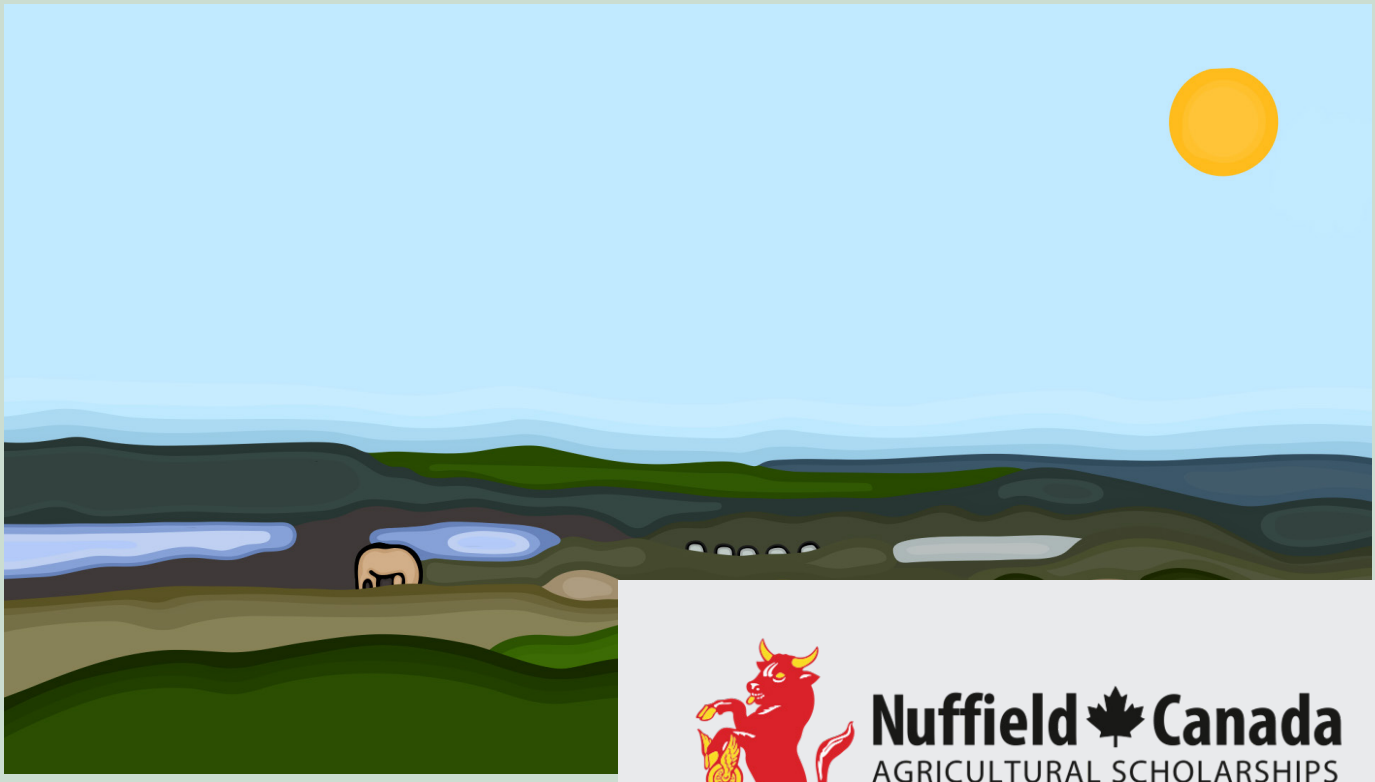


Nuffield Canada
AGRICULTURAL SCHOLARSHIPS

Indigenous Agriculture: The Barriers, Challenges & Opportunities

"This is how you change the world, the smallest circles first… That humble energy, the kind that says, 'I will do what I can do right now in my own small way,' creates a ripple effect on the world."

-Richard Wagamese

Tatum Claypool
NC 2024 Contemporary Scholar

Nuffield Canada

Nuffield Canada Agricultural Scholarships

Nuffield Canada Agricultural Scholarships

Nuffield Canada offers scholarships to agricultural leaders to expand their knowledge and network with top individuals around the world, and to promote advancement and leadership in agriculture.

As part of the larger international Nuffield community, which includes the United Kingdom, The Republic of Ireland, Australia, New Zealand, France, the Netherlands, and Zimbabwe, scholarship recipients become a member of the over 1,700 strong Nuffield alumni who interact to aid the latest scholars and continue the development of past scholars.

Scholarships are available to anyone between the ages of 25 and 50 years that are involved in agriculture in any capacity of primary production, industry, or governance.

The scholarship provides individuals with the unique opportunity to:

1. Access the world's best in food and farming;
2. Stand back from their day-to-day occupation and study a topic of real interest;
3. Achieve personal development through travel and study; and
4. Deliver long-term benefits to Canadian farmers and growers, and to the industry as a whole.

Applications are due annually. Visit Nuffield.ca for more information.

Icon Legend

Throughout this report, icons are used as visual guides to help readers navigate key themes, insights, and recommendations.

Icon	Description
	Thought leadership - pointing out moments in the report to reflect on.
	Key take aways.
	Heart work- stories of my travels that left a last impression on my heart and will stay with me as I drive change.
 	In relation to Canada - pointing out differences or similarities of other countries to Canada.
	Film recommendations for further learning.
	Recommendations for further reading.

Scholar Profile

To every Indigenous farmer, rancher, and entrepreneur who has ever been told their work doesn't "fit the model"—this is for you.

My name is Tatum Claypool, and I have the privilege of living on Treaty 6 territory and the homeland of my people, the Métis, in North Battleford, Saskatchewan. I always knew I was Métis, but growing up, that knowledge was more of a whisper than a source of pride. My family never spoke of it in a positive way. Other than a few photographs of my ancestors, there was no connection to our heritage—no stories, no ceremonies, no sense of belonging.

When I asked questions, I was met with silence or dismissal. My mother and aunties would say our Métis matriarchal lineage was "crazy," and in asylums. The message was never spoken aloud, yet it was clear: Métis identity belonged in the shadows, not out in the light.

Little did I know that my ancestors played a crucial role in Métis history by defending economic independence and land rights, most notably in the 1849 Sayer Trial, which challenged the Hudson's Bay Company's trade monopoly and affirmed Métis free trade rights (Gabriel Dumont Institute, n.d.). Their legacy as fur traders and political actors helped shape Métis resistance, self-governance, and cultural sovereignty, paving the way for future generations to assert their rights within Canada.

In small-town Saskatchewan in the 1980s, that sentiment wasn't unique to my family. In school, at the kitchen table, in politics, it was everywhere. Indigenous Peoples were told to forget the past, to move on, to become "Canadian."

But how can you be expected to “get over” something that never stopped happening? When I was a child, my generation was told that colonization was history. That it was over. But the last federally run residential school in Canada didn’t close until 1996 (Truth and Reconciliation Commission of Canada, 2015), and the 1969 White Paper—designed to erase Indigenous identity through assimilation—continued to influence national policies and attitudes (Library and Archives Canada, 2023). The Indian Act, first passed in 1876, still dictates what is possible for Indigenous People in business, in agriculture, in life (Joseph, 2018).

I tread a fine line with this report. I must present facts and offer solutions, but I also must ignite empathy and energy while extinguishing shame, guilt, or indifference in the reader. Because if we are to move forward together, we must be willing to set aside ego.

I believe that when allyship, empathy, and authenticity enter the room...ego exits the room.

This is one of the foundations of reconciliation.

Reclaiming a Story Erased

For most of my early life, my Métis identity felt like a void—something I knew existed but didn’t know how to fill. It wasn’t until my early twenties that I started searching for answers. But in those days, the internet was weak, resources were scarce, and the Elders who carried our stories were either gone or silent. When my Métis grandfather passed young, whatever knowledge he held died with him. The rest of my Elder kin were labeled as “clinically insane,” but through my research, I discovered that they were likely suffering from untreated dementia “deemed melancholia” on their medical records—misunderstood and dismissed, like so many of our people.

As I pieced together fragments of my past, I forged my own path. I built a fine dining restaurant from the ground up, became a sommelier, and through my restaurant, I supported essential local food systems of small growers on Vancouver Island. Yet even as I found success, I felt a pull back to my roots. When I sold my business and moved home to North Battleford, I expected to find my place. Instead, I found closed doors.

No matter my experience, my education, my work ethic—I struggled to get a good job until Farm Credit Canada (FCC). I wanted to work in the agriculture and food industry, and I believed FCC could provide that opportunity. I convinced the hiring managers to take a chance on me, starting in loan administration. Almost seven years to the day, I became the Director of Internal Indigenous Relations at FCC.

The Moment That Changed Everything

One day, early in my career at FCC, a young man walked through our doors. He lived on a nearby First Nation and had come in for a loan to buy a small herd of cattle, to build his future alongside his father's ranch on their community's land.

He had everything he needed: experience, a business plan, and his father's support. I was excited to help him.

Then the reality of the *Indian Act* (1876) struck.

Because he lived and ranched on reserve, I was not able to help him. That was systemic exclusion from access to capital. My only option was to look him in the eye and say, "*No, we cannot lend on reserve".*

That moment stayed with me. It gutted me. It was the first time I truly understood—not from textbooks, not from stories, but from lived experience—what systemic barriers really meant. It was a knife to my heart, and I often think of that young man when I am on the edge of exhaustion, when the weight of this work feels unbearable. His story reminds me why I cannot give up.

That moment became my catalyst and it pushed me to join the newly formed FCC Indigenous Finance team in 2022, to fight for policy change, to move the needle forward. Years later, I found myself sitting beside a man at a conference. He told me the story of how his son had been denied a loan a few years ago.

I looked at him and said, *"That was me who declined him".*

I told him how that moment changed everything for me. I told him how, because of his son, I made a silent promise to Indigenous Peoples: to change it all.

I promised to myself that no Indigenous person wanting to get into agriculture, standing where his son once stood, would ever have to hear no because of who they are or where they live.

And that is why Nuffield became my next step to find the answers to my lifelong quest.

Acknowledgements

Why don't we talk about acid rain anymore? When I was in grade two, I wrote to Greenpeace with what I believed was a brilliant solution—using the effects from acid rain to solve other problems. At eight years old, my logic felt airtight. And honestly, even now, I can see what I was trying to do: fix what was right in front of me.

Greenpeace wrote back. Their message was kind, but clear—the goal wasn't to make acid rain useful, it was to stop it from happening at all. I was devastated. But with time, I came to understand what they meant.

The real work isn't just solving for today's problems. It's thinking beyond the immediate moment—acting in ways that support the generations who will inherit the outcomes of our choices.

Thanks for the lesson, Greenpeace.

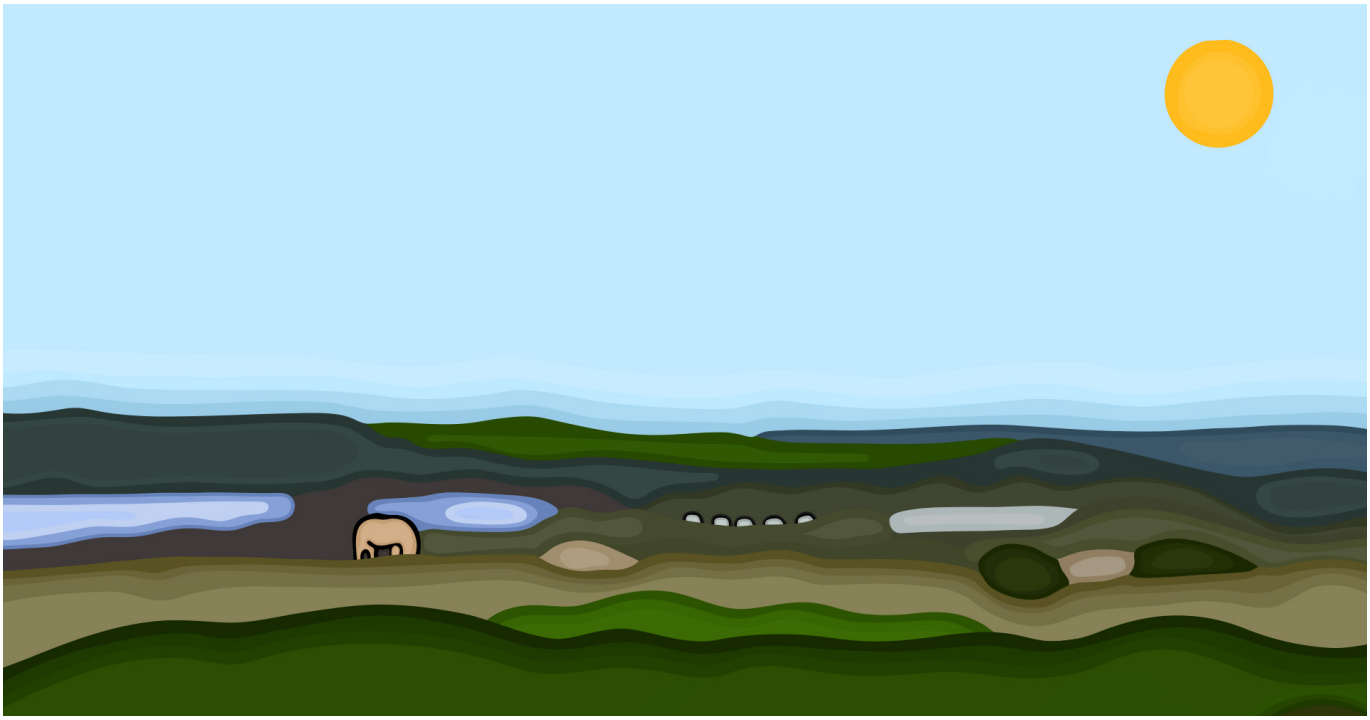
Before I applied for Nuffield Canada, I had a gut feeling that being chosen was in my destiny. I sat my husband down and laid out what being a scholar would mean for us for the next two years. It would mean long hours planning trips, making connections, travelling for weeks on end, not seeing each other, and spending a substantial amount of our money on travel. It would also mean that the best version of me would not always be present, as I worked through the uncomfortable spaces of putting myself out there as a Métis citizen and grappling with my insecurities of not having the backing of a strong education or agricultural background like many past scholars had. At the end of this conversation, my husband smiled and said, "when I think of all the investments in the world we could make with our time and with our money, I feel that investing in you is the least risky move we could make." Thank you, Adam, for your support from day one and for letting me backseat drive you 3000kms across Arizona and New Mexico without a single complaint.

Thank you to my brother, Ty. You have always told me I should work in a space that could make big impacts, and you have always shown interest in and been entertained by my wild ways. Thank you for spending two weeks with me, with your full trust, as I took you across Indigenous communities in South Dakota, Nebraska, and Minnesota. Thank you for being my unwavering protector and advocate.

To my mom, Karen and stepfather Gregg. Thank you for listening to my idea of the day for so many years. Thank you for taking care of my dog & pony show at home, providing a house and car for me to use to help stretch my dollars over my travels. Without your support, I could not have done this.

To call out some of my deadly cheerleaders who have had my back throughout this process. My fellow 2024 Nuffield Canada Contemporary scholars: Sally, Lauren, Cheryl, Renny, Matt, and other fellow Nuffielders Dan, Tom, Wallace, Cormac, and many more – thank you for standing up for me and standing beside me. My bestie Nicole for being game for anything. To all of FCC's Senior Leadership, the Indigenous Relations team, and the Indigenous Financing team — especially Justine Hendricks, Todd Klink, Shaun Soonias, and Monica James — thank you for believing in me and supporting this journey. To all of those at FCC who believed in this journey and are ready to take the torch to keep fighting for parity, you are all amazing, and I will always be grateful.

Lastly to every Indigenous farmer, rancher, and entrepreneur who opened their doors, lives, arms, and calendars to me, I am forever grateful, and I promise to generationally pay it forward.



(Above) This piece is a collaboration between Kenneth Letander and me, inspired by a conversation about my journey and the reflections shared in this report. I wanted to create something that did not yet exist, a visual expression of how I see the land, nature, and home.

When I look out over the river valley near where I live, I am reminded of the abundance that has sustained Indigenous Peoples since time immemorial. The wildlife, the wild foods, and the quiet resilience of the land continue to nourish and ground me. This image reflects my connection to the place I grew up and still have access to. It carries the scent of sage and wild roses and reminds me that the land has a heartbeat.

Through this collaboration, Ken captured the beauty of the land that I see, its generosity, its spirit, and its enduring presence.

A heartfelt thank you to the artist, Kenneth Letander from Strat First Inc., and designer of this document. You are truly an artist.

Sponsorship

This section tends to be brief in a Nuffield report, but for my journey, the sponsorship section is one of the most important highlights of my report, as it shows that the Canadian agriculture sector is only just starting its reconciliation journey. To begin the journey, the irony described below lit a fire in my belly and confirmed I was on the right path.

Let me tell you the story.

When I first heard about the Nuffield Canada Scholarship, I never imagined I would be making history with it. In Nuffield Canada's 73 years, no Indigenous scholar had ever researched an Indigenous-focused topic.

In March 2023, I attended the Advancing Women in Agriculture Conference in Calgary, Alberta. A speaker mentioned the Nuffield Scholarship, encouraging the crowd to apply. Curious, I immediately went online, digging into past scholars' reports, eager to see what had been done in Indigenous agriculture.

But I found nothing.

No mention of Indigenous farmers. No Indigenous voices. No acknowledgment of the deep-rooted connection Indigenous Peoples have to agriculture on these lands.

At that moment, I knew I had to apply—not just for myself, but for every Indigenous farmer, entrepreneur, and young person who deserved to see themselves in this space.

(Left) Bison skull at the Sićaŋǧu Food Initiative site — honouring the spirit of regeneration and the deep relationship between people, land, and animals. Photo credit: Ty Claypool

Breaking Barriers—Before the Research Even Began

My application was met with enthusiasm, but soon a new challenge emerged: sponsorship.

Since my topic fell “outside the norm” of traditional agricultural research, the Nuffield Canada Board struggled to match me with a sponsor. Ironically, this was exactly why my learning was needed. Indigenous agriculture had been overlooked for so long that even the funding mechanisms designed to support agricultural research struggled to see its place.

Still, I pushed forward. I reached out to large agricultural companies—ones that had built generational wealth on lands once stewarded by Indigenous Peoples. Many agreed to support me, yet when it was time to sign the cheque, they did not follow through.

It was a painful but anticipated reality, as Indigenous agriculture didn’t fit their “mandate” or “business model”.

Reconciliation in agriculture requires more than land acknowledgments. It means recognizing that the success of agricultural operations across Canada was made possible by the sharing of Indigenous lands. It means understanding that many farmers continue to build their wealth on Indigenous lands rented out at below-market value. It is time to demand parity.

Yet, despite the setbacks, there were friends among us.

Gratitude for Those Who Said Yes

I am incredibly fortunate to work for a company whose leadership doesn't just talk about reconciliation but acts on it.

Farm Credit Canada (FCC) stepped forward as my major sponsor, ensuring that I could become a Nuffield Scholar. Their support wasn't just financial, it was a recognition of the importance of Indigenous inclusion in agriculture.

As word spread about my scholarship focus, Scott Horner and the team at Verve Seeds also stepped in as my secondary sponsor, generously offering their support to ensure my learning could move forward.

My sponsors' support gave me the courage to step into the unknown: long hours of studying where to go, cold calls that felt like shot-in-the-dark prayers, and travel that placed me in new spaces where I was never quite sure how I would be received. It helped me chase the elusive connection that sometimes stands between Indigenous and non-Indigenous worlds. It reminded me that someone, somewhere believed that this work mattered. That I mattered. That Indigenous agriculture, and the stories it carries, are worth every mile. Thank you from my full heart.

Indigenous Partner Acknowledgements:

I extend my heartfelt gratitude to all partners, sponsors, and organizations who have supported and contributed to this work. Most importantly, I wish to acknowledge the community members, farmers, leaders, and matriarchs who generously shared their time, welcomed me into their homes, and entrusted me with their knowledge for the purpose of meaningful knowledge transfer.

Your wisdom, strength, and leadership continue to guide this journey. I am deeply humbled by your trust and remain committed to carrying your voices forward with care and integrity, helping shape policy and process in ways that honour your contributions and create lasting impact.

Executive Summary

When people think of agriculture, they often picture rows of crops, tractors, and fenced pasturelands. But Indigenous agriculture challenges this narrow view. Indigenous agriculture was never just about farming in the conventional Western sense. Contrary to the Hollywood myth of Indigenous People as nomads aimlessly roaming the plains in search of buffalo, Indigenous food systems are grounded in deep ecological knowledge and intentional land stewardship.

These systems include, but are not limited to, the use of prescribed fire to regenerate grasslands, the planting of the “Three Sisters” — corn, beans, and squash — and extensive practices of seed saving and sharing. They also encompass coastline and riparian management, aquaculture, sea vegetable harvesting, wildlife stewardship, root and bush food gathering, medicinal plant cultivation, hide harvesting, and textile creation from animal hair. These systems were and are sophisticated, place-based approach to food and resource management that supports both ecological balance and cultural continuity.

It’s important to acknowledge that this report offers only a glimpse into the vast knowledge, experience, and diversity of Indigenous agricultural practices around the world. To Indigenous readers: if your community is not reflected here, it is not from disregard. The financial scope of my travels was limited, but my commitment to this work and to connecting with you reaches far beyond the pages of this report.

This study explores how Indigenous Peoples across Canada, the United States, Brazil, and Australia (through virtual meetings) are reclaiming their rightful place in agriculture. It is the first Nuffield Canada report to focus solely on Indigenous agriculture, and I carry that responsibility with deep humility. Through visits to farms, food hubs, community cooperatives, and sacred seed banks, I sought to understand how Indigenous Peoples are working to preserve, protect, and sustain their agricultural systems that are grounded in ancestral knowledge, land stewardship, and cultural continuity.

Main take aways of this Report

1. Access to Capital

Colonial policies and long-standing risk perceptions continue to limit access to capital for Indigenous Peoples in agriculture. Many Indigenous producers are evaluated through lending frameworks built around private land ownership and conventional wealth models—systems that do not reflect Indigenous land tenure, policy restrictions, or the way assets and stewardship responsibilities are held at the Nation level. However, financing approaches built with an Indigenous lens are opening new pathways to capital—models that better reflect Indigenous land management systems and values.

2. Generational Wealth and Knowledge Transfer

Modern agriculture is built on generational continuity of land, equipment, skills, and relationships. For Indigenous Peoples, this continuity was disrupted. Colonial policies and legislations, forced assimilation, land dispossession, and the deliberate dismantling of Indigenous food systems have fractured intergenerational knowledge transmission and disrupted pathways to land-based wealth and inheritance.

Yet across my travels, I witnessed a resurgence: youth programs, Elder-led teachings, and seed sovereignty initiatives reviving the cultural threads that colonization tried to sever.

3. Food Sovereignty as Healing

In many communities, rebuilding food systems is also about restoring identity. Food sovereignty comes alive in the hands of farmers blessing seeds, in kitchens where wild plums become jam, and in stories shared over meals that carry the taste of memory. From the boreal forests of Saskatchewan to the desert soils of New Mexico, food is being used not just to nourish bodies, but to heal communities, resist erasure, and reclaim joy.

These insights reveal a truth that can no longer be ignored: Indigenous agriculture is not a new frontier. It is an ancient, resilient, and evolving force that has endured despite extraordinary odds. The systems and solutions shared in this report are not one-size-fits-all. They are rooted in place, in people, and in spirit. The future of food must include the wisdom, leadership, and self-determination of Indigenous Peoples.

This journey was never about finding all the answers. It was about listening deeply, walking gently, and amplifying the truths entrusted to me. I hope that this report sparks something in the reader—a shift in perspective that leads to action, however small, in the direction of parity, justice, and true inclusion—whether in boardrooms, classrooms, or around kitchen tables.

Reconciliation is not about returning to the past. It is about making space for Indigenous futures—rooted in the land, nourished by the soil, and reflected in the decisions that shape our shared world.

Disclaimer

This report has been prepared in good faith but is not intended to be a scientific study or an academic paper. It is a collection of my current thoughts and findings on discussions, learnings, and visits undertaken during my Nuffield Farming Scholarship.

The report illustrates my thought process and my quest for improvements to my knowledge base. It is not a manual with step-by-step instructions to implement procedures.

Neither The Nuffield Farming Scholarships Trust, nor my sponsor, nor any other sponsoring body guarantees or warrants the accuracy, reliability, completeness, or currency of the information in this publication or its usefulness in achieving any purpose.

Readers are responsible for assessing the relevance and accuracy of the content of this publication.

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Table of Contents

1.0 Introduction

1.1 Context of Study

In this section, Nuffield Scholars typically present their credibility to undertake and share research. In my case, I offer something different. I did not conduct formal research during my travels, nor do I claim the title of researcher. What I experienced was deep learning and connection—an immersion in stories, practices, and relationships.

It would be both inaccurate and egotistical to suggest that I have developed any expertise on Indigenous Peoples in agriculture after just a year and a half as a Nuffield Scholar. There are over 5,000 distinct Indigenous groups across more than 90 countries, speaking over 4,000 languages (https://www.worldbank.org/en/topic/indigenouspeoples). I've only begun to scratch the surface of what there is to learn—both in my own country and around the world.

What I can offer is this: my head and heart are fully invested in this work. Any progress I may help create is not about me but about honouring past generations and helping create space for those future generations to come.

Let's begin by setting the stage.

Words carry weight, and it's essential to be intentional with the language we use. In this report, two key terms appear often—barrier and challenge. Before we move forward, I want to take a moment to ground us in what these words mean and why their distinction matters.

Understanding Barriers vs. Challenges

In the context of Indigenous-led agriculture, it is important to distinguish between barriers and challenges, as they require different responses and calls to action.

- **A barrier** is a structural or systemic obstacle that prevents progress. These are often embedded in policies, funding models, or social systems. For example, limited access to capital due to colonial-era lending criteria is a structural barrier. Section 89 of the Indian Act protects the personal property of First Nations on reserve from seizure. While intended as a safeguard, this also prevents lenders from securing collateral, limiting access to financing (Indian Act, R.S.C. 1985, c. I-5, s. 89).

- **A challenge** is a difficulty that can be addressed through effort, strategy, or innovation. For example, rebuilding generational agricultural knowledge lost through displacement is a challenge being addressed through mentorship, land-based education, and language revitalization (Corntassel, 2012).

1.2 Indigenous Agriculture in Canada: A Historical and Contemporary Perspective

Before I start, I need to provide some context so that the reader is walking with me.

Indigenous farmers in Canada have faced systemic barriers to land access, financial resources, and agricultural development for over two centuries. These challenges have been reinforced by legislative frameworks such as the Indian Act, restrictive policies like the Pass and Permit System, and the intergenerational impact of residential schools. Understanding these historical constraints is crucial for corporate decision-makers evaluating funding opportunities, as these barriers continue to shape the agricultural landscape for Indigenous producers today.

Sadly, this is not an exhaustive list of historical barriers and outright warfare on Indigenous Peoples in Canada, and I encourage you to read more on this in the reading suggestions section in the appendix.

Colonial Policies and Legal Barriers to Indigenous Agriculture

Historical policies and legal frameworks significantly shaped the development of Indigenous agriculture in Canada. While not always codified in legislation, several federal practices and administrative tools restricted mobility, market access, and land use for Indigenous Peoples. Let's explore key moments in history that I believe are essential for all readers to understand.

The Pass System was implemented after the 1885 North-West Resistance to control movement off of reserves. Though never enshrined in the Indian Act, it was enforced by Indian Agents and the North-West Mounted Police into the 1940s. The system limited travel for trade, employment, and social or cultural gatherings, contributing to the isolation of First Nations communities (Carter, 1990).

The legacy of the Permit System continues to echo in today's Canadian agriculture sector. A First Nations man recently shared with me that when he went to sell his cattle at a market, the auction house refused to release the proceeds from the sale unless he produced a permit authorizing him to sell. Despite explaining that this requirement under the Indian Act has long been repealed, they still withheld payment. In the end, he was forced to take his cattle back home—without compensation.

This is a stark example of how colonial control operates outside the law to suppress Indigenous rights—and why many still carry the generational trauma and the memory of having their mobility restricted.

The **Permit System** (1885–1951) required First Nations farmers to obtain permission from Indian Agents before selling or transporting agricultural products off-reserve. This practice, although not legislated, constrained Indigenous farmers' ability to access markets and sustain agricultural livelihoods (Daschuk, 2013).

Other provisions in the Indian Act also posed (and still pose) barriers. For example, restrictions on using reserve land as loan collateral (Sections 87 and 89) and prohibitions on hiring legal counsel without federal approval (Section 141, repealed in 1951), limited and still limit economic self-determination (Truth and Reconciliation Commission of Canada, 2015).

This section highlights how colonial policies and legal restrictions created systemic barriers that continue to impact Indigenous agricultural development. By controlling movement, restricting market access, and limiting legal and financial autonomy, these policies undermined the ability of Indigenous communities to independently participate in conventional farming. Rather than supporting growth, the *Indian Act* and other policies enforced dependence, disrupted traditional practices, and excluded Indigenous farmers from equitable participation in the agricultural economy.

After reviewing the policies and legislative restrictions outlined above, it becomes clear why many Indigenous farmers chose to leave agriculture. The limitations made it difficult to access markets or purchase inputs during key crop cycles, leading many to step away from farming rather than continue under such restrictive conditions.

The Intergenerational Impact of Residential Schools and the Disruption of Indigenous Food Systems

The residential school system, which forcibly removed Indigenous children from their families and communities from the late 19th century to the 1990s, caused profound and lasting harm to Indigenous Peoples across Canada. Among its many devastating impacts was the systematic disconnection from Indigenous food systems and traditional forms of agriculture. These institutions not only attempted to erase language and culture but also disrupted the transmission of land-based knowledge, agricultural practices, and food sovereignty that had been sustained for generations (Truth and Reconciliation Commission of Canada [TRC], 2015; Morrison, 2011).

“Kill every buffalo you can! Every buffalo dead is an Indian gone”.

— Colonel Richard Irving Dodge, as cited in Phippen (2016)

Decimation of a Food System and a Keystone Species: The Buffalo (Bison)

Before European contact, an estimated 30 to 60 million buffalo roamed the plains of North America, forming the foundation of both the prairie ecosystem and the food systems of many Indigenous Nations. By 1890, fewer than 1,000 buffalo remained across the entire continent, most in captivity or isolated protected areas (National Park Service, n.d.; Sanderson et al., 2008).

In Canada, the mass extermination of the buffalo in the 19th century was not only due to commercial overhunting but also served as a deliberate colonial tactic to dismantle Plains Indigenous food systems and coerce Nations into signing and complying with Treaty terms. While no formal law mandated the slaughter, officials in the Department of Indian Affairs clearly understood that starvation could force Indigenous Peoples into submission and dependence on government-issued rations (Daschuk, 2013; Carter, 1990). The Canadian government enabled this by permitting American hunters into prairie territories and refusing to protect dwindling herds.

For Nations such as the Cree, Blackfoot, Nakoda, and Saulteaux, the buffalo were a keystone species—central to diet, economy, ceremony, and identity. Its disappearance caused widespread hunger, displacement, ecological collapse, and the erosion of food sovereignty.

“Our way of living is gone, there are no more buffalo, we have to find a new way to feed our people".

— Chief Mistawasis, 1876

(Left) White bison from the herd at Métis Crossing, Alberta, Canada — a sacred symbol of hope, renewal, and cultural strength.
Photo credit: Tatum Claypool

The Dog Slaughter Initiative (1950s–1970s): A Colonial Assault on Inuit Food Sovereignty

Between the 1950s and 1970s, Canadian authorities—primarily the Royal Canadian Mounted Police—systematically killed thousands of Inuit sled dogs (qimmiit) in communities across the Eastern Arctic. Though never formalized through written law, this practice functioned as de facto policy and caused irreversible damage to Inuit food systems and sovereignty (Qikiqtani Truth Commission [QTC], 2010).

Rethink the definition of agriculture:

Mobility is agriculture.

The Dog Slaughter Initiative illustrates how policies—formal or informal—can dismantle food systems that are not rooted in Western agricultural models. For Inuit, mobility was agriculture: the qimmiit were not just transportation but a lifeline to culturally and nutritionally vital harvesting practices

Sled dogs were central to Inuit subsistence, enabling long-distance travel for hunting, trapping, and trade. As federal assimilation efforts accelerated, Inuit mobility was seen as incompatible with forced settlement and governance. The slaughter of qimmiit, often without explanation or consent, destroyed traditional harvesting practices, cut off access to country food, and interrupted land-based knowledge transfer between generations (Watt-Cloutier, 2015). Families became increasingly reliant on costly, non-traditional foods from colonial markets, leading to nutritional decline and economic marginalization.

In 2006, the Qikiqtani Truth Commission investigated the impacts of colonization in the Arctic, affirming that the dog slaughter was a systemic act of control—an attack on culture, food security, and Inuit self-determination. The loss of qimmiit was not merely logistical; it represented the erosion of a knowledge system and relationship with land foundational to Inuit identity (Qikiqtani Truth Commission 2010; McHugh 2013).

Canadian Policy Barrier: The Scrip System and Métis Land Dispossession

The Scrip System was a colonial policy that devastated Métis agriculture and food sovereignty in Canada. Introduced after the 1870 Manitoba Act and the 1885 resistance, it offered individual Métis land or money vouchers in exchange for relinquishing collective land rights. While appearing benevolent, the system was designed to dismantle Métis nationhood (Indigenous Peoples Atlas of Canada n.d).

Scrip undermined Métis kinship-based landholding by privatizing land distribution. Without legal or administrative support, many Métis were defrauded or coerced into selling their scrip to speculators. The result was widespread dispossession across fertile homelands like Red River, Batoche, and Southbranch, where Métis once farmed, ranched, and traded sustainably.

The system destroyed river lot agriculture—adapted to prairie ecologies—and forced Métis into marginal existences as "road allowance people", living without land security, services, or infrastructure. Excluded from settler programs like homesteading support and farm loans, Métis communities lost intergenerational agricultural capacity.

The Scrip policy was not merely flawed—it was a tool of displacement. Its legacy endures in landlessness, poverty, and broken food systems. To restore Métis food sovereignty, redress must include land return, financial restitution, and renewed recognition of Métis agricultural knowledge as foundational to Canada's prairie economies (Teillet, 2019; Sprague, 1988).

This is only a brief list of the losses experienced in Indigenous food systems and agriculture—and I have not even touched on the profound impacts felt by Coastal communities, whose fishing, harvesting, and marine-based food traditions have been equally disrupted by colonial policies and environmental degradation.

(Left) My friends and role models — Monica James, Milton Tootoosis, and Milton Greyeyes — leaders advocating for Indigenous voices and advancing Indigenous agriculture across Canada.
Photo credit: Unknown

1.3 Key learning Questions

- How do colonial-era policies continue to shape Indigenous access to land, financing, and agricultural opportunity today?
- What would a financial system look like if it valued Indigenous forms of wealth, such as land stewardship, community knowledge, and cultural continuity were on equal terms with monetary assets?
- What are the long-term consequences of capital exclusion on Indigenous food producers, and how can alternative financial models address them?
- How can land and water governance systems be reformed to prioritize Indigenous self-determination while enabling sustainable infrastructure development?
- What are the roles of traditional knowledge and intergenerational mentorship in restoring Indigenous agricultural capacity, and how can it be protected from extraction?
- What global Indigenous agricultural practices can inform Indigenous food system restoration in Canada?
- In what ways can food sovereignty initiatives support community healing, strengthen cultural resilience, and improve mental health in Indigenous communities?
- How can policymakers, lenders, and the agricultural industry measure Indigenous Return on Investment (ROI) in ways that reflect Indigenous values of sustainability, culture, and community well-being?

1.4 Methodology

This report was shaped by the places I visited, the people I met, and the stories they shared with me. I travelled across North America and into Brazil, walking farm fields, sitting at kitchen tables, and listening to knowledge keepers, farmers, and entrepreneurs. Along the way, I gathered case studies, asked hard questions, and paid close attention to the patterns—economic, cultural, and systemic—that kept appearing. I also took time to compare Indigenous agricultural models, read through data and policy documents, and looked for the threads that tie it all together. This was not just a Nuffield Scholarship—it was a journey to understand how Indigenous Peoples are participating in agriculture today, and what is getting in their way.

For the first time in a Nuffield Canada report, Indigenous folks have review and had a platform to provide feedback. I committed to returning this report to many Indigenous individuals and communities who contributed their knowledge throughout my learning process, as well as Indigenous folks contributing to Indigenous agriculture around the globe. Their feedback has been incorporated into my final report, to ensure respectful and accurate representation of their perspectives and an Indigenous lens on the content. I want to thank the Nuffield Canada Chair and the report committee for supporting this approach as a step toward their reconciliation and more inclusive practices in the report process.

For too long, research involving Indigenous Peoples—especially in agriculture—has been done to them, not with them. Often extractive and rarely inclusive, these approaches have overlooked the depth and brilliance of Indigenous agricultural knowledge. With this report, I set out to do things differently. I did not want Indigenous participants to be just interviewees or case studies, I wanted them to help shape the findings, to tell their own stories, and to guide what mattered most.

Indigenous Peoples have cultivated complex, sustainable food systems for generations—systems that often surpass Western industrial models in ecological balance and long-term vision. The Food and Agriculture Organization (FAO) estimates that Indigenous communities are stewards of approximately 80% of the world's remaining biodiversity (FAO, 2021). This is not coincidental—it reflects generations of deep-rooted knowledge, intentional land stewardship, and a relationship with the Earth that is both practical and sacred.

In Canada, the Truth and Reconciliation Commission has issued clear calls to reshape how we engage in this work. Call to Action #62 urges the inclusion of Indigenous perspectives in education, including agricultural education, while Call to Action #92 challenges the business sector to adopt the United Nations Declaration on the Rights of Indigenous Peoples and to ensure that Indigenous communities benefit from economic development on their own terms (Truth and Reconciliation Commission of Canada, 2015).

By weaving Indigenous voices into every step of this report—from the questions asked to the validation of the findings—I have tried to honour those calls and walk a path of ethical, collaborative learning.

(Above) The Three Sisters — corn, beans, and squash — are traditional companion crops grown together to sustain one another.
Photo credit: Tatum Claypool

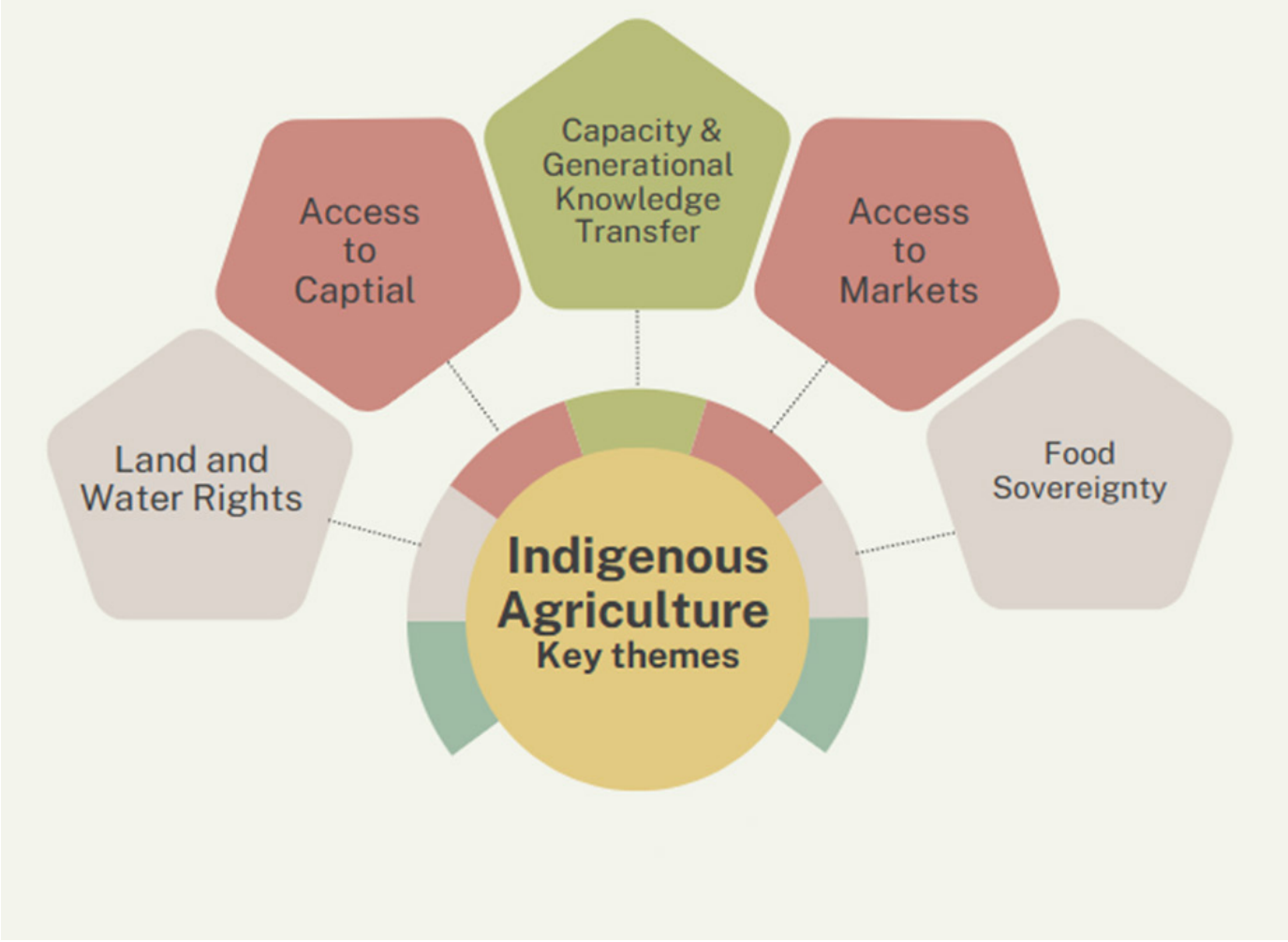
(Above) Siċaŋǧu Food Initiative site.
Photo credit: Tatum Claypool

1.5 Objectives of the Study

This report explores five key themes critical to advancing Indigenous-led agriculture:

1. *Land and Water Rights*
2. *Access to Capital*
3. *Capacity & Generational Knowledge Transfer*
4. *Access to Markets*
5. *Food Sovereignty*

Each theme is examined through case studies, historical context, and community-driven solutions.



2.0 Land and Water Rights

2.1 Structural Barriers to Land and Water Sovereignty

Secure access to land and water is fundamental to Indigenous agricultural self-determination. Across Canada and globally, colonial and settler-state policies and legislation have systemically denied Indigenous Peoples legal, political, and ecological control over their ancestral territories.

Colonization dismantled relational land stewardship systems, replacing them with extractive, commodified models of ownership. In many cases, Indigenous communities remain without formal title to their lands. Even when recognized, titles are often non-transferable, held in trust, or governed through restrictive leasing regimes, compromising the ability to build equity, secure financing, or invest in long-term infrastructure (GreenAmerica.org; Indian Act, 1876; also see Section 32.1, repealed 2014).

Water access follows a similar exclusionary pattern. Settler infrastructure and legal frameworks, such as water licensing have prioritized industrial and urban users while Indigenous Nations face unpredictable, inadequate access. For instance, I visited the Indigenous Farm Hub in Albuquerque, New Mexico, where traditional flood irrigation techniques along the Rio Grande persist, but the Farm Hub is allowed only four to five seasonal floodings per year, even though First Nations right holders farmed on the banks of that river for thousands of years prior. The unpredictable water availability timing fails to align with crop cycles, placing Indigenous agriculture at a risk.

Water in the Desert

Water talk with James @ Spirit Farms:

Their land is Bureau of Indian Affairs (BIA) land, and they are not allowed to dig a well like their neighbours (who are settlers) are easily able too.

There is a lot of water in the aquifers, so it is not a supply issue, but rather a bureaucracy issue filled with red tape from the BIA.

To manage the issue of no water on their farm, they have water tanks placed all over the reservation, at other folks' places, and they also haul water from Gallup New Mexico, which is 2 hours away. Normal rainfall is 10 inches of rain a year and 3 feet of snow a year, as they are in a desert at very high altitude. These conditions add to the constraints of farming in the desert.

In the USA, land tenure issues are further complicated by historical policies like the Dawes Act. Lands were fragmented into "allotments" held in trust by the federal government, limiting Indigenous autonomy and preventing that land from being used as collateral. While the Winters Doctrine (1908) technically affirms Indigenous water rights, enforcement is sporadic, and legal settlements can drag on for decades, leaving many Native communities without reliable water sources for agriculture.

During my travels to Makoce Ag on Pine Ridge, the need for long-term land access emerged as a critical theme. Makoce is actively pursuing a 25-year zoning agreement to replace their current 5-year lease, recognizing that only secure tenure can enable infrastructure development, food hub expansion, and workforce sustainability.

Similar dynamics are evident in Australia, where the Native Title Act of 1993 recognizes limited land rights for Indigenous and Torres Strait Islander Peoples. However, these rights often lack the economic power necessary for agricultural self-determination.

Native title does not grant exclusive ownership, secure access to water, or the authority to develop infrastructure without navigating complex approval processes. Much of the land under Native title remains leased to non-Indigenous entities, further stalling Indigenous-led agricultural expansion. Compounding this is the “dry title” problem, where Indigenous communities may gain access to land but are routinely excluded from water licensing frameworks, rendering agricultural use virtually impossible without state intervention (Native Title Act, 1993).

Ultimately, land and water sovereignty are not just about agriculture; they are about dignity, future planning, and the right to thrive on one’s own terms.

(Above) Team at Indigenous Farm.
Photo credit: Tatum Claypool

(Above) Flood irrigation systems in Albuquerque.
Photo credit: Tatum Claypool

(Above) Flood irrigation canals.
Photo credit: Tatum Claypool

2.2 Impacts on Indigenous Agriculture

Barriers to land and water access have profound and enduring effects on Indigenous agriculture. They sever the continuity of ancestral food systems such as shifting cultivation, rotational grazing, seed collection, and ceremonial harvesting. As communities are forced into dependence on externally sourced, often nutritionally inferior, store-bought foods, food security and sovereignty deteriorate. The inability to secure land title or reliable water access prevents investment in infrastructure and blocks opportunities to scale Indigenous agricultural enterprises.

These constraints also erode intergenerational knowledge transfer, disconnecting youth from land-based education and livelihoods. Without the secure right to access, manage, and protect their own territories, Indigenous Peoples are systematically excluded from fully participating in agriculture on their own terms.

(Above) Indigenous Food Lab in Minneapolis — a space reclaiming food sovereignty and celebrating Indigenous culinary traditions. Photo credit: Tatum Claypool

Who owns Indigenous food?

Have you ever considered who owns the rights to the food you eat or the technology behind it? In Canada, the process of making maple syrup was first developed by Indigenous Peoples and is deeply connected to cultural teachings.

I had the privilege to speak with Joshua Gilbert, a Gomeroi man and cattle farmer from New South Wales, Australia. He shared a clear-eyed account of the challenges facing Indigenous agriculture, particularly around the commodification and intellectual property theft of traditional bush foods. The commercialization of bush foods without Indigenous consent is a critical issue that deserves much attention and dialogue.

The implications for Indigenous sovereignty and cultural knowledge are significant. Our food choices are part of that story. By understanding where our food comes from and who benefits, we can support systems that respect and honour Indigenous innovation and ownership.

To learn more, please refer to the appendix to find the details on Joshua's book.

3.0 Access to Capital

3.1 Barriers in Financial Systems

Access to capital remains one of the most persistent and systemic barriers to Indigenous agricultural growth globally. Mainstream financial institutions are typically structured around colonial legal frameworks and Western concepts of wealth, which often fail to recognize Indigenous forms of land stewardship, collective wealth, and relational reciprocity. In many cases, Indigenous lands cannot be used as collateral, rendering Indigenous farmers ineligible for conventional financing. Even with viable business models, Indigenous borrowers regularly encounter excessive scrutiny, heightened risk assessments, and rejection based on systemic bias. This leads to what some describe as a "credit desert".

In Canada, policies such as Section 89 of the Indian Act, which prohibits the seizure of certain property on reserve, effectively exclude Indigenous land, homes, and certain personal property from being used to secure agricultural loans. Meanwhile, current lending practices remain rigid, extractive, and often profit-driven, failing to align with community-based goals, regenerative land use practices, or Indigenous economic philosophies. These historic and contemporary exclusions combine, leaving Indigenous farmers disproportionately undercapitalized, limiting infrastructure investment, scaling opportunities, and access to value-added markets.

Throughout my Nuffield journey, Indigenous producers across Brazil, the United States, Australia, and Canada expressed strikingly similar concerns regarding systemic financial exclusion. In Brazil, farmers cited the complexity and inaccessibility of programs such as the Fundo Constitucional de Financiamento do Norte (FNO), which involves bureaucratic hurdles that disproportionately disadvantage Indigenous applicants (da Silva, 2020). In Australia, many First Nations landholders are required to lease their own land back to themselves or a business entity to satisfy commercial lending requirements, as non-fee simple land is typically ineligible for use as collateral under mainstream banking frameworks (Langton & Mazel, 2008; Indigenous Land and Sea Corporation, 2021).

Despite vastly different national contexts, these challenges consistently reflect a global pattern: financial systems are not designed to accommodate Indigenous land tenure and title restrictions, governance, or values, resulting in underinvestment, credit denial, and the stifling of Indigenous agricultural growth.

3.2 Five Key Barriers in Financial Systems

1 **Land Tenure and Collateral Limitations**
Indigenous land systems are incompatible with standard collateral models, and many financial institutions are not willing to entertain an unsecured loan option to remove this barrier to entry. Without the ability to use equity in owned land, it is difficult to access capital.

2 **Discrimination and Knowledge Gaps in Lending Institutions**
Indigenous agricultural borrowers are frequently perceived as high-risk by mainstream lenders, not because of their business fundamentals, but due to a persistent lack of cultural understanding by lenders and institutional bias. Many financial institutions have limited knowledge of Indigenous governance structures, communal land tenure, or collective business models, so they shy away from coming into communities or exploring lending to communities for agriculture.

This often results in unrealistic or inappropriate lending requirements. For example, during many interviews, I heard the common theme that lenders often require an Indigenous agricultural operation to submit a business plan using a commercial template that assumes private land ownership, hierarchical management, and individualized profit—all of which can conflict with Indigenous governance models, traditional land stewardship structures, and shared economic benefits. Such mismatches not only delay financing but also send a clear message that Indigenous ways of doing business remain invisible or undervalued in the financial system.

3 **Inadequate and Inflexible Loan Products**
Loan products are rarely tailored to Indigenous producers. For instance, without land to collateralize an agriculture loan, one of the options is an unsecured loan. Unsecured loans often have a short loan amortization of five to seven years, as opposed to a land-backed loan that could support a twenty-five year or more amortization schedule. This puts Indigenous producers on community land at a cash flow disadvantage that restricts their ability for operational expansion and the ability to capitalize on opportunities.

4 Lack of Indigenous-Led Financial Infrastructure in Indigenous Communities

Indigenous communities continue to face a critical gap in locally accessible, culturally relevant financial infrastructure. Mainstream banking institutions rarely operate within Indigenous communities, and it is common for lenders to expect potential clients to navigate distant branches, urban offices, or online platforms that are misaligned with rural realities or cultural preferences. In many cases, bankers do not come to the people, resulting in a financial system that is physically and relationally out of reach.

This disconnect perpetuates exclusion. However, Indigenous-led and relationship-based lending models are challenging this status quo. Community Development Institutions (CDIs) like Akiptan (https://www.akiptan.org/) in the United States are intentionally designed to meet Indigenous producers where they are—both geographically and culturally. Akiptan's approach emphasizes trust, flat interest rates, and flexible repayment plans rooted in agricultural cycles and community priorities.

In Canada, the Indigenous financing team at Farm Credit Canada (https://www.fcc-fac.ca/en/financing/agriculture/indigenous) is beginning to break the mould by travelling directly to Indigenous communities, fostering long-term relationships, and meeting people where they are. Their outreach model is helping to level the playing field by offering the same proactive, personalized service that non-Indigenous producers have long received. These efforts signal a shift toward equity and accessibility, but such approaches remain the exception rather than the norm across the financial sector.

5 Intergenerational Wealth and Operational Succession Disruption

The global agriculture industry is built on the foundation of generational knowledge and wealth. Farms that survive over decades do so because of land passed down, skills shared across generations, and accumulated equity that enables access to credit, capital investment, and eventual succession. Without this intergenerational continuity, the agricultural systems of most countries would not exist in their current form.

For Indigenous Peoples, these foundational pillars were systematically disrupted. In Canada, Indigenous veterans were denied access to land and capital through the *Veteran's Land Act (1942)*, which offered favourable loans and farmland to returning non-Indigenous soldiers but applied discriminatory restrictions or outright exclusions to First Nations veterans (Lackenbauer, 2007). Similarly, Indigenous farmers were excluded from many post-war agricultural grants and subsidies, including credit programs offered by the Prairie Farm Rehabilitation Administration (PFRA) and provincial-level support for land acquisition (Carter, 1990).

These exclusions severed pathways to asset accumulation and farm succession. While settler farmers inherited land, equipment, and established financial relationships, Indigenous producers often began with nothing and were burdened by a lack of access to capital and legal obstacles to land ownership.

In Australia, Indigenous stockmen were subjected to decades of unpaid or underpaid labour under state-sanctioned wage control policies, including the Aborigines Protection Act (1909) (NSW) and similar legislation across Northern and Western Australia. These policies withheld wages in trust accounts that were often never paid, a form of economic dispossession that denied entire generations the chance to save, invest, or purchase land (Kidd, 2006). The long-term consequences have been the disruption of not only wealth transfer but also operational knowledge and succession planning, leaving many Indigenous agricultural enterprises without the foundational stability that fuels mainstream farming success.

3.3 Consequences of Capital Exclusion

Limited access to capital prevents Indigenous farmers from investing in infrastructure, participating in value-added markets, and implementing regenerative agricultural practices rooted in traditional knowledge. As a result, many operations become dependent on short-term grants that are often restrictive and unsustainable, hindering long-term growth, innovation, and economic sovereignty.

What is the Big Risk?

I often challenge others on their risk perception for Indigenous Ag producers. If this space has been underserved, ignored and excluded, then I ask, *"on what data are you basing your credit risk perception?"* In Canada, many ranchers and farmers do not have access to capital but are running a business on reserve for 3 or 4 generations. How is that possible without access to credit? Pretty simple, they cash flow their business from their operations. If they want to expand their herd or buy a tractor, they save and then buy it with no debt instruments. I feel that an operation that can cash flow itself is the lowest risk operator out there.

(Left) Terry Lerat and I at the Red Crow College Indigenous Agriculture Conference. Terry farms with his family, helps lead his Nation-owned 4C Farms on Cowessess First Nation and plays a key role with the National Circle for Indigenous Agriculture & Food. ***His dedication inspires me to work harder and do more for Indigenous Peoples in agriculture.*** Photo credit: Michelle Sandercock

Value of the Earth's lungs on a balance sheet?

At the 2024 Nuffield Contemporary Scholars Conference in Brazil, one of the presenters had spent a substantial amount of time with the Indigenous Peoples living in the Amazon, who have sustainably practiced agriculture for close to 14,000 years. I went up to him after his presentation to discuss his vision for Indigenous Peoples, focusing on protecting the Amazon and the continuance of subsistence farming. His point was clear – the world needs to be ready to compensate those who are stewarding and protecting the lands. What he said stuck with me. The Amazon has been touted the lungs of the Earth, having a large influence on weather patterns across the globe. Why would we not want to support its protectors to indirectly support the weather patterns across the world to keep crop growing conditions in check?

Working in the financial industry, I strive to understand how my peers perceive and assess risk, enabling me to present ideas for improving access to capital in ways that resonate with them. A conversation with the presenter mentioned above sparked the idea of creating an 'Indigenous lens' balance sheet—and ultimately rethinking the traditional accounting equation of Assets = Equity – Liabilities.

What if this equation read

Assets = Stewardship + Collective Knowledge – External Liabilities

With the explanation below:

- **Assets** represent more than material wealth; they include land, culture, language, kinship, and food systems—gifts held in trust for future generations.
- **Stewardship** replaces equity, recognizing that value comes not from ownership, but from caring for and sustaining relationships with land, water, and all beings.
- **Collective Knowledge** reflects intergenerational wisdom, oral histories, and ecological understanding—critical assets in today's climate and food crises.
- **External Liabilities** are the imposed systems (colonial policy, economic exclusions, extractive industries, etc.) that deplete or disrupt Indigenous-held value.

As we reduce external liabilities by dismantling systems and leaning into reconciliation, we can increase assets as a path forward.

4.0 Access to Markets

4.1 Barriers in Market Access

Access to markets is a critical yet often overlooked barrier for Indigenous agricultural producers. Without reliable markets, Indigenous farmers face difficulty generating consistent revenue, which directly impacts their ability to demonstrate financial viability, repay loans, and plan for long-term business growth. Mainstream markets are often inaccessible due to geographic isolation, systemic biases, and structural disadvantages that favour large-scale agribusinesses.

Many Indigenous communities in North America operate in food deserts where the nearest grocery store is hours away or controlled by monopolistic pricing structures. This reality undermines autonomy and perpetuates Indigenous Peoples' roles as price takers, not price setters. Moreover, a lack of cooperative structures, processing facilities, and transportation networks prevents many Indigenous communities from scaling production or reaching broader markets.

Market exclusion is not just an economic barrier—it is also a financial credibility issue. Lenders depend on business plans that forecast sales and demonstrate repayment capacity. When Indigenous producers cannot prove secure market access, even strong business models are seen as high-risk by financial institutions.

4.2 Five Key Barriers to Market Access

1. **Geographic Isolation and Infrastructure Deficits**
   Many Indigenous communities lack access to nearby distribution hubs, paved roads, and cold storage facilities. This creates logistical challenges that prevent the timely delivery of agricultural products and limit sales opportunities.
2. **Lack of Aggregation and Cooperative Models**
   Without co-ops or food hubs, Indigenous producers sell as individuals, unable to reach volume thresholds needed for large buyers or regional contracts.
3. **Price Manipulation and Monopolies**
   Community grocers often set prices without competition, while Indigenous farmers have little negotiating power. This creates instability in income projections.
4. **Absence of Business Support and Market Literacy**
   Indigenous producers frequently lack access to culturally relevant business training, mentorship in product pricing, and tools for financial forecasting, making it hard to build bank-ready business plans.
5. **Non-Monetized Returns Undervalued by Lenders**
   Traditional food systems offer cultural, ecological, and health benefits that are not reflected in conventional profit-loss statements, yet are essential to long-term viability.

(Above) Aline and I in Brazil.
Photo credit: Steve Larocque

During the 2024 Nuffield Contemporary Scholars Conference, I had the opportunity to explore Indigenous participation in agriculture in Brazil through a presentation on the Amazon, a village visit, and a conversation with an Indigenous artist, Aline. The discussion highlighted how Indigenous Peoples have a deep agricultural history in the Amazon but are now primarily engaged in subsistence farming with limited participation in commercial markets for crops like corn and soy. Aline emphasized that access to markets and scalability are the biggest challenges for Indigenous farmers. A potential solution discussed was the creation of an Indigenous-led cooperative, enabling communities to scale production, access markets, and ensure long-term economic sustainability. Aline was inspired by Indigenous financing initiatives in Canada and expressed interest in connecting with Indigenous leaders in Canada to explore collaborative opportunities.

5.0 Agriculture Knowledge Capacity and Generational Knowledge Transfer

5.1 Disruption of Knowledge Systems

Colonial education systems deeply disrupted the intergenerational transfer of agricultural knowledge. In Canada, residential schools forcibly removed Indigenous children from their communities, severing ties to traditional food systems, land stewardship, and farming practices. This disruption has led to a significant loss of agricultural literacy among Indigenous youth and low participation in commercial agriculture today.

Similar patterns of disruption exist globally. Colonial policies not only dispossessed the land but also delegitimized Indigenous knowledge. Across continents, state-imposed schooling systems and economic marginalization have systematically replaced Indigenous ecological expertise with Western agricultural norms. The result has been a rupture in the relationships between land, knowledge, and identity.

These policies were not simply educational failures—they were mechanisms of erasure that undermined the sovereignty and sustainability of Indigenous food systems across generations.

5.2 Rebuilding Through Mentorship and Land-Based Education

Despite the legacy of policies designed to disrupt Indigenous food systems and agricultural continuity—from the Pass and Permit System to the systemic exclusion from Veteran's Land Act benefits—Indigenous communities across Canada and beyond are leading a powerful resurgence of land-based knowledge and intergenerational learning. This revitalization is not happening in isolation; it is fueled by intentional mentorship models, culturally rooted agricultural education, and the spiritual reclamation of ancestral knowledge systems.

Programs like the Farmer in Residence at the Indigenous Farm Hub in New Mexico provide immersive, hands-on training rooted in both traditional and modern techniques. Elders and experienced producers bless seeds and share teachings with new farmers, ensuring that agricultural revival is not just technical but spiritual. Similarly, the Chicken Tractor Program at Makoce Ag in South Dakota supports families in building small-scale poultry operations through a mentorship model.

Broader land-based education movements support these initiatives. For example, the Ho-Chunk Nation combines youth work programs with regenerative farming practices, including a native corn seed bank used in cultural ceremonies, ensuring both cultural preservation and agricultural resilience. At Rosebud Reservation, the Sicangu Food Sovereignty Project brings youth into gardens to learn food production alongside Elders, pairing mentorship with experiential learning.

Nevertheless, this resurgence is not without challenges, as there is a shortage of Indigenous farmers trained in both traditional and contemporary methods. Colonization deliberately disrupted land-based knowledge transfer, resulting in an erosion of agricultural continuity. The path forward, therefore, demands more than skill-building—it calls for healing. Mentorship programs in this context become sacred spaces for cultural reconnection, economic empowerment, and the restoration of Indigenous land relationships.

As many Indigenous farmers and ranchers age without successors, succession planning is emerging as a critical priority. Longer land leases create the foundation for continuity, allowing infrastructure to be passed on and adapted by the next generation. Without a succession plan, the steep learning curve in agriculture—already emotionally and financially taxing—can deter younger community members, especially when early failures that most new entry producers experience can undermine morale.

The Osmosis of Business

At the 2024 World Indigenous Forum in Alburquerque, New Mexico, something a presenter said stuck out for me. “*Business and agriculture should be part of family conversations, so children grow up seeing economic leadership as normal."*

Not coming from a farming background, I am always curious why kids come back to the farm to live and work. My only answer is that they grew up in agriculture and have the passion to be producers, ranchers, and ag business people through osmosis. This is why I am a strong proponent of supporting grassroot individuals on community lands, so that their children have the opportunity to grow up in agriculture on their traditional lands, and that one day they may come back to work on their parents farm or their Nation's farm. This is a critical step for Nation farm succession planning.

6.0 Food Sovereignty

6.1 Food as Culture: Healing and Resistance

Throughout my Nuffield journey, I came to understand food sovereignty not as a theory but as a living and breathing movement, rooted in culture, ceremony, and resistance. From the seed banks of San Xavier Co-op to the plates of pre-colonial foods at Owamni, every visit in my travels affirmed that food is not just sustenance; it is a vessel of Indigenous autonomy and intergenerational knowledge.

For Indigenous Peoples, reclaiming food systems can be an act of reclaiming identity. Colonial food systems—through commodity foods, residential school diet, and the suppression of harvesting rights—were never simply about nourishment; they were deliberate tools of control, designed to sever relationships with land, culture, and one another. Today, many Indigenous communities are restoring those foodways on their own terms, using food not only to nourish but to heal, resist, and rebuild.

In many of the communities I visited, food was spoken of in sacred terms—as a relationship, not a commodity. Sovereignty in this sense is not limited to production or access; it is the freedom to define how food is grown, prepared, shared, and passed on. It is where resistance becomes revitalization.

DNA food

My brother and I were lucky to eat at Sean Sherman's restaurant Owamni (https://owamni.com/) and his heartwork Indigenous Food Lab (https://natifs.org/) that only serve pre-colonial foods. No dairy, no pork, no gluten, or any other foods brought to North America by settlers. My brother summed it up perfectly by saying, "this food is what my DNA is asking for". The meal stunned us as a spirit filling meal. I came back with Chef Sherman's cookbook and have created many of his recipes with local Indigenous foods.

(Above) My brother Ty Claypool at Owamni by the Sioux Chef.
Photo credit: Tatum Claypool

6.2 Intersections with Health, Education, and Justice

The link between food and wellness is undeniable. Across the regions I visited, I heard stories of the profound impacts of colonially imposed diets—skyrocketing rates of diabetes, mental illness, and heart disease. I also witnessed the transformative power of returning to traditional foods.

In New Mexico, the Indigenous Farm Hub is using food as a teaching tool, where young people are not only feeding their communities but learning about the ecological and spiritual responsibilities that come with it.

Food is medicine, and food education is justice work. To reclaim our food is to reclaim our future. It also means protecting water, land, seeds, and language, recognizing that these elements cannot be separated from health or healing.

As I learn from Elders and land stewards, food sovereignty is increasingly being understood as a human right. It aligns with Articles 20 and 26 of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), which affirm the right to traditional economies and to maintain and strengthen connections to ancestral lands (United Nations, 2007).

Every time an Indigenous family plants a garden, hunts with intention, shares a harvest, or starts a farm like Spirit Farms, they are asserting a form of self-determination that challenges the systems of control that sought to erase them. Food sovereignty is not a return to the past—it is a deliberate act of shaping the future.

The wheel has been invented, now let's recognize it, support it, and use it!

We must invest in those already leading this work by providing strong and sustainable funding models. One example is Jacob Beaton and his team at Tea Creek, who are trailblazing a scalable, community-driven approach for First Nations across Canada. Despite their success, inconsistent funding puts Tea Creek's future at continual risk—jeopardizing its ability to offer vital training and support to Indigenous Peoples.

Tea Creek is an Indigenous-led training farm that blends hands-on agricultural and trades training with cultural knowledge sharing for Indigenous youth and adults. Its impact is far-reaching: reclaiming traditional food skills, creating jobs, and building intergenerational agricultural capacity. The program also provides essential wraparound supports such as food, transportation, and mental health care, ensuring that participants can thrive both on and off the farm.

Learn more at: https://www.teacreek.ca and take the time to watch the documentary at https://www.teacreekfilm.ca/

7.0 Conclusion

7.1 Key Findings

1 **Indigenous Food Systems Are Systems of Resistance and Resurgence**
Indigenous agriculture is not a new concept, but an ancient practice disrupted by colonization. Across Canada and beyond, Indigenous Peoples are reclaiming food sovereignty as an act of cultural healing, political resistance, and economic resurgence.

2 **The Existence of Indigenous led Agriculture and Food Sovereignty Projects Are Vulnerable**
Many Indigenous-led agriculture and food sovereignty initiatives are driven by a small group of dedicated individuals who invest their hearts, energy, and often their life savings into advancing outcomes for their communities. This work is emotionally intense and physically demanding, placing a heavy burden on these leaders and increasing the risk of burnout—ultimately threatening the sustainability of the entire initiative. Without consistent support from both the agriculture industry and government, long-term viability and leadership succession will remain uncertain.

3 **Land Tenure and Water Access Are Foundational Barriers**
Secure, long-term on Nation land leases for Indigenous producers and access to water are essential to Indigenous agricultural development. Without these, infrastructure investments, succession planning, and food security initiatives remain unstable and opportunities to scale up to access markets will not be possible.

4 **The Health of the Land Reflects the Health of the People**
Sites like Ho-Chunk Farms exemplify how regenerative land practices and access to cultural foods are tied to community well-being. Investments in sustainable farming, healthcare, and housing create healthier, more resilient Nations.

5 **Access to Capital Remains the Largest Structural Barrier**
Mainstream financial institutions often exclude Indigenous producers due to misconceptions about land collateral and risk. Alternative models like Akiptan demonstrate the success of trust-based, culturally aligned lending.

6 **Youth Engagement and Knowledge Transfer Are Critical for Continuity**
Many agricultural leaders are aging, with few succession plans in place. Global focus on Indigenous youth engagement in agriculture needs to be a priority.

7 **Food Deserts Are a Persistent Threat to Sovereignty and Health**
In places like Pine Ridge and Rosebud, lack of nearby grocery stores, price monopolies, and poor infrastructure compound food insecurity, highlighting the need for localized food hubs and community-owned food systems.

8 **Indigenous-Led Solutions Must Be Nation-Based, Not One-Size-Fits-All**
Economic development and agriculture initiatives must be grounded in the governance, values, and goals of each Nation. Pan-Indigenous models often miss local nuance, thus fail to deliver sustainable results.

9 **The True Return on Investment Is Return on Indigenous (ROI)**
Success should be measured not only in financial terms, but also in cultural revitalization, land restoration, community wellness, and intergenerational wealth.

(Above) Montezuma's Castle National Monument, Arizona, USA.
Photo credit: Adam Voeltz

(Above) Brainstorming with women from Indigenous communities at the Arizona Food Systems Gathering —sharing ideas, strength, and visions for the future of Indigenous food sovereignty.
Photo credit: Adam Voeltz

7.2 Recommendations for the Canadian Agriculture Sector

1 **Transform Financial Systems to Reflect Indigenous Realities**

- Establish Indigenous-led financial institutions that offer trust-based, flexible loan models tailored to community wealth with a strong understanding of how to navigate government-imposed policies and collateral restrictions.
- Reframe lender assessments to include non-monetary return on investment indicators such as land stewardship, cultural revitalization, and youth engagement.
- Develop lending instruments that recognize Indigenous land governance on non-fee simple titles.

2 **Support Infrastructure for Indigenous-Controlled Food Systems**

- Fund Indigenous-led food hubs, mobile processing units, commercial kitchens, and decentralized distribution systems.
- Support cooperative marketing models and shared infrastructure to build community-based value chains.
- Invest in long-term infrastructure through mechanisms like 25-year zoning agreements or Nation-to-Nation land-use contracts.

3 **Reform Colonial Legislation and Policy Barriers**

- Repeal or amend restrictive sections of the Indian Act that limit land use as collateral or require federal oversight for economic activity.
- Develop a National and/or International Indigenous Agriculture Policy Framework rooted in Indigenous governance and food sovereignty while considering all Indigenous food systems from land to sea.
- Implement land return and co-governance strategies to restore Indigenous jurisdiction and stewardship over traditional territories.

4 **Embed Intergenerational Learning and Agricultural Education**

- Invest in school-based and land-based agricultural education that revives traditional knowledge and skills.
- Fund Indigenous-led certification programs and Traditional Ecological Knowledge (TEK)-based agricultural curricula.
- Embed Elder–Youth mentorship models and seasonal land-based learning as a foundation of all agri-education efforts.

5 **Ensure Sustainable Succession and Project Continuity**

- Create long-term funding streams for Indigenous projects that prioritize 7-generations planning.
- Support leadership development and succession planning within Indigenous-led agricultural enterprises and non-profits.
- Develop tools to prevent burnout among key changemakers, including shared governance and team-based leadership.

6 **Recognize and Scale Indigenous Innovation**

- Incentivize procurement of Indigenous foods and services by institutional buyers such as schools, hospitals, and governments.
- Recognize Indigenous seed systems, ceremonial crops, and traditional harvesting practices through cultural and intellectual property protections.
- Fund Indigenous research institutions to restore agricultural languages, calendars, and spiritual foodways.

7 **Strengthen Land and Water Sovereignty**

- Affirm Indigenous land and water rights as foundational to agriculture, well-being, and food sovereignty.
- Support Indigenous-led water governance models that center traditional knowledge and protect ecological cycles.

8 **Rebuild Market Access and Pricing Equity**

- Fund cooperative aggregation programs to allow Indigenous producers to reach volume thresholds for larger markets.
- Address price manipulation in isolated communities by supporting Nation-owned grocery and retail models.
- Provide culturally relevant training in financial forecasting, pricing, and business planning.

9 **Protect and Promote Seed and Food Sovereignty**

- Support Indigenous seed banks, protect traditional seed varieties under Intellectual Property (IP) law, and integrate seed-saving into educational systems.
- Fund community seed sovereignty projects, traditional food forests, and culturally rooted Community Supported Agriculture (CSA) models.

10 **Embed Food Sovereignty in Health, Justice, and Education**

- Integrate food sovereignty into public health and education policy, as a response to diet-related diseases.
- Develop food-as-medicine programs in collaboration with Indigenous health organizations and Elders.
- Embed traditional foodways in school meals, cultural education, and youth programming.

11 **Build National and Global Indigenous Networks**

- Establish global Indigenous knowledge-sharing platforms to exchange best practices in regenerative agriculture and land-based economics.
- Fund Indigenous-led gatherings, convergence events, and exchange programs to connect youth, Elders, and practitioners.

12 **Measure Success by Return on Indigenous Investment (ROI)**

- Redefine agricultural success to include:
  - Cultural revitalization through food systems.
  - Land healing and environmental stewardship.
  - Wealth circulation within families and Nations.
  - Long-term community resilience over short-term profit.

13 **Address Structural Isolation and Capacity Gaps**

- Provide core operational funding to Indigenous agriculture organizations rather than project-based grants.
- Increase investment in community-based technical support, financial literacy, and infrastructure planning.
- Develop tools for peer-to-peer learning, mentorship cohorts, and Indigenous agricultural leadership pipelines.

14 **Enshrine Indigenous Representation in Governance**

- Ensure dedicated seats for First Nations, Inuit, and Métis leaders on national and provincial agricultural boards, councils, and advisory bodies.
- Require that all public agriculture policy reviews include consultations with First Nations, Inuit, and Métis governments and knowledge holders.

7.3 Final Reflections

Food is a relationship, not a commodity. For Indigenous Peoples, reclaiming agriculture is not about returning to the past, but creating sustainable, self-determined futures. This report is not a conclusion, but a continuation of our collective responsibility to support Indigenous food systems grounded in land, love, and liberation.

(Above) Cliff Dwellings at Walnut Canyon National Monument, Arizona USA.
Photo credit: Adam Voeltz

8.0 Appendices

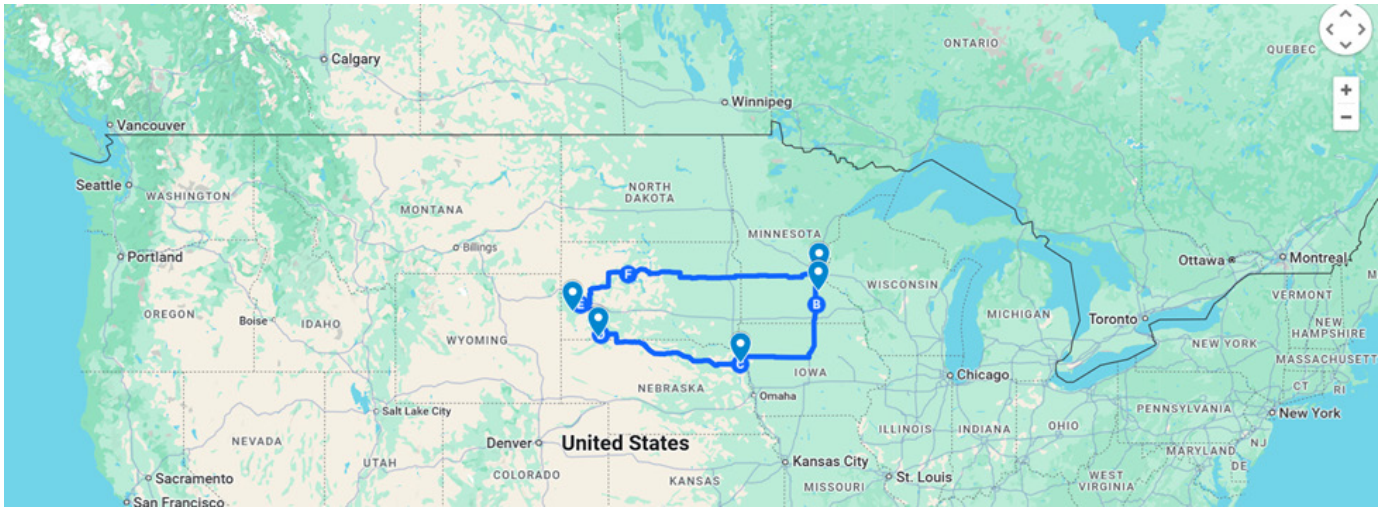
Appendix A

Nuffield Research Project – Travel Log

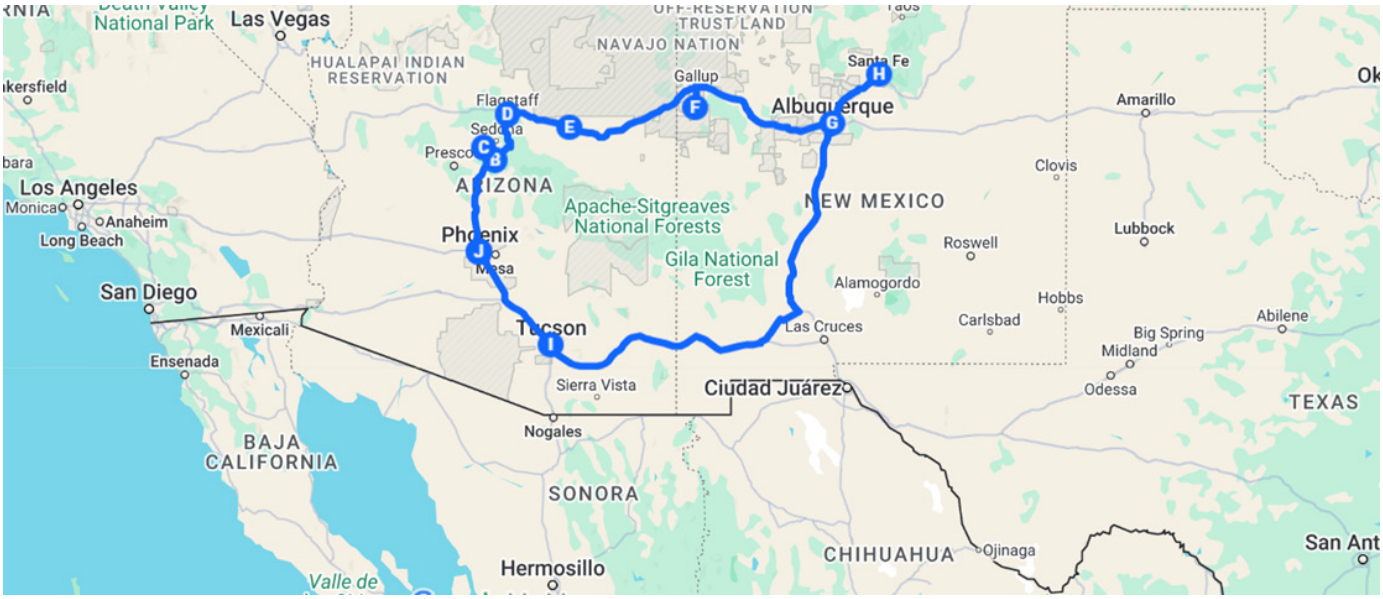
The following is a travel log and description of the purpose of the travel.

Travel Log

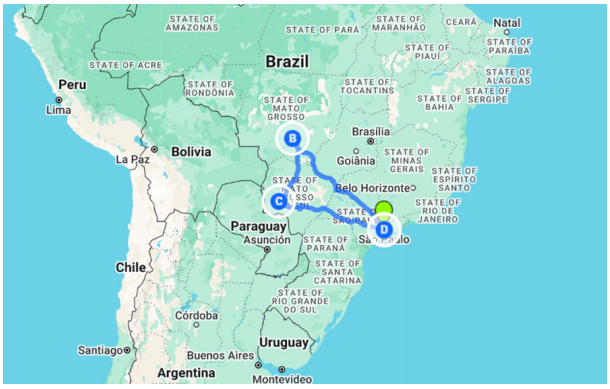
Country	Destination	Travel Dates	Travel Focus
Canada	Regina, Saskatchewan	November 20 - 26, 2023	Indigenous Agriculture 3-day event and Nuffield Canada New Scholar awards.
Canada	Edmonton, Alberta	February 19 - 23, 2024	Attended hemp conference with First Nation that was new to the industry.
Brazil	Bonito	March 7 - 19, 2024	2024 Contemporary Scholars Conference.
Canada	Blood Tribe First Nation, Standoff, Alberta	May 5 - 10, 2024	Blood Tribe/Red Crow College Buffalo Harvest and 3-day Indigenous Ag conference.
Canada	Langham, Saskatchewan	July 18, 2024	Indigenous VIP day, Ag in Motion Show.
Canada	Millbrook First Nation, Halifax & Prince Edward Island (PEI)	July 27 - August 1, 2024	Millbrook First Nation and PEI tour.
USA	Minnesota, Nebraska & South Dakota	September 3 - 13, 2024	On reservation operation site visits.
USA	Arizona & New Mexico	October 23 - November 7, 2024	On reservation operation site visits, World Indigenous Business Forum Conference, and Arizona Food Systems conference.
Canada	Regina, Saskatchewan	November 25 - 29, 2024	Indigenous Ag Summit at Western Canadian Agribition.
USA	Las Vegas, Nevada	December 9 - 13, 2024	Intertribal Agriculture Conference.



(Above) Minnesota, Nebraska & South Dakota September 2024



(Above) Arizona & New Mexico October - November 2024



(Left) Brazil March 2024

Appendix B - Case Studies

Building Trust Through Connections

One aspect of being a Nuffield Contemporary Scholar that no one warns you about is the amount of research required to find the right connections — the people you need to visit and learn from. The next level of discomfort comes when you have to ask these individuals if you can come onto their operation, take up their valuable time, and then trust you enough to share further connections to expand your learning network.

In the Indigenous space, "researchers" have historically entered communities to study Indigenous Peoples and their ways of knowing. Far too often, this research has been extractive: leaving nothing of value behind, using knowledge unethically, or doing nothing at all with the information gathered. This history has created deep mistrust toward outsiders seeking access to Indigenous communities. From the start, I knew that I would need to build genuine trust with key connectors and communities to find the relationships necessary for meaningful learning — the "six degrees of separation" that would allow me to listen, not just study.

Fortunately, through my growing network of like-minded individuals, I met Antonious Petro from Regeneration Canada, who introduced me to Reginaldo (Regi) Haslett-Marroquin. Regi became a trusted connector, generously opening doors to projects and operations within Indigenous communities.

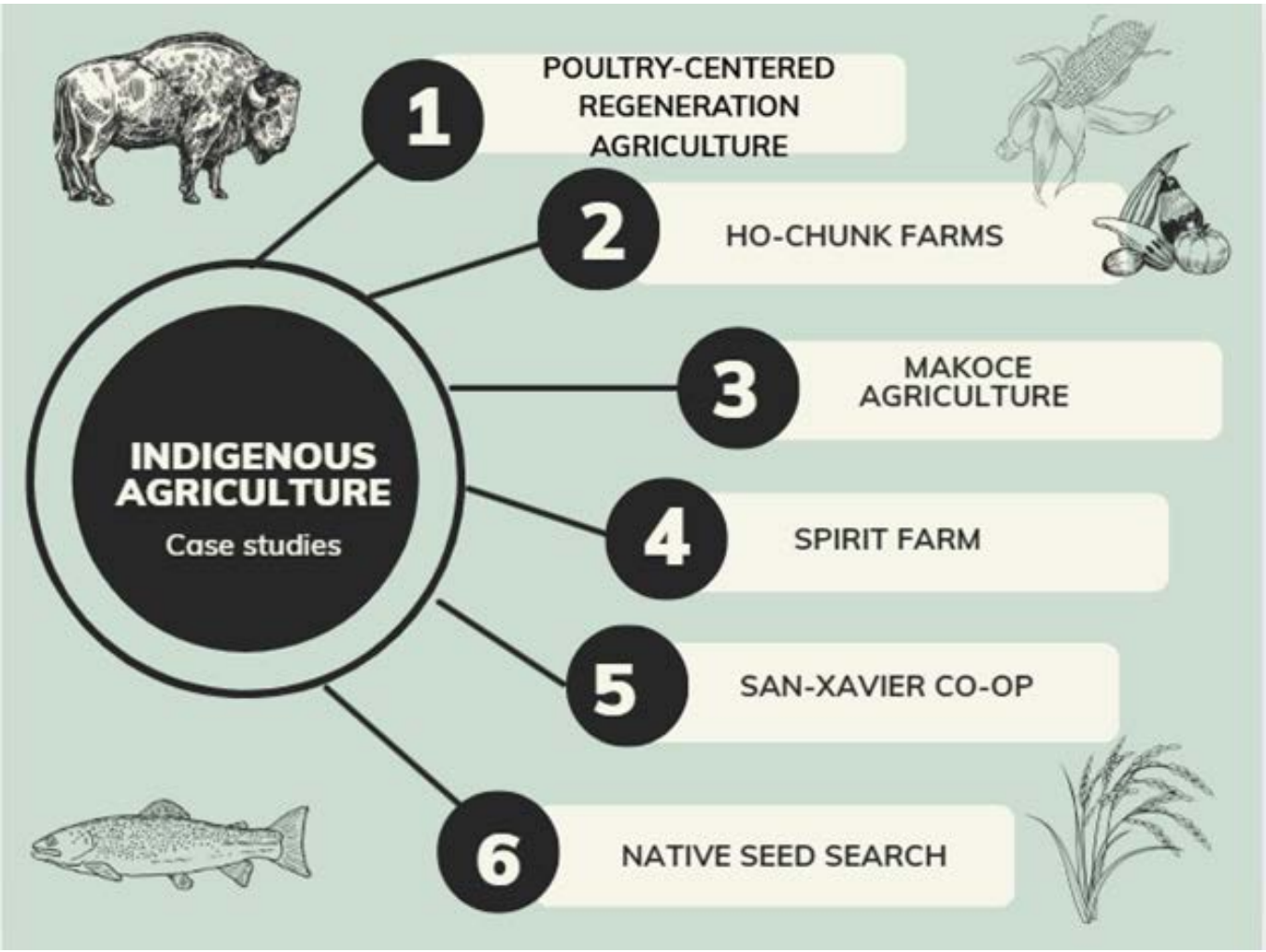
In Indigenous spaces, relationships are precious and require careful tending. These connections form a circle of like-minded individuals who will drive change and champion the future of Indigenous agriculture and food sovereignty.

About These Case Studies

The following case studies represent just a few of the remarkable people and places I visited during my Nuffield Canada journey. Each one was chosen for the way it illuminated the power of Indigenous agriculture — not only as a means of growing food, but as a pathway to healing, sovereignty, and intergenerational strength.

These visits stood out because they sparked something in me: a question, a lesson, or a sense of new possibility. They are not the only stories worth telling. Across Canada and beyond, I encountered many more changemakers whose voices, teachings, and actions are etched in my heart — and carefully stored on my hard drive.

If you are interested in learning more about the other farms, communities, and leaders I met along the way, I warmly invite you to reach out. It would be my honour to share those stories and continue the conversation.



Case Study 1: Poultry-Centered Regenerative Agriculture (PCRA)

Through PCRA, I believe we demonstrate a new way of thinking, of relating, of working as part of nature so that all who come in contact with our ecosystems will know that we can build a better world for everyone.

— Reginaldo Haslett-Marroquin

I could have stayed for weeks at PCRA to listen and learn from Regi. I think the rebellious spirits that both he and I possess could result in a change tornado if we lived closer and were in the same country. His passion and dedication added a log to the fire that burns in my soul. I was so very fortunate to meet him and have some of his time.

The visit to PCRA in Northfield, Minnesota, offered a profound exploration into the intersection of food sovereignty, Indigenous knowledge, and systemic challenges embedded within agriculture. Led by Reginaldo (Regi) Haslett-Marroquín, who lived through the Guatemalan civil war and witnessed firsthand how food systems can be weaponized as tools of control, the farm stands as a living model of regenerative agriculture and resilience. Regi shared how historical tactics—from chemical warfare on crops to government-imposed barriers restricting local food movement—continue to favor large corporations over community producers. His farm, which transitioned from chemically treated monoculture land to an organic, multi-enterprise regenerative system, integrates elder wisdom, youth education, and economic self-sufficiency. Discussions emphasized the pitfalls of industrial organic farming, the USDA's role in erasing Indigenous poultry breeds, and the urgent need to reclaim traditional food systems rooted in land stewardship and community governance. Hazelnut bushes form the understory in PCRA's regenerative poultry model, where slow-growth chickens are raised beneath their protective canopy within an agroforestry system. This integrated approach improves soil health, enhances biodiversity, and creates a low-barrier pathway for new farmers. Their fully integrated vertical model, from seed to hatchling to processing, reflected the care and intention behind every element of the operation.

Regi's holistic vision embraces shortening value chains, restoring ancestral practices, and building collaborative Indigenous-led networks to foster true food sovereignty. His belief that Indigenous communities already possess the land, knowledge, and resilience to reset food systems, but must act collectively rather than individually, echoes through every layer of the enterprise. In collaboration with, the nonprofit Regenerative Agriculture Alliance, PCRA models a pathway where ecological restoration, cultural resurgence, and economic empowerment grow together.

Location: Northfield, Minnesota, USA (Ancestral Dakota Territory)
Visit Date: September 2024
Founder: Reginaldo Haslett-Marroquin, Guatemalan-born Indigenous leader

Community and Context

PCRA operates on ancestral Dakota lands, guided by Indigenous ecological principles and a regenerative ethos. Led by Reginaldo Haslett-Marroquin—an Indigenous farmer, visionary, and systems builder—the initiative centers on ecological justice, food sovereignty, and systems transformation. The farm stands in direct resistance to industrial food systems that have historically marginalized Indigenous knowledge and autonomy.

Vision and Philosophy

PCRA envisions a new food system—one that restores the land, centers Indigenous worldviews, and builds multigenerational wealth. Their model of poultry-centered agroforestry reimagines chicken farming as a tool for ecological healing, economic empowerment, and cultural restoration. For Regi, this work is no just agricultural—it is a form of resistance and a pathway to liberation.

Indigenous People have the land, the resistance spirit, and the community strength to reset food systems.

— Regi Haslett-Marroquin

Key Practices and Programs

•**Poultry Agroforestry:** Chickens are raised in rotational agroforestry systems under canopies of hazelnut and elderberry, mimicking natural forest ecosystems.
•**Integrated Enterprise Model:** A vertically integrated business supports seed-to-market operations—hatchery, feed, production, processing, and marketing—creating a closed-loop system.
•**Slow-Growth Breeds**: Unlike industrial models, Tree-Range®chickens grow slowly, without antibiotics, in environments that foster natural behavior.
•**Nonprofit and For-Profit Collaboration**: Regenerative Agriculture Alliance (nonprofit) provides training and capacity building, while the PCRA drives market development.
•**Education and Mentorship:** Through the Regenerative Poultry Production training program, PCRA supports Indigenous and marginalized farmers across the U.S.

Key Barriers & Challenges

- **Industrial Agriculture Narratives:** Regi challenges both conventional and "organic" poultry systems, noting that industrial organic operations often mirror conventional practices but with reduced oversight.
- **Regulatory Barriers:** USDA regulations favour large agribusiness and discourage local food movement through myths (e.g., fruit fly contamination) that restrict Indigenous trade.
- **Infrastructure Limitations:** Attempts to scale mobile poultry processing were unsuccessful, pushing PCRA to pursue permanent facilities—an endeavour requiring substantial capital.
- **Food Sovereignty Threats:** USDA's distribution of sterile poultry to communities is viewed as a form of biological erasure, threatening traditional breeds and self-determination.

Innovative Solutions

- **Interconnected Enterprises:** Each enterprise—whether a poultry line, soup company, hazelnut co-op, or manure business—must be self-sustaining before it scales.
- **Alternative Feed Systems:** Experimentation with sprouted grains quadruples protein levels and reduces dependency on imported soy meal.
- **Elder-Led Knowledge Integration:** PCRA prioritizes Elder wisdom—such as the cultural and economic role of hazelnuts—into food planning and crop design.
- **Narrative Reclamation:** The model shifts from “deficit thinking” to “abundance framing", highlighting the inherent wealth in traditional lands, relationships, and ecosystems.

Impacts

- **Ecological:** Reforestation through agroforestry increased biodiversity, carbon sequestration, and improved soil health.
- **Community:** Supports low-barrier farmer entry, builds economic pathways for underserved communities, and fosters food sovereignty through local food systems.
- **Systems Change:** PCRA's approach shortens value chains, builds farmer independence, and models regenerative economies rooted in land-based intelligence.

Reflections and Takeaways

- **Food as a Weapon and as a Remedy:**
  Regi shared how, in his youth, the Guatemalan military destroyed Indigenous crops as an act of war. Today, he sees food systems as a form of healing—where land, knowledge, and culture converge to resist and rebuild.
- **True Sovereignty is Structural:**
  Food sovereignty is not just about production—it’s about who owns the land, the processing plants, the distribution channels, and the narrative.
- **Nation Over Individual:**
  While PCRA empowers individuals, Regi’s deeper message is collective: one farmer can be erased by policy—*but a nation of farmers can collectively defend itself.*

Regi describe his approach to the vertical integration in his model as one of patience and building a solid first base business layer before adding the next. He said, “if I have one can of gas and 10 trucks to fill, if I only put a little bit of gas in each truck, none of the trucks will reach their destination. But if I put the full can into one truck, I can reach the destination and then come back to work on the other 9 trucks one by one, so that in the end all of the trucks make it to the end goal.” ***I loved this analogy and I have used it many times this year. I feel in the Indigenous space, corporations need to take it slow and be deliberate, so that they can get to the destination and uphold all the promises they have made to Indigenous Peoples.***

(Above) Regi's Jungle Chickens.
Photo credit: Tatum Claypool

(Above) Regi and I at PCRA
Photo credit: Ty Claypool

Case Study 2: Ho-Chunk Farms

When you asked a student at my high school what a farmer looks like they would tell you a white guy with cowboy boots and a cowboy hat on. They didn't see themselves as farmers...We just let them use our land to do that.

— Aaron LaPointe, Senior Director of Business Operations, Ho-Chunk Inc.

Regi connected me with the CEO of Ho-Chunk Capital, Aaron LaPointe who put the team together to facilitate my time with the Ho-Chunk Inc. team.

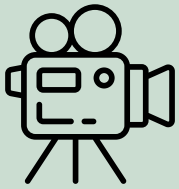
The Winnebago Tribe has built a thriving and healthy community on the land they purchased many years ago from a neighbouring First Nation. They were not allotted land by the government and had to purchase land for their members. When we entered the community, we could feel the health and prosperity that the leadership of this community have built on the fertile land they purchased.

The hospitality that my brother and I were shown by Cory Cleveland and Charlie Earth, two young professionals working for Ho-Chunk Farms and Ho-Chunk Inc., was humbling. We were greeted with gifts from their Authentic Native American food and gifts company Sweet Grass Trading Co. and Cory facilitated a high-level presentation of Ho-Chunk Inc., Ho-Chunk Farms, and their subsidiary companies.

After the presentation, Cory and Charlie toured us around the Tribe's farm to see their crops and meet their team, the bison operation with a visit with their community conservation officer, and their town site, completed with a farmer's market for members to sell their produce and products. After hours of touring us around and answering many questions, we ended with lunch at the Tribe-owned coffee shop run by members of the community.

Healthy Country, Healthy People…

Over the last year, I have heard folks say many times that "the health of the land reflects the land of its people". We could feel that with the work being done by the Winnebago Tribe and that they are focusing on the health of both the land and their people.



If you are interested in seeing the Indian corn harvest and its significance to the community, please click on the link below:

https://youtu.be/kWMLG4aDVic?si=77ItSK91UTdC-r1m

In USA, non-members of Native American communities can purchase homes on the reservation, which is different from the reserve system of Canada. I left Ho-Chunk considering how I could get a Visa to live in the community of Ho-Chunk to be surrounded by Indigenous changemakers like Charlie and Cory.

Location: Winnebago Reservation, Nebraska, USA (Ho-Chunk Territory)
Visit Date: September 2024
Contact: Ho-Chunk Farms Sweetgrass Trading Co.

Community and Context

The Ho-Chunk people of Nebraska have endured a long history of displacement, dispossession, and legal marginalization. Policies such as the Dawes Act fractured their traditional land base, disrupting the continuity of agricultural practices and community cohesion. Ho-Chunk Farms—part of the Winnebago Tribe's broader economic development strategy—is an act of reclamation. Through land stewardship, intergenerational knowledge transfer, and sustainable food systems, the community is reasserting its sovereignty, not only over land but over health, wealth, and cultural identity.

Vision and Philosophy

At the heart of Ho-Chunk Farms is a vision to restore food sovereignty and build a community-rooted agricultural economy. The initiative seeks to strengthen the Winnebago Nation's relationship with land through regenerative farming, economic empowerment, and cultural revitalization. Their goal is not merely to produce food, but to re-weave agricultural life into the spirit and structure of the Nation.

Key Practices and Programs

- **Row Crop Farming:** Ho-Chunk Farms cultivates over 7,500 acres of tribal land, operating a full harvest line across 3,000 acres. Crops are grown using stewardship-based practices with an emphasis on regenerative approaches.
- **Native Corn Seed Bank:** A culturally significant seed patch maintains Indian corn used in ceremonial soup at funerals, protecting biodiversity, and honouring ancestral foodways.
- **Bison Herd Management:** A herd of 51 woodland bison, including two bulls, is managed with care and ceremony. While not yet scaled for commercial production, the herd fulfills spiritual and cultural purposes, and a few animals are harvested annually for community distribution.
- **Regenerative Poultry Plans:** The Tribe plans to establish poultry barns on the non-profit farm site, expanding food production and economic diversity.
- **Land Tenure Innovations:** The Tribe has implemented a land lease policy giving itself the first right of refusal on Bureau of Indian Affairs–managed land, a strategic move to safeguard land continuity and prevent further alienation.

Education and Workforce Development

- **Youth Employment Programs:** High school students work part-time during school hours, providing early exposure to farming careers.
- **Ho-Chunk Ambassadors:** Youth participate in ambassador roles, working 3–5 hours per day while in school to support farm operations and learn leadership skills.
- **Post-Secondary Partnerships:** Online and on-site agricultural education is delivered through partnerships with colleges, building technical and business skills among Tribal members.
- **Cultural Events:** The Indian Corn Harvest program invites youth to participate in traditional practices, deepening connection to land and culture.

Challenges

- **Historical and Structural Barriers:** Generations of land loss, exclusion from agricultural funding, and fragmentation of cultural knowledge continue to hinder Indigenous food economies.
- **Operational Barriers: T**he high cost of modern farming equipment and the complexities of land tenure arrangements challenge both expansion and autonomy. Growth is further slowed by the non-profit status of the farm, which limits access to private investment.
- **Social and Economic Pressures:** Food insecurity and health disparities are urgent issues on the reservation. Attracting and retaining youth in agriculture requires more than jobs—it demands a meaningful reconnection to identity, purpose, and community.

Strengths and Innovations

- **Revenue Redistribution:** In 2025, Ho-Chunk Farms generated a record-breaking $2.1 million in land lease payments that were distributed back to the Tribe and its members, turning land stewardship into community-wide economic benefit.
- **Farm Market Site:** The farm operates a community market with a commercial kitchen, providing space for food sales, meal preparation, and cultural events.
- **Holistic Governance:** Profits from Ho-Chunk Inc. support land acquisition and farm investments, creating a sovereign cycle of reinvestment and growth.
- **Food Sovereignty Integration:** The bison herd, native seed bank, and planned poultry barns embody a multi-species, multi-generational approach to Indigenous agriculture that is both culturally rooted and economically strategic.

Impacts

- **Community Empowerment:** Greater access to culturally relevant foods has improved community wellness and reinforced collective identity.
- **Land Stewardship:** Expanding from 6,500 to 7,500 acres of farmable land demonstrates growing self-determination and regenerative capacity.
- **Youth Engagement:** Workforce initiatives and cultural education programs are laying the groundwork for long-term leadership succession and food system resilience.

Both Charlie and Cory are graduates of the agriculture programs and were Ho-Chunk ambassadors. Their pride in their community, their dedication to Indigenous agriculture, and their deep knowledge of their community's history and business was evident and obvious markers of the success of the community's capacity building approach.

The Ho-Chunk Nation only allows organic acres around areas that their members would be affected by from the spraying of pesticides, that includes homes, schools, hospital, and other areas where members of the Nation visit. I think this should be considered by Indigenous community leadership who are leasing out their lands.

Above: Traditional corn grown for the annual Indian Corn Harvest, shared with and celebrated by the community.
Photo credit: Tatum Claypool

(Above) The Ho-Chunk Farms team standing proudly in their 2024 corn cash crop.
Photo credit: Ty Claypool

(Above) The Ho-Chunk Community Bison Herd — a powerful symbol of resilience, renewal, and connection to the land.
Photo credit: Tatum Claypool

(Above) Cory presenting the innovative partnership structure of Ho-Chunk Farms, highlighting their model of community-driven agricultural success.
Photo credit: Tatum Claypool

Case Study 3: Makoce Agriculture Development – Regenerating Lakota Food Sovereignty

We're creating systems change that comes from within our nation—to provide land and opportunity for Native food producers, to provide education on regenerative growing practices, and to develop the infrastructure needed to sustain access to healthy nourishing foods.

— Nick Hernandez, Founder and President of Makoce Agriculture Development

When my brother and I arrived at Pine Ridge Reservation, we took some time to visit the graveyard at Wounded Knee to pay our respects. The devastation of this massacre could still be felt as we walked through this sacred space. We both were deeply shaken after our time in the site of the killing of some 300 Lakota People, with the majority of them being women and children. We laid down tobacco and did not take pictures, as to pay respect to the souls that were present. I can say I hated being a tourist of this sacred site and I watched as those passing through stopped to snap some Instagram pictures, walked on graves, and hashtagged their way around the site with disregard.

Again, the power of Regi's network brought me to another changemaker Nick Hernandez, who is the CEO and founder of Makoce Ag on Pine Ridge Reservation. Nick works closely with Regi and has implemented the PCRA poultry model in his community. Nick has brought the processing trailer to his people to close the supply/value chain gap and market access. Chickens raised and processed on Pine Ridge are fed in the community school. Makoce Ag has also built an industrial kitchen for community members to use to prepare foods for resale in an inspected, food safe environment, which has led to many new entrepreneurs now being able to open businesses and create an economy in the community.

We were unable to meet with Nick, as he was out harvesting berries with his family, but I was able to have a virtual call with him beforehand to learn his vision and what barriers and challenges he has to battle in his quest for food sovereignty and food security in his community.

Luckily, Makoce's farm manager, A.J Granelli, was gracious enough to take time away from his family and his farm to spend a couple hours with us to show us around the farm site and walk us through their mobile chicken processing plant that they purchased the year before. He also toured us through their newly built community space with the industrial kitchen and a meeting space for workshops and learning events. Their next steps are to fulfill their dream of a food hub on the community and the building of more chicken barns on the land they are leasing from the Nation.

The visit to Makoce Ag on Pine Ridge Reservation highlighted the farm's rapid growth from 18 to 350 processed birds and its transition from a volunteer-run initiative to an operation with 14 employees. Makoce is pioneering regenerative poultry production, offering mentorship programs like the Chicken Tractor Program and Intern Program to support local families in starting their own poultry operations.

The farm is working toward financial sustainability, shifting from free participation to a loan-based model through potential partnerships with Community Development Institutions (CDIs). Food security remains a major challenge, with no grocery stores within 85 miles, forcing reliance on costly food sources or travel to Rapid City.

To address this, Makoce is developing a food hub, leveraging an AWS Commodity Grant to support local food entrepreneurs and working toward a 25-year commercial zoning agreement for long-term infrastructure investment. The farm aims to decentralize food production, ensuring sustainable, Indigenous-led food systems that empower local communities.

Location: Porcupine, Pine Ridge Indian Reservation, South Dakota (Oglala Lakota Nation)
Visit Date: September 2024
Contact: https://makoceag.org

Community and Context

The Pine Ridge Indian Reservation, home to the Oglala Lakota Nation, spans over 1.7 million acres—yet 95% of its food is imported. Generations of colonial land policies, underinvestment, and systemic exclusion have created severe food insecurity and health disparities. Makoce Agriculture Development (MAD) is working to reverse these patterns by centering Indigenous food systems, restoring land stewardship, and building community-led infrastructure for food sovereignty. In Lakota, *makoce* means land—this initiative embodies the belief that the land itself holds memory, healing, and renewal.

Vision and Philosophy

Makoce Agriculture Development envisions a self-sufficient Oglala Lakota food system grounded in cultural integrity, economic resilience, and regenerative relationships with the land. Their mission is to rebuild Indigenous foodways by blending ancestral knowledge with community-rooted innovation—ensuring that food is not just sustenance, but a pathway to sovereignty, health, and intergenerational healing.

Key Practices and Programs

- **Poultry and Agroforestry Production:** Following the PCRA model, MAD is developing a regenerative poultry and hazelnut operation that emphasizes agroforestry, soil health, and low-barrier farmer entry.
- **Chicken Tractor and Mentorship Programs:** Participating families are supported with hands-on training and infrastructure to begin raising poultry at home. A new initiative in development envisions a "barn-building exchange", where community members first work together to construct a barn at Makoce Agriculture Development. In turn, the same team would then help each participant build their own barn on their home site—creating a ripple effect of independent, locally rooted poultry operations across the community.
- **Mobile Processing Infrastructure:** A mobile poultry processing plant has been acquired to support decentralized production and address regulatory barriers.
- **Land Acquisition:** Have started to secure a 24-acre lease for a food hub and purchased 40 acres for their production site, a significant feat given the challenges of tribal land leasing systems.
- **Food Hub and Entrepreneur Network:** A large-scale food hub is under development, with a commercial kitchen to support meal preparation, training workshops, and local food business incubation.
- **Food Systems Institute:** This educational wing offers community courses in culinary arts, nutrition, farming, and traditional food harvesting, creating space for knowledge transmission and economic opportunity.
- **Commodity Support:** Through the AWS Commodity Grant, MAD can purchase and redistribute wild harvested foods like wild plums and sour cherries, circulating local wealth and food culture.

Challenges

- **Structural and Historical Barriers:** Centuries of land theft, infrastructure neglect, and extractive food policies have disconnected the Oglala Lakota from their foodways and land. Pine Ridge remains a food desert, with the nearest affordable grocery store over 85 miles away.
- **Operational Challenges:** The complexities of tribal land tenure and a lack of basic infrastructure (including water and electricity in many homes) limit the pace of development. A steep learning curve in poultry production led to high mortality rates in 2024, prompting reconsideration of free participation in the chicken program.
- **Social and Economic Pressures:** Diet-related illnesses are widespread, tied directly to the lack of local food systems. Building community-wide economic resilience and cultural renewal through food is a long-term, multi-layered effort.

Strengths and Innovations

- **Community-Directed Planning:** A Community Advisory Committee guides all major decisions, ensuring that development reflects community priorities.
- **Sustainable Finance:** A $2.5 million Bush Foundation Community Innovation Grant is funding the build-out of the food hub and processing infrastructure.
- **Evolving Financial Models:** MAD is exploring forgivable microloans through Community Development Institutions (CDIs), creating ownership and commitment among new poultry farmers without imposing rigid repayment structures.
- **Capacity Building:** Community use kitchens and commercial facilities will host trainings for local food entrepreneurs and young people, supporting not just food production but economic mobility.

Impacts

- **Cultural Revitalization and Health:** Increased availability of traditional and locally produced foods is reconnecting community members to land and wellness practices.
- **Environmental Stewardship:** Regenerative practices are restoring prairie ecosystems, promoting water conservation, and reducing dependency on external inputs.
- **Community Outcomes:** More families are participating in agriculture, infrastructure investments are underway, and health-focused initiatives are taking root through school food programs and youth engagement.

Community Highlights

- **Education and Exchange:** Hosted the Second Annual Convergence Conference (September 2024), a gathering space for Indigenous food system leaders to learn, share, and grow together.
- **School Integration:** Efforts are underway to integrate locally raised chickens into Pine Ridge school food programs.
- **Knowledge Sharing:** Makoce has welcomed delegations from other Indigenous communities, including Ho-Chunk Farms, reinforcing intertribal collaboration and movement building.

Reflections

The change in landscape some seven hours away from Ho-Chunk was dramatic. From the fertile lush land of the Winnebago Tribe to the shrubby grasslands of the Great Plains of Pine Ridge, we could feel a shift in opportunity for food sovereignty and food security.

Let's dwell for a moment on the food security piece of the equation. We drove across the Rose Bud and Pine Ridge Reservations, stopping at places like the Siċaŋġu Food Sovereignty Initiative. At each stop, we heard the same message—affordable food access is a major challenge. There are fewer than five grocery stores across an area that can take six to seven hours to drive. These stores are difficult to reach because there is no public transportation infrastructure, such as a bus line, on the reservations. Most of the grocery stores are owned by the same person, creating a monopoly over what foods are stocked. This owner can set prices at will, and according to community members, those prices are often exorbitant and out of reach for many residents. This is a clear example of how food insecurity can manifest—not only through scarcity of food, but through lack of access, affordability, and choice.

The vast tracks of grasslands and few amenities on the reservation made my brother and I nervous, as we are used to stopping at our leisure to grab snacks or gas. This isolated anxiety that we felt was needed so that we could lean in and really understand what the folks at our next stop at Makoce Ag were up against.

(Above) Wounded Knee — a place of sorrow, strength, and the unbroken spirit of a People.
Photo credit: Tatum Claypool

(Above) The new chicken barn rising at the Makoce farm site — a symbol of growth and new opportunities for the community.
Photo credit: Adam Voeltz

(Above) Mobile chicken processing unit on the Pine Ridge Reservation — bringing food sovereignty closer to home and empowering local producers along the value chain.
Photo credit: Tatum Claypool

(Above) Future site of the Makoce Food Hub and Business District — where community, culture, and commerce will come together to nourish generations.
Photo credit: Tatum Claypool

Case Study 4: Covenant Pathways & Spirit Farm – Regenerating Navajo Foodways

"We're creating systems change that comes from within our nation—to provide land and opportunity for Native food producers, to provide education on regenerative growing practices, and to develop the infrastructure needed to sustain access to healthy nourishing foods."

— James Skeet, Co-founder of Covenant Pathways and Spirit Farm

I travelled many miles the last year, met many inspiring changemakers, but my time with James and Joyce Skeet at Spirit Farms changed the trajectory of my life. I did not have anyone connect me with James and Joyce, rather I "cold called them" via email after finding them on the internet. I explained about being on a Nuffield scholarship and why I wanted to come and meet them. I imagined that they were too busy to have me come visit but Joyce emailed me immediately that I was welcome to visit.

I was a bit rattled when I arrived as we crossed a time zone that we did not realize and we almost arrived late, which for me late is never fashionable. Upon arrival, I was instantly calm with the vibe of the desert oasis. James welcomed my husband and I into the hogan to have tea and discuss all things Indigenous agriculture. I was sharing with James about about Indigenous agriculture in Canada and when I finished, he said to me that he knew I was coming to see them and that he has been thinking about Canada a lot, and now knew why. He said he had a dream about me and knew I was coming to visit them.

He told me that I was going to lead a generational change with the work I am doing. However, what will get in my way and what I need to be careful of is that I will be the bearer of the message, but I will not be able to execute on all the work that needs to be done. My job is to speak the truth with humbleness and without ego.

Then he read in my soul that I fight many battles, and that the front side of my body is hard and tough but that the back side of my body is scarred from the lashes of the whips of those that oppose this work. I cried silently as he told me this, as one would when they have just had their soul read and future told. I left Spirit Farm a different person. James gave me the permission I needed to push forward in this space, to make changes that I won't see in my lifetime, and live in the ego free consciousness that none of this is about me.

I would have never stepped foot on that farm without being a Nuffield Scholar.

(Left) With James and Joyce Skeet at Spirit Farms — a visit so rich in wisdom and connection, I didn't want it to end.
Photo credit: Adam Voeltz

Ever thought about biocosmology? Me neither, not until I drove into the middle of the New Mexican desert to visit James and Joyce Skeet at Spirit Farms. They "dry" farm in the desert. No well on the property and have to harvest rainwater or haul in water 1 hour away and then treat the city water so that it is suitable for the plants and animals on their farm. They have Churro sheep, which were brought to New Mexico in the 1500s by the Spanish along with horses. James says this breed of sheep is the only one that can aid in reversing the desertification of their reservation lands. Through Indigenous Regenerative Intelligence methods and ways of knowing, James and Joyce have brought the desert back to life with Bio-Char and an amazing composting program.

Location: Vanderwagen, New Mexico (Diné Bikéyah, Navajo Nation)
Visit Date: November 25, 2025
Contact: https://newmexicospirit.farm/ | https://www.flavorsofthehogan.com

Community and Context

Situated in the high desert of the Navajo Nation, Spirit Farm rises from ancestral land once tended by the founder James' grandfather and father. Following decades of soil degradation, illness in his family, and the breakdown of traditional food systems, James returned home with a vision: to restore both the land and the health of his People. The Navajo Nation, like many Indigenous territories, bears the scars of colonial land policies and forced dependence on processed, imported food. Through Spirit Farm, Covenant Pathways is reviving the spiritual and ecological roots of food sovereignty—one acre, one sheep, one seed at a time.

Vision and Philosophy

Covenant Pathways seeks to regenerate land, culture, and community by integrating ancestral Diné wisdom with regenerative agriculture. Their goal is to create a self-sustaining food system rooted in Indigenous values, spiritual ecology, and communal renewal.

Core Pillars:

1. **Biocosmology** – Treating biology through a spiritual lens, acknowledging the sacred relationship between humans and nature.
2. **Connection** – Bridging Indigenous knowledge with modern technologies to restore relationships with land.
3. **Regeneration** – Healing broken farming systems while reviving spiritual practices for future generations.

Guiding Goals:

- Heal soil and soul through biocosmology and ancestral wisdom.
- Combine traditional and modern practices to enhance crop yields and reduce water use in the desertified landscape.
- Build an education platform for local growers.
- Grow nutrient-dense, culturally appropriate food.
- Establish Spirit Farm as a site of renewal, revival, and reciprocity.

Key Practices and Programs

- **Livestock and Crop Production:** Spirit Farm raises nutrient-dense meats including pork, beef, and mutton, and is expanding its flock of Landrace Churro sheep—an important cultural and culinary breed.
- **Bio-Char and Composting Innovations:** Drawing on Indigenous technologies and scientific methods, Spirit Farm has developed a custom Bio-Char system and advanced composting model designed to reverse desertification and enhance water retention.
- **Demonstration Farm:** The farm operates as a teaching and demonstration site, sharing regenerative techniques adapted to the high desert with Navajo and Zuni communities.
- **Education and Training:** Spirit Farm offers workshops, mentorships, and youth training, centering cultural renewal, land stewardship, and food literacy.
- **Water Management:** Despite available aquifers, Spirit Farm faces intense restrictions from the Bureau of Indian Affairs (BIA) that prohibit the drilling of private wells. Water must be hauled from Gallup, NM —two hours away—and distributed via water tanks placed across the reservation.
- **Land Use and Legacy:** The farm is located on family land passed down through generations. James' return reflects a broader movement to confront diet-related diseases and reassert Indigenous control over food and health.

Barriers and Challenges

Structural Barriers:

- Legacy of land dispossession and policy-driven disruption of Indigenous food systems.
- BIA restrictions prevent the drilling of private wells, blocking essential access to water.

Operational Challenges:

- Restoring severely degraded, desertified soils.
- High financial and labour burdens due to lack of infrastructure, especially water access.
- Difficulty securing stable funding streams for ongoing farm operations and expansion.
- Groundbreaking tools like the Bio-Char system require partnerships for development, testing, and succession planning.

Social and Economic Pressures:

- Addressing high rates of chronic disease linked to food insecurity.
- Ensuring continuity of Spirit Farm's work through leadership development and succession planning.
- Navigating inequitable funding landscapes that prioritize large NGOs over grassroots Indigenous producers.

Broader Systemic Issues:

- Climate change and chronic drought.
- Under-resourced federal funding that fails to keep pace with inflation and population growth.
- Lack of agricultural infrastructure such as commercial kitchens and local food hubs.

Reflections from Water Access Dialogue:

- BIA policies convert private wells into public community wells, discouraging investment.
- Spirit Farm's adaptive use of distributed water tanks reflects resilience in the face of unjust regulation.
- Water must be hauled long distances, dramatically increasing operating costs and limiting scale.

Strengths and Innovations

Indigenous-Led Solutions:

- Spirit Farm is a model of Navajo-led regenerative farming and food sovereignty.
- Flavors of the Hogan, a sister enterprise founded 15 years ago, provides jobs, local food products, and additional income streams.
- Agro-tourism Initiative: A farm-based Airbnb allows visitors to stay, learn, and immerse themselves in the Spirit Farm experience.
- Community barter systems help neighbours meet essential needs without relying solely on cash.
- Secured funding from sources like the Growing Justice Fund supports outreach, operations, and farm development.

Capacity Building and Education:

- Spirit Farm operates as a living classroom, offering hands-on education for Navajo and Zuni youth and adults.
- Workshops, apprenticeships, and land-based employment programs support knowledge transfer and community empowerment.
- Emphasis on cultural renewal and food literacy grounded in Diné values and land-based pedagogy.

Technological Innovation:

- The Bio-Char composting system is designed for scalability and could support water retention across arid lands.
- Regenerative grazing and compost systems restore soil health and ecosystem function in the high desert.

Outcomes and Impacts

Community Benefits:

- Increased access to locally produced, culturally rooted foods.
- Strengthened community ties through land-based learning and food sharing.
- Economic opportunities created through agro-tourism, local sales, and job creation.

Environmental Stewardship:

- Soil rehabilitation using traditional methods enhanced by regenerative practices.
- Increased biodiversity and land health through diverse farming approaches.

Metrics of Success:

- Expansion of livestock and heritage Churro sheep flocks.
- Increased participation in workshops and community programs.
- Nutrient-dense meats supplied to local families and institutions.
- Spirit Farm's influence and methodology are spreading to other Indigenous communities across New Mexico.

(Above) My husband and his new best friend.
Photo credit: Tatum Claypool

(Above) Joyce showcasing their off-grid dehydrator — a testament to innovation and self-sufficiency.
Photo credit: Tatum Claypool

(Above) Churro Sheep.
Photo credit: Tatum Claypool

(Above) Finished Bio-Char — ready to give new life back to the soil.
Photo credit: Tatum Claypool

(Left) Custom-built Bio-Char processor — turning waste into renewal.
Photo credit: Tatum Claypool

Case Study 5: San Xavier Cooperative Farm – Revitalizing Tohono O'odham Agriculture

We're not talking first-generation, second-generation farmers. We're talking 4,000 years.

— Katie Hilbert, Marketing and Sales Coordinator at San Xavier Cooperative Farm

San Xavier Co-op offers the option to pay for a tour of the operation. This was different from any of the operation/farms that I visited. I just went on the website, paid to book a time and day, and we showed up for the tour. Our tour guide was very hospitable, guided us around the learning garden for the community and showed us through the hay fields, the seed bank, and the retail area. I imagine that they get lots of folks coming through and the guides run through their standard presentation. As we went through the tour, our guide and I began to connect on our visions for Indigenous agriculture. At the end of the tour, we both got emotional, were hugging each other, and she was telling me how important the work I want to do is and to not stop the fight for parity and prosperity for those who cannot fight for it. My husband noted as we pulled away from San Xavier Co-op there was a visible emotional connection, and that our tour guide felt heard and valued for the work she has done for her People.

Location: San Xavier District, Tohono O'odham Nation, Tucson, Arizona
Visit Date: November 2025
Contact: San Xavier Cooperative Farm

Community and Context

The Tohono O'odham Nation has lived and farmed in the Sonoran Desert for thousands of years, adapting to the arid climate through sophisticated irrigation and dryland farming systems. Colonization, policy-driven land allotment, and environmental degradation severely disrupted these systems, resulting in loss of traditional knowledge and dependence on imported, processed food. Established in 1971, the San Xavier Cooperative Farm is a community-led effort to reclaim and revitalize traditional Tohono O'odham agricultural practices while strengthening cultural identity, health, and local economies.

Vision and Philosophy

Rooted in the Himdag, the Tohono O'odham "way of life", San Xavier Cooperative Farm envisions an agriculture system guided by ancestral values and ecological balance. The farm seeks to restore food sovereignty, teach cultural knowledge, and create economic opportunities through land-based practices that honour Elders, water, animals, plants, and future generations.

Core Goals:

- Restore traditional agricultural practices rooted in Tohono O'odham knowledge.
- Promote food sovereignty and health through locally grown, culturally relevant foods.
- Support economic development through sustainable and diversified farming.
- Ensure the transmission of agricultural knowledge to younger generations.
- Integrate cultural values into every aspect of farm operation.

Key Practices and Programs

- **Traditional Crop Cultivation:** The farm grows staple Indigenous crops including tepary beans, 60-day corn, squash, and mesquite. These foods have deep cultural significance and are well adapted to the local desert ecology.
- **Sustainable Forage Production:** Production of high-quality hay and feed without chemical pesticides or herbicides offers both a revenue stream and a model for low-impact farming.
- **Community Enterprise Development:** A farm store sells local produce and mesquite products, while a catering business prepares meals using ingredients grown on-site—generating income and reinforcing community ties to food production.
- **Seed Sovereignty:** An on-site seed bank and partnerships with organizations like Native Seeds/SEARCH help protect and propagate traditional seed varieties.
- **Cultural and Agricultural Education:** The farm offers hands-on workshops in traditional farming and wild harvesting techniques, working closely with schools and universities to bring young people into food production and land stewardship.
- **Land Use and Tenure:** San Xavier Cooperative Farm manages approximately 1,700 acres using traditional irrigation systems and sustainable growing practices adapted to the desert climate.
- **Knowledge Integration:** Farming is not simply economic—it is spiritual and cultural. The Himdag frames how farming is done, ensuring that respect and relational accountability are built into each decision and action on the land.

Barriers and Challenges

Historical and Structural Barriers:

- *The General Allotment Act (Dawes Act)* fragmented land ownership, creating long-term challenges for coordinated land management.
- External development and groundwater extraction have depleted local water sources, undermining traditional irrigation systems.

Operational Challenges:

- Balancing economic needs with cultural commitments can create tensions—alfalfa is grown as a cash crop, but maintaining traditional food cultivation is core to the mission.
- Ongoing infrastructure and program development require sustained and reliable funding.

Social and Economic Pressures:

- A shift from traditional diets to processed foods has contributed to significant health disparities within the community.
- Inspiring agricultural interest among youth is essential for the long-term vitality of food sovereignty efforts.

Strengths and Innovations

Indigenous-Led Solutions:

- Programs like *Wild Harvest* reconnect community members to seasonal gathering, food preparation, and the land itself—reviving practices that were nearly lost.
- The seed bank and farm store serve as community anchors, restoring food autonomy while supporting cultural and economic resilience.

Financial and Infrastructure Models:

- Crop diversification includes alfalfa production as a steady income source that supports the cultivation of traditional foods.
- Strategic partnerships—such as with Native Seeds/SEARCH (*Southwestern Endangered Aridland Resource Clearing House*)—enhance seed preservation and strengthen intertribal food networks.

Capacity Building Approaches:

- Collaborations with local schools and universities integrate agricultural education into broader community learning.
- Volunteer programs and farm-based learning opportunities engage the community directly in seasonal growing cycles and food system work.

Outcomes and Impacts

Community Impacts:

- The farm has increased access to healthy, culturally appropriate food and helped rebuild a sense of collective pride and purpose.
- Traditional farming knowledge is being revitalized and shared across generations, strengthening cultural continuity.

Environmental Stewardship:

- Sustainable farming methods have improved soil health and biodiversity.
- The farm is restoring traditional irrigation systems that conserve water and reflect Tohono O'odham innovation.

Metrics of Success:

- Expansion of farmable land has allowed more diverse planting and economic stability.
- Educational programming has grown in reach, with more youth and community members engaging with the farm.
- Traditional seeds are being preserved and returned to community fields, reconnecting families to ancestral foodways.

(Above) Entrance to San Xavier Co-op Farm — where tradition and sustainability grow hand in hand.
Photo credit: Adam Voeltz.

(Above) Seed corn preserved in the San Xavier Co-op seed bank — protecting ancestral knowledge for future harvests.
Photo credit: Tatum Claypool

(Above) A goodbye hug from a new friend — a moment of warmth and connection I'll never forget.
Photo credit: Adam Voeltz

Case Study 6: Native Seeds/SEARCH – Stewarding Seed Sovereignty in the Southwest

We envision a future where arid-adapted and traditional crops are abundant in the gardens, farms, and kitchens of our region; where Indigenous seeds are in the hands of Indigenous growers.

— Native Seeds/SEARCH Mission Statement

Visiting Native Seeds/SEARCH (NS/S) felt like stepping into a sanctuary—a sacred vault of memory, resilience, and possibility. It was the kind of place you might imagine discovering after an apocalyptic collapse: a quiet seed bank holding the keys to humanity's survival and the regeneration of our food systems. Their vision is both clear and powerful: "We envision a future where arid-adapted and traditional crops are abundant in the gardens, farms, and kitchens of our region; where Indigenous seeds are in the hands of Indigenous growers, and all communities are supported in keeping their unique seeds and agricultural heritages alive" (Native Seeds/SEARCH n.d.).

That vision came to life as we walked through their gardens and seed vault, where every seed seemed to carry not only genetic material, but stories, memory, and responsibility. One of the most moving aspects was learning that seeds are freely available to local Indigenous communities—a true act of reciprocity and restoration. This work is not about stockpiling seeds for some distant future. It is about planting them now, returning them home, and protecting them with reverence for seven generations to come.

Location: Tucson, Arizona; Tohono O'odham Territory
Visit Date: November 2025
Contact: https://www.nativeseeds.org

Community and Context

The Sonoran Desert has long been home to Indigenous Peoples such as the Tohono O'odham, whose dryland farming practices were finely tuned to the rhythms of aridity, monsoons, and deep cultural relationships with food. Colonization and land policies like the *Dawes Act* fragmented those systems, while environmental degradation and urbanization threatened the future of traditional crops. Native Seeds/SEARCH (NS/S), founded in 1983, emerged to conserve the agricultural biodiversity of the Southwest and return seeds to the Indigenous growers who have long stewarded them. Today, NS/S serves as both a conservation organization and a movement to rematriate seeds, protect cultural foodways, and build regional food resilience.

Vision and Philosophy

Native Seeds/SEARCH envisions a future where traditional, arid-adapted seeds are abundant in gardens, farms, and kitchens—especially in the hands of the Indigenous communities from which they originated. Their work is rooted in reciprocity, ecological stewardship, and the protection of ancestral agricultural heritage.

Core Goals:

- Restore access to Indigenous seeds for Indigenous growers.
- Preserve genetic and cultural diversity of desert-adapted crops.
- Support community food sovereignty through education and seed distribution.
- Increase climate resilience through regenerative and traditional farming systems.
- Uphold Indigenous seed stewardship protocols through ethical conservation.

Key Practices and Programs

- **Seed Sovereignty and Rematriation:** The Indigenous Seed Request Program provides free seeds to Indigenous community members for farming, education, and ceremony. This ensures that seeds are returned to the communities who stewarded them for generations.
- **Conservation and Regeneration:** NS/S maintains a seed bank with over 1,900 accessions of culturally significant Southwest crops such as tepary beans, 60-day corn, and chiltepines. Seeds are regularly grown out to maintain viability and to adapt to shifting climate conditions.
- **Educational Outreach:** The organization provides public workshops and resources on seed saving, Indigenous food systems, and regenerative agriculture. They also collaborate with schools and farms to build agricultural literacy.
- **Community Collaboration:** NS/S partners with farms such as San Xavier Co-op, tribal colleges, and grassroots Indigenous initiatives to embed seed stewardship in land-based learning and cultural revival.
- **Land Use and Tenure:** While NS/S is not a production farm, it operates demonstration plots and seed grow-out fields on its property in Tucson, stewarding land in service to cultural and ecological continuity.
- **Knowledge Integration:** Indigenous frameworks of relationality, respect, and seed as relative—not commodity—guide how the organization stores, shares, and teaches about seeds.

Barriers and Challenges

Historical and Structural Barriers:

- Fragmented land tenure and disrupted foodways due to colonial policies like the *Dawes Act*.
- Climate change and increasing drought threaten the viability of traditional crops.

Operational Challenges:

- Balancing growing public interest in rare seeds with the core mission to serve Indigenous communities.
- Reliance on fluctuating grant funding to support education, staffing, and infrastructure.

Social and Economic Pressures:

- Ongoing erosion of traditional seed knowledge due to intergenerational disruption.
- Limited Indigenous representation in seed policy and national food systems discourse.

Strengths and Innovations

Indigenous-Led Solutions:

- The Indigenous Seed Request Program centers sovereignty and access by distributing thousands of seed packets each year to Native growers.
- Ethical seed stewardship practices ensure that cultural and spiritual relationships to seeds are honoured.

Financial and Infrastructure Models:

- Operates as a non-profit with earned revenue from retail seed sales, which funds community programming.
- Works across sectors—conservation, education, and farming—to maximize impact and resource sharing.

Capacity Building Approaches:

- Offers seed saving mentorships, educational guides, and school programming that bridges cultural knowledge with ecological science.
- Supports regional food movements by restoring foundational relationships to ancestral seeds and growing methods.

Outcomes and Impacts

Community Impacts:

- Seeds are being returned to communities, gardens, and ceremonies—strengthening identity, nutrition, and land-based healing.
- Indigenous growers across Arizona, New Mexico, and beyond have increased access to traditional seeds.

Environmental Stewardship:

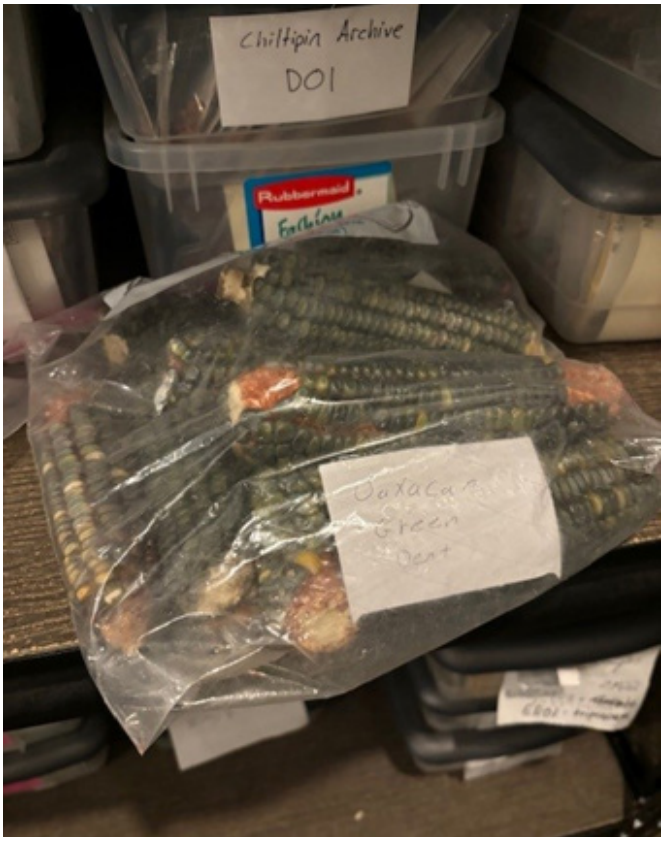
- Long-term seed preservation protects biodiversity in one of the world's most climate-stressed ecosystems.
- Grow-out trials and bio-regional seed adaptation support food resilience under changing conditions.

Metrics of Success:

- Over 500 Indigenous growers are supported annually through free seed access.
- Active conservation of more than 1,900 traditional seed accessions.
- Increasing partnerships with tribal farms, schools, and food sovereignty networks across the Southwest.

(Left) A gifted squash — a reminder of generosity, resilience, and the living spirit of the seeds shared within the seed bank.
Photo credit: Adam Voeltz

(Left) Corn drying for seed — carrying forward the promise of next season's harvest.
Photo credit: Tatum Claypool



(Left) A collection of ancient corn varieties — preserved in the seed bank to carry their stories into future generations.
Photo credit: Tatum Claypool

(Left) Dried flowers — saved for seed and the promise of future blooms.
Photo credit: Tatum Claypool

Appendix C - Reading Recommendation List for Continued Learning

Note: This list is just a starting point—far from exhaustive—as there are many more articles and books worth exploring beyond what's included here.

Canada

Lost Harvests: Prairie Indian Reserve Farmers and Government Policy – Sarah Carter (1990)
The North-West is Our Mother: The Story of Louis Riel's People, the Métis Nation – Jean Teillet (2019)

Indigenous Food Systems: Concepts, Cases, and Conversations – Edited by Priscilla Settee & Shailesh Shukla (2020)

United States

Native Food Sovereignty: Indigenous Food Systems, Education, and Community Wellness – Edited by Devon A. Mihesuah & Elizabeth Hoover (2019)

The Sioux Chef's Indigenous Kitchen – Sean Sherman with Beth Dooley (2017)

The Farmer's Lawyer: The North Dakota Nine and the Fight to Save the Family Farm – Sarah Vogel (2021)

Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants – Robin Wall Kimmerer (2013)

Australia & Aotearoa (New Zealand)

In the Hands of the People: The Struggle for Aboriginal Workers' Rights in Australia – Diane Smith & Heather Goodall (2008)

Dark Emu: Aboriginal Australia and the Birth of Agriculture – Bruce Pascoe (2014)

First Knowledges: Plants – Past, Present and Future – Zena Cumpston, Michael-Shawn Fletcher & Lesley Head (2022)

Kai and Culture: Food Stories from Aotearoa – Tracy Berno, Pip Duncan & Claire Smith (2015)

Australia's Agricultural Identity - An Aboriginal Yarn Joshua Gilbert (2025)

Latin America & Global South

Decolonize the Diet: The Global Politics of Indigenous Food – Edited by Laura G. Pereira & Maywa Montenegro de Wit (Forthcoming 2025)

Ecological Calendars and Indigenous Agriculture: Andean Communities and Climate Resilience – Gerardo Pizarro & Patricia Howard (2021)

Appendix D - Glossary

Term	Definition
Access to Capital	The ability of Indigenous producers to obtain financing, loans, or investments to start or scale agricultural operations. Often constrained by colonial-era land laws and discriminatory lending practices (TRC, 2015).
Ancestral Intelligence (AI)	A term coined in the report to describe the original form of "AI": generational wisdom rooted in land-based knowledge and cultural teachings.
Barriers vs. Challenges	Barriers are structural and systemic, while challenges are local or strategic issues that can be addressed through effort and innovation (Corntassel, 2012).
Bison Economy	Refers to pre-colonial food systems based on the buffalo. Destroyed as a tactic of colonization (Daschuk, 2013; Carter, 1990).
Cows and Plows	Treaty-based promises to support Indigenous farmers with cattle and equipment, often unfulfilled (RCAP, 1996).
Community	In this report, community means Indigenous community where members live together on designated lands.
Community Development Financial Institution (CDFI)	Financial institutions like Akiptan that provide culturally appropriate services to Indigenous communities.
Community-Supported Agriculture (CSA)	A subscription model supporting local food production. Adapted for Indigenous food sovereignty.
Food Hub	Facilities for food aggregation, processing, and distribution, rooted in Indigenous community priorities.
Food Sovereignty	The right of Indigenous Peoples to define and control their own food systems (UNDRIP, 2007; Morrison, 2011).
Indian Act (1876)	Canadian law restricting land use and economic development for First Nations (Indian Act, RSC 1985, c. I-5).
Land Tenure	Collective, culturally grounded systems by which Indigenous Peoples steward and govern their lands .
Métis Scrip System	Colonial policy displacing Métis families through privatized land vouchers (Teillet, 2019).
Nation (on Nation)	In this report, the term is used interchangeably with community. See community for definition.
Regenerative Agriculture	Farming practices that restore ecosystem health. Aligned with Indigenous ecological values.

Regenerative Indigenous Intelligence (RII)	Combining traditional ecological knowledge with regenerative methods.
Return on Indigenous (ROI)	Measuring cultural, ecological, and intergenerational wealth instead of profit.
Seed Sovereignty	The right to save, use, and share traditional seeds.
Subsistence Farming	Small-scale food production for local consumption. Foundation of many Indigenous food systems.
Trust Land	Land held by the Crown or U.S. Government for Indigenous use. Cannot be used as collateral (Indian Act, 1985; US DOI, 2021).
Veteran's Land Act (VLA)	1942 Canadian policy that excluded many Indigenous veterans from land grants (Lackenbauer, 2007).

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