



# Food Sovereignty in an Age of Agribusiness

## A Call for Change

Authors: Ciprian Popa, Yasmine Rugari



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# I. Introduction

In the intricate tapestry of our modern global food systems, a seed of empowerment and self-determination has taken root, blossoming into the concept of Food Sovereignty.

Like a revolutionary force, it challenges the status quo, inviting us to rethink the very foundations of the industrial food system. As we delve into the core of this paradigm shift, we embark on a transformative journey where agriculture transcends mere practice - it becomes a symbol of empowerment, justice, and a sustainable future. Within the realm of Food Sovereignty, the act of sowing seeds of change represents a profound commitment to a better and more equitable world. Today, decision-making power regarding fundamental aspects of life - land, seeds, and food supplies - rests heavily in the hands of national states, supranational organizations, and transnational corporations (Goodman and Watts, 1997).

Over the past six decades, our global food system has undergone a profound transformation, evolving into a seemingly 'low-cost' food economy, facilitated by major corporate entities positioning themselves as global providers through extensive market networks and sprawling food supply chains. However, this apparent convenience masks a crisis within our global food system - an outcome not of chance but rather a consequence of deliberate political choices that prioritize corporate interests, relegating millions worldwide to lives of poverty and hunger. The intentional corporate exploitation of land, coupled with control over seeds and agricultural processes, has resulted in widespread devastation across the globe (Martins, 2023).

In this context, the concept of Food Sovereignty emerges as a glimpse of hope - a pivotal approach toward a more just, equitable, and sustainable food system. It champions communities' freedom to shape their agricultural destinies, resisting external pressures and advocating for inclusive and ethical practices. Farmers are undeniably the backbone of our future, playing a pivotal role in ensuring the global supply of food. Thus, safeguarding their interests and well-being through the principles of food sovereignty is not merely essential for their futures and the prosperity of their communities, it is an imperative for the global continuity of food production and security.

By promoting Food Sovereignty, we can reclaim the narrative of their agricultural destinies - resisting the encroachment of industrialized, monocultural approaches that often prioritize profit over people, fostering instead a more holistic, community-centered agricultural landscape. At its essence, Food Sovereignty encourages a shift from a top-down, profit-centric model to one that is bottom-up and people-centric. It aspires to create systems where farmers, especially small-scale producers and indigenous communities, have the agency and support to make decisions that reflect our global needs, values, and aspirations.



# II. What is Food Sovereignty?

The term food sovereignty was first conceptualized by La Via Campesina - an autonomous and multicultural movement formed in 1993 in Mons, Belgium by farmers' representatives from four different continents. La Via Campesina is an international movement free from any economic, or political affiliation, aiming to bring together millions of peasants, landless workers, indigenous people, pastoralists, fishers, migrant farmworkers, small and medium-sized farmers, rural women and peasant youth from around the world (La Via Campesina, 2021)

Built on a solid sense of unity and solidarity, La Via Campesina defines food sovereignty as “ the peoples’, Countries’ or State Unions’ right to define their agricultural and food policy, without any dumping vis-à-vis third countries”. Recognising it as a paramount duty, the movement defined this concept, urging an immediate reassessment of the historical narratives ingrained in the relentless pursuit of "never-ending growth" stretching from the Industrial Revolution to the present day. (La Via Campesina, 2021). This definition of food sovereignty was subsequently elaborated on in various meetings of NGOs and civil society organizations. These include the Foro Mundial in 2001 and the meeting in Selengue, Mali in 2007.

The Nyéléni Declaration of 2007 articulates the most frequently invoked definition of food sovereignty. It is the right of people to healthy and culturally appropriate food, produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems. This approach strongly emphasises that a diversified, peasant-driven agroecological experience production method is the backbone of a healthy food system and sustainable food system. It places the welfare of individuals engaged in food production, distribution and consumption as the focal point for both food systems and policies, prioritizing human and environmental health and welfare over corporate interests.



This presents a strategic and sustainable framework aimed at challenging and deconstructing the prevailing corporate-dominated trade and food model. Ultimately, food sovereignty puts farmers and democracy at the centre of our food system recognising the intersectional challenges that groups such as small producers, women and Indigenous bear (Nyéléni,2007).





# III. Background and Context on Food Sovereignty

## a. History and Context of Food Sovereignty

Between 1800 and 1970, the world's population surged from around 978 million to 3632 million, accompanied by an exponential growth of 1730-fold increase in global Manufacturing (Du Pisani, 2006). The post-WWII economic expansion, also called the Golden Age of Capitalism led countries that had been devastated by war to a never experienced economic growth, establishing stronger and stronger industrialization. Urban sprawl and consumerism accelerated, driven by exploited labour forces. Therefore, with an exponentially growing population and the need for more labour, agriculture became a key sector of development due to the necessity to tackle the imbalances between population growth and shortage in food supply (UN, 2017).

While post-war the narrative provided by the industrial sector was about growth and global welfare, this was the start of the disregard and marginalisation of rural communities - overshadowed by an ideology rooted in consumerism and profit-driven exploitation. For long, the traditional wisdom and diverse practices of farmers formed the bedrock of our food system, rooted in centuries of seed-breeding and harmonious coexistence with nature. Yet, at this time small-scale farmers were perceived as a hindrance to a free-market ideology and global capitalism (La Via Campesina, 2021). Ultimately, this socioeconomic paved the way for the Green Revolution - an agricultural initiative that, despite its name, fell short of its "green" aspirations (Shiva, 2014)

With the need for labour, the exponential growth of the population and food shortages in the late 1950s, strong efforts were made to improve the productivity of grain crops. In the 1950s, Norman Borlaug's creation of the semi-dwarf, high-yielding variety of wheat sparked the birth of a new paradigm - the Green Revolution.

The Green Revolution is the term used to describe the spread of new agricultural technologies and chemicals that dramatically increased food production in the developing world. This movement promised abundance through the advent of what were termed 'miracle seeds'. In 1960, addressing a gathering of scientists and United Nations officials in Rome, Borlaug proposed the establishment of a program in Mexico aimed at training agronomists from around the globe. In 1963 with, the Rockefeller Foundation and Ford Foundation providing funding, FAO ensuring intergovernmental legitimisation, and Mexico giving its facilities, this initiative took shape (Shubinski, 2022).

High yields were achieved primarily through the use of agricultural chemicals such as fertilizers pesticides, and heavy machinery. However, despite their positive impact on productivity, the repercussions became increasingly profound and multifaceted, encompassing ecological, health, socio-economic, and political issues. The Green Revolution strived for an agriculture of scale, focusing on a limited set of crops, which increasingly refined grains aimed at trade mostly from developing to developed countries. The expansion of cereal cultivation and policies supporting chemical utilization came at the cost of nutrition-rich coarse grains, such as millet, sorghum and pulsed in Asia. Therefore, while overall calorie consumption increases, a dramatic increase in malnutrition persists (Pingali, 2022).

In 1970, Norman Borlaug was given a Nobel Peace Prize for changing the seeds and adapting them to chemicals - giving the possibility to create prosperity and, therefore, peace. Punjab, known as the “Granary of India”, was the most celebrated success story leading Borlaug to be credited for having transformed India from “a begging bowl to a bread basket”. However, the promised peace remained elusive as this movement instead resulted in the beginning of a cyclical conflict and exacerbated intergenerational inequalities between the global north and south (Behal, 2020).

The Green Revolution led to a negative economy whereby farmers were getting into high debt. The intensification and industrialization of agriculture have resulted in the



Norman Borlaug in a Mexican wheat field, holding the so-called "miracle" wheat that he developed by crossing a native Mexican strain with a Japanese dwarf variety. 1970. Photo by Arthur Rickerby, National Portrait Gallery, Smithsonian Institution.



decline of both soil biodiversity and fertility - leading to water-intensive agriculture and exacerbated soil degradation (Shiva, 2014) Additionally, the departure from traditional land practices led to the decline of semi-natural habitats crucial for conservation efforts. It eroded the wealth of local knowledge and customary practices linked to these ecosystems (Briney, 2020)

Over the next three decades, scientists refined Borlaug's methodologies, progressing into the realm of genetic modification and giving rise to what we now recognise as genetically modified organisms (GMOs). A pivotal moment occurred in 1980 when the U.S. Supreme Court ruled in favour of General Electric scientists, granting them the ability to patent genetically engineered bacteria designed to aid in oil spill remediation. This ruling set a precedent to permit ownership rights over GMOs, fostering corporations to expedite the development of GMO technologies that were both utilitarian and financially lucrative (Alman, 1982).

In the context of agriculture, the first food crops that had been genetically modified using recombinant DNA technology started in 1987. Within five years, Calgene's Flavr Savr tomato received approval from the U.S. Department of Agriculture as the first commercially produced food crop of its kind.

These tomatoes were genetically modified to incorporate a DNA sequence that suppressed the production of a natural tomato protein, thereby enhancing firmness and prolonging shelf life. Ultimately, this led to a profound shift in the agricultural landscape, as a handful of biotech corporations such as Monsanto, Bayer, and Corteva solidified a substantial monopoly within the seed industry (Dolan et.al, 2022).

Traditionally, agricultural systems evolved through centuries of seed breeding, enabling farmers to freely save and exchange seeds, enriching agricultural diversity and resilience. This was disrupted by the introduction of GMOs and seed patenting whereby companies could restrict farmers' independence and customary role in using, selling, and breeding seeds (Dolan et.al, 2022). Instead, farmers were forced to purchase new seeds and pay high royalties. This raised questions on social issues and biodiversity concerns - hindering food security. In a nutshell, the patenting of GMO seeds fundamentally altered the dynamics of agriculture, transforming seeds from a shared resource to a patented commodity (Shiva, 2014)

Progressively this led, national governments, corporations and supranational organisations to work together toward the vertical integration and concentration of power - tailoring food system regulation to the demand of large firms in agri-business. (McMichael, 2009) This neo-colonial process fostered the normalization of contemporary developmental trajectories aimed at involving a maximum number of individuals in urban and industrial sectors, accumulating resources through dispossession, and facilitating the expansion of capitalism in rural areas. This ultimately led to the impoverishment of millions by displacing them from their lands and integrating them into wage-labour systems within the global economy. Consequently, it prompted the implementation of government-sponsored food security programs to address the hunger resulting from this restructuring (Trauger, 2015).



## **b. Food Sovereignty in the Public Discourse**

While state-based policies promoting the dependency on the modern industrial model of agriculture grew, socialist movements and independent activists started to show a strong sense of discontent.

Vandana Shiva, an esteemed Indian scholar, author and activist, brought to the forefront of the public discourse the principles of food sovereignty - denouncing the strong advancement of corporate-led agricultural practices. Her deep involvement in agricultural issues began in 1984, catalyzed by the strife in Punjab and the catastrophic Bhopal disaster resulting from a gas leak at Union Carbide's pesticide manufacturing facility (Miller, 2009). Her studies at the UN University led to the publication of her book “The Violence of the Green Revolution”. Through her work, she shed light on the effects of the Green Revolution in India, examining the multifaceted repercussions of monoculture and commercial agriculture and revealing the linkage between ecological destruction and poverty (Shiva, 2016).



While the post-war food security blue-print promoted an agriculture of scale, food sovereignty called for a reform that would secure sustainable livelihood for the small-scale farmer - indispensable for a healthy and sustainable food system. The concept of Food Sovereignty was first introduced by Via Campesina to the public discourse during the 1996 World Food Summit in Rome, as an alternative to neo-liberal policies. The conference underscored that food security only can be upheld in the long term by advocating a more democratic food system whereby the right for decision-making of food producers is upheld. The strategy aimed at attaining food sovereignty delineated cultural initiatives, political strategies, ecological aims to reduce agriculture's environmental footprint, and economic targets, all aimed at reshaping the political landscapes of agricultural regions worldwide (NGO Response, 1996).

Since its inception, this concept has emerged as a prominent topic in the global agricultural discourse, gaining attention even within the United Nations bodies. Notably, it served as the central theme for the NGO forum concurrent with the FAO World Food Summit in June 2002 (La Via Campesina, 2023).

According to what was iterated by Via Campesina, Food Sovereignty should include multiple elements:

- **Local Control and Empowerment:** Food sovereignty advocates argue for local control over food systems. It emphasizes the importance of communities having the ability to make decisions about their own food production, distribution, and consumption.
- **Diverse Agricultural Practices:** The discourse around food sovereignty promotes diverse and sustainable agricultural practices. It advocates for moving away from monoculture and industrial agriculture in favour of methods that are environmentally sustainable and adapted to local ecosystems.

- **Social Justice and Equity:** One of the central themes in discussions about food sovereignty is social justice. Advocates argue that everyone has the right to access culturally appropriate and nutritious food and that food systems should be structured in a way that promotes equity rather than reinforcing existing inequalities.
- **Resistance to Globalization:** Food sovereignty is often discussed in the context of resistance to the globalization of food markets. Critics argue that global economic structures often exploit local communities and their resources, leading to issues such as land grabbing and loss of biodiversity.
- **Cultural Preservation:** The discourse around food sovereignty recognizes the importance of preserving and promoting local food cultures. This includes traditional farming practices, culinary traditions, and the protection of indigenous knowledge related to agriculture and food.
- **Policy Advocacy:** Public discussions on food sovereignty often involve advocacy for policy changes at local, national, and international levels. This includes policies that support small-scale farmers, promote sustainable agriculture, and protect the rights of communities to be able to control their food systems.
- **Environmental Sustainability:** The environmental impact of food production is a key focus in the public discourse on food sovereignty. Advocates argue for practices that are not only socially just but also environmentally sustainable, taking into consideration issues such as soil health, water conservation, and biodiversity.

- **Educational Initiatives:** Public discourse on food sovereignty also concerns educational initiatives aimed at raising awareness about the importance of sustainable and locally controlled food systems. This implies efforts to inform consumers about the impact of their food choices and to promote a greater understanding of the complexities of global food systems.
- **Empowering Women Farmers:** Recognizing and affirming the rights of women farmers, and acknowledging their pivotal role in agricultural production and food systems.

Overall, the public discourse about food sovereignty reflects a growing awareness of the interconnected issues of agriculture, social justice, and environmental sustainability. It seeks to redefine and reshape food systems to prioritize the well-being of communities, cultures, and the planet (La Via Campesina, 2023).





# IV. Theoretical Framework

To comprehend and contextualize the principle of food sovereignty, it is fundamental to grasp and consider two other fundamental concepts: food security and the right to food. Each concept holds a distinct status - legal, political, and technical. While scholars often emphasize individual definitions for each concept, our theoretical framework unites these concepts into a cohesive whole - acknowledging their importance while recognizing their interdependence.

## **Food Security**

Food security is a technical concept fundamental to ensuring consistent physical and economic access to a sufficient, safe, and nutritious food supply for every individual, aligning with dietary needs and preferences to support a healthy life (FAO, 2013)

The post-war scenarios underscored the critical need for food security due to widespread famines. Studies indicate that without the Green Revolution, caloric availability globally would have decreased by approximately 11–13% (Pingali, 2012). However, despite its success in bolstering food availability, the Green Revolution's scale-based industrial agricultural model led to a concerning cycle of adverse environmental and social impacts, which ultimately hindered food security. Amidst the pursuit of increased caloric intake during the Green Revolution and the rapid modernization of food systems, there emerged a significant challenge and disproportionate burden in developing countries. This movement disproportionately benefited larger landowners who readily adopted advanced production technologies, neglecting the most vulnerable - poorer farmers, labourers, and rural residents - who suffered the most from malnutrition (Conway, 1997).

The dominant state-centric capitalist agricultural model failed to recognize a crucial truth: global food security cannot be achieved without integrating food sovereignty.

However, this approach paradoxically marginalized small-scale farmers worldwide, exacerbating socio-economic disparities.

In the fight against hunger, the emphasis goes beyond mere food quantity; it encompasses the quality to provide consumers with the necessary nutrients for good health. A notable aspect observed during the Green Revolution related to uniform and artificial agricultural methods was the number of cases of malnutrition. These effects are still felt today. For instance, Punjab, the pioneering state in India to adopt modern agricultural technology during the Green Revolution, witnessed alarming repercussions. The region experienced a surge in distressing health issues such as suicide rates among farmers, instances of malnutrition, cancer incidences, deaths attributed to pesticide poisoning, increased child mortality rates, mental health challenges, and reports of physical malformations (Luwanda, 2018)

The conventional approach to food security often appears neutral concerning power dynamics, failing to address the concentration of economic power within different links of the food chain, international food trade, land ownership, and access to critical resources like information. Conversely, the concept of food sovereignty begins by acknowledging the existing power asymmetries across various markets, spheres of influence within the food industry, and multilateral trade negotiations. It emphasizes the need for a democratic approach to rectify these inequalities - considering food as more than a mere commodity (FAO, 2013).

While scholars disagree on the relationship of food security to food sovereignty (Edelman 2014, Patel 2009, Schanbacher 2010), United Rising advocates for a paradigm shift - emphasizing that the “degrowth” of our production systems is essential for securing food security. This approach highlights the significance of prioritizing small-scale agriculture to foster more democratic food systems, simultaneously addressing critical issues like climate change, waste, biodiversity loss, high rates of malnutrition, and conflicts.

Aligned with the FAO's 1996 statement, we recognize that a peaceful, stable socio-political and economic environment is pivotal for states to adequately prioritize food security and poverty eradication.

It underscores the importance of democracy, human rights protection, and ensuring equal participation for all genders in achieving sustainable food security. (FAO, 1996). This approach acknowledges the essential role of farmers in maintaining control over the food system, understanding that farming is not just a livelihood but a crucial method of food production. The recognition extends to the valuable contributions made by indigenous peoples, pastoralists, forest dwellers, workers, and fishers to the overall food system (FAO, 2013)



## The Right to Food

The Right to Food represents a legal right rooted in the Universal Declaration of Human Rights (UDHR) and later included in the International Covenant on Economic, Social and Cultural Rights (ICESCR). Accordingly, “the right to adequate food is realized when every man, woman and child, alone or in community with others, has physical and economic access at all times to adequate food or means for its procurement (ICESCR, art 11).

The right to food is an inclusive right which underscores accessibility, availability and adequate food. It is not simply a right to a minimum ration of calories, proteins and other specific nutrients. It is a right to all nutritional elements that a person needs to live a healthy and active life and to the means to access them. Accessibility to food must be done sustainably, and it cannot interfere with the enjoyment of other human rights (Meulen).

The acknowledgement of the right to adequate food has opened the door to a potential rights-based approach to ensuring food security (Gordillo and Gómez, 2005). This right, recognized under international law, grants individuals entitlements to access adequate food and necessary resources for sustainably sustaining food security. It places legal responsibilities on States to combat hunger and malnutrition, striving to achieve food security universally. Moreover, the right to food extends the obligations of States beyond their borders, encompassing trade-related duties. For instance, the International Covenant on Economic, Social and Cultural Rights mandates its State parties to take actions essential for a fair distribution of global food supplies (art. 11 (2) (b)). It doesn't prescribe a specific framework to achieve this distribution, it mandates that States ensure their policies, including trade policies, serve this objective (FAO, 2013)

While the right to food is an internationally recognized legal entitlement, food sovereignty stands as a political concept. United Rising believes that achieving food sovereignty serves as a crucial cornerstone for realizing a rights-based approach to





food security. By prioritizing local control, sustainability, inclusivity, and democratic decision-making in food systems, food sovereignty lays the groundwork for ensuring that the right to food becomes a tangible reality for everyone. By advocating for equitable access to seeds, land and information, food sovereignty aims to mitigate inequalities within the food system. Indeed, this inclusivity and fairness are essential components of a rights-based approach to food security - ensuring that all individuals have the means to access both sufficient and nutritious food. in food systems, food sovereignty lays the groundwork for ensuring that the right to food becomes a tangible reality for everyone. By advocating for equitable access to seeds, land and information, food sovereignty aims to mitigate inequalities within the food system. Indeed, this inclusivity and fairness are essential components of a rights-based approach to food security - ensuring that all individuals have the means to access both sufficient and nutritious food.

## Food Sovereignty

First of all, we must acknowledge the fact that Food Sovereignty is at present, merely a political concept. It aims at restoring decision-making power to both producers and consumers within the food system to mitigate the negative externalities of capital and state control over food (Hospes, 2008). Although mainly led by grassroots communities, food sovereignty found its way into various realms, including being incorporated into the constitutions and policies of numerous national, regional, and municipal governments. Within Latin America, Bolivia and Ecuador have specifically integrated food sovereignty principles into their frameworks as a means to ensure the food requirements of their local populations (McKay et al., 2014).

According to Holt-Gimenez and Shattuck (2013), food sovereignty is a “radical” response to food system failures to provide food security and the right to food. They posit that food sovereignty differs from what they call the “progressive” alternatives such as organic agriculture, in partial but significant ways. “This new concept (food sovereignty), in contrast to food security, which focuses mainly on food availability, also encompasses the importance of modes of food production and where foods come from. It highlights the relationship between the importation of cheap food and the weakening of local agricultural production and populations.”(FAO, 2013). However, what these definitions fail to highlight, is that food sovereignty is a prerequisite for achieving sustainable, long-term food security while also upholding the right to accessible, adequate, and available food. Importantly, these concepts are not mutually exclusive but rather interconnected.

United Rising believes that food sovereignty is an all-encompassing concept, incorporating the right to food and upholding the core principles of ensuring food security. It advocates for the basic right of people, communities, and countries to independently manage their food systems, guaranteeing fair access to sufficient, wholesome, and culturally appropriate food while upholding the right of every person to feed themselves with dignity.

Such an approach prioritizes localized, sustainable, and democratic agricultural practices, empowering communities to manage and determine their own food production, distribution, and consumption choices in ways that respect ecological integrity, social justice, and human rights. Smallholder farmers collectively wield the potential to profoundly influence the global climate. Transitioning all 500 million smallholder farms to regenerative practices could sequester 8 gigatons of CO<sub>2</sub> annually, accounting for 53% of the required change for emission reductions and sequestration (Sustainable Harvest, 2023).

Therefore, food sovereignty recognizes that fostering resilient, diverse, and inclusive food systems is essential not only for meeting immediate nutritional needs but also for safeguarding the inherent rights of individuals to access healthy food and ensuring the long-term sustainability of food resources for present and future generations.



# Integrated Food Governance Framework

**Food Sovereignty**

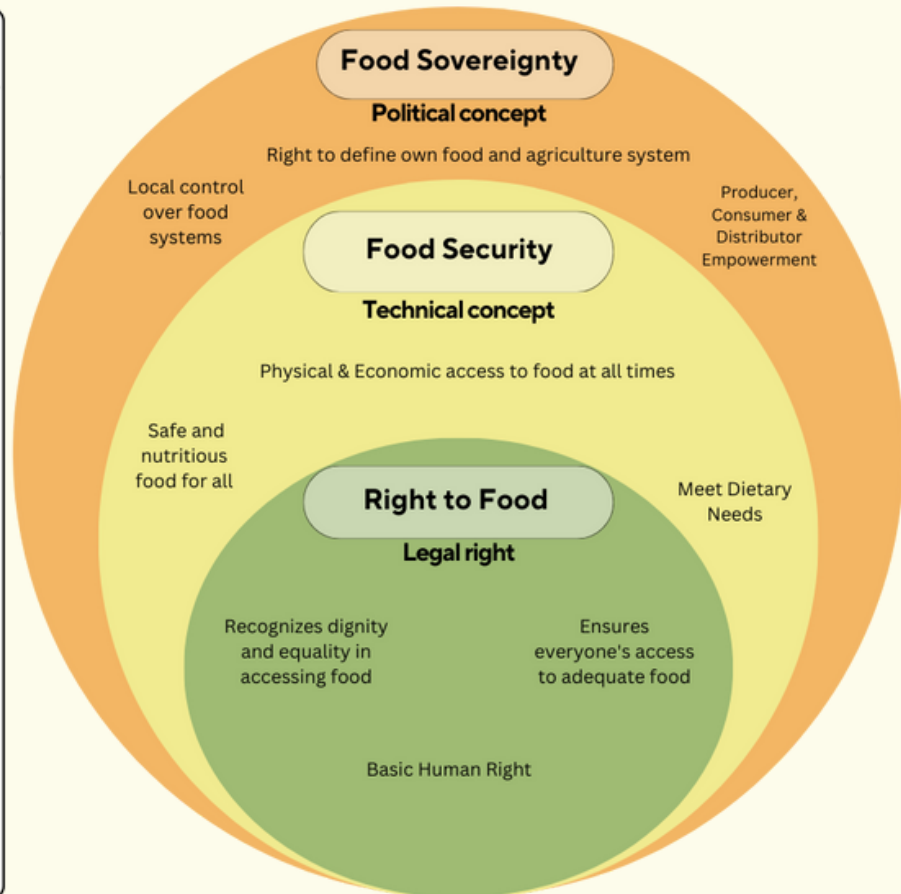
- Overarching political goal necessary to ensure long-term food security and the right to food
- Right of people to healthy and culturally appropriate food, produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems.

**Food Security**

- Recognizes the Agency, Sustainability, Availability, Access, Utilization, and Stability of food sources
- Holistic principle
- Technical concept

**Right to Food**

- The basic human Right
- "The right to adequate food is realized when every man, woman and child, alone or in community with others, has physical and economic access at all times to adequate food or means for its procurement (ICESCR, art 11)



UR (2023) *Integrated Food Governance Framework*

Our proposed theoretical model advocates a shift from a fragmented approach to a holistic one. By merging these three concepts into a unified model, this approach provides a more comprehensive framework for addressing the complex challenges within the global food system. It encourages a more nuanced and inclusive strategy that aims not only to alleviate hunger but also to build resilient, sustainable, and socially just food systems for current and future generations.



# V. Current Challenges for Food Sovereignty

## a. WTO/ Trade

Our current global food systems are based on neoliberal policies that prioritise international trade which follow in the interests of large transnational companies, together with superpowers. Such an approach focuses more on global trade rather than ensuring food for the people. Contrary to what is expected from these policies, they haven't helped to eliminate hunger worldwide. Instead, they fostered a system of import dependency - ultimately boosting the industrialization of farming. This not only placed our planet's genetic, cultural, and environmental heritage at risk but also affected our global human health. Additionally, these policies have pushed hundreds of millions of farmers to abandon their traditional ways of farming, leading them to leave rural areas or move to other countries (La Via Campesina, 2023).

Such phenomenon has been backed up by global organisations like the International Monetary Fund (IMF), the World Bank, and the World Trade Organization (WTO) which have chosen to prioritize the agenda of powerful international interests, instead of people's needs across the globe. The "free" trade agreements, whether on an international scale like the WTO or regionally/bilaterally such as the Free Trade Agreement of the Americas (FTAA), essentially grant these corporations control over the globalized food market. La Via Campesina asserts that the WTO is ill-suited for handling food and agriculture matters, advocating for the removal of WTO from agricultural affairs.

One of the direct enemies of food sovereignty, supported by the WTO, is called "dumping". The term illustrates a situation of international price discrimination, meaning that the price of a product sold in an importing country will be less than the price of the same product on the market of the exporting country. The low-priced imports pose a threat to food production worldwide as the local agricultural economy is being devastated by the influx of low-cost agricultural imports across the

globe. A few examples are European milk flooding the market in India, American pork saturating the Caribbean, European Union meat and cereals inundating Africa, and cheap animal food flooding Europe. These products are exported at reduced prices as a result of these dumping practices. The United States and the European Union, for instance, adopted a new dumping approach approved by the WTO. This method replaces export subsidies with a significant reduction in agricultural prices, coupled with direct payments from the government. Therefore, it seems evident that food sovereignty cannot be achieved if dumping practices are not eradicated from the system.

The concept of food sovereignty goes, therefore, hand in hand with the principles of fair trade. That's because they both pertain to accountability and transparency in the supply chains, as well as giving a fair and equal opportunity to economically disadvantaged producers. Food sovereignty does not oppose trade but challenges the prevailing emphasis on exports. It aims to ensure food security for communities while engaging in trade for specific products that contribute to the agricultural diversity of our planet(La Via Campesina, 2023).



Global Business. (2018, October 23). *What is dumping?*

## b. Hazardous and widespread use of Chemicals

Our current agriculture is highly dependent on the use of chemicals, such as fertilizers and pesticides. Moreover, food production is highly characterized by monoculture - the form of agriculture that is based on growing only one type of crop at one time on a specific field - resulting in a disbalance in soil microorganisms and bacteria that are needed to maintain the fertility of the soil. This leads to the use of chemical fertilizers as an attempt to artificially boost the fertility of their soil but in reality creates further soil erosion, the natural composition of the soil, and devastating effects on the ecosystem. The decrease in biodiversity becomes significant by eliminating the variety of specific plants, animals, and insects that are fundamental to keeping cross diseases and pollinators such as bees that are of paramount importance for natural reproductive cycles (EOS, 2020).

The roots of pesticide usage are traced back to a history marked by devastation and corporate dominance, particularly evident before and during the “Green Revolution”. This transition from agriculture to agri-business created a generational reliance on chemical inputs among farmers. The control exerted by three major companies in the commercial seed market—Monsanto, DuPont/Pioneer, and Syngenta -accounting for 55% of the market, and the domination of 51% of the agrochemical market by Syngenta, Bayer Crop Science, and BASF, solidified this dependency (MacDonald, 2019).





Looking back at the timeline of World War II, it becomes evident how the commercialization of agrochemicals was spearheaded by the historical chemical industry. I.G. Farbenindustrie AG (IG Farben), a German conglomerate, holds a significant role in this narrative. Notably, the company was responsible for developing and producing Zyklon B, a lethal cyanide-based pesticide used in the Nazi concentration camps during the Holocaust (Steward, 2023).

Formed in 1925 through the merger of six chemical companies, some of which are predecessors to the current monopolizers of the agrochemical sector -BASF, Bayer, Hoechst, Agfa, Chemische Fabrik Griesheim-Elektron, and Chemische Fabrik form. After the Nuremberg trial, the company was divided back into its constituent companies (Tagliabue, 1985). Nevertheless, the companies did not want to give up their habit of selling chemicals for-profit and moved into the agricultural sector spreading the propaganda that, if we wanted to secure our food system and survive, we needed to use chemicals to have the war against the pests (Shiva, 2014).



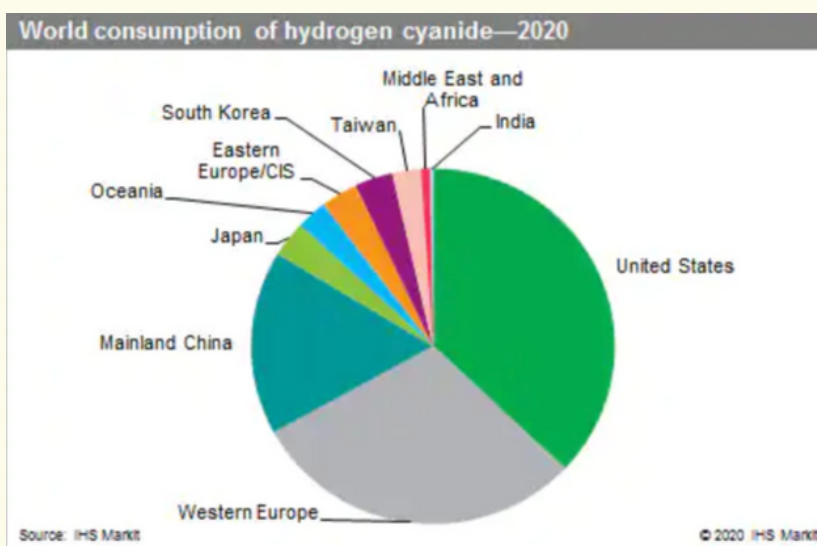
Shoot to Kill! Protect Your Victory Garden" c. 1943, National Archives.



## Hydrogen Cyanide

Hydrogen Cyanide (HCN) was developed by German chemists in the 1920s and patented later, in 1926. It has gained infamy as a horrific chemical weapon when used by the Nazis during World War II, under the name Zyklon B. The chemical is not only responsible for the killing of more than a million people inside the gas chambers or Auschwitz and other extermination camps but also for causing significant casualties on the battlefield. Post-war, its application expanded beyond military use, finding roles in diverse industrial processes and laboratories, particularly as a pesticide (Steward, 2023).

The substance itself is highly dangerous to any animal or human that comes in contact with it, and in moderate concentrations, it can be fatal. (CDI, 2011) In modern times, the discourse on hydrogen cyanide is varied and complex. Concerns about its historical association with warfare have prompted ongoing talks about disarmament and global regulations. At the same time, debates continue regarding its industrial uses (pesticides, fumigants, plastics, photo developing, and mining), emphasizing the importance of strict safety measures and environmental protection. Public awareness campaigns and advocacy groups also play a role in emphasizing responsible handling and regulating the substance's utilization (NY State, 2004).



Chemical Economics Handbook (2020)

In essence, hydrogen cyanide presents a nuanced narrative, weaving together historical associations with contemporary applications. Its transformation from a wartime weapon to a significant industrial compound underscores the necessity for a balanced and informed approach to its use, considering its advantages and potential risks in separate contexts.

## Agent Orange

During the Vietnam War, companies such as Monsanto and Dow produced "Agent Orange" for the US government, causing catastrophic effects on over 3 million Vietnamese citizens and American soldiers. Due to its high contamination with dioxin (TCDD), the concentration utilized by the armed forces was, in fact, 20 times higher than what was recommended by manufacturers.

Dioxin, an organic pollutant, is directly linked to cancers, diabetes, birth defects, and other conditions. The herbicide successfully destroyed more than 5 million acres of upland and mangrove forests, along with half a million acres of crops in Vietnam. In 1971, the U.S. banned its use, and by 1978, the remaining stocks from the U.S. and Vietnam were successfully destroyed. Presently, Agent Orange is no longer in existence. (Shimadzu, 2023).

Nevertheless, dioxin persists in affected human bodies for up to 20 years, while surface contamination in the environment can break down in merely three years. However, if it penetrates soil and river sediment, dioxin can persist for over 100 years in underground bodies of water - a truly shocking figure.

Most dioxins, including the highly toxic TCDD found in Agent Orange, result from natural processes and industrial activities. While hundreds of dioxin types exist, categorized as such in the CDDs, PCDFs, and PCBs families, only the first two are accidental byproducts, whilst PCBs can come into existence only when purposely manufactured. Global bans on PCB production began in 1979 in the U.S., with subsequent worldwide adherence, the latest being acknowledged by the UN in 2006 when Korea (DPR) also ceased its production.



USAF C-123 PROVIDER SPRAYING  
AGENT ORANGE ONTO FORESTS  
IN VIETNAM, CIRCA 1969

Experts acknowledge that both humans and animals worldwide carry varying amounts of PCBs in their bodies, leading to potential adverse effects on immune, reproductive, neurological, and endocrine systems, that are relative to exposure, amount and duration. A recent U.S. study revealed the persistent presence of PCBs in New Hampshire, despite a 50-year-long ban on the substance. Loon eggs across over 20 lakes and more than sixty thousand acres of surface waters showed significant contamination, leading the state to sue Monsanto in 2020. Historical documents presented in court suggested Monsanto knew about Roundup's harmful effects but continued marketing and selling it. The trial concluded with a \$20 million settlement, directed to the state's General Fund instead of PCB remediation. Notably, Bayer, Monsanto's parent company, denies allegations regarding PCB contamination resulting from Roundup and the side effects generated by it.

Since the 2004 Stockholm Convention on persistent organic pollutants came into force, all countries are obliged to eliminate the use of PCB in equipment by the end of 2025. Moreover, states are required to make real efforts to sustainably dispose of liquid waste and equipment that still contains this dioxin by the year 2028 (UNEP).



## Atrazine

Conversely to Agent Orange, Atrazine was not used during the world wars and was first registered in the U.S. in 1958, as a herbicide for weed control in cornfields, by CIBA-GEIGY - the former Swiss pharmaceutical company. The latter, then merged with Sandoz, as to form the current “Novartis AG” in 1996 - one of the biggest manufacturers of pharmaceuticals in the world. Moreover, in the year 2000, Novartis and AstraZeneca merged which was later known under the name Syngenta AG. Syngenta’s leading defoliant, atrazine, is the most commonly applied pesticide in the world, with approximately 80 million pounds applied annually in the United States alone (FTC, 2000). It also holds the title of being the most frequent pesticide contaminant found in both ground and surface water. This substance has been recognized as a powerful disruptor of the endocrine system - causing chemical castration and changes in gender; more precisely, feminization of adult amphibians, reptiles, and also human cell lines. Furthermore, the substance is known to cause birth defects, infertility, and cancer. (Hayes et.al, 2010)

Because of the toxic nature of atrazine, Syngenta had to face numerous lawsuits, the most notable being in 2012 regarding the contamination of multiple water supplies in the U.S. The company had to pay more than \$100 million to water utility companies to cover the cost of cleaning high-toxicity water supplies. Notably, following the lawsuit, more than a thousand claims for compensation were filed by other affected parties. Despite all these events and court rulings, the company agreed to the settlements but still denied any link between their chemical and the harmful side effects of atrazine contamination (Find Law, 2016).



This trend created a vicious cycle in agriculture whereby the higher the use of pesticides, the higher and stronger the pests were, leading to policies fostering the use of pests - ultimately reinforcing the vicious cycle. The FAO estimates that annually up to 40% of global crop production is lost to pests. Each year, plant diseases cost the global economy over \$220 billion, and invasive insects at least \$70 billion (FAO, 2021). Therefore, the excessive use of chemicals brings forth a myriad of ecological issues such as the transformation of soil into desert-like conditions, a decline in the variety and number of species, exacerbation of climate change, and exacerbation of water scarcity and contamination problems (EOS, 2020).

Building on the ecological harm caused by excessive use of chemicals, a multitude of social issues emerge. This reliance on chemicals creates a dependency among farmers, constraining their autonomy to decide what crops to cultivate and how to cultivate them, ultimately eroding their food sovereignty. Consequently, this dependency hampers food security by limiting access to a varied, nourishing, and culturally suitable food supply (Flocks, 2012)

Furthermore, these challenges intertwine with growing health concerns stemming from chemical residues present in our food. Evidence suggests that these residues lead to detrimental health effects, encompassing risks such as cancer, reproductive issues, and impacts on the immune or nervous systems (WHO, 2016).

## **b. GMO and Seed Patenting**

A patent by definition grants to the inventor the right to exclude any third party from making, using, selling and distributing what is invented and protected by Intellectual Property Rights. Seeds are not inventions, but rather natural resources which have been evolving alongside the farmers who have been breeding them. The shift in seed ownership transformed seeds from being a shared resource into patented commodities - placing excessive control in the hands of monopolizing corporations.



The ethical implications of this system are high - acquiring control over shared resources and imposing royalties at a high cost to farmers. In India for instance, Monsanto's entry into the agricultural landscape introduced a stark change in seed acquisition costs. Previously, if a farmer used their seeds, there was no expense incurred. Seeds purchased from public institutions or local companies typically cost between five to ten rupees per kilogram. However, when Monsanto arrived in the market offering 450-gram packages priced at a staggering 1,600 rupees, equating to more than 3,600 rupees per kilogram. During a parliamentary committee investigation concerning GMO-related crises, a Monsanto representative disclosed that approximately half of this exorbitant price was attributed to royalty collection. This revelation shed light on the significant and unjust cost burden imposed on farmers due to the inclusion of royalty fees in Monsanto's seed pricing structure (Shiva, 2014)



Seed patenting is one of the key threats to food sovereignty which, as Vandana Shiva firmly affirms, transformed the agricultural systems from a democratic model into a form of dictatorship. This control over farmer's rural communities and their activities prevents the implementation of the right to seeds as recognised by the UN Declaration of Peasant Rights and People Living in Rural Areas (UNDROP) “to save, use, exchange and sell their farm-saved seed or propagating material”, as well as their rights “to maintain, control, protect and develop their seeds and traditional knowledge” (UNDROP, Art.19).

Amidst claims advocating GMOs as a pivotal solution to address global hunger, the actual scenario reveals a different truth. It has been widely reported that smallholder farmers produce 70–80% of the world's food (Wolfenson, 2013; FAO, 2014) and are central to conserving crop diversity and producing more food crops than larger farms (Ricciardi, 2018). Therefore, the industrial system only contributes to a minority system when it comes to food security - yet, it is the one that contributes most to our ecological crisis and social inequalities.

## **d) Time Imperialism**

This notion refers to the exertion of influence by politically and economically dominant societies, compelling a reorganization and reevaluation of time in colonized regions, that is solely based on the features of the colonizing power (Ferguson et al. 2022)

A study conducted on three different cases, of coastal Indigenous populations from Northwest Alaska, Palau, and Central Sulawesi, has revealed that the conception of the time of colonizing powers affects both the availability and access to food of natives. That’s because it prioritizes quick and efficient agricultural methods that align with the colonizer's values, potentially neglecting or undermining sustainable, locally adapted farming practices. As a result, this interference with the

temporal aspects of food production can undermine the autonomy and self-determination of communities, hindering their ability to maintain diverse, resilient, and culturally relevant food systems.

For example, Palau is experiencing a significant nutritional shift, transitioning from a reliance on foods primarily sourced from fishing and farming to a predominant consumption of store-bought goods. While imported foods make calorie acquisition more convenient, their nutritional quality, sustainability, and cultural appropriateness do not align with that of locally produced food. Palauan culture was forced to adapt to colonial values and modern challenges. Post-independence, the once-effective local fisheries management, led by local chiefs, was centralized and democratized. This process has jeopardized the sustainability of a 2,000-year-old fishing tradition and hindered the local's food sovereignty (Ferguson et al. 2022)

Another truly suggestive example is Central Sulawesi, the fourth-largest island of Indonesia, which holds more than three million inhabitants. Given that, more than a quarter of Indonesia's population lives close to the coast, and that fish constitutes almost 70% of the animal protein consumed in the country, fishing is a very important activity to sustain the local needs for food. However, various marine foods like octopus, grouper, and lobster have become commodities in international markets, while local families predominantly consume species of lower market value at home (Ambo-Rappe et al. 2019). Threats to food sovereignty arise from overfishing by industrial, occasionally illegal, fishing fleets for export (Moore et al. 2008), the widespread use of destructive fishing practices (Burke et al. 2012) driven, in part, by international market demands. Additionally, the expanded cultivation of clove trees for export can diminish fertile land for traditional foods and erode reciprocal social systems.



# VI. Recommendations

The food sovereignty movement excels in strategically addressing small farmers' economic marginalization on a global scale. Its strength lies in multifaceted strategies, challenging WTO policies, seed patenting, fostering local food systems, addressing intersectional challenges, and advocating for national policies that support small farmers. An opportunity for greater impact lies in expanding inclusivity. By considering measures on food security at various levels, from individuals to entire countries, the movement ensures comprehensive and long-term outcomes.

We've developed a set of recommendations based on an inclusive theoretical framework of food sovereignty, identifying paramount challenges that obstruct food security. These aim at addressing conflicts, engaging globally, and aligning with economic realities. Furthermore, it seeks to foster a resilient and equitable global food system by emphasizing inclusivity and adaptability. These proposals strive to promote sustainable practices and general community well-being.

## **Production, Trade and Market Prioritization:**

- **Local & Regional Production:** Prioritize local and regional production for domestic consumption over excessive reliance on exports.
- **Protection from Import Dumping:** Enable measures to shield markets against unfairly low-priced imports harming local farmers.
- **Stabilizing Agricultural Prices:** Advocate for international agreements ensuring fair and stable agricultural prices globally

### **Balance Economic Profit:**

- **Aligning with Economic Realities:** Bridge the theoretical misalignment with economic interests. Showcase long-term benefits in terms of local economies, resilience, and societal well-being. Engage with economists, policymakers, and business leaders.
- **Addressing "Time Imperialism":** Advocate for a balanced approach that aligns profit-centric motives with sustainable food systems. Develop frameworks accommodating both urgent timelines and the deliberate pace needed for resilience and sustainability.

### **Knowledge Empowerment and Cultural Preservation:**

- **Community Empowerment:** Nurture and value indigenous agricultural knowledge and skills within local communities.
- **Nature-Aligned Practices:** Promote agricultural methods harmonious with nature, conserving biodiversity and ecological balance.
- **Cultural Heritage Preservation:** Emphasize preserving traditional farming practices, culinary heritage, and indigenous agricultural knowledge.

### **Community Empowerment:**

- **Community-led Initiatives:** Support community-driven initiatives that empower local communities to make decisions regarding their food systems, ensuring inclusivity and participation.
- **Indigenous and Ethnic Communities:** Recognize and protect the rights of indigenous and ethnic communities in their traditional territories, preserving their food systems and cultural practices.

### **Labour Rights and Fair Treatment:**

- **Labour Rights:** Advocate for fair labor practices and rights for agricultural workers, ensuring fair wages, safe working conditions, and protection against exploitation.
- **Farmers' Rights:** Protect the rights of small-scale farmers, including their right to save seeds, access to fair markets, and protection from land grabbing.

### **Promoting gender equality and women's empowerment in agriculture:**

- **Recognize Women's Role in Seed Preservation:** Acknowledge and support women's crucial role in preserving traditional seeds and biodiversity. Empower them to continue their knowledge and practices related to seed saving and conservation.
- **Address Gender-Based Barriers:** Identify and address gender-based barriers that hinder women's participation in agricultural decision-making, such as unequal access to markets, extension services, or restrictive cultural norms. Encourage inclusive policies that promote gender equality in agricultural leadership roles.
- **Access to Resources and Land Rights:** Advocate for policies that ensure women have equal access to land, water, credit, and other agricultural resources. Secure land tenure rights for women to enable them to make long-term investments in sustainable farming practices.

### **Advocacy for Inclusive Policies:**

- **Policy Reforms:** Lobby for policy reforms that address systemic inequalities within food systems, including measures that prioritize marginalized groups' needs and rights.

- **Representation and Participation:** Advocate for the representation and active participation of marginalized communities in decision-making processes related to food and agricultural policies.

### **Mitigate Conflicts of Interests:**

- **Inclusive dialogue:** establish inclusive dialogue platforms and conflict resolution.
- **Equitable Representation:** Ensure that all parties have fair representation and opportunities to voice their concerns and needs during decision-making processes.

### **Land Reform and Redistribution:**

- **Land Reform:** Advocate for land reforms that ensure equitable land distribution, promoting access to land for landless farmers and marginalized communities.
- **Land Tenure Security:** Ensure secure land tenure rights for smallholder farmers, protecting them from land dispossession and conflicts over land ownership.

### **Education:**

- **Capacity Building:** Invest in capacity-building initiatives that equip marginalized communities with the knowledge and skills necessary for sustainable and self-reliant food production.
- **Awareness and Education:** Initiate educational programs to raise awareness about sustainable food systems and inform consumers about their food choices and global food complexities.



## Reduce Dependency on Harmful Chemicals:

- **Promote Agroecology:** Encourage the adoption of agroecological practices that prioritize natural processes, biodiversity, and ecosystem health. Support diversified farming systems that reduce reliance on chemical inputs.
- **Integrated Pest Management (IPM):** Advocate for IPM strategies that minimize pesticide use by combining biological, cultural, and mechanical methods for pest control, thereby reducing environmental impact.
- **Support Organic Agriculture:** Encourage and support the expansion of organic farming practices, which minimize the use of synthetic chemicals and focus on natural inputs.
- **Regulatory Reforms:** Advocate for stricter regulations on the use of agrochemicals, ensuring that policies prioritize human health, environmental protection, and sustainable agriculture.
- **Incentives for Sustainable Practices:** Lobby for government incentives and subsidies that support farmers transitioning to sustainable and organic farming methods, promoting eco-friendly practices.

## Resist the privatization of seeds and GMOs:

- **Support Seed Sovereignty Initiatives:** Back community-based seed banks, seed libraries, and local seed exchanges. Encourage the conservation and propagation of heirloom and indigenous seed varieties that are resilient and adapted to specific climates and regions.

- **Advocate for Policy Changes:** Lobby for policy reforms that limit or prevent patents on seeds and genetic material. Encourage legislation that protects traditional farming practices, biodiversity, and the rights of farmers to save, exchange, and sell seeds without legal barriers.
- **Promoting Open-Source Seeds:** Open-source seeds are non-patented and available for anyone to use, breed, and share freely. By promoting open-source seed initiatives like the Open Source Seed Initiative (OSSI), communities can maintain access to diverse, unpatented seeds.
- **Bolstering Organic and Non-GMO Seeds:** Protecting the genetic integrity of organic and non-GMO seeds involves preventing contamination from genetically modified organisms (GMOs) or patented seeds. This can be achieved through buffer zones, strict regulations, and supporting the growth and propagation of certified organic and non-GMO seed varieties.



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