American laws, there are some of them that discriminate indigenous people who end up living isolated on their reservations. This isolation prevents the indigenous people from having access to any kind of school education that would allow them to acquire diplomas.

Without diplomas and without experience of "modern" American life, Indigenous people are marginalized. Indeed, the economic underdevelopment of the indigenous community has been a real obstacle, especially since the reserves are isolated and located in dry, rural, wet or difficult to access areas.

Moreover, fewer and fewer natives are interested in organic agriculture. However, since they have no diplomas and no experience of "modern" work, we can wonder why Indigenous people are abandoning organic agriculture?

In the first part we will analyze the agriculture developed by the indigenous people and in a second part, the factors that pushed them to stop organic agriculture. In the third part, we will see what solutions they have found out to improve their living conditions.

I. A unique agriculture developed by the natives

The “Three sisters” is an agricultural technique used by American Indigenous and it is said that this technique was given by the “Great Spirit” to the Indigenous people.

“The Great Spirit is the supreme being and principal deity of Native American [...] it is the supernatural being conceived as the perfect and all powerful originator and ruler of the universe, it is often defined simply as "God" in Western beliefs”¹.

In fact, according to an Iroquois Legend, corn, beans and squash were passed on to the people when all three sprouted from the body of the daughter of the Sky Woman who thus granted them the gift of agriculture. Coming from the same parent, they are called "sisters" and represent a physical and spiritual support for the indigenous people.

Basically, this technique consists in the combination of three plants, corn, beans and squash². These three foods, whether grown individually or together, have a very long history in the Americas. The "three sisters" technique took between 5,000 and 6,500 years to develop and was used because the lands of the American continent were mostly infertile. This technique made it possible to grow three plants in the same place but above all this technique did not degrade the soil much. It is believed that squash was domesticated first from 8,000 to 10,000 years ago, followed by corn and then beans.

This technique has been mainly used by Indigenous women because they are the ones who are in charge of agriculture in the indigenous tribes. Moreover, most of the time where people represent the “three sisters” there often indigenous women represented.³

Gender distribution for Native American and non-Native farm operators for all Native Lands⁴

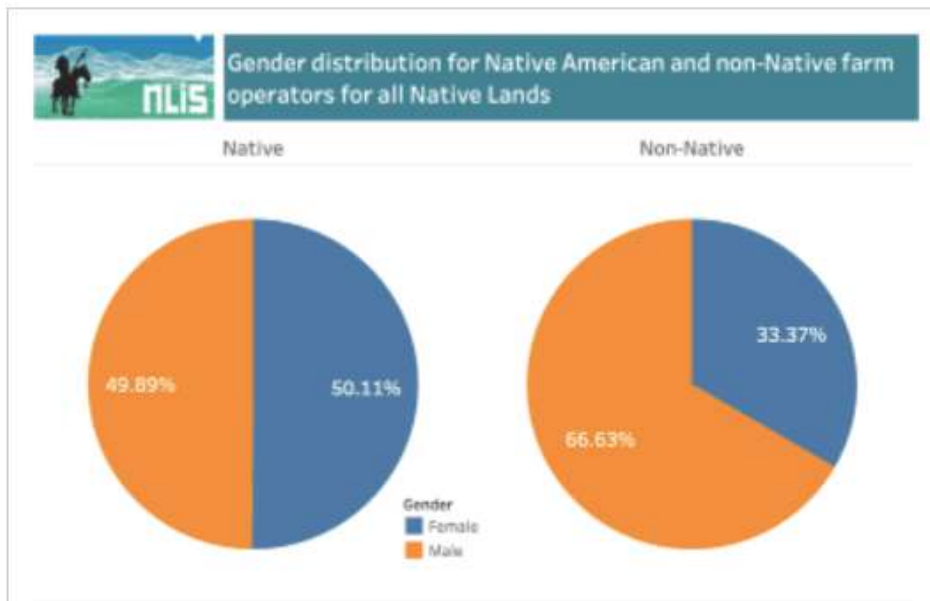
¹ “Great Spirit”, *Siteseen Limited*, November 11th, 2012, consulted on April 26th, 2022.

<https://www.warpaths2peacepipes.com/native-american-culture/great-spirit.htm>

² See annex 1: Example of the “Three sisters” technique

³ See annex 3: “illustration of indigenous women farmer”

⁴ See annex 2: “Gender Distribution for Native American and non-Native farm operators for all Native lands”



As we can see in this graph, on one hand, the percentage of indigenous women farmers is higher than the percentage of indigenous men farmers. On the other hand, the percentage of non-native female farmers is much lower than the percentage of non-native male farmers.

This is explained by the fact that culturally, in Europe, men were expected to take care of agriculture and working in general while women were assigned to maintain the home. In the indigenous culture, things are not the same. In fact, indigenous women had much more freedom and power than European women, such as the right to divorce or to follow a matrilineal kinship system. According to the encyclopedia *Britannica*, a matrilineal society, “also called matriliney is a group adhering to a kinship system in which ancestral descent is traced through maternal instead of paternal lines”. When indigenous men oversaw waging war against other tribes, hunting and fishing, Indigenous women were therefore in charge of,

"clearing fields, planting, hoeing, and harvesting; digging cache pits and storing food; erecting and dismantling lodges and tipis; collecting wild plants and firewood; cooking, hauling water, and washing dishes; transporting possessions, generally on foot, on bison hunts; making household items, including pottery and clothing; and child rearing".⁵

⁵ “The Role of Native American Women in Agriculture”, *The Friday Footnote*, November 4, 2021, consulted on April 26th, 2022. <https://footnote.wordpress.ncsu.edu/2021/11/04/the-role-of-native-american-women-in-agriculture-11-5-2012/>

It was a real cultural shock for the European settlers because their culture went against the rules of European societies where women were not valued at their true worth and were not considered "powerful or intelligent enough" to do certain tasks of everyday life such as farming for example. On the contrary of the indigenous culture, where women were much more valued and were considered just as important as men.

“In 1644 the Reverend John Megalopensis, minister of a Dutch Church in the Hudson River Valley of New York State and a missionary to the Iroquois Indians observed that Native American women were “obliged to prepare the Land, to mow, to plant, and do everything; the Men do nothing except hunting, fishing, and going to War against their Enemies.” Indian women performed what Europeans considered to be men’s work.”⁶

This technique consisted in first placing several corn seeds in the holes designated for planting. As the seeds began to grow, the indigenous women farmers would create a hill about a foot high and two feet wide around the corn shoot. The beans were then planted on the same hill from two to three weeks later. At the feet of these two plants, the natives would plant the third sister: squash. The Three Sisters are what is called an "interplanting technique", that is to say a crop planted between the harvest of a main crop and the sowing of the following crop during a more or less long period called "interculture". It is also called a "polyculture" which is defined by Cambridge Dictionary as "an area of land on which several different crops are grown [...]"

The “Three sisters” is very important in terms of nourishing the land in order to grow crops. Moreover, growing corn, beans and squash together only brings benefits. Indeed, these plants will help each other like sisters by providing everything the other needs. The corn will provide a support on which the stalk of the beans can climb. As for the beans, they will extract nitrogen from the air and bring it to the soil in a form that will benefit all three sisters, and their twisted vines will stabilize the corn in case of strong winds. As for the squash, it will protect its sisters from the sun thanks to the shade of its large leaves, which keeps them cool and moist while preventing the growth of weeds. The prickly hairs on some varieties of squash also keep out pests, such as deer and raccoons. It is important to note that this technique also improves the physical and biochemical environment of the soil, minimizes soil erosion, improves soil tilth,

⁶ “The Role of Native American Women in Agriculture”, *The Friday Footnote*, November 4, 2021, consulted on April 26th, 2022. Ibid

manages plant population and spacing, provides nutrients to plants in appropriate amounts and at the right time, and controls weeds.

It is also important in terms of nourishing the human body. The "Three Sisters" provided for the physical and spiritual needs of the Native Americans, as each of the "sisters" brings something beneficial to the plantation and provides a balanced diet for the people who grow, eat and celebrate this food all together as the legend states. Indeed, together, corn, beans and squash provide the human body with nine essential amino acids, complex carbohydrates, essential fatty acids, increased protein intake, a large amount of vitamin A. Furthermore, it should be noted that thanks to polyculture, corn, squash and beans produce more energy and more protein than all monocultures or mixtures of monocultures planted on the same area.

It is important to mention that the "Three sisters" is a technique that will be modified according to where the native tribes are located. Indeed, The Iroquois, who lived in the eastern United States (in what it is now New York), lived in a damp and cold climate. Therefore, they planted in mounds to improve the drainage and warmth of the soil. As for the Tewa or the Anasazi, they grew food where the soil was raised on the edges so that water could accumulate because they come from the southwestern United States, where the climate is rather dry. In addition, these people from the southwest of the country had to adapt by adding a "fourth sister", the *Rocky Mountain bee*⁷ plant which will allow to attract the bees to help pollinate the beans and squash. There are even some indigenous tribes who will replace squash with pumpkin or who will add sunflowers in order to protect other plants from wind and animals and attract pollinators.

When the European settlers arrived on American soil, they were surprised by the complex agricultural techniques that the natives had developed. It was the Iroquois people who taught them how to master the "Three sisters" technique because they were one of the first tribes in contact with the settlers because they were on the East Coast of the United States, the place where the settlers arrived.

Painting representing native Iroquois women in a plantation

⁷ Annex 4: Picture of "Rocky Mountain bee"



As time went by, things changed. Indeed, due to the increase of the world population, globalization and the appearance of new technologies, agriculture has become more and more industrialized. The most important thing was not the quality but the quantity.

However, people are becoming more and more careful about what they eat. Indeed, nowadays, it is true that more and more farmers around the world are beginning to realize that the modern agricultural system is not sustainable. Indeed, practicing monoculture and intensive plowing degrades the soil and favors the appearance of parasites and diseases. In addition, the pesticides and artificial fertilizers used by producers pollute not only the land but also the water. Moreover, the modern system kills species such as bees and pollinating butterflies that are essential for the planet and for vegetation. The degradation of the soil prevents it from retaining water, which forces farmers to use water reservoirs that are already exhausted. In order to avoid this situation, more and more farmers are turning to organic farming and traditional methods practiced for several thousand years by the indigenous peoples of North America. Indigenous people do not use chemicals, artificial products or mechanized irrigation systems.

According to the Organic Trade Association (OTA), "retail sales of organic food products grew 12.8% in 2020 to \$56.4 billion, representing a 6% market share."⁸ However, in 2017, most of the organic products from Indian Reservations sold in the US do not come from indigenous farmers (12.89%) but from non-indigenous farmers (87.11%).⁹ One possibility for this consequence is that the natives have less and less land to cultivate. This is because when the European settlers began to expel the indigenous people from the territory, they expelled them to the least fertile lands possible so that the settlers would have the best farmland. Moreover, even on Indian reservations, not all the land is owned by the natives, some of it has owners, most of whom are White men. With small land and less and less fertile land, the natives found it increasingly difficult to produce and sell their products. Their distance from the capitals is also a plausible factor of this consequence because the natives do not have enough financial means to pay for the travel of their product to the big cities which are too far away.

In addition, many companies have stopped trading with indigenous tribes because industrial products will catch the eye of customers because they look, according to the beauty criteria of customers, more appetizing and attractive than organic, without pesticides squash that look worse. If the product looks bad, then the company loses money because customers do not buy the product, especially since organic products are generally more expensive than industrial products because they require more labor.

Example of industrial squash¹⁰



Example of organic squash¹¹



⁸ « Le Marché des produits alimentaires aux USA », *Unigrains*, Novembre, 2021, https://www.unigrains.fr/wp-content/uploads/2021/12/211215_UNG_newsUSAFR.pdf

⁹ Annex 5 : "Market Value of agricultural products sold by Race on All Reservation(s) in 2017"

¹⁰ <https://paniers.loco-motives.fr/courge-potimarron-rouge-piece-petit-calibre-a-farcir-idee-recette-p1382544169931.htm>

¹¹ <https://www.grainesdefolie.com/courges-et-potirons/2355-courge-a-huile-retzer-gold-bio.html>

Corn, beans and squash were not the only plants that interested the non-natives in terms of business. Indeed, the natives cultivated plants with curative effects because they were specialists in **medicinal plants**, which have contributed a lot to today's medicine.

Before the colonization of the United States, the natives used the plants that nature offered them to heal themselves. To domesticate and to know how these plants works, could sometimes be a question of life or death because “since ancient times people have needed plants not only for their very survival but also to enrich their lives and make the act of living a bit more comfortable.”¹² It is not really known how the natives became familiar with medicinal plant but “it is rumored that they first started using plants and herbs for healing after watching some animals eat certain plants when they were sick. In order to protect these plants from over harvesting the medicine person used to pick every third plant they found.”¹³ Here, some examples of these Indigenous healing plants:

The California Poppy¹⁴

The different native tribes of the United States used this plant for different reasons because all the parts of this plant serve a purpose. The Costanoan tribe prepared the flower as a tea and rinsed their hair with it to kill pus. As for the Mendocino tribe, they made juice with the roots to treat many ailments, such as headaches, stomach aches but also toothaches. As for the women of the Pomo tribe, they also made a strong tea with the crushed seed pods and with the root juice to apply on their breasts to help dry up the milk flow when it was time to wean their babies.



The Gooseberry¹⁵

¹² “8 Native Plants for Native Medicine”, *Storey – Health & Well-being*, consulted April 27th, 2022, <https://www.storey.com/article/8-native-plants-native-medicine/>

¹³ “10 Medicinal Plants the Native Americans Used on a Daily Basis”, *Healthy life tips*, September 28th, 2021. Youtube, <https://www.youtube.com/watch?v=CX6yY-1MKR0>

¹⁴ Annex 6: The California Poppy

¹⁵ Annex 7: The Gooseberry



Indigenous tribes used the gooseberry juice as a wash to soothe inflamed and irritated skin tissue by applying it to the skin. Also, the Comanche tribe made a tea based on gooseberry as a gargle to soothe inflamed throats and the Prairie Potawatomi tribe made a decoction from the root, in order to wash their eyes and remove foreign particles or to heal infected eyes.

Yaw¹⁶

Traditionally, women of the Okanagan tribe and other tribes in the northwestern United States consumed yew berries as a means of birth control. The Cowlitz tribe made a poultice with the needles and applied it to wounds to disinfect them and promote healing. Some indigenous people cooked the bark to make a liquid substance that the natives drank to relieve arthritis, tuberculosis and kidney disease. However, it is important to be extremely careful with yew berries as the leaves are poisonous.



Historical accounts tell us that the European settlers exterminated the natives with their weapons, but these were not the only arms they had against these indigenous peoples. When the settlers came into contact with the indigenous people, the latter had never been in contact with certain diseases until then unknown to the natives due to the isolation of the “new” continent. Among these diseases we find smallpox, typhus and measles which were the deadliest infections. Clearly, they were not the only diseases that devastated entire native villages, there were also cholera, typhoid fevers, influenza, gonorrhoea, scarlet fever, rubella, diphtheria, whooping cough and syphilis.

“In North Carolina, in every village where the English passed through in 1584-1585, people began to die in large numbers. From 1617 to 1619, a terrible epidemic killed thousands of First Nations people between the Penobscot River and Cape Cod, almost completely depopulating the Plymouth area.”¹⁷

¹⁶ Annex 8: Yaw

¹⁷ « Épidémie et colonisation de l'Amérique », *Ledevour*, July 10th, 2021, consulted April 28th, 2022, <https://www.ledevour.com/opinion/idees/617103/histoire-epidemies-et-colonisation-de-l-amerique>

As the settlers moved into the deep of the country, they realized that many indigenous villages were exterminated. The reason for this is that the settlers' disease simply spread to indigenous villages that had never come into contact with them. This left villages and whole regions completely empty.

“A great pandemic (probably smallpox) struck all of Northeast America in 1634. Smallpox struck again between 1639 and 1675. The infernal cycle continued in the following centuries. The disease spread from person to person, reaching remote populations that had no direct contact with Europeans.”¹⁸

The native healers, not knowing these new diseases, did not know how to treat the infected inhabitants. Which plants should be used, which part of the plant is useful to cure this new type of disease, in which season should it be picked? Many questions but very few answers. Because they did not know how to cure these new diseases, indigenous medicine was not taken seriously by White people.

It is with great contempt that a White doctor, Dr. Benjamin Rush declared during an address for the American Philosophical Association in 1774 that,

"We have no discoveries in the materia medica¹⁹ to hope for from the Indians of North America because it would be a reproach to our schools of physic if modern physicians were not more successful than the Indians even in the treatment of their own diseases."²⁰

He also added that the doctors who have studies have nothing to learn from "uncivilized" people and also affirmed that the natives are not like the Whites that their body is different and that "Indian were much less sensitive to pain than White people".²¹

However, we note that according to the U.S. pharmacopeia created in 1820, among the 296 substances listed, 130 were substances of indigenous origin and that since its creation, until

¹⁸ « Épidémie et colonisation de l'Amérique », *Le devoir*, Ibid

¹⁹ all the knowledge collected on the therapeutic properties of any substance used for healing.

²⁰ “American Indian Influence on the American Pharmacopeia”, Virgil J. VOGEL, February 24th, 1976, p.3 consulted April 28th, 2022, <https://files.eric.ed.gov/fulltext/ED138390.pdf>

²¹ “American Indian Influence on the American Pharmacopeia”, Virgil J. VOGEL, p.3 Ibid.

1976, 220 substances of indigenous origin were listed. Moreover, it is important to point out that, contrary to what Dr. Benjamin Rush says, many antibiotics are created from substances developed by indigenous people, as well as treatments for diabetes and contraception. Not only that, but the researchers were also inspired by the natives to use the venom of certain wild animals, which they used for war, hunting and gastric problems, to cure "muscle spasms, paralysis in case of tetanus, epilepsy, chorea and rabies". This is a proof that the "White people's medicine" was inspired by indigenous knowledge and know-how to create and perfect medical treatments.

We are able to see that indigenous medicine is becoming increasingly rare and that it is very difficult to preserve it. This phenomenon is the consequence of several factors, which are the following: the **first factor** is the extermination of the indigenous people by the European settlers, either through physical violence (with weapons) or through the contamination of diseases.

“This is in line with modern estimates that put the depopulation rate at 95%. Let us remember the essential: a densely populated North American continent at the beginning of the 17th century and a continent almost empty of its first inhabitants one hundred years later. And what can be observed for the whole is verified region by region, nation by nation...”²²

In fact, the **second factor** is that, with the disappearance of the natives, the techniques of rare medicine disappeared with them. Moreover, even if we know the numerous benefits of medicinal plants, other important factors come into play. To be able to enjoy all the benefits of these plants it is necessary to pick them at a certain time, to cook them at a certain temperature and many other rules like these which ended up being "forgotten" because they were not transmitted from generation to generation because of the disappearance of the indigenous people. We can also notice that since the advent of **synthetic drugs**²³ in 1890, the indigenous medicine is less used because this innovation is popularized and is considered more effective. In fact, in 1965 only 30 substances survived in the seventeenth revision of the U.S. Pharmacopeia, this is the **third factor**.

²² « Épidémie et colonisation de l'Amérique », *Ledevoir*, July 10th, 2021, *ibid*

²³ Synthetic drugs are created using man-made chemicals rather than natural ingredients.

Nowadays, since the population is undergoing certain social changes, such as being more and more organic, indigenous medicine attracts companies that wish to work side by side with the tribes. In fact, now, the population is more interested in that mainly because it is a matter of preserving their health but there are also two other reasons, the quality and taste of the products, and the preservation of the environment.

The 10 top-selling botanicals in the United States, their uses by Native Americans, and their current uses²⁴

The 10 top-selling botanicals in the United States, their uses by Native Americans, and their current uses¹

Common name (Latin names)	Family	Sales (\$ million)	Native American peoples who used the botanical	Native American indications	Current marketed indications
Ginkgo (<i>Ginkgo biloba</i>)	Ginkgoaceae	90	None	Not used	Memory and circulation
Ginseng (<i>Panax quinquefolius</i> , <i>Panax ginseng</i> , <i>Eleutherococcus senticosus</i>)	Araliaceae	86	(<i>P. quinquefolius</i> only) Cherokee, Creek, Delaware, Fox, Houma, Iroquois, Menominee, Mohegan, Pawnee, Penobscot, Potawatomi	Tonic, expectorant; for fevers, tuberculosis, asthma, and rheumatism; as a strengthener of mental powers	Immune function and stress
Garlic (<i>Allium sativum</i>)	Liliaceae	71	Cherokee	Stimulant, carminative, diuretic, expectorant, mild cathartic; for scurvy, asthma, and prevention of worms	Cardiovascular health and cholesterol lowering
Echinacea (<i>Echinacea purpurea</i> , <i>Echinacea angustifolia</i> , <i>Echinacea pallida</i>)	Asteraceae (Compositae)	49 ²	Cheyenne, Choctaw, Dakota, Delaware, Fox Kiowa, Montana, Omaha Pawnee, Ponca, Sioux, Winnebago	Pain relief; for coughs and sore throats, fevers, smallpox, mumps, measles, rheumatism, and arthritis; antidote for poisons and venoms	Immune function
Goldenseal (<i>Hydrastis canadensis</i>)	Ranunculaceae		Cherokee, Iroquois, Micmac	Tonic; for fever, whooping cough, and pneumonia	Immune function
St John's wort (<i>Hypericum perforatum</i>)	Hypericaceae (Guttiferac)	48	Cherokee, Iroquois, Montagnais	For fever, coughs, and bowel complaints	Antidepressant
Saw palmetto (<i>Serenoa repens</i>)	Palmaceae	18	None	Not used	Prostate health
Grape seed extract (<i>Vitis vinifera</i>)	Vitaceae	10	None	Not used	Antioxidant status
Evening primrose (<i>Oenothera biennis</i>)	Onagraceae	7	Cherokee, Iroquois, Ojibwa, Potawatomi	For premenstrual and menstrual pain, obesity, and bowel pains	Antioxidant status; premenstrual and menstrual pain
Cranberry (<i>Vaccinium macrocarpon</i>)	Ericaceae	6	Montagnais	For pleurisy	Health of urinary tract

¹ From references 1–5.

² Echinacea and goldenseal combined.

Thanks to the table on the "10 top-selling botanicals in the United States, their uses by the Native American, and their current uses", we notice that among the 10 most sold herbal supplements in the United States today, 7 were used by the American Indians. Therefore, some companies are turning to indigenous people to develop medicines.

This is the case for Allergan, an American global pharmaceutical company specializing in eye care, neuroscience, medical dermatology, medical aesthetics, breast enhancement, obesity intervention and urology. In order to protect its patents against “generic drug companies who

²⁴ “Inflammation and Native American medicine: the role of botanicals”, *The American Journal of Clinical Nutrition*, August 1st, 2000, consulted April 28th, 2022, <https://academic.oup.com/ajcn/article/72/2/339/4729391>

are trying to knock out the patent so they can produce a cheaper generic version.”²⁵, the company has entrusted its patents to the Mihoawk, an indigenous tribe from the city of New York, by paying them 15 million dollars, in order to avoid the control of the Patent Trial and Appeal Board (PTAB), an administrative law body of the Patent and Trademark Office which rules on patentability issues in the United States. This action is justified by the fact that indigenous tribes have a "sovereign immunity",

““Sovereign immunity" is a legal concept that predates the American republic and stems from the basic notion that you can't sue a monarch, like, say, the King of England, in a court of law. It's codified in the 11th Amendment to the US Constitution, which prohibits "any suit in law or equity, commenced or prosecuted against one of the United States" by an individual. While the amendment was written to apply to US states, Native American tribes enjoy the same immunity.”²⁶

This will allow Allergan to keep its patents and thus prevent its competitors from copying the formula of its Restasis which could fall into the public domain, but also to avoid paying millions of dollars for the invalidation of a patent before a district court.

For the Mihoawk Tribe, this pact would only be beneficial, as the \$15 million would give them a significant boost to their annual budget of only \$50 million and allow them to invest in new infrastructure, but more importantly, the tribe says they need the money to provide health, education, housing and welfare services to the 13,000 members of the tribe, ““the tribe has many unmet needs,” Dale White, the tribe’s general counsel, said in an interview. “We want to be self-reliant.””²⁷

However, the American Justice stated that this type of action is not permitted under U.S. law and that “in such a reexamination proceeding, sovereign immunity does not apply.”²⁸

²⁵ “Drug company hands patents off to Native American tribe to avoid challenge”, *Arstechnica*, September 13th, 2017, consulted April 28th, 2022, <https://arstechnica.com/tech-policy/2017/09/how-a-native-american-tribe-ended-up-owning-six-key-patents-on-an-eye-drug/>

²⁶ “Drug company hands patents off to Native American tribe to avoid challenge”, *Arstechnica*, *ibid*.

²⁷ “How to Protect a Drug Patent? Give It to a Native American Tribe”, *The New York Times*, September 8th, 2017, consulted April 28th, 2022, <https://www.nytimes.com/2017/09/08/health/allergan-patent-tribe.html#:~:text=The%20drugmaker%20Allergan%20announced%20Friday,pay%20the%20tribe%20%2413.75%20million.>

²⁸ “Saint Regis Mohawk Tribe v. Mylan Pharms. Inc.”, *Case text*, July 20th, 2018, consulted April 29th, 2022, <https://casetext.com/case/saint-regis-mohawk-tribe-allergan-inc-v-mylan-pharms-inc>

II. Government laws that prevent them from using their knowledge

If the indigenous people, today, cannot live only from agriculture, with the "three sisters" technique or by cultivating medicinal plants, it is largely because of the American government which does nothing but limiting the rights and the recognition of the indigenous people. In fact, the American Indian community is confronted with major **social** problems.

The social conditions of indigenous people are not well known to the American population because most of the discrimination they experience, such as the exploitation of their natural resources, racism or the desire to erase them for generations, rarely make the headlines and many of these discriminations remain underreported.

The indigenous people are living in poor conditions as they have less and less land in their Indian reserves, which prevents them from living of cultivating the "three sisters" and medicinal plants. As the land is getting smaller and smaller, they end up living in overcrowded conditions, which is why they are more likely to be homeless than other ethnic groups and live in terrible conditions. In the United States, there are more than 90,000 underhoused or homeless Native American and their living conditions have often been compared to those of people in the Third World. The overcrowding is due to an underfunding by the Federal government.

A growing problem is the exploitation of natural resources on indigenous lands by private companies. As we have seen before, the indigenous people have less and less land to apply the "three sisters" technique and to cultivate medicinal plants, as many of these lands belong to White men, which causes a conflict between the two groups. The White men are not the only ones to exploit these lands because private companies also exploit them because they are rich in resources (mainly oil, gold, wood and gas). American states are also building infrastructure and pipelines to transport oil, which has caused (and is still causing) irreparable damage to ancient indigenous sacred sites and natural resources. Indeed, according to the Native American Rights Fund, this exploitation leaves Indian reserves without access to drinking water and disrupts wildlife and fish populations. As a result, indigenous people are experiencing higher mortality rates as they find it more difficult to hunt, feed themselves or find clean water. Added to this, there is a global climate crisis (global warming) that is disrupting the wildlife on

indigenous lands even though groups on the internet are doing their best to preserve it and raise awareness about it through Indigenous Climate Action.

Native American Poverty Rate by State 2022²⁹

Native American Poverty Rate by State 2022

Here are the 10 states with the highest native american poverty rates:

1. South Dakota (49.07%)
2. Mississippi (33.49%)
3. Arizona (32.92%)
4. New Mexico (32.49%)
5. North Dakota (32.24%)
6. Montana (32.20%)
7. Minnesota (31.27%)
8. Maine (29.11%)
9. Nebraska (27.73%)
10. Utah (27.08%)

Now that indigenous people are living with fewer and fewer resources, it leads them to poverty. In fact, 1 in 3 Native Americans live in poverty and the rate changes depending on the state, South Dakota has the highest unemployment rate of indigenous people at 49%. According to the Bureau of Labor Statistics, the unemployment that plagues Indigenous people is increasing as in 2019, they face an average unemployment rate of 6.6% compared to the national average of 3.9%. “The reasons behind poverty and unemployment issues within Native communities are historical and systemic.”³⁰

When it comes to health, Indigenous people face an alarming lack of equity. According to the U.S. Department of Health and Human Services, 30% of Indigenous teenagers and 50% of Indigenous adults are more likely to have health problems related to obesity, high blood pressure, high cholesterol, diabetes, heart disease and stroke. Since many indigenous people live below the poverty line, they cannot afford care that would allow them to treat many preventable illnesses such as HIV or certain mental illnesses. Indigenous people face a higher rate of suicide (the second leading cause of death among indigenous people) than other ethnic

²⁹ Annex 9: “Native American Poverty Rate by State 2022”, *Worlds population review*

³⁰ “Native American Issues Today | Current Problems & Struggles 2022”, *Powwows*, September 17th, 2019, consulted April 29th, 2022, <https://www.powwows.com/issues-and-problems-facing-native-americans-today/>

groups, and the same is true for drug abuse. If the rate of indigenous people who resort to suicide or drugs, is due to a “lack of health resources, funding and culturally competent care allotted to their communities. Cultural loss and historical trauma have also been shown to have adverse health effects throughout generations.”³¹

Age -adjusted percentage of persons 18 years of age and over who were obese, 2018³²

Age-adjusted percentage of persons 18 years of age and over who were obese, 2018. (Body Mass Index (BMI) of 30 or greater)		
American Indian/Alaska Native	Non-Hispanic White	American Indian/Alaska Native / Non-Hispanic White Ratio
48.1	30.0	1.6

Source: CDC 2020. Summary Health Statistics: National Health Interview Survey: 2018. Table A-15a. <https://www.cdc.gov/nchs/nhis/shs/tables.htm>

Diagnosed Cases of Diabetes³³

Diagnosed Cases of Diabetes

Age-adjusted percentage of persons 18 years of age and over with diabetes, 2018		
American Indian/Alaska Native	Non-Hispanic White	American Indian/Alaska Native / Non-Hispanic White Ratio
23.5	8.0	2.9

Source: CDC 2021. Summary Health Statistics: National Health Interview Survey: 2018. Table A-4a. <http://www.cdc.gov/nchs/nhis/shs/tables.htm>

In the United States, indigenous people have the right to vote. However, indigenous people living on Indian reservations have difficulty getting to the polling sites because, according to the Brennan Center for Justice, the polling sites are located too far from the indigenous villages. In addition, many Indian reservations do not have traditional mailing addresses, so the American government often rejects the registration of indigenous people to vote. Their political beliefs are often overlooked by the American government, however, the mobilization of

³¹ “The Biggest Issues Facing the Native American Community Right Now”, *Diversity inc*, November 12th, 2020, consulted April 29th, 2022, <https://www.diversityinc.com/the-biggest-issues-facing-the-native-american-community-right-now/>

³² “Obesity and American Indians/Alaska Natives”, *U.S. Department of Health and Human Services Office of Minority Health*, March 26th, 2020, consulted May 1st, 2022, <https://minorityhealth.hhs.gov/omh/browse.aspx?lvl=4&lvlid=40>

³³ “Diabetes and American Indians/Alaska Natives”, *U.S. Department of Health and Human Services Office of Minority Health*, January 3rd, 2021, consulted May 1st, 2022, <https://minorityhealth.hhs.gov/omh/browse.aspx?lvl=4&lvlid=33>

indigenous Navajo voters in Arizona in the 2020 presidential election may have helped secure a victory for Joe Biden, who introduced a new bill, the Native American Voting Act, which would improve access to polling sites.

Not letting them vote is like avoiding them from society. In fact, Indigenous peoples are victims of cultural erasure and exploitation. Indeed, the U.S. government is undertaking repeated attempts at forced assimilation in order to eradicate indigenous culture. Since they are considered to be peoples of the past, the government does not wish to perpetuate their history, culture and languages. In fact, according to the Indigenous Language Institute, of the 300 indigenous languages that existed before colonization, only 175 are still spoken today and only 20 will be spoken by 2050 if the government does not do something to preserve the languages. However, Native American activists have organized a "Cultural Survival" entitled *Restoring and Protecting Our Native Languages and Landscapes* so that indigenous languages can be heard and preserved.

Regarding cultural exploitation, many White people disrespectfully wear Native costumes but also agricultural techniques, such as the "three sisters" that are taught and explained by White people on YouTube videos for example. In fact, when you write "three sisters" on the search bar of YouTube, you have to go through several videos of White people before you find an Indigenous person explaining what this agricultural technique is.

The knowledge of the "Three sisters" and of medicinal plants is mostly held by Indigenous women. But they are not spared from violence. Indeed, the Native Women's Wilderness has stated that "Native women and girls are also murdered at a rate 10 times higher than other ethnicities. While most of these murders take place on Native land, the perpetrators are most often not Native."³⁴ The knowledge of the "Three sisters" and of medicinal plants is mostly held by indigenous women. But they are not spared from violence. Indeed, the Native Women's Wilderness has stated that "Native women and girls are also murdered at a rate 10 times higher than other ethnicities. While the majority of these murders take place on Native land, the perpetrators are most often not Native"³⁵. In fact, according to a report by the Department of Justice, 80% of the violence and rapes suffered by indigenous women were perpetrated by non-natives. Furthermore, again, according to the Department of Justice, "Eighty-four percent of

³⁴ "The Biggest Issues Facing the Native American Community Right Now", Diversity inc, Ibid

³⁵ "The Biggest Issues Facing the Native American Community Right Now", Diversity inc, Ibid

Native women report having experienced violence at some point in their lives"³⁶, and in 2016, only 116 out of 5,712 cases of missing or murdered Indigenous people were recorded in the Department of Justice database according to a report by the Urban Indian Health Institute. Jolene Holgate, a member of Missing & Murdered Diné Relatives and director of the Coalition to End Violence Against Indigenous Women, said "I think there's this practice of discounting indigenous bodies when it comes to folks who go missing or murdered."³⁷ Killing Indigenous women, it is also losing important knowledge about the "Three sisters" and medicinal plants, unique knowledge that they take with them to their graves.

Native Americans represent less than 1% of the student population. In terms of high school graduation, the graduation rate is much lower for indigenous students. In addition, the high dropout rate of Indigenous students is due to a school system that does not meet their needs, but also due to a "Lack of resources in schools due to insufficient funding is also a major contributing factor to students' plummeting academic levels."³⁸ According to data from the Postsecondary National Policy Institute, only 17% of indigenous students continue their education after high school, compared to 60% of other ethnicities. To remedy this, indigenous people are asking the state for "equal access to scholarships and other educational resources, increase educational funding in low-income areas, and programming to support high school and college students."³⁹

³⁶ "The Biggest Issues Facing the Native American Community Right Now", Diversity inc, Ibid

³⁷ "Native American Issues Today | Current Problems & Struggles 2022", Powwows, Ibid

³⁸ "The Biggest Issues Facing the Native American Community Right Now", Diversity inc, Ibid

³⁹ "Native American Issues Today | Current Problems & Struggles 2022", Powwows, Ibid

With the difficulty that the indigenous people of America have in obtaining diplomas, they cannot access qualified jobs. They always end up either unemployed or working in low-skilled jobs that pay very low because, in fact, the indigenous people also face **economic** problems.

In the United States, indigenous people earn a median income of only \$23,000 per year, compared to \$74,912 for White people according to the **United States Census Bureau**. In addition, according to the **Bureau of Labor Statistics**, Native Americans have the lowest socioeconomic indicators. This disparity can be explained by several factors:

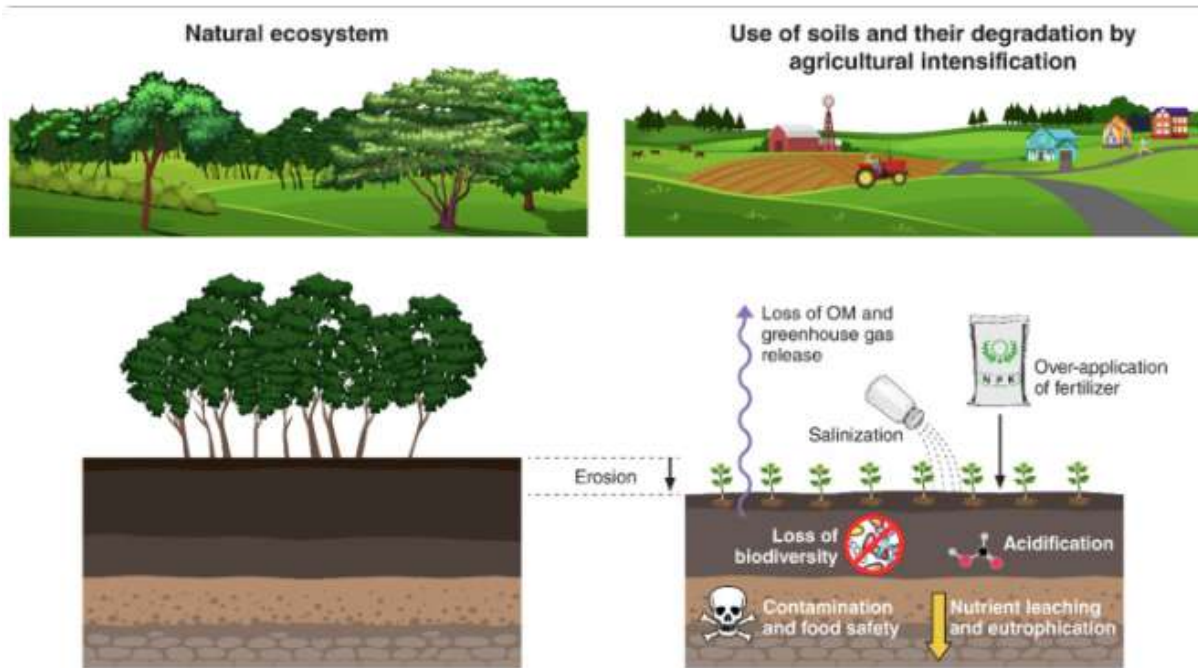
Geography. Because Indian reserves are located in remote areas, the access for clients to get there is still complicated. Even after the government requested that roads must be built and improved between the 1950's and 1960's, the fact that the reserves are increasingly remote (due to government, private companies and White owners of some lands) maintains the difficulty of access. The Indigenous people, who continue to live off the "Three Sisters" and medicinal plants, are finding it increasingly difficult to sell their products and are becoming poorer.

Historical inequalities. For hundreds of years, the indigenous people were considered, not as humans, but as wild people. For hundreds of years, they were underestimated and did not have the right to defend themselves in legal terms, the right to vote, which are problems that still persist today. This disparity between the indigenous man and the White man is mainly due to the violence of colonialism which has left its mark even today.

Exploitation. As we have seen later, many resources belonging to the indigenous people, such as gold, wood, gas or oil, are exploited and used by the government and by private companies, which has created many conflicts, such as the one between the Ute tribe and gold miners who came to the indigenous land to take the gold to make money. In addition, the non-native farmers, by using a cultivation technique that favors industrial agriculture (monoculture), impoverish the soil. As a result, the indigenous people are losing areas of land that were intended for cultivating the "Three sisters" and medicinal plants.

Soil and the intensification of agriculture⁴⁰

⁴⁰ Annex 10: Soil and the intensification of agriculture



“Industrial agriculture harms the environment through pollution of air, soil and water. Air emissions from livestock operations make up 14.5 percent of global greenhouse gas emissions. Conventional crop production degrades soil health and causes soil erosion. The high content of nitrogen and other nutrients in manure runoff leads to dead zones in downstream waterways.”⁴¹

Education. In fact, as we have already seen, the indigenous people of America are the ethnic group that has the least access to schools and has the highest dropout rate. This is because for years the Indigenous people were victims of violence and were forcibly immersed in Euro-American culture:

“Schools forced removal of indigenous cultural signifiers: cutting the children's hair, having them wear American-style uniforms, forbidding them from speaking their indigenous languages, and replacing their tribal names with English-language names (saints names under some religious orders) for use at the schools, as part of assimilation and to "Christianize" them. The schools were usually harsh, especially for younger children who had been forcibly separated from their families and forced to

⁴¹ “Food and the Environment”, *Food Print*, consulted April 30th, 2022, <https://foodprint.org/the-total-footprint-of-our-food-system/issues/food-and-the-environment/>

abandon their Native American identities and cultures. Children also sometimes died in the school system due to infectious disease. Investigations of the later twentieth century have revealed many documented cases of sexual, manual, physical and mental abuse.”⁴²

Even if today the violence in schools is not as strong as it was in the past, Indigenous people continue to be discriminated against. Because of this disastrous relationship with the schools and with the government that does nothing to help them, the Indigenous people end up in positions of low responsibility, earning a small salary and living, for the most part, below the poverty line. The Indigenous people are stuck because they cannot work in agriculture (which does not pay much anymore) and also do not succeed in getting degrees.

When it comes to wage inequality, Indigenous women are breaking records. In fact, due to racial and gender discrimination, an “American Indian women and White men in the U.S. makes up the second largest wage gap in comparison to other ethnic groups.”⁴³ For an Indigenous woman to earn the annual salary (12 months) of a White man, she must work 22 months, which is 10 months of additional work. There is also a wage gap between an Indigenous woman and an Indigenous man, as women are paid 87% of a man's salary. According to the **National Women's Law Center**, in 40 years, an Indigenous woman earns \$977,720 less than a White man compared to \$406,760 for a White woman. This means that in order to make up this money gap, an Indigenous woman must work 30 years longer than a White man. Moreover, “even with a professional or doctoral degree, an American Indian woman still makes about 55 cents to the dollar in comparison to a White man with the same degree.”⁴⁴ However, according to the **Institute for Women's Policy Research**, women will not receive equal pay until 2059. This gap is mostly due to the lack of education of Indigenous women, so to reduce this wage gap, they have to study and validate degrees and therefore "give up" agriculture.

We see that it is increasingly difficult for Indigenous people to live from agriculture. However, some companies are beginning to work with Indigenous people to promote their unique

⁴² “American Indian boarding schools”, *Wikipedia*, April 26th, 2022, consulted April 30th, 2022, https://en.wikipedia.org/wiki/American_Indian_boarding_schools

⁴³ “Pay Gap Worse for Native Women”, National Indian Council on Aging. Inc – NICOA, September 16th, 2019, consulted April 30th, 2022, [https://www.nicoa.org/native-american-womens-equal-pay-day/#:~:text=Equal%20Pay%20Day%20for%20all,\(based%20on%202019%20data\).](https://www.nicoa.org/native-american-womens-equal-pay-day/#:~:text=Equal%20Pay%20Day%20for%20all,(based%20on%202019%20data).)

⁴⁴ “Pay Gap Worse for Native Women”, National Indian Council on Aging. Inc – NICOA, Ibid, [https://www.nicoa.org/native-american-womens-equal-pay-day/#:~:text=Equal%20Pay%20Day%20for%20all,\(based%20on%202019%20data\).](https://www.nicoa.org/native-american-womens-equal-pay-day/#:~:text=Equal%20Pay%20Day%20for%20all,(based%20on%202019%20data).)

agricultural techniques. Indeed, some restaurants are incorporating corn, squash and bean dishes to promote the indigenous culture and the "Three sisters" technique.

“Three sisters” dishes⁴⁵



In these three pictures, we can see dishes from American restaurants where the "Three sisters" have been incorporated into the restaurant menu. In these restaurants, the "three sisters" are mixed with meats such as lamb or bison.

However, the government does not always appreciate when companies want to trade with Indigenous tribes. As the example of Allergan, which we have already discussed, shows us. Indeed, the **American Supreme Court** rejected Allergan’s bid to use tribe to shield drug patents. So even when indigenous tribes want to use their farming techniques ("three sisters" and medicinal plants) to make money, the government is there to stop them because of certain laws.

⁴⁵ Annex 11: “Three sisters” dishes

In fact, there are also **political** constraints that prevent Indigenous people from practicing their agricultural skills.

After several hundred years of contact with Euro-American culture, the politics within the indigenous tribes began to change. Indeed, the indigenous societies that favored women began to favor men, as well as the European one. Women were denied access to agricultural plantation, which is a man's job, according to White people. This is why, due to certain policies, the technique of the "three sisters" and the indigenous medicine are disappearing, since they are mostly transmitted by women. The **General Allocation Law** of 1887 also promoted this change in the indigenous communities, because, according to the law, indigenous lands had to be allocated to men even if the head of the tribe was a woman.

The federal government has created an indigenous support program, the **Indian Health Service**, which provides medical services to Indigenous people. It is the members of the indigenous tribes recognized by the state, amounting 4 million people, who benefit from this assistance and services. However, tribes and Indigenous people not recognized by the state do not benefit from this help from governmental like the Chinook tribe for example, ""We have all the problems of Indian Country, but no means of dealing with it," Chinook chair Tony Johnson says. Because without recognition, they get no reservation, no housing allowance, no clinics."⁴⁶ In addition, the state reduced the program's funding to only \$800,000 in order to reduce federal spending. However, the program was already underfunded (according to Indigenous tribal leaders) and now it is even more underfunded, which causes problems for Indigenous people who end up not receiving the aid they need to survive, as well as less medical treatment, which only increases the health problems of Indigenous people. It is important to know that it was already complicated for the Natives to get medical care because the specialized medicine for Indigenous people is not as studied as for other ethnicities by doctors in the United States. Mainly due to the fact that the indigenous reservations are poor places, which does not attract doctors to fill these vacancies, according to a 2016 study of the **Department of Health and Human Services**. Without government care and support, Indigenous people end up with poor health and many cannot work in jobs that are too physical or to work in factories, for example. Without degrees and unable to work in physical labor (which generally does not

⁴⁶ "Unrecognized Tribes Struggle Without Federal Aid During Pandemic", *NPR*, April 17th, 2021, consulted May 1st, 2022, <https://www.npr.org/2021/04/17/988123599/unrecognized-tribes-struggle-without-federal-aide-during-pandemic?t=1651394047406>

require much education) the Indigenous people are forced to remain isolated and poor on their reservations. Assistant professors at the University of Minnesota Medical School have proposed new programs to provide fellowships to doctors working on reservations in order to attract new doctors to treat Indigenous people. However, the government did not care and did not pay scholarships to doctors in order to save money.

Natives are more likely to be overweight or to develop some type of diabetes. One of the reasons is because of the **Indian Removal Act** of 1830, which ordered the deportation of Native Americans living in the territories between the thirteen founding states and the Mississippi River to a territory beyond that river. In fact, the relocation of the Natives meant that they found themselves in unfamiliar lands and had to start from scratch. They had to make new fields to cultivate vegetables, look for clear water, fruits, etc. As a result, in 1890, the government forbade the Natives to hunt, fish and leave their land. In exchange, the government provided them with flour and sugar (which was cheaper), which was completely different from what the Natives used to eat (fruits, vegetables, fish and lean meat), which is why they started to have problems with overweight and having diabetes. The Indian reserves, being mostly located in the desert, limit the access to healthy food. Indeed, the geographical isolation and the lack of means of transportation made the Natives very dependent on the federal state for food. In addition, the high rate of drug and alcohol addiction among the indigenous people has increased their health concerns.

In 1978, Indigenous people were denied the right to sue non-indigenous people while 46% of the indigenous lands were occupied by non-indigenous people. As a result, Indigenous people, victims of physical, verbal and sexual aggression by White people, end up having no means to defend themselves against these terrible crimes. Moreover, the Natives are against the policy of assimilation led by the American government. Indeed, the European settlers always wanted the Natives to submit to their culture, religion and customs. This idea has become even more pronounced since the Natives obtained American citizenship in 1924, because according to the Euro-Americans, by becoming American citizens, the Natives must adopt American customs and abandon their indigenous culture. It is obvious that the indigenous people do not agree with this American doctrine, like the Crow leader, Plenty Coups, who criticizes the idea of "American progress" and that the Indigenous people must express their pride in their own culture. By wanting to eradicate the indigenous culture, techniques such as the 'three sisters' and how to master medicinal plants will disappear. In 1882, the **Indian Rights Association**

was created to demonstrate and protect the Indigenous rights and their independence. However, this was criticized by the Euro-Americans because, according to them, the Natives could not take care of themselves and had to submit to American society.

In 1903, under Theodore Roosevelt, all Indigenous people who did not want to use English names and surnames saw Americans denying them land, aid and their tribes were not recognized by the state, so they had no legal rights because in the eyes of the state they were wild people. In order for the Natives to change their Native names to English names, the state promised them things like aid, peace, food etc. But in the end these promises were not kept. But in the end these promises were never fulfilled. Indigenous rights activists went to the United Nations to demand rights for the Indigenous people as well as respect for their memory and image, which is often modified by the American media. Even today, protests are held for more tribes to be included in the U.S. census.

Laws have caused trauma. At the beginning of the 20th century, the **Bureau of Indian Affairs** forbade the free movement of Indigenous people outside the reservations. Indeed, any Native person could not leave an Indian reservation without a "pass" that was provided by the government. For some indigenous tribes, leaving the reservation was essential to fishing, bringing food back to the reservation, or simply visiting other tribes. However, the government rarely granted "passes" and many Indigenous people were starving. This technique was used to control the movement of the Natives so that, by weakening them, they would become more cooperative with the government. Even though the **Indian Citizenship Act** granted nationality to the Natives and therefore the right to move freely, many Natives, through the memory of their ancestors, are afraid to go out and work outside of the reservations, especially since there are still states (New Mexico, Arizona and Oklahoma) that want to prevent the Natives from leaving their reservations so that they can exploit their resources without the information being spread.

In the United States, Native lands are considered as private properties belonging to the tribes. However, from the beginning of colonization, Native lands were always envied by European settlers, as shown by **Dawes Act**, which had as its goal “to destroy tribes and their governments and to open Indian lands to settlement by non-Indians and to development by railroads.”⁴⁷ In

⁴⁷ “Dawes Act”, *Wikipedia*, April 25th, 2022, consulted May 1st, 2022, https://en.wikipedia.org/wiki/Dawes_Act

1934, indigenous lands had been reduced from 560,000 km² to 190,000 km². With less and less land, it became more and more difficult for the Indigenous people to practice agriculture like the "three sisters" or even to cultivate medicinal plants.

III. Indigenous solutions to overcome the government

The indigenous reservations being "sovereign nations" must, like the states, provide for the needs of their people to pay for law enforcement, social services and road work. As the Indigenous people have less and less land dedicated to agriculture because of certain policies of the United States, the Indigenous people have decided to turn to a completely different business, the **casinos**, in order to not depend on the companies, as it was the case with agriculture. The first casino built on an Indian reservation dates back to 1976 in Florida by the Seminole tribe, it featured a bingo hall with jackpots of up to \$10,000 and had 1,700 seats. Casinos were legalized that same year when the **American Supreme Court** allowed them to open, however, the **Indian Gaming Regulatory Act** which allows for the legalization of for-profit gambling by Native American tribes was not created until 1988, about 12 years later.

A Native American Casino⁴⁸



The casinos of the indigenous reserves are divided into three classes of games:

“**Class I** gaming conduct social games for prizes of minimal value. This type of gaming does not involve games of chance and is not significant to the casino industry at large.

⁴⁸ <https://www.bestuscasinos.org/blog/native-tribe-gambling-in-the-us/>

Class II gaming does include games of chance, but limits them to bingo, pull tabs, punch boards, and lotteries. No card games, specialty table games, or slot machines of any kind are allowed under Class II gaming provisions. **Class III** involves all manner of gaming, including horse and dog racing, casino games, and slot machines. It is under this type of gaming that the big tribal-owned casinos have opened and flourished.”⁴⁹

While the first two classes of gaming are regulated by the indigenous casino owners, the third class must be approved by the president of the **National Indian Gaming Commission**, which will also look into liquor licenses, employee background investigations, taxation and specific gaming regulations. Many in the industry would like to see the tribes be stricter in terms of regulation to fight against criminal activities such as money laundering and fraud.

The majority of indigenous people today work in the **service industries**, which contributes to high unemployment rates. It is because of the lack of infrastructure and the geographic isolation of indigenous reservations that these rates are higher than those of any other ethnic group.

"Native Americans are largely left out of the important discussion when it comes to economic well-being in the United States — another form of erasure for a group that must continually contend with marginalization and exclusion in US society,”⁵⁰

It might be obvious that the Indigenous people control the revenue from their casinos, however, after complaints in the late 1980s, a U.S. law states that a portion of the profits (up to 50%) generated from gambling would be returned to the American states to support the additional infrastructure, law enforcement, and social service costs associated with the casino business. The federal government's desire to control and regulate what happens on the reservations is unpleasant for Indigenous people,

“Federal policy has the ability to be applied broadly,” Redbird said, if you can identify a consistent problem across tribes. “[But] Indians don’t have the highest trust in federal

⁴⁹ “Indian Gaming Casino Jobs”, *Job Monkey*, consulted May 1st, 2022, https://www.jobmonkey.com/casino/indian_gaming/

⁵⁰ “The US will now break out jobs data for Native Americans”, *CNN*, March 5th, 2022, consulted May 1st, 2022, <https://edition.cnn.com/2022/03/05/economy/native-american-monthly-employment-data/index.html>

policy. And one of the things that self-determination has really become about is the ability to say, ‘We want to do what’s right here.’”⁵¹

Only tribes that are recognized by the state can open a casino, so tribes which are not recognized that cannot develop or open businesses end up poorer. The Indigenous people use the money from the casinos to reclaim their territories lost to the Americans through the purchase of land. In 2015, the casinos created an average of 25 jobs, but according to **census data**, few new sustainable jobs were created and the poverty rate has not improved.

In order to develop their Indian reserves, the Natives have started to develop ecotourism. Indeed, many indigenous tribes have opened their doors to tourists so that they can come and visit the Indian reserves and see how the Indigenous people live.

An association has even been created, the **American Indian Alaska Native Tourism Association**, “founded in 1998, AIANTA was established by tribes for tribes to address inequities in the tourism system.”⁵² This association allows especially “to highlight the importance of visiting authentic Native destinations, including cultural, heritage, historic, and artistic sites and to generate awareness, interest and demand for these destinations with domestic and international travelers, the travel trade and the media.”⁵³

The price of a visit varies according to the tribe, but the price is generally around \$50 per person. During this tour the Natives tell their story as “their battles with the U.S. government, broken treaties, starvation, and the eventual Wounded Knee Massacre where U.S. soldiers shot, killed, and mutilated over 300 unarmed men, women, and children.”⁵⁴ And the Natives also took the tourists to the main places of the reserve like the visit of **The Great Canyon** for instance.

⁵¹ “What Drives Native American Poverty?”, Institute For Policy Research, February 24th, 2020, consulted May 1st, 2022, (<https://www.ipr.northwestern.edu/news/2020/redbird-what-drives-native-american-poverty.html>)

⁵² “About AIANTA”, AIANTA, consulted May 2nd, 2022, (<https://www.aianta.org/about-aianta/>)

⁵³ “About AIANTA”, AIANTA, Ibid

⁵⁴ “11 TOURIST-FRIENDLY NATIVE INDIAN RESERVATIONS THAT ARE OPEN TO VALUE TRAVELERS”, *Grasshopper*, February 9th, 2021, consulted May 2nd, 2022, (<http://www.grasshoppergreg.com/tourist-friendly-native-indian-reservations/>)

On the other hand, some Indigenous people have decided to return to their roots and value the heritage in the technique of their ancestor farmers. In fact, Joella, an Indigenous woman, decided to create a company that would sell natural products, ranging from handmade soaps to shampoo bars and essential oil blends, all of which come from natural plants that have many benefits for the body. On the tag of her products, the ingredients are written in English but also in the indigenous language spoken by her grandmother, it is important for her to share the history of the indigenous people through natural products that nourish the body,



“I want people to know that when they support my business, they are supporting my mission to empower and nurture an Indigenous community in the Yukon. Our communities, and my business, are guided by traditional principles based on compassion for others and helping people on their journey of transformation into their best self.”⁵⁵

In the early 2000s, George Bush introduced a \$1 coin in the United States. This coin, the Sacagawea dollar⁵⁶, represents the Indigenous culture by representing great indigenous celebrities such as Jim Thorpe, an American athlete of Indigenous root, Elizabeth Peratrovich, a Native American civil rights activist, and the "three sisters", a unique agricultural technique developed by Indigenous people. This \$1 coin is only used in



the United States to pay toll booths (which reminds us of the Natives when they cross the border between Indian reservations and the American soil), or to play in video arcades or casinos (which reminds us of the casinos in Indian reservations).

If today the Natives are more turned towards the casinos rather than towards their roots it is simply because the casino brings more money. In fact, Indian gambling in the United States generates more than 30 billion dollars. Although for years the growth rate of the indigenous

⁵⁵ “4 Indigenous & Native American CEOs Who Are Making a Difference”, *bareMinerals*, October 11th, 2021, (<https://www.bareminerals.com/blog/native-american-women-ceos.html>)

⁵⁶ Annex 13: “Three sisters” represented in a Sacagawea dollar

casinos was in two figures, this changed with the consequences of COVID which drastically slowed down the economy.

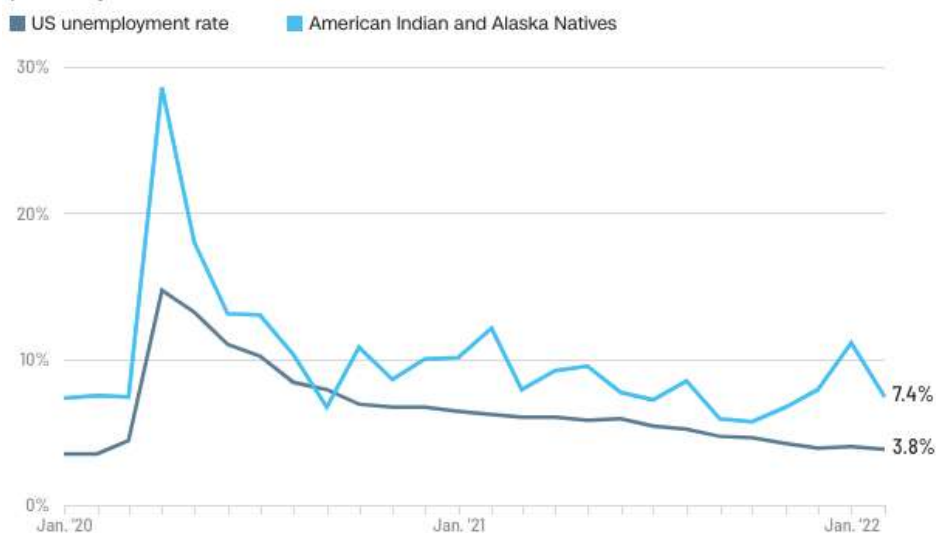
As we have already seen, the indigenous reservations were overcrowded due to the lack of land. This situation was particularly alarming with the emergence of **COVID-19** because this virus spread very quickly and easily and could be fatal to some people, especially those who, like the Indigenous people, had difficulty accessing hospitals.

The unemployment rate of Indigenous people has increased enormously, especially for Indigenous women, especially since the majority of Indigenous people work in the service industries, the sector **most** affected by COVID-19. In fact, because of the pandemic, thousands of jobs were lost in 2020. According to the **Bureau of Labor Statistics**, in May 2020, the worst U.S. jobs report on record was completed with a record unemployment rate of 28.6% for Natives, compared to 14.2% for Whites, and the loss of 20.5 million jobs. This has further increased the wealth gap and inequality in the United States.

American Indians and Alaska Natives have much higher unemployment than the US overall⁵⁷

American Indians and Alaska Natives have much higher unemployment than the US overall

The monthly jobs report now includes employment data for American Indians and Alaska Natives after ongoing calls for increased data visibility and inclusion. Small sample sizes and a lack of seasonal adjustment meant the agency did not previously release the details each month.



Note: Overall employment rate is seasonally adjusted, American Indian and Alaska Natives unemployment rate is not seasonally adjusted.

Source: US Bureau of Labor Statistics
Graphic: Tal Yellin, CNN

⁵⁷Annex 14: “American Indian and Alaska Natives have much higher unemployment than the US overall”, <https://edition.cnn.com/2022/03/05/economy/native-american-monthly-employment-data/index.html>

Added to the high unemployment is the fact that Indigenous people are affected 3.5 times more than White people in Covid. Due to geographic isolation, overpopulation, lack of access to health care, poor nutrition and poor living conditions on indigenous reservations, Indigenous people are more likely to contract COVID-19. In addition, due to the lack of electricity, Indigenous people on the reserves are not informed of the restrictions related to COVID or the barrier actions that should be adopted to avoid catching the disease. Because of this and the lack of precautionary measures on the part of the government, the Indigenous people feel invisible and ignored, especially the tribes that are not recognized by the state, whose rights are very limited.

Because of the COVID-19, the Indian reserves had to stop tourism, because of health reasons, but especially because the Indigenous populations are more at risk of contracting the Covid. This measure was also taken to protect the older Indigenous people, because many of them are the only ones who can speak fluently certain Indigenous languages that are in danger of disappearing. Therefore, in order to preserve the culture of the Indigenous people often transmitted by the older ones, the Indian reserves had to stop making tourism.

In addition, this has removed one of the primary sources of revenue for the Indian Reservation and most tribes have become dependent on casino revenues. “Unlike state and local governments, however, the tribes cannot collect adequate taxes to pay for these operations, making them dependent on income from casinos and other enterprises to pay for law enforcement, public safety, and social services.”⁵⁸

However, the income from the casinos during the pandemic did not allow the Natives to support their needs because of the lockdown and health restrictions.

“Native American tribes’ tax base have been cut literally to zero, and tribal governments don’t have money to run the health clinic or child protection services,” Kalt said. “While

⁵⁸ “For Native Americans, COVID-19 is ‘the worst of both worlds at the same time’”, *The Harvard Gazette*, May 8th, 2020, consulted May 2nd, 2022, (<https://news.harvard.edu/gazette/story/2020/05/the-impact-of-covid-19-on-native-american-communities/>)

state and local governments are also in trouble, at least they have a tax base, but tribes are really struggling because their tax base has been wiped out.”⁵⁹

Moreover, Indigenous people, most of them working in the service industries, were for the most part in the front line of the pandemic, putting them at risk of catching the virus. Faced with this crisis, the Indigenous people had no choice but to continue working because for them the transition between professional careers remains complicated due to a governmental system that does not help them in any way in terms of education and due to an Euro-American society that still is not ready to welcome them, even if the latter are the ones who are not in their land.

⁵⁹ “For Native Americans, COVID-19 is ‘the worst of both worlds at the same time’”, *The Harvard Gazette*, Ibid

To **conclude**, Indigenous people are changing their area of work because, as we have seen, certain American laws prevent the development of indigenous agriculture, as they end up with less and less land and space to cultivate the "three sisters" and medicinal plants. In addition, with the world's population growing, companies have preferred to deal with non-native farmers who favor mass farming with pesticides, rather than quality but small quantity farming that the Natives did. Also, the influence of Euro-American society on indigenous culture is changing indigenous traditions, such as the fact that the Indigenous woman is submissive to the man, but also the fact that activities performed by women (such as farming) are becoming obsolete.

Due to social, economic and political factors, the Indigenous people have turned to other occupations such as gambling or ecotourism in order to develop the Indian reserves and live in better conditions. However, we note that there are differences between Indigenous women and Indigenous men because women are much more discriminated against. In addition, there are differences between the tribes recognized by the State and those that are not, which end up being much more marginalized because they even have less access to health care, diplomas and jobs.

If the Natives prefer to develop their reserve, it is because the tourists come to bring money to the tribes, so they are able to develop the indigenous villages by promoting the access to water and improving the infrastructures. However, the Indigenous people live with even more difficulty since the appearance of COVID-19, which is killing the lives of the elders who represent and transmit the indigenous culture to the younger ones.

In order not to lose this culture, some businesses, such as restaurants, are promoting the "three sisters" technique by offering corn, squash and bean dishes on their menus. But also, some people, most of them descendants of Indigenous people, are commercializing products based on plants that were used in the indigenous culture. This revalorization of the indigenous culture will perhaps allow the Indigenous to resell their products coming from agriculture and thus to return to the roots of their culture and to value their knowledge.

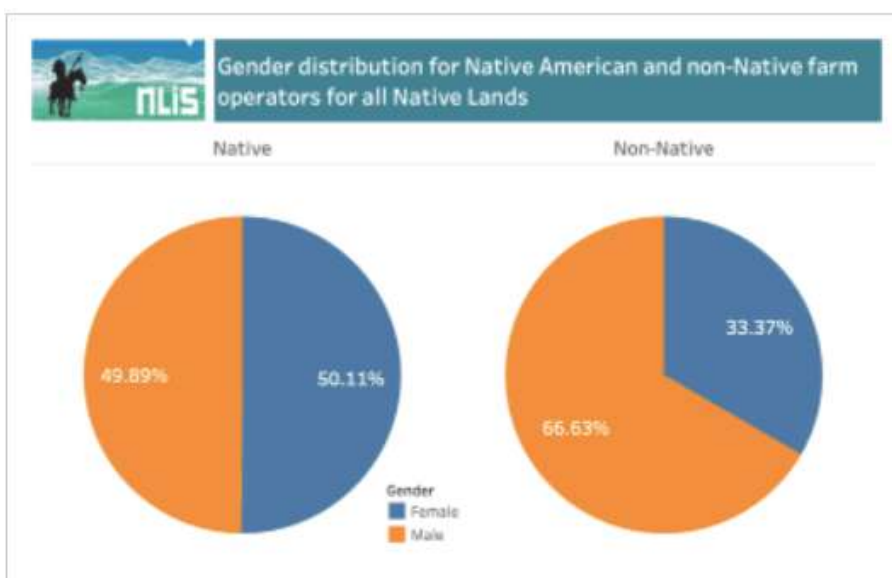
Annexes:

Annex 1: Example of the “Three sisters” technique



<https://www.gardenmyths.com/three-sisters-agriculture-an-example-of-companion-planting/>

Annex 2: Gender Distribution for Native American and non-Native farm operators for all Native lands



<https://footnote.wordpress.ncsu.edu/2021/11/04/the-role-of-native-american-women-in-agriculture-11-5-2012/>

Annex 3: illustration of indigenous women farmers



<https://footnote.wordpress.ncsu.edu/2021/11/04/the-role-of-native-american-women-in-agriculture-11-5-2012/>

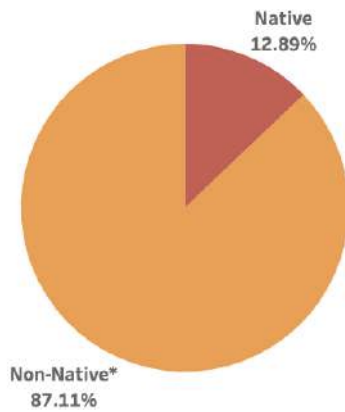
Annex 4: Picture of Rocky Mountain bee



https://www.google.com/search?q=the+rocky+bee+mountain&rlz=1C5CHFA_enFR1000FR1000&sxsrf=APq-WBtQzv1W-MZwapVfAz2eavIDHmRVVg:1651066113495&source=lnms&tbm=isch&sa=X&ved=2ahUKEwj_-cfJrLT3AhVOxhoKHZbmA70Q_AUoAnoECAEQBA&biw=1440&bih=789&dpr=1

Annex 5: Market Value of agricultural products sold by Race on All Reservation(s) in 2017

Market value of agricultural products sold (\$1000s) by Race on All Reservation(s) in 2017



<https://nativeland.info/blog/dashboard/usda-census-of-agriculture-for-american-indian-reservations/>

Annex 6 : The California Poppy



https://www.google.com/search?q=california+poppy&rlz=1C5CHFA_enFR1000FR1000&sxsrf=ALiCzsYsS9RiZ_IoNQLRoN0Ef0aCVgCF6w:1651145899581&source=lnms&tbm=isch&sa=X&sqi=2&ved=2ahUKEwjd18Tm1bb3AhWEpnIEHQvoBaUQ_AUoAXoECAIQAw&biw=1440&bih=789&dpr=1#imgrc=crlbvRNLZ5Fc3M

Annex 7 : Gooseberry



https://www.google.com/search?q=gooseberry+usa+draw&tbm=isch&ved=2ahUKEwiRq9CG2Lb3AhWs2-AKHZeCAHsQ2-cCegQIABAA&oq=gooseberry+usa+draw&gs_lcp=CgNpbWcQAzoHCCMQ7wMQJzoECAAQHlCYA1iZCWCx2gAcAB4AIABWYgBywOSAQE2mAEAoAEBqgELZ3dzLXdpei1pbWfAAQE&sclient=img&ei=B39qYtGLLqy3gweXhYLYBw&bih=789&biw=1440&rlz=1C5CHFA_enFR1000FR1000

Annex 8: Yaw



https://www.google.com/search?q=yew+draw&tbm=isch&ved=2ahUKEwi-8qvF3rb3AhWq2uAKHTCTAwAQ2-cCegQIABAA&oq=yew+draw&gs_lcp=CgNpbWcQAzIECAAQEzIICAAQBRAeEBMyCAgAEAUQHhATMggIABAIEB4QEzIICAAQCBAeEBMyCAGAEAgQHhATMggIABAIEB4QEzIICAAQCBAeEBMyCAGAEAgQHhATMggIABAIEB4QEzoHCCMQ7wMQJzoFCAAQgAQ6BAGAEENQkQRY1gpg1wtoAHAAeACAAWqIAecCkgEDNS4xmAEAoAEBqgELZ3dzLXdpei1pbWfAAQE&sclient=img&ei=1YVqYv6zNqq1gwewpg4&bih=789&biw=1440&rlz=1C5CHFA_enFR1000FR1000&hl=fr

Annex 9: Native American Poverty Rate by State 2022

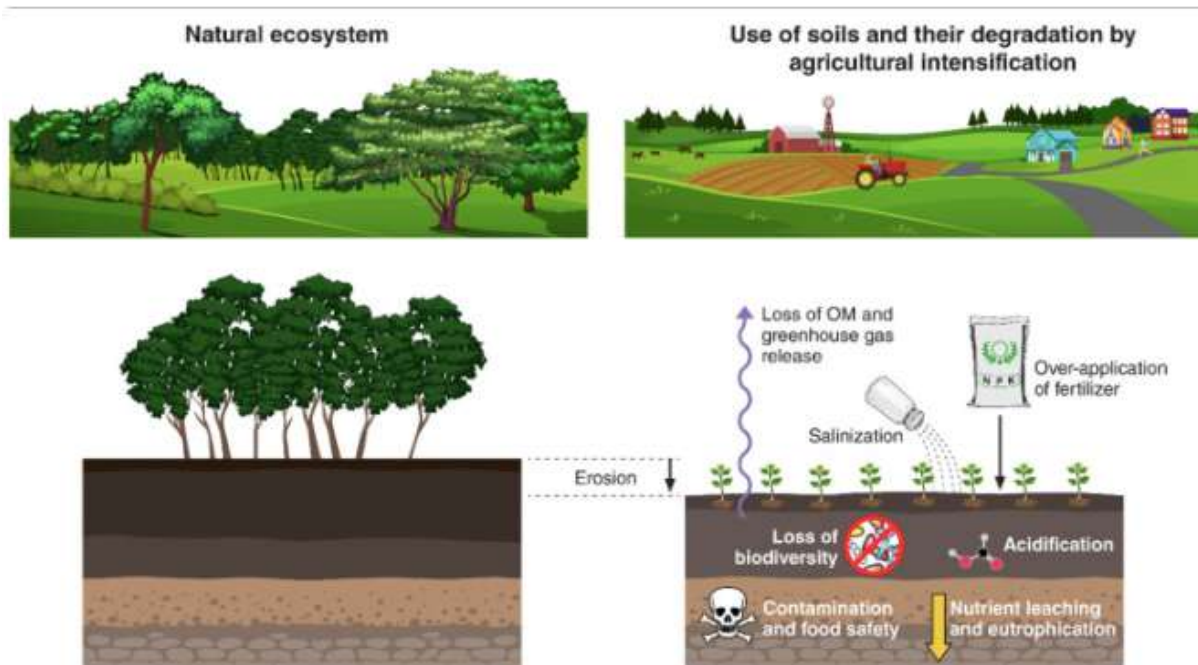
Native American Poverty Rate by State 2022

Here are the 10 states with the highest native american poverty rates:

1. South Dakota (49.07%)
2. Mississippi (33.49%)
3. Arizona (32.92%)
4. New Mexico (32.49%)
5. North Dakota (32.24%)
6. Montana (32.20%)
7. Minnesota (31.27%)
8. Maine (29.11%)
9. Nebraska (27.73%)
10. Utah (27.08%)

<https://worldpopulationreview.com/state-rankings/native-american-poverty-rate-by-state>

Annex 10: Soil and the intensification of agriculture



<https://www.sciencedirect.com/science/article/pii/S0160412019315855>

Annex 11: “Three sisters” dishes



Photo by Andi Murphy



THREE SISTER WITH LAMB
Photo by Josh Nez



Corn, squash and bison.
Photo by Brian Yazzie

[https://www.nicoa.org/native-american-womens-equal-pay-day/#:~:text=Equal%20Pay%20Day%20for%20all,\(based%20on%202019%20data\).](https://www.nicoa.org/native-american-womens-equal-pay-day/#:~:text=Equal%20Pay%20Day%20for%20all,(based%20on%202019%20data).)

Annex 12: products from The *Yukon Soaps Company*



<https://www.bareminerals.com/blog/native-american-women-ceos.html>

Annex 13: “Three sisters” represented in a Sacagawea dollar

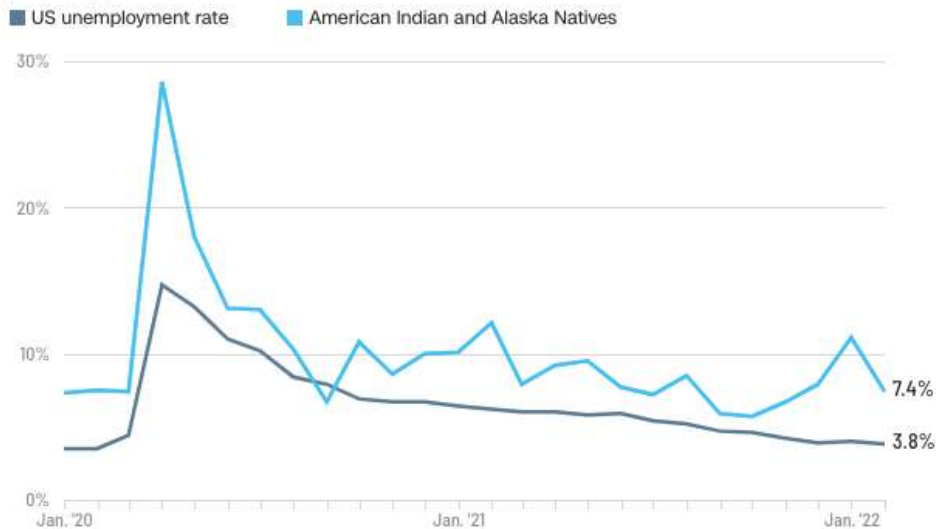


https://en.wikipedia.org/wiki/Sacagawea_dollar

Annex 14: American Indian and Alaska Natives have much higher unemployment than the US overall

American Indians and Alaska Natives have much higher unemployment than the US overall

The monthly jobs report now includes employment data for American Indians and Alaska Natives after ongoing calls for increased data visibility and inclusion. Small sample sizes and a lack of seasonal adjustment meant the agency did not previously release the details each month.



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Source: US Bureau of Labor Statistics
Graphic: Tal Yellin, CNN

<https://edition.cnn.com/2022/03/05/economy/native-american-monthly-employment-data/index.html>

To write my dissertation, I mostly used two websites and an application. I used Reverso⁶⁰, WordReference⁶¹ and DeepL⁶² to translate vocabulary and expressions that I didn't know in English. I also used the application Grammarly⁶³ which, each time, offered me different suggestions of grammar and spelling so that my sentences are better constructed and without mistakes. I also used Google Doc, which showed me errors that Word did not.

⁶⁰ <https://www.reverso.net/traduction-texte>

⁶¹ <https://www.wordreference.com/enfr/root>

⁶² <https://www.deepl.com/fr/translator>

⁶³ <https://www.grammarly.com/>

Bibliography

- 1936: https://www.persee.fr/doc/jatba_0370-3681_1936_num_16_178_5630
- 1976: <https://files.eric.ed.gov/fulltext/ED138390.pdf>
- 2000 : <https://academic.oup.com/ajcn/article/72/2/339/4729391>
- 2008:
<https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1039&context=nebanthro>
- 2011 : <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2913884/>
- 2011: <https://www.cornell.edu/video/first-peoples-first-crops-3-new-yorks-first-farmers-iroquois-women>
- 2012: <https://footnote.wordpress.ncsu.edu/2021/11/04/the-role-of-native-american-women-in-agriculture-11-5-2012/>
- 2013: <https://www.epi.org/publication/bp370-native-americans-jobs/>
- 2014: <https://www.usnews.com/news/articles/2014/11/27/native-americans-left-behind-in-the-economic-recovery>
- 2015: <https://sustainablefoodcenter.org/latest/gardening/the-three-sisters#:~:text=In%20fact%2C%20they%20are%20ancient,intercropping%20corn%2C%20beans%20and%20squash.>
- 2016: <https://freepestelanalysis.com/pestel-pestle-analysis-of-organic-food-industry/>
- 2017: <https://navajotimes.com/reznews/high-prices-for-food/>
- 2017: <https://www.nytimes.com/2017/09/08/health/allergan-patent-tribe.html#:~:text=The%20drugmaker%20Allergan%20announced%20Friday,pay%20the%20tribe%20%2413.75%20million.>
- 2017: <https://www.hsph.harvard.edu/news/press-releases/poll-native-americans-discrimination/>
- 2017: https://www.lemonde.fr/economie/article/2017/09/19/allergan-passe-un-accord-avec-une-tribu-indienne-pour-protoger-ses-brevets_5187753_3234.html
- 2017 : <https://arstechnica.com/tech-policy/2017/09/how-a-native-american-tribe-ended-up-owning-six-key-patents-on-an-eye-drug/>
- 2017: <https://unitedplantsavers.org/the-original-medicinal-plant-gatherers-conservationists/>
- 2017 : <https://www.usda.gov/media/blog/2015/11/30/mutually-beneficial-cooperation-three-sisters>

- 2017 : <https://www.doctissimo.fr/html/sante/phytotherapie/plante-medicinale/cascara.htm>
- 2017: <https://www.nytimes.com/2017/09/08/health/allergan-patent-tribe.html>
- 2018: <https://www.groworganic.com/blogs/articles/three-sisters-companion-planting-method>
- 2018 : <https://www.pbs.org/native-america/blogs/native-voices/meet-the-three-sisters-who-sustain-native-america/#:~:text=The%20Three%20Sisters%20are%20represented,base%20of%20the%20corn%20stalks>
- 2018 : <https://www.pbs.org/native-america/blogs/native-voices/meet-the-three-sisters-who-sustain-native-america/#:~:text=The%20Three%20Sisters%20are%20represented,base%20of%20the%20corn%20stalks>
- 2018: <https://www.pbs.org/native-america/blogs/native-voices/meet-the-three-sisters-who-sustain-native-america/>
- 2018 : <https://casetext.com/case/saint-regis-mohawk-tribe-allergan-inc-v-mylan-pharms-inc>
- 2019 : <https://onlinelibrary.wiley.com/doi/10.1111/1475-6773.13224>
- <https://www.powwows.com/issues-and-problems-facing-native-americans-today/>
- 2019: <https://www.sciencedirect.com/science/article/pii/S0160412019315855>
- 2019: [https://www.nicoa.org/native-american-womens-equal-pay-day/#:~:text=Equal%20Pay%20Day%20for%20all,\(based%20on%202019%20data\)](https://www.nicoa.org/native-american-womens-equal-pay-day/#:~:text=Equal%20Pay%20Day%20for%20all,(based%20on%202019%20data))
- 2019: <https://ncrc.org/the-economic-reality-of-native-americans-and-the-need-for-immediate-repair/#:~:text=In%20too%20many%20measures%2C%20Native,%2C%20and%20Whites%20at%203.5%25>
- 2020 : https://www.census.gov/search-results.html?q=indigenous+school&page=1&stateGeo=none&searchtype=web&cssp=SERP&_charset_=UTF-8
- 2020 : <https://www.lapresse.ca/maison/cour-et-jardin/2020-08-18/cote-jardin-la-foret-qui-guerit.php>
- 2020 : <https://theconversation.com/returning-the-three-sisters-corn-beans-and-squash-to-native-american-farms-nourishes-people-land-and-cultures-149230>

- 2020 : <https://www.diversityinc.com/the-biggest-issues-facing-the-native-american-community-right-now/>
- 2020 : <https://www.politis.fr/articles/2020/02/ces-peuples-indigenes-qui-luttent-contre-le-rechauffement-41397/>
- 2020 : <https://www.facetsjournal.com/doi/10.1139/facets-2020-0004>
- 2020: <https://theconversation.com/returning-the-three-sisters-corn-beans-and-squash-to-native-american-farms-nourishes-people-land-and-cultures-149230>
- 2020: https://www.youtube.com/watch?v=2_ofEKjbCbo
- 2020: <https://news.harvard.edu/gazette/story/2020/05/the-impact-of-covid-19-on-native-american-communities/>
- 2020: <https://www.bestuscasinos.org/blog/native-tribe-gambling-in-the-us/>
- 2020: <https://www.ipr.northwestern.edu/news/2020/redbird-what-drives-native-american-poverty.html>
- 2020: <https://www.ifad.org/en/web/latest/-/story/indigenous-youth-in-agriculture-during-covid-19>
- 2021 : <https://www.alamyimages.fr/carte-des-plant-medicinales-des-etats-unis-d-amerique-a-partir-de-1932-affiche-des-illustrations-et-des-descriptions-de-plant-medicinales-indigenes-aux-etats-unis-usage-editorial-seulement-image417684615.html>
- 2021: <https://www.youtube.com/watch?v=CX6yY-lMKR0&t=139s>
- 2021: <https://www.bareminerals.com/blog/native-american-women-ceos.html>
- 2021: <https://www.pgpf.org/blog/2021/11/income-and-wealth-in-the-united-states-an-overview-of-data>
- 2021: <https://www.npr.org/2021/04/17/988123599/unrecognized-tribes-struggle-without-federal-aide-during-pandemic?t=1651394047406>
- 2021 : https://www.unigrains.fr/wp-content/uploads/2021/12/211215_UNG_newsUSAFR.pdf
- 2021: <https://www.npr.org/2021/01/11/954881785/we-dont-feel-forgotten-at-all-alaska-fires-up-covid-19-vaccine-rollout>
- 2021: <https://www.powwows.com/covid-19-puts-the-cherokee-language-in-jeopardy/>
- 2021: <http://www.grasshoppergreg.com/tourist-friendly-native-indian-reservations/>
- 2021 : <https://www.greatplacetowork.com/resources/blog/indigenous-peoples-un-thanksgiving-post-by-nancy>

- 2021 : <https://www.healthinsurance.org/faqs/how-can-native-americans-get-coverage-under-the-aca-are-there-specific-plan-options-for-them/>
- 2021 : <https://blogs.cisco.com/csr/building-a-more-inclusive-tech-workforce-for-native-americans>
- 2021: [https://www.ledevoir.com/opinion/idees/617103/histoire-epidemies-et-colonisation-de-l-amerique#:~:text=Variole%2C%20typhus%20et%20rougeole%20furent,la%20syphilis%20\(variant%20europ%C3%A9en\)](https://www.ledevoir.com/opinion/idees/617103/histoire-epidemies-et-colonisation-de-l-amerique#:~:text=Variole%2C%20typhus%20et%20rougeole%20furent,la%20syphilis%20(variant%20europ%C3%A9en))
- 2022: <https://worldpopulationreview.com/state-rankings/native-american-poverty-rate-by-state>
- 2022: https://en.wikipedia.org/wiki/Dawes_Act
- 2022: https://en.wikipedia.org/wiki/Native_Americans_and_reservation_inequality
- 2022: https://en.wikipedia.org/wiki/Native_American_civil_rights
- 2022: https://en.wikipedia.org/wiki/Indian_reservation
- 2022: <https://www.fcnl.org/updates/2022-02/february-2022-native-american-legislative-update>
- 2022: <https://www.oecd.org/coronavirus/policy-responses/the-unequal-impact-of-covid-19-a-spotlight-on-frontline-workers-migrants-and-racial-ethnic-minorities-f36e931e/>
- 2022: <https://edition.cnn.com/2022/03/05/economy/native-american-monthly-employment-data/index.html>
- 2022: https://en.wikipedia.org/wiki/Sacagawea_dollar
- 2022: https://en.wikipedia.org/wiki/American_Indian_boarding_schools
- 2022 : https://fr.wikipedia.org/wiki/Utilisation_des_végétaux_chez_les_peuples_autochtones_d%27Amérique
- 2022: <https://grandcanyonwest.com/>
- 2022 : <https://www.fortunebusinessinsights.com/herbal-medicine-market-106320>
- 2022: <https://www.almanac.com/content/three-sisters-corn-bean-and-squash#:~:text=The%20Three%20Sisters%20method%20is,soil%2C%20and%20support%20each%20other.>
- 2022 [https://en.wikipedia.org/wiki/Three_Sisters_\(agriculture\)](https://en.wikipedia.org/wiki/Three_Sisters_(agriculture))
- 2022: https://fr.wikipedia.org/wiki/Am%C3%A9rindiens_aux_%C3%89tats-Unis

- 2022: <https://www.brookings.edu/blog/the-avenue/2022/02/09/despite-an-optimistic-jobs-report-new-data-shows-native-american-unemployment-remains-staggeringly-high/>
- 2022: https://fr.wikipedia.org/wiki/Indian_Removal_Act
- <https://foodprint.org/the-total-footprint-of-our-food-system/issues/food-and-the-environment/#:~:text=Industrial%20agriculture%20harms%20the%20environment,health%20and%20causes%20soil%20erosion>
- <https://www.usa.gov/tribes>
- <https://www.ifad.org/en/indigenous-peoples>
- <https://www.storey.com/article/8-native-plants-native-medicine/>
- <https://www.britannica.com/biography/Seattle-American-Indian-chief>
- <https://minorityhealth.hhs.gov/omh/browse.aspx?lvl=4&lvlid=33>
- <https://minorityhealth.hhs.gov/omh/browse.aspx?lvl=4&lvlid=40>
- https://www.jobmonkey.com/casino/indian_gaming/
- <https://www.whitehouse.gov/briefing-room/statements-releases/2021/11/15/fact-sheet-building-a-new-era-of-nation-to-nation-engagement/#:~:text=As%20part%20of%20our%20commitment,the%20FY%202021%20enacted%20budget>
- <https://www.aianta.org/about-aianta/>
- <https://agriculture.canada.ca/en/news-agriculture-and-agri-food-canada/scientific-achievements-agriculture/three-sisters-optimizing-value-and-food-potential-ancestral-indigenous-crop-system>
- <https://theconversation.com/returning-the-three-sisters-corn-beans-and-squash-to-native-american-farms-nourishes-people-land-and-cultures-149230>
- <https://agriculture.gouv.fr/quest-ce-que-lagriculture-biologique>