Reach Alliance

Un Acto de Resistencia:

Transforming Food Systems in Jalisco, Mexico

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ITESO, Universidad Jesuita de Guadalajara
UNIVERSITY OF TORONTO
center for inclusive growth

The Reach Alliance

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Cover photo: Ezequiel Cárdenas showing his agroecological garden at Casa del Maíz (photo by Maya Povhe)

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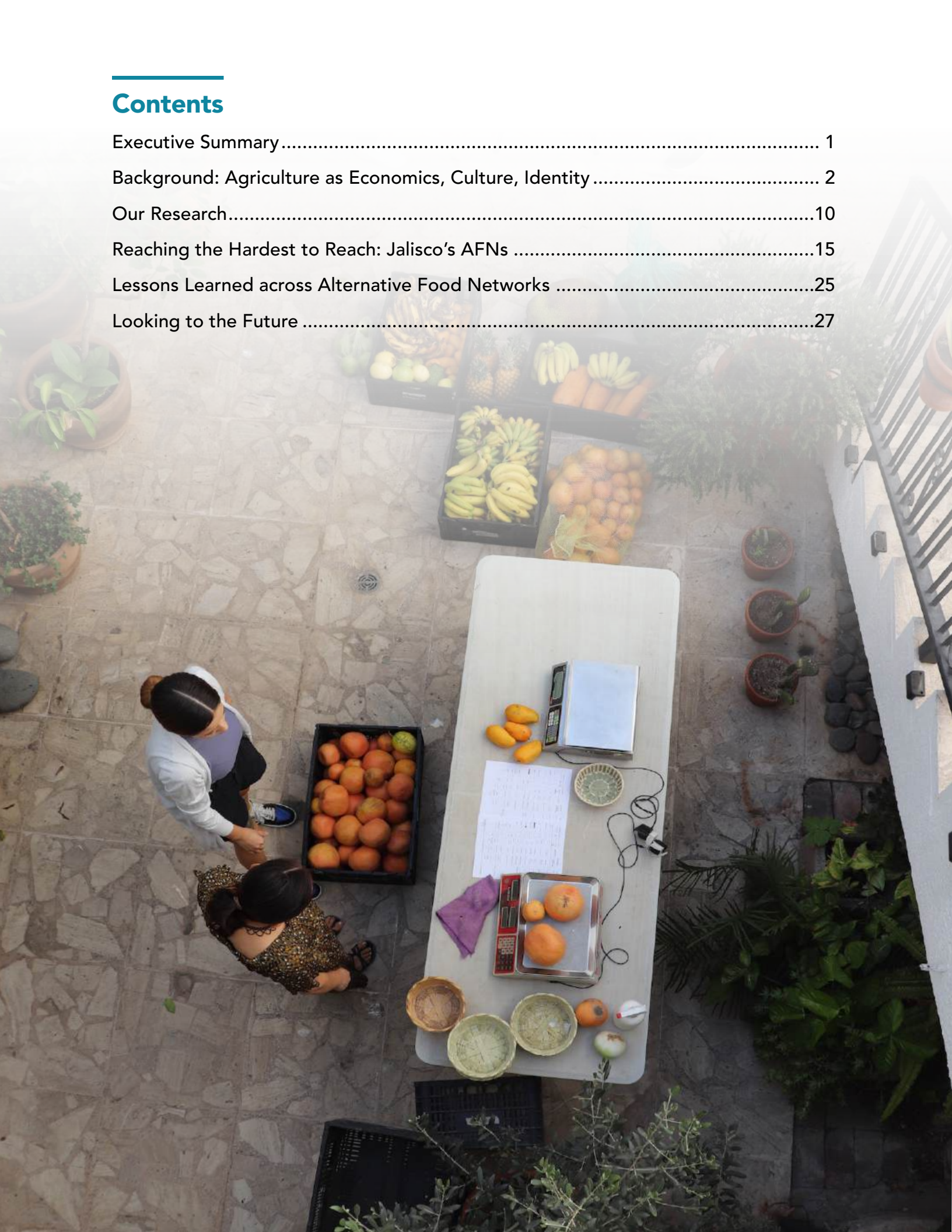


Figure 1. The Reach team prepares soil for the growing season to learn first-hand some challenges in agricultural production.

Executive Summary

Jalisco, a state in Mexico known for its agricultural production, has faced significant disruption following the implementation of the North American Free Trade Agreement (NAFTA) and other policies that favour large-scale agribusiness over traditional, small-scale farming methods. This report outlines the key consequences of this shift, such as the displacement of small-scale farmers, the loss of agricultural employment, and widespread environmental degradation. Industrial farming has led to deforestation, water scarcity, soil depletion, and increased greenhouse gas emissions, all of which threaten the long-term sustainability of Jalisco's food systems. The reliance on large-scale agribusiness has also contributed to nutritional inequities, creating a hidden health crisis as communities struggle with severe nutritional inequities. Communities face significant barriers to accessing nutritious food, leading to poor diet quality, greater malnutrition, and a rise in diet-related diseases such as diabetes and cardiovascular conditions. Together, these challenges have far-reaching social, health, and economic impacts, undermining the region's overall well-being.

We highlight the emergence of alternative food networks (AFNs) as a means of resistance to these challenges. AFNs, such as La Casa del Maíz, Molino Tenoch, and Feria de Productores, aim to reclaim control over food systems by promoting food sovereignty, sustainable practices, and direct producer-consumer relationships. The emergence of AFNs has proven to be effective in reaching the hardest to reach, providing a pathway to address food insecurity and promoting food sovereignty among the most vulnerable communities. These networks offer an opportunity for small-scale producers to counter the industrial food system by promoting agroecology: the application of ecological concepts, such as natural interconnectedness and resource reverence, to agricultural practices. By fostering collaboration, and supporting biodiversity conservation, workers' rights, and local economies, they not only address immediate challenges but also enhance the nutritional outlook and overall community well-

being through a more resilient and equitable food system.

Food is inherently political so struggles for food sovereignty are closely tied to broader social, economic, and environmental issues. AFNs present a promising model for reclaiming control over food systems, improving public health, promoting sustainability, and fostering community resilience, especially in regions where industrialized agriculture has failed to deliver equitable access to food.

Background: Agriculture as Economics, Culture, Identity

The state of Jalisco is located on Mexico's west coast known for its tight-knit communities and incredible food. A leader in agricultural production, it is renowned both within Mexico and by trading partners abroad as a production powerhouse, with dedicated farmers and fertile soil.[1] The region provides not only food but livelihoods, cultural heritage, and a deep connection to the land for many residents. Agriculture forms the backbone of Jalisco's economy, directly supporting jobs in farming, food processing, and distribution, while also sustaining related sectors such as tourism and trade. The state's diverse climate and rich soil allow for the cultivation of a wide variety of crops, from maize and beans to agave and avocados, making it a crucial player in both national and international food markets.

However, food in Jalisco is not just a commodity — it is deeply embedded in people's social and cultural identity. Traditional farming methods, often passed down through generations, reflect the close relationship between community well-being and the land. This connection between food, culture, and community well-being fosters a sense of pride among the people of Jalisco, further strengthening their commitment to preserving local food systems. However, the pressures of industrial agriculture and global trade have increasingly challenged this way of life, leading to significant changes in how food is produced, distributed, and consumed in the region.

Despite its agricultural prowess, Jalisco's food system faces a series of interconnected challenges that threaten its long-term sustainability and resilience. We explore four major issues affecting Jalisco's food system: policy challenges stemming from trade agreements like the North American Free Trade Agreement (NAFTA); sustainability concerns related to environmental degradation; public health crises driven by nutritional inequities; and business risks that small-scale producers face in a system increasingly dominated by large agribusiness.

Figure 2. View overlooking food production facilities around Lake Chapala

Policy Challenges

In 1994, NAFTA came into effect as a trilateral trade agreement between Canada, the United

1 Eliza Galeana, "Jalisco, Veracruz and Oaxaca: Biggest Food Producers in 2022," *Mexico Business News*, 8 May 2023.

States, and Mexico aimed at eliminating trade barriers and reducing tariffs to promote economic integration and trade among the three countries. For many, this treaty represented a new era of economic opportunity and prosperity. For others, it represented a threat to local industries and traditional livelihoods. The states on the western coast of Mexico, in particular, "suffered a profound transformation of rural life and a submission to the mass production of agricultural export goods."[2] This abrupt shift toward industrial food production had three significant implications for small-scale producers.

First, the competitive maize prices that multinational maize corporations offered allowed them to drive 2 million small producers off the market thanks to significant US government subsidies, higher average productivity, and lower per-unit production costs due to large-scale operations. For example, small-scale maize production, primarily in Jalisco, decreased dramatically when cheaper maize from the United States flooded the state's grocers and lowered market prices. This lack of a level playing field had three consequences for agrarian employment in Mexico:

1. A 19 per cent drop in agricultural employment from 1991 to 2007, representing 2 million jobs;

2. A 58 per cent displacement of family farmers from 1991 to 2007, representing 4.9 million jobs;

3. A 79 per cent increase of Mexican immigration to the United States from 1994 to 2000, representing 340,000 emigrants.[3]

A second significant implication was land deterioration. Throughout Jalisco, small-scale producers shared a commitment to protecting their land and their native seeds to ensure the long-term sustainability of their crops. With NAFTA's implementation, "entire territories went from being a reservoir of rural and peasant wildlife to being subjected to a model of harmfulness to be assembled."[4]

The shift also forced the decline in practices that preserved traditional and diverse seeds. When Mexico signed NAFTA, the country updated its intellectual property laws to align with the Union for the Protection of New Varieties of Plants (UPOV 91), a controversial international agreement that many argue led to the privatization of seeds. The intellectual property protections under UPOV 91 create a legal framework that enables breeders to claim exclusive rights over new plant varieties. Although this framework was ostensibly created to encourage a more diverse agricultural environment, it had the opposite effect. Promoting commercially profitable varieties led to the dominance of monocultures and reduced genetic diversity. Alongside a loss in genetic diversity, discouraging crop diversity also prevented small-scale producers from preserving and cultivating traditional and indigenous varieties.

Figure 3. Rows of white-covered, non-Mexican crops, unable to stand the temperatures if left uncovered

2 Evangelina Robles, Jose Godoy, and Eduardo Villapando, "Nocividad Del Metabolismo Agroindustrial En El Occidente de México," in *Agroecología y Organización Social. Estudios Críticos Sobre Prácticas y Saberes* (Mexico: Universidad de Monterrey / Editorial Ítaca, 2022), 129–52.

3 Mark Weisbrot, Stephan Lefebvre, and Joseph Sammut, "Did NAFTA Help Mexico? An Assessment After Twenty Years," Center for Economic and Policy Research, February 2014.

4 Robles, Godoy, and Villapando, "Nocividad Del Metabolismo Agroindustrial En El Occidente de México," 129.

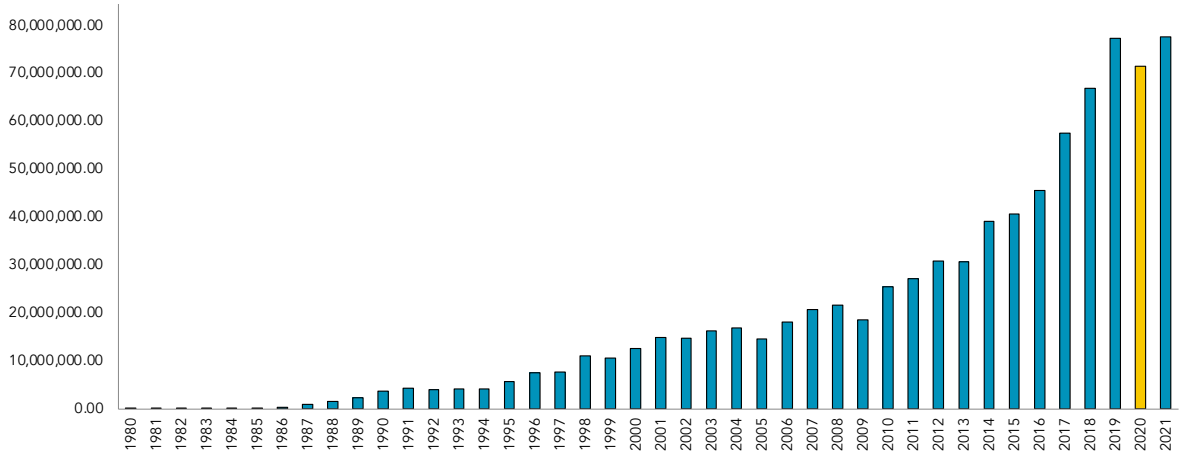
Jalisco's small-scale producers also suffered. Because of their historical dependence on traditional farming methods, many of which were later claimed by large-scale breeders, they may now be required to provide financial incentives to these corporations to maintain their customary practices.These protections also increased large agribusinesses' control of seed markets. As a result, many small-scale farmers became dependent on these corporations for seeds, reducing their autonomy and increasing their vulnerability to price fluctuations.

These policy challenges have led to political struggle. A collectivity of producers and actors throughout the agrifood sector has mobilized against the policies that limited their right to define their food systems and engaged in what an interviewee called "collective practice of accessing and politicizing foods." Movements like "Sin Maíz no Hay País" emerged. Translated as "Without Maize, There is No Country," the movement represents the cultural, political, and economic role that maize has historically played in ensuring Mexico's prosperity.

It's an active contestation of NAFTA's threats to agricultural livelihoods, and advocates for the protection of native maize varieties from the threats posed by genetically modified organisms (GMOs) and industrial agriculture. By promoting sustainable farming practices and advocating for food sovereignty, the campaign seeks to ensure that local communities maintain control over their food and agricultural systems. Beyond raising public consciousness about maize protections, the movement influenced the Mexican judiciary to impose a temporary ban on the cultivation of genetically modified maize in 2013.

> *"AFNs are about generating political formation, that is, making a garden in a public space is already political. Going to the market and buying local products is already political."*
>
> *— Interview with a community leader*

Another example of the effectiveness of the collective advocacy of these producers and distributors, according to people we interviewed, is the adoption of the *Sistemas de Garantía Participativos* (Participatory Guarantee Systems or PGS) in Mexican federal legislation.[5]



Note: Data from Instituto de Información Estadística y Geográfica del Estado de Jalisco, con información del Servicio de Información Agroalimentaria y Pesquera (SIAP).

Figure 4. Value of Jalisco's agricultural production from 2012 to 2021 in thousands of pesos

5 "Capítulo Tercero: De Las Referencias En El Etiquetado y Declaración de Propiedades En Los Productos Orgánicos," in Ley de *Productos Orgánicos* (Cámara de Diputados del H. Congreso de la Unión, 2006).

These systems were created as the result of advocacy efforts from the *Red Mexicana de Tianguis y Mercados Orgánicos* (Mexican Network of Organic Markets and Flea Markets) to establish an alternative regulatory framework to the organic food certification process. The incumbent process is carried out by professional certifiers resulting in high costs to producers. This inclusion of PGS-like processes in federal law not only promotes the consumption of sustainably farmed products, allowing organic and agroecological producers to charge more competitive prices, but will also decrease the costs for these producers, given the existing government guides and frameworks provided for organic food production.[6]

In 2020, the United States–Mexico–Canada Agreement (USMCA) replaced NAFTA, introducing new trade rules and updated provisions. While the USMCA included some improvements, such as enhanced labour protections and environmental standards, many of the structural inequalities introduced by NAFTA remained unaddressed. Small-scale producers continue struggling to compete with large agribusinesses. Movements like Sin Maíz no Hay País therefore remain crucial in advocating for policies that protect locally determined agricultural practices and food sovereignty against industrialized agriculture.

Today, producers, distributors, and consumers in Jalisco and throughout Mexico continue to advocate for the protection of all seeds, land, workers' rights, and biodiversity.

Sustainability Concerns

The global food system was transformed following the so-called Green Revolution, where the drive to increase global food production led to accelerated agricultural practices. This shift depleted natural resources for economic gain and had detrimental impacts on the environment. For centuries prior to the Green Revolution, production relied primarily on traditional farming practices that used natural elements and limited technology to achieve crop yields. But beginning in the 1940s, the Green Revolution introduced new agricultural methods, including synthetic fertilizers, advanced irrigation technologies, and high-yield crop varieties. These innovations played a critical role in boosting food production to meet global demands to rightly address food insecurity. However, the increasing efficiency of industrialized food systems also introduced a host of challenges, including environmental degradation, climate change, social inequalities, and health concerns. Although the system improved food security and production in the short term, it created significant challenges for the sustainability of the agricultural sector.

Figure 5. Limited greenery around the Santiago River in the week of a record-breaking heatwave in May 2024

6 Ileana Vanessa Ramírez Ríos, "México: Experiencias En Sistemas de Certificación Orgánica Participativa En México," in *El Sistema de Garantía Participativo: Alternativa Viable Para La Acreditación de La Producción Ecológica En La Amazonía Peruana* (Lima, Peru: Terra Nuova, 2019), 57–63.

While the Mexican government has publicly committed to the United Nations Framework Convention on Climate Change (UNFCCC), the 2030 Sustainable Development Goals (SDGs), and the United Nations Convention on Biological Diversity (CBD), the country faces challenges in meeting them because of the heavy reliance on intensive agriculture driving the economy.[7] The increasing reliance on industrialized food systems comes at a significant cost to the country's environmental footprint, thus posing sustainability risks for maintaining an ecological balance. Traditional agri-business has four critical implications for Mexico's ecological system.

Deforestation and land use change. As a result of increasing demands from consumers and companies, industrial producers have expanded cultivated (formerly wild) land to grow more berries, maize, avocados, and agave, significantly increasing deforestation and leading to changes in land-use patterns across the region. Corporations have purchased vast areas of land to grow agave to increase their tequila production, creating a monoculture that depletes the soil and reduces its fertility. This also limits food diversity and makes the land more vulnerable to environmental degradation and loss of biodiversity. These artificial deforestation methods help increase yields but lead to a reduction in carbon stocks, which will have long-term economic, social, and environmental consequences. Controlled burns are often used as a land-clearing method, another major source of greenhouse gases. This contributes to shifting temperature and precipitation patterns, creating ripple effects that disrupt agricultural practices across the region.

Figure 6. Rows of agave, a crop used to make tequila, give way to burned forest in the distance

Water scarcity. Water is an essential though scarce resource that affects agricultural productivity. The production of avocados and berries uses large amounts of water, causing scarcity for smaller farming communities. Industrial companies use chemicals and pesticides that often drain into water bodies, causing heavy contamination that affects the health of plants, aquatic species, and people living nearby. Climate change impacts have altered precipitation patterns: depletion of current water resources coupled with precipitation changes lead to droughts that negatively impact the entire food ecosystem. Contaminated water has been the leading cause of many health problems. Several studies have detected high levels of pesticides in the urine of children living in rural areas, particularly in regions where industrial-scale farming predominates, underscoring the significant health risks posed by environmental contamination. If this issue is not addressed effectively, it could pose greater challenges in the future.[8]

7 Fatima Ezzahra Housni and Mariana Lares-Michel, "Food System vs. Sustainability: An Incompatible Relationship in Mexico," *Sustainability* 16, no. 7 (2024): 2811.

8 Horacio Guzman-Torres, Elena Sandoval-Pinto, Rosa Cremades, et al., "Frequency of Urinary Pesticides in Children: A Scoping Review," *Frontiers in Public Health* 11 (2023): ; A.K. García-Suárez, M.M. Soto-Gutiérrez, and F.J. Lozano-Kasten, "Relación entre microalbuminuria y determinantes socio ambientales en niños de una localidad rural del Lago de Chapala, Jalisco, México," *Revista Médico-Científica de la Secretaría de Salud Jalisco* 5, no. 1 (2018): 29-34.

Figure 7. Deep cracks in the ground indicate the depth of the water crisis.

Soil degradation. To increase productivity and efficiency, industrial farming practices have overused agrochemicals and intensive monoculture cultivation to ensure growth in profits, disregarding soil health. The loss of soil nutrients and organic matter through these practices has reduced the land's fertility. Degraded soil causes lower crop yields and productivity, directly affecting food availability and farmer livelihoods. The impact on soil health has rippling effects on all aspects of growing crops: quality and yield, and overall productivity for farming families.

Figure 8. Cacti are now the only vegetation able to grow on what used to be fertile land.

Greenhouse gas emissions. The shift from traditional agricultural practices to conventional practices that use chemicals, deforestation, and monoculture cultivation has led to negative ecological impacts. This transition has adversely impacted the stored carbon in forests and the region's ability to absorb greenhouse gases, leading to increased net emissions. The country is in a feedback loop where conventional agricultural growth causes increased emissions, which in turn causes climate change, with devastating implications for farming in Mexico.

Figure 9. Current state of agriculture and land health in Jalisco

This heavy reliance on industrialized food systems has caused significant risks for maintaining environmental and social balance, thus hindering the country's goal to achieve long-term sustainability. These challenges have also posed struggles for small-scale producers to maintain their financial stability, preserve traditional Mexican culture, and uphold their traditional farming practices.

Public Health Crises

Despite being an agricultural hub, the region faces significant food and nutrition challenges that have emerged as public health crises, deeply

intertwined with socioeconomic disparities and systemic issues in food accessibility. These challenges have implications for public health and equity because they have direct consequences on people's well-being and development.

Socioeconomic disparities in food access and diet quality. With a population grappling with varying degrees of poverty, Jalisco faces significant disparities in food access. According to a 2020 government survey, 38 per cent of a typical consumer's budget in Jalisco is allocated to food, highlighting the economic strain on households. This percentage is higher than what people spend on housing or transportation, and many families struggle to afford a nutritious diet (see Figure 10). The high cost of food, coupled with limited income, forces households to make difficult choices, often leading to the consumption of cheaper, less nutritious options.[9]

In urban areas like Guadalajara, the situation is particularly dire. Despite the city's proximity to food sources and markets, the types of foods readily available are often highly processed and high in fats and sugars. Urban diets are increasingly characterized by unhealthy food choices, even though traditional farmers' markets still play a role in food distribution.[10]

Poor diet quality has profound implications for public health. Inadequate access to nutritious foods contributes to the rise of diet-related illnesses, such as obesity, diabetes, and cardiovascular diseases. These conditions are prevalent and also on the rise in urban areas, where the combination of poverty and access to unhealthy foods further exacerbates the problem. The impact of these diet-related diseases extends beyond individual health, placing a significant burden on the healthcare system and affecting people's overall productivity and well-being.[11]

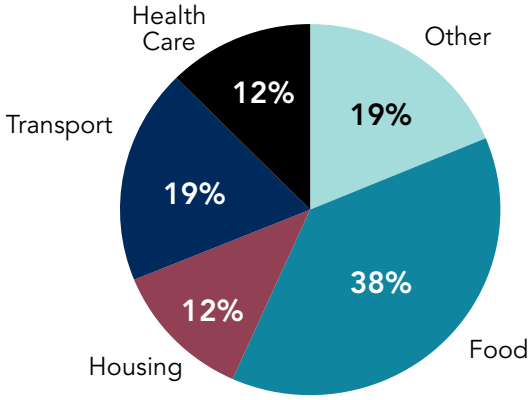


Figure 10. Household expenses in Jalisco (from 2020 census)

The impact of malnutrition. Malnutrition, in its various forms, is a critical issue in Jalisco, particularly among vulnerable populations such as children and the elderly. The 2020 survey highlights limited access to nutritious food as a significant driver of malnutrition in the region. Moderate poverty, affecting 29.1 per cent of the state's population and 23.3 per cent of Guadalajara's residents, further exacerbates this issue, limiting access to essential nutrients and a balanced diet.[12]

Malnutrition in children can lead to stunted growth, cognitive impairments, and increased susceptibility to infections. These long-lasting effects can hinder a child's development, affecting their educational outcomes and future economic opportunities.[13] In the elderly, malnutrition contributes to a decline in physical and cognitive function, increasing the risk of chronic diseases and mortality. These outcomes are not just individual health issues but represent

9 "Jalisco State," Data Mexico.

10 Fabiola Cortez, "Market Snapshot Report — Guadalajara," USDA and Global Agricultural Information Network, 9 May 2023.

11 Juan A. Rivera, Lilia S. Pedraza, Tania C Aburto, et al., "Overview of the Dietary Intakes of the Mexican Population: Results from the National Health and Nutrition Survey 2012," *The Journal of Nutrition* 146, no. 9 (2016): 1851S–1855S.

12 Jalisco State, Data Mexico.

13 Ashraf Soliman, Vincenzo De Sanctis, Nada Alaaraj, et al. "Early and Long-term Consequences of Nutritional Stunting: From Childhood to Adulthood," *Acta bio-medica: Atenei Parmensis* 92, no. 1 (2021): e2021168.

broader public health challenges that require urgent attention.

The disparity in food access between urban and rural areas creates nutritional challenges. In rural areas, where access to food is relatively more limited, malnutrition is often driven by food scarcity and a lack of dietary diversity. In contrast, urban areas like Guadalajara face the double burden of malnutrition and overnutrition.

The food-related crises in Guadalajara and Jalisco are, at their core, public health crises. The challenges of food access, diet quality, and malnutrition are not just issues of economic disparity but are fundamental determinants of health. Understanding these challenges through a public health lens is crucial for engaging in a discussion of effective strategies that improve the well-being of the population and ensure a healthier future for the region.

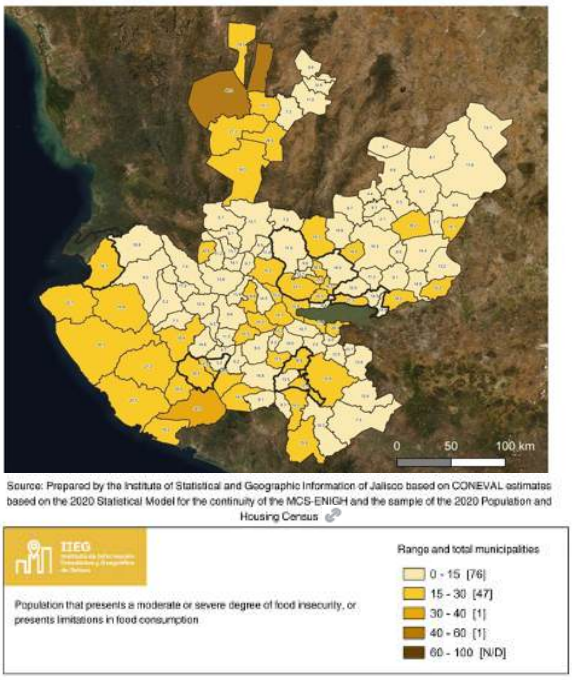


Figure 11. Percentages of the population with poor access to food across Jalisco (by municipality)

Business Risks

Agricultural production is a challenging, labour-intensive, and risk-heavy industry with capacity constantly limited by unpredictable forces. These risks are coupled with the absolute necessity of food to be not only a widely available good, but also affordable for all societal demographics and locations. Global markets and large-scale exporters view raw agricultural products as commodities, looking to profit from both their inherent value and the value that comes from making predictions about their future prices that fluctuate with shocks in global demand and supply. Industrial producers have sophisticated pricing technology that can track across financial markets, but a farmer running a small business in Jalisco has limited ability to determine or smooth their incomes to have a predictable, stable livelihood year after year. Complex pricing systems and the rise of industrial farming have produced a food system designed to maximize scale, efficiency, and monetary pricing power.

The specialization in few crops and investments in large-scale infrastructure designed to harvest specific types of produce have led to a decrease in crop variety across Jalisco as larger farms acquire more and more land. Locally grown crops and producers are decreasing in numbers and are unable to keep up with the production certainty and scale of industrialized facilities. Their misalignments with global markets lead to food waste when they are unable to sell their products. Smallholder farmers in Jalisco are struggling to keep pace with large producers' market access and food-waste levels because of their decreased access to pest technologies, weather software, and price swings that can leave them with "valueless" crops.[14]

14 Anaid López-Sánchez, Ana Cecilia Luque-Badillo, Danielle Orozco-Nunnelly, et al., "Food Loss in the Agricultural Sector of a Developing Country: Transitioning to a More Sustainable Approach. The Case of Jalisco, Mexico," *Environmental Challenges* 5 (2021): 100327.

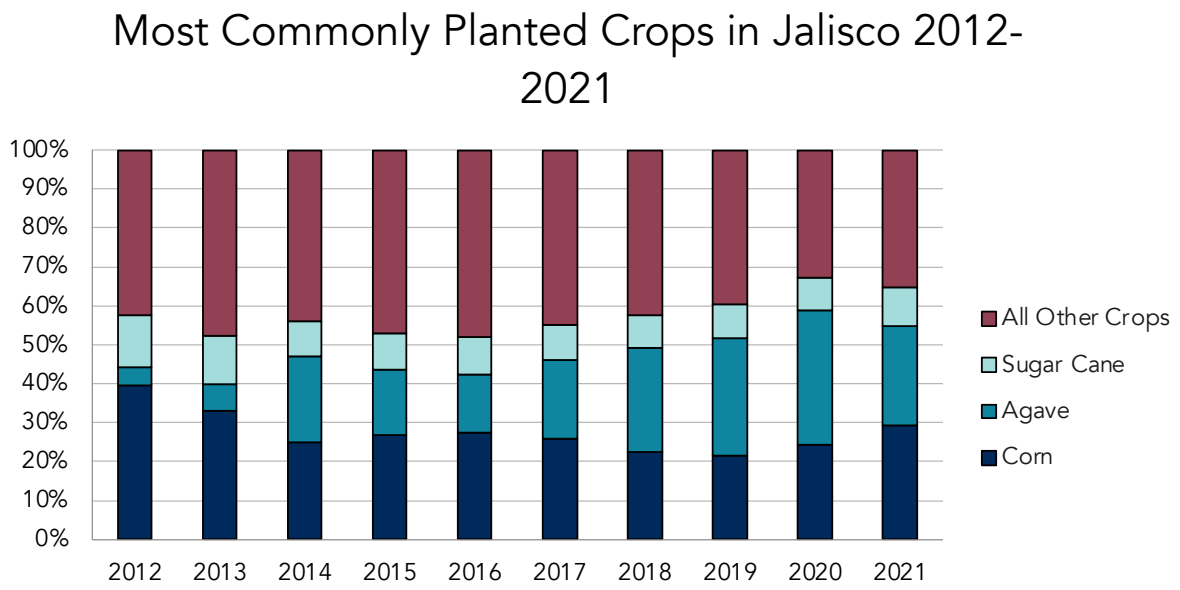


Figure 13. Crop variety in Jalisco from 2012 to 2021

Figure 12. Bags of corn ready to be processed into tortillas.

Figure 13 illustrates the fall of maize and rise of agave production in the state from 2012 to 2021, a process that has implications for Jalisco's food sovereignty given that agave's main use is tequila production, as opposed to nutritious food.[15]

Governments, businesses, and economists globally have been repeatedly criticized for failing to take long-term environmental, health, and social costs into consideration when building supply chains. Certifications in organics and fair trade are meant to alleviate some of these mispriced externalities by taking the environmental protection and health considerations of organically producing organizations into pricing considerations, but the process for becoming certified is long and expensive, especially for smallholder farmers.

Our Research

We conducted 17 interviews in central Jalisco, including in the city of Guadalajara, its surrounding regions, and on farms across the state, to evaluate how alternative food networks (AFNs) help ensure food sovereignty for local farmers and vulnerable communities.

15 Instituto de Información Estadística y Geográfica del Estado de Jalisco, con información del Servicio de Información Agroalimentaria y Pesquera (SIAP).

Alternative Food Networks

Alternative food networks (AFNs) represent a diverse array of practices and principles that challenge conventional food systems. While the definition and scope of what "alternative" can mean within AFNs have sparked debates, recent conceptual frameworks provide a clearer understanding of their key characteristics. Marit Rosol proposes a multidimensional view of AFNs, focusing on three main dimensions: alternative food production, alternative distribution networks, and alternative economic practices.[16]

1. *Alternative food production:* AFNs prioritize the production of healthy and sustainable food, often incorporating practices such as agroecological farming and avoiding genetically modified organisms. This priority emphasizes quality over quantity, aiming for environmentally friendly and health-conscious agricultural methods.

Figure 14. Corn ages in a process required to make a type of traditional tortilla.

2. *Alternative distribution channels:* AFNs emphasize short supply chains that foster direct connections between consumers and producers. These channels often involve minimal intermediaries, thereby reducing environmental impacts associated with transportation and increasing producers' income. By reconnecting consumers with the source of their food, AFNs aim to promote transparency and accountability in the food system.

Figure 15. Hungry customers walk around an agro-ecologically focused market.

3. *Alternative economic practices:* Perhaps the most innovative dimension of AFNs is their alternative economic practices which encompass a range of transactions, working arrangements, organizational structures, and financing methods in contrast to conventional capitalist norms. Examples include bartering, cooperative ownership, and equal pay for all employees regardless of rank. Alternative economic practices prioritize goals of solidarity and social justice over maximizing profit, thereby challenging the commodification of food and labour inherent in capitalist systems.

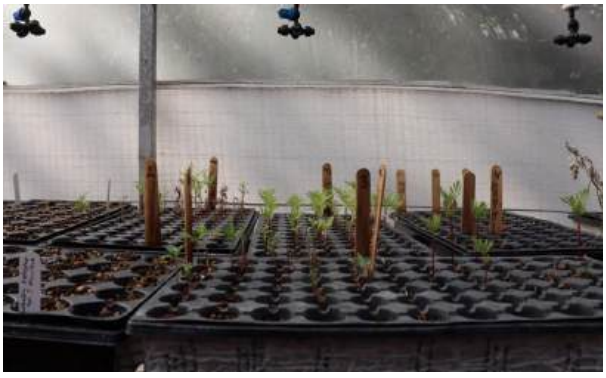


Figure 16. Seedlings grow in a school-facilitated garden at ITESO.

16 Marit Rosol, "On the Significance of Alternative Economic Practices: Reconceptualizing Alterity in Alternative Food Networks," *Economic Geography* 96, no. 1 (2020): 52–76.

Figure 17. A pineapple's journey from garden to a food basket at an AFN

While AFNs engage with capitalist economies, their relationship with capitalism is complex and contested. Some scholars and activists argue for transformative actions that challenge capitalism's dominance, while others see AFNs as embedded within capitalist structures, albeit with the potential to enact change from within them. Such hybridity allows AFNs to permeate conventional food systems with alternative practices, contributing to broader social and environmental objectives.[17]

Institutionalization and innovation are central themes in the AFN literature. AFNs often involve intentional and formal organization and the establishment of trust among participants, although not all networks are formally institutionalized. Similarly, while innovation is celebrated as a means to address deficiencies in conventional food systems, recent critiques highlight the importance of recognizing traditional food systems' contributions to AFN objectives. AFNs challenge conventional food systems by prioritizing sustainability, fostering direct producer-consumer relationships, and promoting alternative economic practices rooted in the principles of solidarity and social justice, representing a diverse and dynamic force for transformative change within the food system in turn.

Tight competition from mega-industrial farms coupled with environmental degradation in Jalisco has prompted smallholder farms and community members to come together to take responsibility for their health, sustainability, and economic well-being as collectives. They prioritize the preservation of traditional farming practices through agroecology and apply innovative social enterprise models to achieve their sustainability and profitability goals for their entire supply chain. As a response to degradation and growing competition of the industrial food system, AFNs have emerged as a grassroots solution that offers local farmers the opportunity to revitalize their food system while promoting resilience and equity within the community.

17 Louise Guibrunet, Ana G. Ortega-Avila, Esperanza Arnés, and Francisco Mora Ardila, "Socioeconomic, Demographic and Geographic Determinants of Food consumption in Mexico," *PLOS One* 19, no. 6 (2023): e0306437.

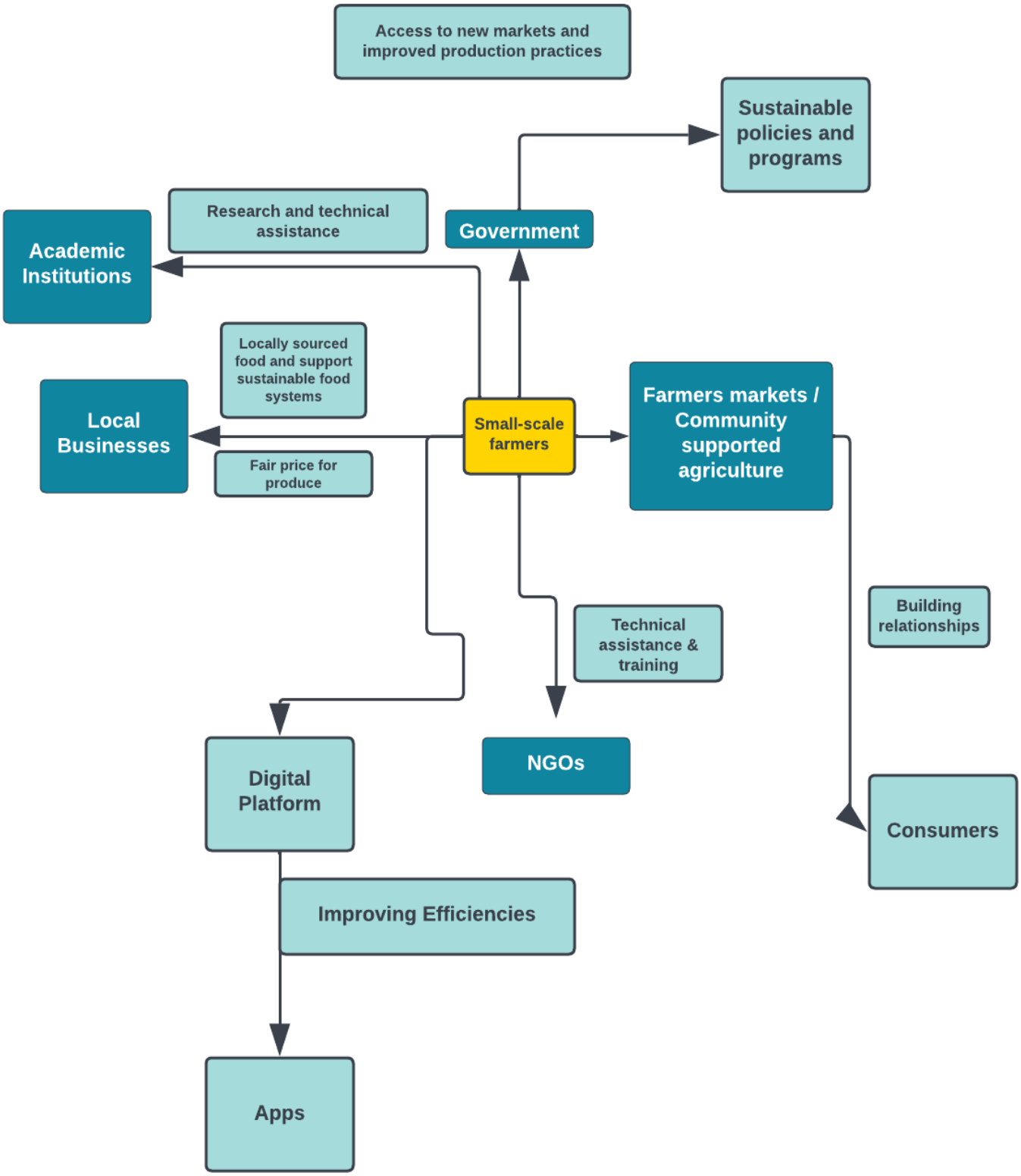


Figure 18. Mind map displaying the diverse stakeholders and their responsibilities within the AFN landscape

Food Sovereignty

Alternative food networks promote food sovereignty — the right to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and the right for everyone to choose agriculture systems according to their principles.[18] Their alternative labour models allow players in food supply chains to approach their perceptions of value, respect, agency, and purpose differently than conventional capitalist models. These players include farmers growing the food, drivers, pickers, and sorters distributing it, shop owners and sales people selling it, and the end customer eating it in either their home or a restaurant.

Contrary to commonly accepted economic views that lowering prices for consumers maximizes societal well-being, and that independent businesses entities have little incentive or power to transform their communities, modern thinkers in business strategy are arguing otherwise. Micheal Porter and Mark Kramer's concept of shared value, for example, argues that a short-term focus on financial performance has caused businesses to shrink their pool of potential customers and destroy the environments that they need to operate in over the long term.[19] Their perception of shared value focuses in part on the consumer, but also looks intently at product design, market actors, and the redefinition of productivity itself. A world in which food prices drop lower and lower at the expense of a farmer's livelihood and economic autonomy is one where the long-term viability of the system, from both a well-being and profitability perspective, is threatened, and consumers will be forced to make ever-increasing nutritional and ecological sacrifices.

Jalisco's food systems are multidimensional and influenced by several factors, not limited to nutrition, sustainability, policy, and multinational economic agreements. Although the average consumer seldom thinks about the processes by which food appears on their table, the agricultural supply chains in both local and export markets are also deeply intertwined with Jalisco's work, leisure, and cultural environment, and have an impact on everyone in the state.

Differentiators between food sovereignty and food security. The idea of sovereignty differs substantially from food security, which is characterized by an ability to access sufficient food to maintain basic health and is normally applied only to final consumers. Using food security metrics to measure food system health does not normally take the nutritional value or social costs of food supply into account, including for people doing the harvesting.

Studying food systems through a sovereignty lens challenges many commonly accepted methods of data collection, economic measurement, and trade-off analysis, but that lens is growing more necessary in the wake of climate, water, and migration crises. Scholars have long argued for the necessity of agricultural capacity to constantly expand by using any means necessary to feed the growing world, but the hidden costs of this mindset are seldom brought to people's attention. Short-term policy and business solutions to hunger problems, especially in wealthy countries in the global North, often involve cost reductions by decreasing wages, diminishing workers' rights, outsourcing production, experimenting with chemical growth agents, and lengthening transportation distances. When the livelihoods of certain actors in agricultural supply chains are sacrificed in the name of ending the consumer's

18 "What Is Food Sovereignty?" La Via Campesina.

19 Michael E. Porter and Mark R. Kramer, "Creating Shared Value: How to Reinvent Capitalism — And Unleash a Wave of Innovation and Growth," *Harvard Business Review*, February 2011.

food security issues, the larger food system begins to falter, amplifying poverty and fairness issues in other parts of the chain.

Reaching the Hardest to Reach: Jalisco's AFNs

Given the wide range of initiatives that could be classified as an alternative food netwook (AFN), in-depth examples can help to conceptualize what these networks look like in Jalisco specifically. To better understand the movement and highlight the work of those who shared their stories with us, we have detailed a series of mini case studies. Anchored in fieldwork conducted across various AFNs in Jalisco, each provides unique insights into sustainable food systems. La Casa del Maiz, Molino Tenoch, Feria de Productores, and Cooperative Milpa exemplify different approaches to addressing food insecurity, promoting agroecology, and strengthening communities. These AFNs are deeply connected to local culture and food sovereignty, illustrating how the most vulnerable producers in food systems can be empowered and supported by communities to produce and earn according to their agroecological values. Their efforts offer valuable lessons in resilience and innovation, shaping sustainable and equitable food systems in the region. Ultimately, these networks provide a framework through which we can understand how local, community-driven solutions can transform food systems on a broader scale.

Figure 19. Goods transported by truck from farm to farmers market

La Casa del Maíz

Operations. Located along the shore of de Lago de Cajititlán, on the southernmost tip of Jalisco, la Casa del Maíz is a family business in San Juan Evangelista, in the municipality of Tlajomulco de Zúñiga. It is equally a farm and an educational and tourist site for those looking to learn about and experience agroecological processes.

The casa is run by three generations of "campesino" family members passionate about sharing their livelihood and farming techniques with everyone interested in learning. While *campesino* directly translates to *peasant* in English, its meaning in Spanish is far more profound. It has deep historical meaning in the AFN movement, and refers to the smallholder farmers who have taken steps to protect their food sovereignty in agricultural and political movements across Latin America.[20] The business operations are supported by tourism subsidies, and the experience attracts travellers from around the world looking for an authentic farm-to-table culinary experience. Visitors are greeted by a

20 "Land and Liberty in Rural Mexico," *Democracy Backgrounder* 1, no. 1 (1995) ; Peter Michael Rosset, Braulio Machín Sosa, Adilén María Roque Jaime, and Dana Rocío Ávila Lozano, "The Campesino-to-Campesino Agroecology Movement of ANAP in Cuba: Social Process Methodology in the Construction of Sustainable Peasant Agriculture and Food Sovereignty," *The Journal of Peasant Studies* 38, no. 1 (2011): 161–91.

Figure 20. (From left to right) At *Casa del Maíz,* Ezequiel showcasing the size and quality of produce that comes from plants grown using traditional methods; a sample of the range of corn varieties native to Jalisco; a fresh corn tortilla cooking; fertilized soil ready to give plants nutrients; the mural outside the facility; a sample of the smallest corn varieties.

mural welcoming them into a courtyard filled with local maize varieties and friendly tours ready to explain each element of the seeding, growth, harvesting, fermentation, and tortilla-making process. The varieties of maize, from the size of a pinky finger to the size of an arm, showcase the vast differences in the crops used, flavours, and culinary purposes. They are careful to "preserve ancestral seeds and keep their cooking techniques alive for future generations" through their lectures and cooking lessons.

Role in the alternative economy. The family members maintain a garden down the road from the compound and farm in the surrounding area. The garden boasts plants from across the world to showcase the mutual benefits of crop diversity and the richness of Jalisco's growing capacity. What at first looks like a random array of plants is explained to be a meticulously arranged crop strategy to maximize the soil capacity and water retention of the earth below.

Due to high up-front costs, the family must lease the farms that they use to grow their crops from local landlords. As tenants, they have "no control over how the land is maintained" before they get access to it, and are at risk of being outbid by other lessees after the end of their contract. This has caused years of soil revitalization work to be lost when agave producers outbid them for their hard-worked land and they had to restart completely on a new plot down the road. The financial constraints that come from leasing also prevent them from ever receiving an organics certification, despite the fact that they use traditional farming practices that contain no lab chemicals in their production. But there are such chemicals used in production before and after them. This means that they are never able to benefit from the price premium that organic farms are able to take advantage of, and for the additional care that they put into their produce producing their own fertilizers and using natural pest-prevention techniques.

By creating an educational and tourist experience alongside their farm, La Casa Del Maiz maintains their value system and traditional farming practices without receiving higher prices from producing organic produce. They have managed to find customers (such as organizations within the AFNs) willing to pay the premiums that they know they deserve by creating cultural experiences.

Molino Tenoch

Operations. Molino Tenoch is a local, socio-environmental project in the Guadalajara Metropolitan Area dedicated to promoting sustainable food systems through the production and distribution of value-added maize products. The initiative helps small producers transition to agroecological practices and create a market for their products.

Operated by a young local entrepreneur, the project originated six years ago from market research conducted during her academic work. Her research indicated that while there was a growing interest among restaurants in purchasing Creole maize, they preferred to receive it in the form of tortillas — which many small-scale producers were unable to offer.

With the support of two part-time employees, Molino Tenoch began purchasing native maize from small agroecological producers in Michoacán, Nayarit, and Jalisco. They add value to this maize by processing it into products such as tortillas, tostadas, and tlayudas, which are then distributed to restaurants, cooperative markets, and consumers.

The maize that Molino Tenoch uses is stored in grain form until it undergoes nixtamalization — a traditional process in which the maize is cooked in lime water to soften the hulls and enhance its nutritional content. After being drained and rinsed, the nixtamalized maize is ground into masa (dough). The masa is then manually

portioned into small balls and added to a press that flattens and heats it, turning it into tortillas. A small whiteboard next to the machinery helps the operator coordinate everything from maize classification to distribution along multi-stop routes.

As in many other tortillerías in Mexico, the unhealthy labour conditions associated with this process were evident. Beyond the laborious requirements to grow and process the maize and operate the business, the machine used to press tortillas emits dangerous levels of heat in close and constant proximity to the operator's abdomen. These challenges, however, are not unique to Molino Tenoch but consistent throughout Jalisco's alternative food networks.

Role in the alternative economy. Molino Tenoch is committed to fair pricing. Organic maize is sold at more expensive prices than its standard alternative, but many small-scale agroecological producers who produce the maize at the same quality and standards are systematically prevented from obtaining a formal organic certification because the costs, bureaucratic demands, and lack of institutional support create barriers that are disproportionately difficult for them to overcome compared to large-scale producers. High certification fees, complex documentation requirements, and insufficient access to training or resources hinder their ability to navigate the process. Without formal certification, these producers miss out on market premiums for organic products, even though their practices meet the required standards. To address this, Molino Tenoch prices its products at the same rate as organic ones to guarantee a fair premium for its collaborators in the field.[21]

The project also plays a key educational role, helping consumers and restaurants understand the importance of supporting agroecological producers. This approach has facilitated constant feedback between AFNs and restaurants, allowing for adjustments that meet market demands while maintaining the integrity of agroecological practices.

Ultimately, Molino Tenoch is driven by an understanding of food's political nature. It recognizes that without active consumer support, the transition to agroecological practices cannot succeed. The project is not just about preserving native maize — it's about ensuring a future where agroecological production is viable, where small farmers are valued, and where the cultural and environmental significance of food is acknowledged and celebrated. Through these efforts, Molino Tenoch is helping to cultivate a future where the relationship between food, people, and the planet is restored and strengthened.

Feria de Productores

Operations. The Feria de Productores (producers' fair), founded in 2014, is a vibrant and dynamic market that has emerged as a key player in the region's alternative food economy. As a hub for local producers and consumers, the feria operates as a bridge between the community and the food they consume, offering a unique space where traditional agricultural practices and modern consumer demands meet. Its operations are rooted in the principles of sustainability, community engagement, and economic empowerment, making it an exemplary model of an AFN.

The operations facilitate direct relationships between producers and consumers. By eliminating the intermediaries typically found in conventional food supply chains, the feria ensures

21 Due to these barriers to entry, Mexico's Organic Products Law supports PGS, which offer an alternative, locally based certification. Many producers involved in alternative food networks seek certification through PGS. For more information refer to Policy Challenges section and "Certificación Orgánica Participativa."

Figure 21. (From left to right) At *Molino Tenoch*, pots are ready to cook the corn to begin the tortilla-making process; dough ready to be fed into the machine; tortillas on the conveyor belt for cooking; Karen posing outside the shop and production facility; tortilla dough kneaded and separated into parts; the production schedule

that producers receive fair compensation for their goods while providing consumers with access to fresh, locally produced food. This direct exchange not only supports local farmers' livelihoods but also strengthens the community's connection to the land and the food it produces. Because it operates regularly, it creates a dependable outlet for producers to sell their goods and for consumers to purchase high-quality, locally sourced products.

Role in the alternative economy. The feria is more than just a marketplace — it's a critical component of the alternative economy in Guadalajara. By fostering direct producer–consumer interactions, it significantly expands the sales channels available to local farmers and artisans. This expansion is crucial in a market where large-scale industrial agriculture dominates, limiting the visibility and reach of smaller, local producers. The feria provides these producers with a platform to showcase their goods, reach a broader audience, and maintain their traditional farming practices, which are often more sustainable and environmentally friendly than industrial methods.

For consumers, the feria offers a unique opportunity to regain control over the food they consume. In a world where food choices are increasingly dictated by large corporations, the feria empowers individuals to make informed decisions about their diets. Consumers there have the chance to speak directly with the people who grow their food, learning about the methods used and the origins of the products they purchase. This transparency fosters a deeper understanding of food production and encourages more mindful consumption practices. Moreover, by choosing to buy locally, consumers contribute to the local economy and support sustainable agricultural practices.

Its impact extends beyond the economic and into the social realm, particularly through its reclamation of public space. By establishing a market in a public area, the feria creates a communal space where people from all walks of life can gather, interact, and share experiences. This reclaiming of public space is a powerful act in a city where urbanization and commercialization have increasingly limited the availability of communal areas. The feria has become a place where the community can come together, fostering social cohesion and strengthening the social fabric of Guadalajara.

According to people we spoke to, one of the most profound impacts is its contribution to the mental health and well-being of the community. The market is designed to be an inclusive space, welcoming everyone from children to seniors. This inclusive approach is crucial in a world where social isolation is becoming more common, particularly in urban areas. The feria offers a regular opportunity for social interaction, helping to combat loneliness and build a sense of belonging. For many, attending the feria is not just about buying food — it's about being part of a community, participating in a shared experience, and connecting with others in a meaningful way.

The feria's role in promoting mental well-being is supported by the activities and events it hosts. From cooking demonstrations to workshops on sustainable farming, the educational opportunities engage the community and promote a healthier lifestyle. These events encourage participants to think critically about their food choices, learn new food-preparation skills, and adopt practices that contribute to their overall well-being. By creating a space that nurtures both the body and the mind, the feria has become a cornerstone of the local community, offering not just food, but a sense of purpose and social connection.

Figure 22. (From left to right) At *Feria de Productores*, Belem sells her produce; an eating area for visitors to enjoy the food together after shopping; the Reach and the feria teams after interviews; fresh vegetables sold

Cooperativa Milpa

Operations. Established in 2014, Cooperativa Milpa is dedicated to promoting sustainable food practices and strengthening community ties. The cooperative is structured around the collective effort of its members, who are involved in various aspects of food production, distribution, and education. Their operations centre on fostering a close-knit community where collaboration is key, and everyone has a voice in decision making.

As a food cooperative, its members not only consume the products offered but also actively participate in the cooperative's operations. This participation ranges from working shifts at the store to contributing to the decision-making processes that guide the cooperative's future. The store is stocked with a variety of local, organic, and sustainably sourced products, which members can purchase at a discounted rate. This model ensures that members have direct access to healthy, affordable food options, while also supporting local producers who share the cooperative's values of sustainability and food sovereignty.

In addition to its retail operations, Cooperativa Milpa offers education and community outreach. It regularly hosts workshops, talks, and other events that aim to educate members and the wider community about topics related to sustainable agriculture, food sovereignty, and cooperative economics. These events serve to reinforce its mission of fostering a more equitable and sustainable food system, while also building a sense of solidarity among its members.

Figure 23. (From left to right) At Cooperativa Milpa, orders are reviewed before basket filling begins; a basket nearly full and ready to be picked up by a family; fresh produce weighed before being placed into households' baskets; food baskets in the home of a member who volunteers to use her home to host the pickup location

Role in the alternative economy. Cooperativa Milpa exemplifies the principles of an AFN through its innovative organizational structure, commitment to collaboration, and unwavering dedication to food sovereignty. As an AFN, the cooperative challenges the conventional food system by prioritizing the needs and values of its members and the wider community over profit.

In its nonhierarchical organization, all members have an equal say in decision-making processes. This structure fosters a sense of ownership and responsibility among members who are directly involved in directing the cooperative. This participatory approach not only strengthens the effectiveness of its operations through active member engagement but also empowers its members to take an active role in creating a more just and sustainable food system.

Collaboration and cooperation are central to Cooperativa Milpa's success as an AFN. The members work together, share knowledge, and support one another in achieving goals. This collaborative spirit extends beyond the cooperative itself, as Cooperativa Milpa actively seeks to build partnerships with other like-minded organizations and networks. By working together with other AFNs and community groups, Cooperativa Milpa can amplify its impact and contribute to the broader movement for food sovereignty and social justice.

At the heart of Cooperativa Milpa's mission is the principle of food sovereignty — the right of people to define their own food systems. This principle is reflected in the cooperative's commitment to sourcing products from local, sustainable producers who share its values. By prioritizing local sourcing, Cooperativa Milpa not only supports small-scale farmers and producers but also ensures that its members have access to fresh, healthy, and culturally appropriate food. This focus on food sovereignty allows the cooperative to resist the pressures of the global industrial food system, which typically prioritizes profit over people and the environment.

Instituto Mexicano para el Desarrollo Comunitario A.C.

Operations. Instituto Mexicano para el Desarrollo Comunitario A.C. (IMDEC) is an independent nongovernmental organization (NGO) established in 1963 and based in Guadalajara. It focuses on popular education, communication, territorial defence, and sustainable development.[22] IMDEC has been working on a range of projects over the past 60 years that emphasize their work with marginalized communities in defence of their rights and territories against property developers. Recently, the organization operates as a training centre where techniques of regenerative agriculture, and water and land conservation are taught, discussed, and implemented with diverse stakeholders, including farmers, students/youth, and the community. Through initiatives like water management, agroecology, and soil conservation, the institution aims to regenerate local territories sustainably, thereby paving a path for long-term ecological balance and food sovereignty.

Role in the alternative economy. IMDEC takes a comprehensive approach to addressing challenges with sustainable agriculture by raising awareness and using popular education to promote community engagement with agroecology. A member described this institution as a "training centre" that implements "replicable techniques through educational processes." It's a place to "practise regenerative agriculture, recover insightful learnings, and share them with the groups we work with." Rather than a marketplace, this is an educational centre and experimental hub that creates a space for people

22 "Territorial defence" refers to strategies or practices that farmers or agricultural communities use to protect their land and resources from external threats.

Figure 24. (From left to right) *IMDEC*'s agroecologically built facilities. The structure's architectural design was made with the planet in mind, from the materials to the water facilities. The team at IMDEC uses a variety of growing methods. Charcoal was used when we conducted interviews. The charcoal is covered up with dried plant pieces to seal it in the ground.

in all parts of the agricultural supply chain to learn, disseminate knowledge, and practise agroecological techniques that can help maintain ecological balance and restore the health of the land.

One of the NGO's projects is a seed-exchange program that produces a vast variety of traditional seeds, including twelve varieties of maize, eight varieties of beans, five varieties of pumpkins, and other seeds like jicama, sunflower, lettuce, and many more. The program focuses on farmers from all regions of Mexico to bring seeds to the IMDEC facility and plant them across the plots to start spreading crop varieties and diversity within the food landscape. Farmers have noticed the disappearance of native and creole seeds at an alarming rate as a result of the industrial food systems that focus on monoculture, so this initiative is critical for preserving biodiversity.[23] It is not only seeds that have disappeared. Mexico once had 60 varieties of beetroot but now only has two varieties, a significant decline observed over the last 10 to 20 years. As a resiliency strategy, this seed program works to counter the negative externalities of industrial food systems while also educating stakeholders about more sustainable ways to grow food.

Agroecology is at the core of IMDEC's mission, aiming to address environmental issues such as soil degradation, biodiversity decline, and contamination from conventional agricultural practices. IMDEC works to rehabilitate various components of the agricultural landscape that address environmental challenges such as:

23 A network of native seeds gathered from producers all over the country.

1. *Territorial regeneration:* Sustainable practices are used to regenerate, rebuild, and revitalize territories.

2. *Soil conservation:* A diverse array of agroecological techniques, such as soil harvesting (removing or collecting soil for various purposes, such as for use in other areas or to prepare land for planting) and the use of biochar, are employed to preserve and enrich soil, improving fertility. Biochar preparation helps increase carbon capture within the soil, reducing emissions in the atmosphere.

3. *Seed preservation:* Members make efforts to increase regional seed diversity and crop growth, which improves soil health and eliminates the need for chemical fertilizers. This reintroduces traditional food species such as different types of maize into the food landscape, allowing future generations to connect with their culture and heritage.

4. *Resource management:* Integrating closed-loop or circular systems, such as using water from washing machines to irrigate plants and using waste from ecological sanitation systems in plots, promotes the three Rs: reduce, reuse, and recycle.

IMDEC is strongly committed to education and knowledge exchange as a pathway to promote sustainability within the community. The knowledge developed by working alongside like-minded individuals can drive change among the next generation of farmers, ensuring that farms in the region are relearning traditional agricultural systems focused on preservation, conservation, and diversity.

This empowering project not only teaches the importance of agroecology but also demonstrates practical applications of the benefits of these techniques, offering a more engaging approach to social change. The institution also engages in education through books and workshops to help students and youth understand the importance of how and where food is produced, instilling these sustainability values at a young age. IMDEC produces community outreach initiatives that encourage sustainable well-being and promote local food systems, thereby building an informed consumer and producer community committed to sustainable agriculture.

Lessons Learned across Alternative Food Networks

AFNs function as a community-based intervention to improve health and social well-being.

Alternative food networks (AFNs) can function as effective community-based interventions to improve health and social well-being. By fostering direct connections between producers and consumers, they provide communities with healthier food options, greater control over their diets, and opportunities for social engagement. These elements collectively contribute to improved mental and physical well-being, especially in urban areas where access to nutritious food can be limited. The principle of food sovereignty, central to many AFNs, empowers communities to make healthier food choices and contribute to the prevention of diet-related illnesses. AFNs have the potential to be integral to public health strategies, particularly in addressing health disparities across communities.

AFNs foster social solidarity and collaboration.

Through organizational structures that emphasize collaboration, these networks create resilient communities capable of collective action. This is particularly important in the context of food systems, where cooperation among small

producers, consumers, and other stakeholders can lead to more equitable and sustainable food practices. AFNs exemplify how localized, cooperative efforts can challenge larger industrial food systems, offering a blueprint for building more sustainable economies that prioritize people and the environment over profit. In doing so, they resist capitalist logics while working within capitalist systems to promote transformative change, demonstrating that collaboration and community-driven initiatives can reshape existing structures from within.

AFNs work to decommodify food.

A core value of agroecology that all actors across Jalisco's AFNs share is that creating a healthy and sustainable alternative to corporate food systems requires constructing a system that treats food as a human right, rather than a commodity. Only by moving away from profit-driven models that prioritize short-term gains and exploitative land and labour practices is it possible to create equitable food systems that value land preservation, culturally appropriate production, and healthy consumption.

AFNs show that food is political.

Jalisco's AFNs demonstrate that food struggles are political struggles because they aim to disrupt power asymmetries, policy decisions, and social structures. Food sovereignty movements, for example, challenge traditional agricultural policies and market structures that often favour large-scale industrial agriculture and multinational corporations. By advocating for local control over food systems, these networks push for policies that support small-scale farmers, protect local ecosystems, and ensure equitable access to natural resources.

AFNs embrace agroecological practices to enhance biodiversity.

AFNs provide a pathway to restoring traditional agroecological practices that enhance biodiversity in Mexico. This approach, deeply rooted in traditional agricultural knowledge, promotes the holistic conservation of natural resources and the protection of ecosystems. Agroecology fosters resilience and resistance against industrial agricultural practices by reducing dependency on large commodity markets and helping farmers cope with climate change. While competition from industrial agriculture has transformed farming practices, small farmers working with AFNs are actively reshaping food production. They promote agroecological practices, advocate for sustainable farming, and form strategic alliances to challenge the dominance of industrial agriculture.

AFNs take control of the food system to enhance food sovereignty.

Small farms and local farmers are vital to the Mexican food system, responsible for producing a significant portion of the country's food. Their efforts represent a desire to protect their cultural heritage and community strength. The traditional practices these farmers employ are essential for transforming the food system toward sustainability and conservation. AFNs create spaces for co-creating knowledge with local farmers and community members, helping to develop culturally and locally adapted initiatives for healthy food consumption. Through education and community engagement, AFNs empower people to understand where, how, and by whom their food is produced. This shift in focus from industrial producers to local, family-owned businesses will help in placing agroecology and sustainability at the forefront of food production.

Looking to the Future

These networks have navigated complex political, social, and economic environments to lead the food transformation movement. However, to continue growing and thriving, AFNs need to consider how to preserve core values while ensuring long-term success.

To achieve sustainable growth and success, AFNs should focus on the following areas:

1. Education, community engagement, and market expansion. Increasing awareness of AFNs is crucial for spreading the message about protecting locally grown food and the importance of consuming food that's free from lab-made chemicals and fertilizers. The next steps for many AFNs, like Feria, involve improving product control, expanding educational workshops, and targeting different communities within the city. It is also important to promote and train new community leaders to help co-create similar markets, where strong community engagement can foster agroecological projects that lead to better quality of life, health, and well-being as well as greater community cohesion.

2. Cultural and personal commitment. AFNs offer a platform for individuals to demonstrate their commitment to healthy eating and community well-being while reconnecting with cultural and traditional practices. Food is deeply embedded in Mexican culture and represents ancestral traditions and values. Restoring and maintaining these values is essential. Projects like Cooperativa Milpa create spaces where the quality and meaning of food are prioritized. Expanding the number of cooperatives like Cooperativa Milpa will help consumers understand the seed-to-table transition and the health benefits of sustainably grown vegetables compared to industrially produced food.

3. Organic certification and funding. The complexities surrounding organic food certification and access to funding have been persistent roadblocks for small farmers. Major profit-driven certification companies have made it difficult for small-scale farmers to obtain necessary certifications. Local AFNs and authorities need to collaborate to develop accessible, smallholder-friendly certification systems like Mexico's Participatory Guarantee Systems that allow businesses to opt in to groups that certify agroecological growing practices and secure farmers' financial support for future endeavours.

This financial support will not only promote agriculture but also protect rural livelihoods and contribute to the country's growth. An example of successful implementation of such a guarantee system is El Jilote, in which Cooperativa Milpa, La Casa del Maíz, and Molino Tenoch all take part. It allows them to be socially recognized for their unique production methods within their business communities.

4. Social media and public policy. Social media is a powerful tool for raising awareness and spreading the message about AFNs across Guadalajara by targeting diverse populations. By leveraging this tool, AFNs can share stories, educational videos, and engage with a broader audience through free promotions. However, public policy changes are also crucial for increasing awareness and promoting systems change. Greater public engagement can build pressure to advocate for policies that support local farmers' rights and push the community toward a more equitable and sustainable food system focused on ensuring food sovereignty and sustainability.

The work to improve and build awareness for sustaining food systems lies with everyone. It is a global, multidisciplinary issue present even beyond trade, agricultural, nutrition, and environmental fields. Communities around the world have come together, just as many in Jalisco have, to reclaim their local food traditions

and raise greater awareness for the social and environmental impacts of our supply chains.

Although this research was conducted in Jalisco, our intention was never for it to stay there, but for readers to be inspired to transform their own purchasing, eating, and journeys with food. There is a place for everyone on the planet to build up, join, learn from, or support an AFN in their community, and we recommend that readers research opportunities to get more actively involved.

Figure 25. A quote on the wall of a home where we conducted interviews: "In this space we don't compete, we share. Because there are stars for everyone."

Research Team

Shreya Agarwal was raised in Mumbai, India, and has recently graduated with a master of science degree in sustainability management from the Institute of Management and Innovation, University of Toronto Mississauga. She has a well-rounded education in relevant disciplines such as economics, geography, sustainability, and the environment. Her education has given her a holistic perspective needed to tackle sustainability from every angle. Her research interests include sustainable organizations, food sovereignty, sustainable development goals, and environmental risk analysis for mitigating climate change. Through her professional and academic experiences, she has developed and refined her data analysis, project management, research, and communications skills.

"The opportunity to learn from, grow with, and experience the culture, food, and community in Jalisco was the best way to study and research alternative food networks. Our work serves as a pathway to start a conversation about the importance of sustainable food systems, especially in light of the negative externalities of industrial systems, climate change, and environmental concerns. Our study highlights the diverse and unique methods developed by the community to optimize resources, protect their land, and grow food in a healthy and sustainable way. We hope to showcase their passion and conviction to inspire more people to explore and participate in similar efforts."

Alonso Muñoz Sanchez was raised in Mexico City and studies public policy and international relations at the University of Toronto. He is interested in all things related to cities, public policy, social impact, and sustainable development. This summer, Alonso interned at the Association of Municipalities of Ontario (AMO), where he helped develop and advocate for policies to strengthen Ontario's 444 municipal governments. He has previously managed translation projects for asylum seekers and refugees and participated in a bilateral youth lab with the Canadian and Mexican embassies. In his free time, Alonso enjoys cycling along Toronto's waterfront and keeping up with Mexican, Canadian, and global politics.

"The opportunity to travel to Jalisco and interview those challenging the industrial food system was an incredible way to witness their struggles and lived experiences — insights that no amount of literature could have provided us. I hope their voices are reflected in this case study and that it serves as a resource for activists worldwide seeking to transform their food systems and build alternatives that promote sustainability, community health, and social justice."

Charles Pinto was raised in Hamilton, Ontario, and recently graduated with degrees in human biology and political science from the University of Toronto. He is particularly interested in global healthcare policy, as well as healthcare solutions for early childhood. Charles is a pediatric neuroscience researcher at the Johns Hopkins University School of Medicine, where he is investigating the long-term neural effects of neonatal hypoxia. He has also contributed to research on rehabilitation strategies for justice-involved youth through his work in the Peterson-Badali lab. In his free time, Charles enjoys doing literally anything outdoors and is actively involved in both Canadian and American political campaigns.

"I am deeply thankful to the farmers and community members in Jalisco who welcomed us and generously shared their experiences, making this research possible. Their insights and lived experiences were invaluable in highlighting the links between food systems and public health, particularly in the face of industrial agriculture. This experience has been transformative, and I am deeply grateful for the opportunity to learn from the communities working tirelessly for healthier, more sustainable food systems. I hope our work can help amplify their voices and inspire others, just as their commitment to creating a healthier, more sustainable future has inspired us."

Maya Povhe was raised in Alberta and Saskatchewan, and is a management, international business, and economics student at the University of Toronto. She has previously conducted research in economics; diversity, equity, and inclusion; and education, and is a Digital Policy Hub fellow at the Centre for International Governance and Innovation. She is passionate about getting students into opportunities and is privileged to sit on the governing council of the University of Toronto and the youth advisory council of Rotary International. As a co-op student, she has completed internships in politics, investments, and banking.

"I'm so grateful for everyone who took the time to share their stories with us and to my team for challenging me throughout our research process! Our combined experiences allowed us to get such a holistic picture of the entire food system and has forever transformed the way that I will think about sustainable development."

Erica Di Ruggiero is the director, Centre for Global Health, director of the Collaborative Specialization in Global Health, and associate professor of Global Health, Social and Behavioural Health Sciences Division, and the Institute of Health Policy Management and Evaluation at the Dalla Lana School of Public Health. Di Ruggiero is a global public health expert and opinion leader whose research focuses on evaluating the health and health equity impacts of different policy and program interventions on marginalized groups (e.g., labour policies; interventions that aim to reduce food insecurity). Di Ruggiero obtained her BSc in nutritional sciences, a master of health science in community nutrition, and a PhD in public health sciences from the University of Toronto. She is a registered dietitian.

"I am grateful for the opportunity to deepen our partnership with ITESO to interrogate the different possible meanings and configurations of alternative food networks (AFNs) in Guadalajara. It was a great pleasure to support these amazing Reach researchers to question status quo thinking to generate new knowledge about the sociopolitical, economic, environmental, and health drivers of AFNs."

Gregorio Leal has worked since 2003 with rural and urban organizations on issues related to the social and solidarity economy and food sovereignty in Mexico and Argentina. He has designed methodologies and tools to support organizations on issues related to production, consumption, credit and savings, and the creation of value chains. Gregorio joined ITESO in 2019, and works at the Interdisciplinary Center for Education and Social Vinculation (CIFOVIS) in training processes linked to social relevance and the articulation of social and solidarity economy processes. He holds a bachelor of science degree in education from ITESO University, with a specialization in popular education, and a master's degree in social economy from the National University of General Sarmiento in Argentina.

"Revisiting various experiences of alternative food networks in the region together with the Reach team of researchers allowed me to reconnect with the work of these organizations and their struggles and challenges, and in this way, reinforce the commitment to other ways of producing, distributing, and consuming food. This was largely due to the perspective and professionalism of the Reach research team, which was key to being able to see some projects I have been collaborating with for some time through different lenses."

ITESO, Universidad Jesuita de Guadalajara

The ITESO (Instituto Tecnológico y de Estudios Superiores de Occidente) is a private Jesuit university located in Guadalajara, Jalisco, Mexico. Established in 1957, ITESO is part of the Jesuit University System, which is known for promoting a holistic education grounded in social justice, ethics, and a commitment to community service. It offers undergraduate and graduate programs in various disciplines, including engineering, business, social sciences, and humanities. The university is also recognized for its focus on research, innovation, and its strong ties to both local and international communities, fostering a sense of global responsibility in its students.
https://www.iteso.mx

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