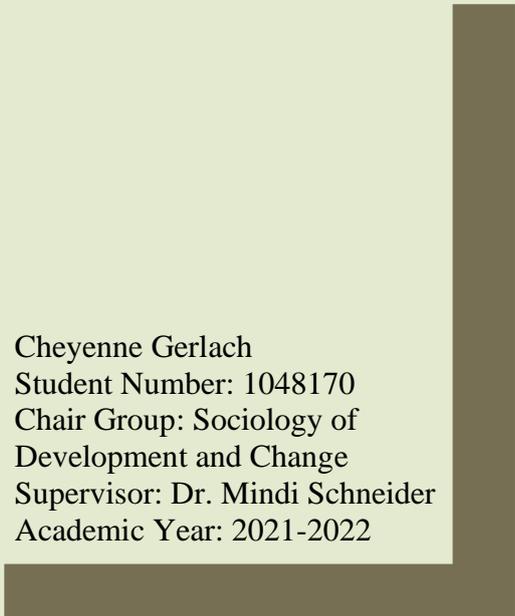


Master's Thesis

FARMERS' RIGHTS RENDERED RESTRICTED



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*A revolution sounds fanciful,
noble, reckless, cool-esque,
written within catchy love songs,
marching signs and protests.*

*But a revolution takes courage,
traveling far beyond trends;
it starts in shadowed places,
and dares to turn bends.*

*A revolution is honest,
a walk the other way,
making changes,
not adhering,
not following common sway.*

-Tess Guinery

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Mr. Wissenburg, my high school agriculture educator who handed me Borlaug's biography more than a decade ago, and with it, the curiosity that laid the path to where I've been, where I am and where I'm going.

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My parents, who grew me with my feet planted firmly in the ground of a little farm three miles east of a little town, but also encouraged me to ask hard questions and seek harder answers, reaching upwards and outwards – all the way to a little city more than a little way away.

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Abstract

Seed serves as the foundational building block of life. As seed has biological and social importance, locally and globally, many attempts to govern seed have arisen in politics since the 1960's, beginning with the International Union for the Protection of New Varieties of Plants' (UPOV) first Convention in 1961. UPOV's take on governing seed internationally is through breeders' rights, which is an intellectual property right for plant breeders to protect new plant varieties through registration, certification and patents. This research focuses in on two different techniques for governing seed, farmers' rights and seed sovereignty. These concepts are specifically utilized to conduct the relationship that farmers hold with seed. From farmers' rights' political inception, the technique was bound to Philip McMichael's (2005) corporate food regime. Seed sovereignty, on the other hand, is a reaction to the corporate food regime and is activated and personified by activist organizations like La Via Campesina (Kloppenburg, 2014). It makes different demands than farmers' rights, such as farmers' autonomy over seed and acceptance of diverse seed ontologies (Escobar, 2016). Tania Murray Li's concept of the practice of rendering technical, a tool used to uncover power relations and shortcomings of the practitioners of interventions, will serve as a lens through which to observe the abilities and vulnerabilities of farmers' rights and seed sovereignty in governing how farmers relate to seed.

Chapter One: Introduction

Seed serves as the foundational building block of life. It seems to bridge together a kaleidoscope of disciplines, ranging from agronomy, political science, sociology, environmental studies and a wide collection of many more. Vandana Shiva (2001), in *Protect or Plunder?* claims, “Seed not only plays an important part in the rituals and rites of communities, it also represents the accumulation over centuries of people’s knowledge and, by being a reflection of the options available to them, it represents their choice” (pg. 72). In this sense seed also serves as a storage unit – preserving genetic codes and cultural histories, alike.

At the tip of the iceberg, or maybe just above the soil, seed is observed biologically – we can observe its agronomic metrics, like yield, its climate resilience perhaps. But like the iceberg analogy, what we can observe above the topsoil only scratches the surface in understanding all of the dimensions worthy of exploration when it comes to seed. The social situatedness of seed is deeply political, cultural and economic. As I will attempt to prove throughout the course of my thesis, seed is rooted in historic and geographic inequality amplified by what Kloppenburg (2005) coins an “asymmetrical and unjust flow of plant genetic resources.”

Perhaps due to seed’s complex dual structure (its biological characteristics and its social characteristics), it has become an important matter for international policies and treaties. While it has gained attention in international arenas like the United Nations Food and Agriculture Organization (FAO), it still remains essential for the lives and livelihoods of farmers across the world. As seed has biological and social importance, locally and globally, many attempts to govern seed have arisen in politics since the 1960’s, beginning with the International Union for the Protection of New Varieties of Plants’ (UPOV) first Convention in 1961. UPOV’s take on governing seed internationally is through breeders’ rights, which is an intellectual property right for plant breeders to protect new plant varieties through registration, certification and patents.

My research focuses in on two different techniques for governing seed, farmers’ rights and seed sovereignty. These concepts are specifically utilized to conduct the relationship that farmers hold with seed. Farmers’ rights and seed sovereignty hold many similarities; they both are concerned with seed practices and farmer behavior, they both relate to the commodification of seed and they both are essential in understanding the road forward in contested seed policy debates. Farmers’ rights and seed sovereignty also have many differences.

As I will argue throughout the course of my research, farmers’ rights emerged as a counterweight to the engenderment of breeders’ rights (Borowiak, 2004; Girard & Frison, 2021; Peschard, 2020). From farmers’ rights’ political inception, the technique was bound to Philip McMichael’s (2005) corporate food regime, epitomized by transnational corporations’ (TNCs) growing control of the global food system. Farmers’ rights are utilized by the FAO as a bargaining tool within the international political arena to aesthetically offset the influence of breeders’ rights (Anderson, 2005).

Seed sovereignty, on the other hand, is a reaction to the corporate food regime and is activated and personified by activist organizations like La Via Campesina (Kloppenburger, 2014). It makes different demands than farmers’ rights, such as farmers’ autonomy over seed and acceptance of diverse seed ontologies (Escobar, 2016). Seed sovereignty, in many ways, is a reaction to the limitations of farmers’ rights in determining the relationship smallholder farmers hold with seed.

Tania Murray Li’s practice of rendering technical, a tool used to uncover power relations and shortcomings of the practitioners of interventions, will serve as a lens through which to observe the abilities and vulnerabilities of farmers’ rights and seed sovereignty in governing how farmers relate to seed. The methodology and theory of my thesis will be a constant interaction with Li’s ideas on development interventions and her interpretation of Foucault’s ideas on power and politics.

The question I will attempt to answer in my research is on how farmers' rights and seed sovereignty compare as techniques in their ability in conducting the relationship between smallholder farmers and seed. This is achieved by first looking at the emergence of both farmers' rights and seed sovereignty, followed by a closer look at the intended beneficiaries of both techniques and how the power and the needs of the intended beneficiaries are represented in text. Finally, I will observe what is excluded from the boundaries of intervention for farmers' rights and seed sovereignty.

I. Relevance and Justification of the Research

If Holmes (2020) was correct in stating that, "It must also be borne in mind that language is a human social construct. Experiences and interpretations of language are individually constructed, and the meaning of words is individually and subjectively constructed" (pg. 4), to understand the ability of both farmers' rights and seed sovereignty, uncovering both term's discursive vulnerability to being rendered technical is essential.

In his book, *The Tyranny of Rights* (2009), Brewster Kneen boldly claims, "farmers' rights are certainly one of the most pernicious constructs of the rights language" (page 66). Likewise, seed sovereignty expert, Jack Kloppenburg, quotes Audre Lorde when reflecting on the shared struggles of farmers and peasants, "For the master's tools will never dismantle the master's house. They may allow us to temporarily beat him at his own game, but they will never enable us to bring about genuine change" (Kloppenburg, 2014). Seemingly, farmers' rights have been championed by activists, scholars, smallholder farmers, peasants and other rural peoples. However, there are many discursive characteristics of the concept that render them restricted. In fact, "farmers' rights," as defined by many of their defenders, and the rationale behind them, are contradictory to the very liberal framework that they belong to (Borowiak, 2004).

If farmers' rights were truly formed as a response, counterweight or balance to plant breeders' rights (Borowiak, 2004; Girard & Frison, 2021; Peschard, 2020), it is essential to investigate if this concept is best suited to improve smallholder farmers' livelihoods, apart from and including advocating for farmers' access to seed and plant genetic resources.

While farmers' rights gain traction in the international political community, there is both urgency and importance in investigating both the ability of the concept and the appropriateness of the concept in such policies and treaties. The complimentary but discursively and practically different concept, seed sovereignty, may be a better match for the population the concepts aim to serve and protect – the smallholder farmer.

While many scholars have argued against the term "rights" when pertaining to the observation of seed saving and using practices of farmers (Borowiak, 2004; Kneen, 2009), there is a lack of consensus on what should replace "rights" in policies and treaties. As the study is focused on appropriateness and ability of concepts, an ontological perspective of the intention and the implications of both terms is essential. That is, to come to know, what concepts belong to the master's toolkit, and which can bring about genuine change.

The importance of the research is to come to better understand how to protect farmers' livelihoods, traditions, communities and practices in current and future policies simply with the purpose of preserving these ideals, specifically regarding seed. Previous research has set out to define farmers' rights and privileges, but with the intention of conserving biodiversity, producing equity or preserving tradition (Borowiak, 2004). Defining the concept that is best suited discursively and in practice for the protection and improvement of smallholder farmers' livelihoods, however, has been left largely undone. For this study in particular, "farmers' rights" and "seed sovereignty" will be the concepts on the table for discussion and investigation.

If for no other reasons the exploration of these concepts (farmers' rights and seed sovereignty) is key in understanding the way that the livelihoods of smallholder farmers may be victim to the neoliberal

project (Kloppenburg, 2010; Shiva, 1993, 1996, 1997). As Kloppenburg (2010) would argue “the ability to autonomously reproduce a key component of the means of production preserves for the farmer a partial degree of independence from capital” – that is a farmer’s livelihood can be protected from the instability of the market *in practice* by a higher recognition of autonomy over seed use and access.

Chapter Two: Theoretical & Methodological Framework

I. Introduction

As social science research becomes more reflexive and less passive, with the acceptance that the fight for objectivity in the field has been lost and for good reason, I take a more fluid role in separating my theoretical framework from my methodology. During the search for understanding this phenomenon I found that "methodology" originates from two Greek terms: "μετά" (meta) and "ὁδός" (odos), meaning the theory of a method. This makes my argument quite succinctly. As both the theoretical framework and the methodology of the research are inspired by Tania Li's practice of "rendering technical," the sections will be combined to best clarify and illustrate how the two work together in answering the research questions. My theoretical framework dictates and inspires the methods utilized. Not to say that the theoretical and methodological frameworks do not serve different roles, but rather, to most simply piece together the lens through which the problem and my research is observed and analyzed.

While the theoretical framework is largely organized by my interpretation of the conceptualization of Li's practice of rendering technical, I also draw on McMichael's corporate food regime and Kloppenburg's dualistic perspective on seed. More noticeably perhaps, is the inclusion of concepts that Li uses to describe her practice. Some of these, which will be further identified and explained in the sections that follow are intended beneficiaries, techniques, boundaries of intervention and proposed mechanisms for empowerment.

After contextualizing the theoretical framework, I will briefly introduce the three major themes in my research: seed politics, farmers' rights and seed sovereignty. The methodology will follow. Throughout the three sub-research questions different modes of textual analysis have been applied, beginning with policy analysis and extraction, moving into more actor utilization and adoption analysis.

In the introduction of the next three chapters the methodology, theory and terms utilized will be reviewed and clarified. As my research is deeply imbedded in my interpretation of Li's practice of rendering technical, much of her Foucauldian-inspired language has been adopted in my questions and in the organization of my findings.

II. Theoretical Framework: Rendering Technical

The research approach is grounded in Tania Murray Li's rendering technical. The practice of rendering technical is understood for the purpose of this research primarily through her book, *The Will to Improve* (2007). In short, rendering technical is the argument that "the identification of the problem is intimately linked with the availability of a solution" (Li, 2007a). It shines a light on the habitual confirmation of expertise within development intervention. The practice of rendering technical illuminates an unequal distinction between the trustee and those subject to intervention, as the trustee is granted the capacity to identify "population deficiencies" (Li, 2007). Combining Foucault's (1991) concepts of the "conduct of conduct" and governmentality and what Ferguson (1997) called the "anipolitics machine," rendering technical is a practice Li utilizes to uncover and understand power imbalances throughout the history of development. The practice of rendering technical is not a step-by-step process by which things and interventions become restricted. Rather, I'm interacting with Li's ideas around the practice to understand underlying power dynamics and the bounding of interventions with regimes and actors.

Rendering technical, as defined in *The Will to Improve*, is a two-part process beginning with the problematization. Problematization boils down to the recognition of something inadequate that needs to be made adequate. Inadequacies such as the representation (or lack thereof) of farmers' abilities or autonomy in international treaties, for example. Problematization is done by the trustee in attention to the "undeveloped," or the subject. The second step is that of rendering technical, best defined as a tool tasked with identifying "the domain to be governed as an intelligible field with specifiable limits and particular characteristics... defining boundaries, rendering that within them visible" (Li, 2007, pg. 7).

Rendering technical problematizes the way that the available resources and expertise tends to be intrinsically linked to the problem identification (Li, 2007). This phenomenon is epitomized by the proverb, “if all you have is a hammer, everything looks like a nail.”

Rendering technical follows the problematization of a deemed deficiency. This problematization is deeply dependent on a relation between a “trustee” and a “subject.” This process relates to Li’s “will improve” and is found historically from colonization to the New Order to more recent executions of “development.” Rendering technical is the bounding of an intelligible field intending to improve the deficiency that was problematized. In short, rendering technical is visible when a development program identified “an arena of intervention, bounded it, dissected it, and devised corrective measure to produce desirable results” (Li, 2007, pg. 123).

Both concepts, farmers’ rights and seed sovereignty, are concerned, to some extent, with the amount of autonomy recognized for farmers (Peschard, 2020). However, having a right to something and having sovereignty over something have very different implications. The terms belong to different discourses and show up differently in practice and by definition. Understanding the shortcomings of both concepts and the intention and process by which they came to be will be understood through a process utilized to observe development interventions, Tania Murray Li’s “rendering technical.”

The process of rendering technical can be used to understand how the power relations underlying interventions can be concealed in the name of the “empowerment” of the receiver of the intervention (Li, 2007 a.). The formation of farmers’ rights was an FAO intervention intending to give farmers a method to balance the agency recently given to plant breeders through the term “rights” regarding seed practices. Utilizing the idea of “rendering technical” can uncover power relations and more specifically, whose knowledge – whose existence – matters in the formation and acceptance of “farmers’ rights.”

The research methodology in its entirety is inspired by Li’s explanation of the practice of rendering technical. Moreso, the methodology interacts with the practice, pulling concepts from Li’s discourse with Foucault and other scholars. The usage of the term “technique” is quite essential to understanding this research. I will utilize the word “technique.”

It leads the question which will guide the research: *How do farmers’ rights and seed sovereignty compare as techniques in their ability in conducting the relationship between smallholder farmers and seed?*

The sub-questions that follow are concerned with, first, how the concepts farmers’ rights and seed sovereignty have emerged and the purpose and beneficiaries the concepts intended to serve. This question will also identify where the terms can be found in their conceptualizations and formalizations. A critical aspect of rendering technical is the exclusion of structural and political relations in interventions (Li, 2007, pg. 7). Therefore, the second sub-question will uncover how the intended beneficiaries’ needs and power is represented. The third sub-question will work to uncover the identified area and boundary for intervention and what has been excluded from this area.

III. Introduction to Concepts

Introduction to Seed Politics

Following Jack Kloppenburg's (2005) train of thought in his iconic literary work on seed, *First the Seed*, to understand the techniques at play in conducting the relationship smallholder farmers hold with seed, comprehending the highly unique role seeds play is essential.

At the very core of seed is the ability to reproduce itself. This key characteristic served as a barrier between the small farmer and the dominant expanse of capitalism throughout history (Kloppenbug, 2010; Escobar, 2016). This indispensable characteristic of seeds is taught and understood across the world, throughout history. An individual asked to share what they may know about seeds may respond with seeds' ability to act on behalf of reproduction for a given plant species. Some may even talk about their favorite seed to eat. Another stance, honed by Thor Hanson, author of *The Triumph of Seeds* (2015), would be to mention seeds' ability to nourish, to unite, to endure, to defend and to travel. Hanson claims, regarding seed:

They transcend that imaginary boundary we erect between the natural world and the human world, appearing so regularly in our daily lives, in so many forms, that we hardly recognize how utterly dependent we are upon them.

Assigning seeds such social value and agency in a time of intellectual property rights and the war over plant genetic resources may seem misplaced. However, that is exactly what Laura Gutierrez Escobar sets out to do in her captivating *Political Ontology of Seed: Seed Sovereignty Struggles in an Indigenous Resguardo in Colombia*. Utilizing a "multi-pronged approach," Escobar expands the lens through which seed is debated by looking at the political economy, political ecology and political ontology of seed. Building from McMichael and Friedmann's (1989) conceptualization of a corporate food regime, the implications of a corporate *seed* regime and genealogy are uncovered and discussed. The corporate seed regime is built on the foundation laid by the International Union for the Protection of new Varieties of Plants (UPOV) 1978, and even more so UPOV 1991 through the increasing role of intellectual property rights, the capitalization of plant science research and seed certification and registration (Escobar, 2016).

A basic assumption of this corporate seed regime is what Peter Newell (2009) coined "biohegemony." This is defined by an acceptance of a "natural order of capital relations of agrarian production," to the benefit of agricultural biotechnological corporations (Escobar, 2016). This is founded in three types of power held by biotechnology corporations: material power, institutional power and discursive power (Escobar, 2016). This power is realized through biotechnological, legal and contractual sterilization. Agricultural biotechnological corporations embed seed as a carrier of hegemony through biological sterilization of hybrids and GMOs, legal sterilization through intellectual property rights and seed certification legislation and implementation, and lastly, through contractual sterilization by forming private contracts with farmers to obtain seed (Escobar, 2016).

Escobar's work in Colombia inspires the realization that for much of the world's population's way of worlding, seed has not, is not, nor will it ever be a commodity. The struggle over seed and sovereignty over seed is just another expression of a battle with the coloniality of power, much like the struggle over indigenous language, identity and territory. In fact, she claims that "seed conflicts are then part of larger conflicts over autonomy and 'modelos propios' or place-based ways of inhabiting and sustaining themselves in the territory that defy the developmentalist governmentality of the agrobiotechnology apparatus" (Escobar, 2016, pg. 204).

Regardless of the ontological viewpoint on seed, it's important to note that seed – the living resource being politicized, patented and formalized – has inarguable agency. Even within the corporate seed regime, seed is enclosed exactly for this intrinsic value – that is, seed as a "collection of genes that can be precisely and safely decoded, manipulated, moved across different species and switched on and off to devise super crops that will bring about the end of hunger" (Escobar, 2016, pg. 12). The social

value of seed may be undermined in this definition, however there is agency in this definition of seed, as well. On the other hand, some ontologies would highlight the identities, communities and knowledges that are encompassed in landrace seeds (Escobar, 2016).

Such reflections on the agency that seed holds in different ontologies and regimes brings forth the question – is the entire conflict over seed an epistemological and ontological debate to define seed and accredit related knowledge and labor?

Another perspective on seed is taken by the “Report of the Special Rapporteur on the right to food,” written by Michael Fakhri in December of 2021. He argues that “to control seed is to control life” (Article One) and warns the United Nations against unchecked support of what he calls the commodity seed system. This is envisioned by the prioritization of homogeneous varieties dedicated to turning a profit and high productivity of food. However, this system is deeply dependent on biodiversity and smallholder farmers’ labor, which better encompasses the alternative system, what he refers to as the farmer seed system (Fakhri, 2021).

The farmer seed system, on the other hand, is founded on principles like the conservation of biodiversity for resilient varieties and free and accessible distribution of those seeds and the knowledges attached. In this system seeds move more freely in both formal and informal systems through bartering, trade, sales and gift giving. Fakhri (2021) goes as far as to claim, “nothing less than the right to life is at stake when farmers’ seed systems are challenged or poorly supported” (pg. 2).

The report serves as a warning to the threats posed in a global intellectual property regime, where corporations own increasing amounts of plant genetic resources and knowledges. He points to a long history of imperial exploitation in the name of plant breeding, primarily done by breeders in the United States and Europe, but nonetheless, severely depend on the genetic diversity that has been sowed and reaped by generations of farmers in the Global South (Fakhri, 2021).

Seed surely does serve as the main character of my research and rightfully so. As Vandana Shiva states in her 2001 work, *Protect or Plunder?*:

Seed is the first link in the food chain. It is the embodiment of life’s continuity and renewability’ of life’s biological and cultural diversity. Seed, for the farmer, is not merely a source of future plants/food; it is the storage place of culture, of history. Seed is the ultimate symbol of food security (pg. 69).

Primary functions of seeds include the ability to conserve culture, biodiversity and history. The world’s food supply dependence on seed is no small feat, as well. Seed’s agency and importance in our world serves as justification for the research, as those who make decisions surrounding seed, make decisions regarding the future sustainability and health of our population.

Introduction to Farmers’ Rights

“Seeds and plants are not ‘genomes’ to farmers, but they are life, livelihoods and the very basis of a sustainable life” (Peschard, 2017). This quote from the Green Foundation (2013) illustrates the indispensable nature of seeds to farmers across the world. Once protected from the commodification of agriculture, seeds now also fall prey to the neoliberal project.

When a right comes to light to lessen the reach of another, one must question the intention of the original right – are the rights of one supposed to hold the ability to diminish another? The initiation of international and political recognition of rights held by farmers arose from a need to balance the rights of plant breeders (Kneen, 2009; Peschard, 2020; Shiva, 1993). Farmers’ rights are first found in international policy in the 1989 Food and Agriculture Organization’s (FAO) International Undertaking (IU) on Plant Genetic Resources (PGR) (Girard & Frison, 2021; Haugen, 2020). The 1989 interpretation of the IU defines farmers’ rights as “rights arising from the past, present and

future contributions of farmers in conserving, improving, and making available plant genetic resources, particularly those in the centres of origin/diversity” (FAO, 1989). This interpretation claims conservation of germplasm for global protection of biodiversity can only be achieved through “simultaneous and parallel” recognition of both breeders’ and farmers’ rights (Appendix 1, FAO, 1989), but only after first recognizing that countries in the Global South had expressed concerns over maintaining national sovereignty over their plant genetic resources that have been cultivated for generations (Article 10, FAO, 1989). Not to mention, the compromise negotiated by the countries of the Global South to recognize the IU was stated as, “the establishment of a global mechanism to ensure compensation,” (pg. 4) alongside a stronger realization of the new concept of farmers’ rights.

The United Nations Declaration on the Rights of Peasants and Other People Working in Rural Areas (UNDROP), adopted by the General Assembly in 2018, seems to provide a more active and recent recognition of the rights of farmers and other rural people (Girard & Frison, 2021). However, Haugen (2020) elucidates that Article 19 of UNDROP, the article that protects the right to seed, had already been covered in the 1966 International Covenant on Economic, Social and Cultural Rights (ICESCR) in conjunction with the 1979 Convention on the Elimination of All Forms of Discrimination against Women (CEDAW). Both the ICESCR and the CEDAW illustrate how, even if the initiation of farmers’ rights was based on a need for a counterweight to breeders’ rights with the IU on PGR in 1983 (Girard & Frison, 2021), the importance of farmers’ rights to seed was already allegedly, legally recognized beforehand.

The conceptualization of farmers’ rights was situated in a political and historical shift towards agricultural industrialization and globalization (McMichael & Schneider, 2011; Shiva, 1993). On the cusp of the formalization of farmers’ rights was prioritization of knowledge that led to profit over knowledge that led to human or environmental sustainability (Shiva, 1993). This formalization, highly situated in westernization and capitalization, was protested almost from the beginning. The initial pushback to the concept was by farmers and peasants against the General Agreement on Tariffs and Trade (GATT) in the 1940s, who advocated for “community rights” rather than the individualization of “farmers’ rights” (Shiva, 1996). Vandana Shiva (1996), scholar, activist and food sovereignty advocate, calls FAO’s definition of farmers’ rights “undignified, inappropriate, insufficient” as she perceives the language as a way for the Global North to compensate the South for the significant contribution of plant genetic resources through aid – this compensation is surely not a “right” in any realization of the word.

As previously mentioned, the initial definition of farmers’ rights in international policy can be found in the 1989 FAO’s International Undertaking on PGR (Girard & Frison, 2021; Peschard, 2020; Shiva, 1993). In its initial conceptualization, farmers’ rights are retrospective and simply a response to plant breeders’ rights (Girard & Frison, 2021; Kneen, 2009; Peschard, 2020).

A key literature that will be consulted in the research will be Haugen’s (2020) “The UN Declaration of Peasant’s Rights (UNDROP): Is Article 19 on seed rights adequately balancing intellectual property rights and the rights to food?” This work gives an exceptional and relatively objective historical view on where and how the concept of farmers’ rights shows up in UN policies. It also differentiates between the ownership approach to farmers’ rights, which provides positive protection (exclusive and time-limited rights), and the stewardship approach to farmers’ rights, which implicates defensive protection. This distinction is also made in Peschard (2017) when comparing India’s *sui generis* legislation, the Protection of Plant Varieties and Farmers’ Rights Act and Brazil’s 2017 Plant Variety Protection Act and Seed Act, revised as of 2003. Where Peschard (2017) prefers Brazil’s stewardship approach towards farmers’ rights, Haugen (2020), doesn’t claim one is necessarily better suited than the other.

On the other hand, Vandana Shiva (1993; 1996; 1997) calls for the adoption of more *sui generis* policies for the protection of farmers’ rights. She would argue that for farmers’ rights to be appropriately operationalized, they would need a place in intellectual property rights legislation (Shiva, 1996). This opposes another piece of key literature for my research. In fact, Borowiak (2004)

suggests that there are many obstacles in place of the wide adoption and implementation of farmers' rights. Whether the rights discourse is the appropriate language to argue the protection of the smallholder farmers' livelihoods is only the beginning (Borowiak, 2004). He not only investigates how to identify a farmer, but also how to enact the rights of farmers. On the discourse of rights, he states, "this discourse, characterized by a confluence of assumptions about science and technology, modernization and progress, and rights and commerce, not only favors the interests of the seed industry to the detriment of farmers, but also is riddled with blindness to alternative modes of farming knowledge, practices and identities" (Borowiak, 2004).

Further exploration on the history and the implications of farmers' rights will be explored in the chapters that follow.

Introduction to Seed Sovereignty

Seed sovereignty, an alternative idea gaining awareness within the food sovereignty conversation, is a concept less responsive to the corporate food regime and the "neoliberal project" and more founded in grassroots movements (Kloppenburg, 2014). The inclusion of the concept "seed sovereignty" in conversations around the autonomy of farmers has been borne out of a need for activists to professionalize (Peschard, 2020). While one can observe farmers' rights as existing within the corporate appropriation of agriculture within the neoliberal project, seed sovereignty may offer a more ontologically appropriate approach to the protection of smallholder farmers' livelihoods. However, further exploration and investigation of the concept and its discourse is necessary for evaluation.

Kloppenburg (2014) finds four shared principles of seed sovereignty as advocated for by La Vía Campesina, as well as Navdanya. Those are the right to save and replant seed, the right to share seed, the right to use seed to breed a new variety, and finally, the right to participate in shaping policies for seed (Kloppenburg, 2014). Seed sovereignty illustrates a unifying characteristic of all people who partake in planting, cultivating and harvesting food – a dependence on seed (Kloppenburg, 2010). Seed sovereignty and farmers' rights seem to have one common thread – as the life science industry strengthens its grasp on plant genetic resources, both farmers sovereignty over seed and the rights of those farmers are threatened (Kloppenburg, 2010).

More firmly situated in an opposition to the neoliberal project, the concept "seed sovereignty" will be operationalized by the scholars Karine Peschard and Jack Kloppenburg. In his 2014 paper, "Repurposing the master's tools: the open-source seed initiative and the struggle for seed sovereignty" Kloppenburg directly opposes the nature of patents for their lack of reciprocity. In a more historical perspective of seed sovereignty's war against intellectual property rights (IPRs), recognizes that current national and transnational governmental structures have the ability to strengthen the frameworks that currently deteriorate farmers' autonomy to seed.

Seed sovereignty could be seen to represent the next generation of farmers' rights. Stemming from the conversations around food sovereignty, where the focus is on farmer and citizen autonomy, seed sovereignty is concerned with farmers' autonomy over all seed activities, including breeding (Peschard, 2020). It is certainly clear that seed sovereignty is necessary in achieving food sovereignty (Kloppenburg, 2010).

Escobar (2016) takes Kloppenburg's definition of seed sovereignty and adds an ontological perspective through the definition: "autonomous control of the ways in which seed – as a collective heritage – is produced, owned, saved and endowed with meaning and spirituality" (pg. 204). This ontological level of understanding of seed was inspired by the relationships and interconnections humans have with seed, citing women in indigenous communities who identify seeds as "sacred and willful beings with whom they establish strong – even kinship – relations" (pg. 324). Whether or not the more widely accepted definition of seed sovereignty includes such an ontologically inclusive implication will be discussed further in the chapters that follow.

III. Methodology

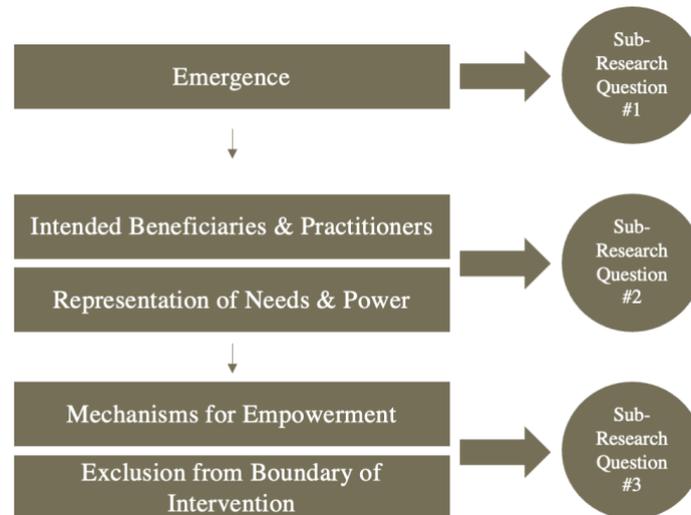
All three sub-questions will be answered by analyzing farmers' rights and seed sovereignty through the lens offered by the practice of rendering technical. Each sub-question will be broken down in intuitive steps meant to understand first, how and by whom the concepts emerged and have been utilized. The second sub-question is dedicated to understanding the intended beneficiaries and practitioners of the two techniques, along with how the power and needs of the intended beneficiaries are represented. Lastly, the third sub-question will explore the boundaries within which the two techniques exist and what has been excluded from the boundary of intervention for both farmers' rights and seed sovereignty. The questions are meant to not only identify each concepts' individual ability and vulnerability to being rendered technical (and therefore restricted), but also how the concepts compare.

Sub-question one, "how and in whose interest have farmers' rights and seed sovereignty discourses emerged and been utilized?" will require a textual analysis to gain a historic perspective of how farmers' rights and seed sovereignty emerged. The texts will include policy papers from more conventional spaces, mainly from the Food and Agriculture Organization (FAO) of the United Nations (UN) and other less formal texts to represent the activist spaces.

Sub-question two, "who are the intended beneficiaries and practitioners of farmers' rights and seed sovereignty and how are these groups represented in text?" will also be answered through the analysis of policies and other documents. A Foucauldian discourse analysis will be applied to aid in uncovering the power representations and relationships in the use of farmers' rights and seed sovereignty. As the practice of rendering technical can be used to identify gaps – "gaps between the world conveyed in the texts and the world to be transformed" (Li, 2007 a., pg. 123) – this question will analyze how both the power and the needs of the intended beneficiaries are represented in the emergence of farmers' rights and seed sovereignty. This may not align with how power is, in reality, accounted for by the intended beneficiaries. I'll also work to uncover the practitioners of both techniques to understand the roles of both the trustees and the subjects.

The third sub-question, "who and what practices are excluded from these domains of intervention?" will be dedicated to understanding the area within which each technique can intervene or empower change. Arguably most importantly, this analysis will allow us to understand what essential elements and actors are excluded from the domains. This question will also be answered by utilizing textual analysis of policy and activist documents.

The image below illustrates the organization of my research. As explained above, sub-question one will be answered in the following chapter, Chapter III, which is split between the two sub-sections the emergence, or the history of the techniques, and the utilization of the techniques. Chapter IV of the research is dedicated to answering the second sub-question which is organized by first growing the understanding on the intended beneficiaries and practitioners of farmers' rights and seed sovereignty, followed by exploring how the power and the needs of the intended beneficiaries are represented. Finally, the third sub-question will be dealt with in Chapter V, which will be answered by first clarifying the mechanism proposed for empowerment for both techniques, followed by analyzing what has been excluded from the boundary for intervention for both farmers' rights and seed sovereignty.



The conclusion will work to conglomerate the findings of the three sub-questions and return to the main research question: “how do farmers’ rights and seed sovereignty compare as techniques in their ability in conducting the relationship between smallholder farmers and seed?” The research will compare the two terms in terms of their ability and vulnerability to be rendered technical and the implications of such a practice utilizing the three sub-questions. The way that farmers’ rights and seed sovereignty are rendered technical represents diverse and diverging interests.

Positionality

Growing up on one of the last small farms in the American Midwest, my perspective on agriculture – the art and science of raising food for my family and my community – is idyllic at best, woefully naive at worst. Some of my earliest memories include walking our acreage with my father, stopping every few steps so that he could identify the different plants that made up the landscaping to the weeds to the crops in our garden. My mother’s garden was brimming with herbs that would make my hands smell like lemons and roses with thorns that were the perfect amount of intimidating to leave them as they were. Before corn hit eight dollars in the United States in 2012, the four miles that we drove from town to our farm were leafy and overgrown, still home to many of the native grasses that remind me what Nebraska was before my ancestors homesteaded our land – a wild prairie. With the grain price boom during the Obama administration, many farmers from my corner of the corn belt capitalized on every draw and ditch, adding rows of corn or soybeans wherever one would fit.

Not to criminalize these farmers – as to do so would be to disown a part of my history as these farmers are my aunts and uncles, my neighbors – the community that raised me. It seems like the more I know about the economic and sociological situatedness of American agriculture, what I now know as the corporate food regime, the less I know how to picture and place the future of our farm.

Now, I schedule my trips back home to my family farm around the gardening schedule, as picking out the seeds, preparing the soil, maintaining the green bean bushes and harvesting more zucchini than what my entire village can bake into muffins is the most cherished tie I have to my home. Every year my father and I keep the seeds from the zinnias that border our gardens for the next year, just as my grandfather did with his oat crop in the 1960s. Whether or not the grain farmers in Nebraska are conscious of the growing gap that stands between them and their most essential input – that is seed – remains unknown to me. However, this research has confirmed my underlying belief that agriculture should remain as it once was before the commodification of seed: that is, a self-sufficient livelihood, untouched by the dependence capitalism demands.

This is to say my positionality is influenced by my inborn belief in the future of agriculture. Perhaps, my positionality could transpire into one of activism, however, for now it may be just that of an

agriculturalist. I find inspiration in imagining a community made up of all of the people who grow food, raise animals and conserve biodiversity across the world. A community of farmers who have more in common than not. And my hope for that community would be the autonomy to maintain whatever relationship they desire with their seed; the freedom to save, to sell and to gift the fruits of their harvest without the burden of patents, certification or other expressions of an intellectual property regime that serves only corporations.

Chapter Three: Emergence of Techniques

I. Introduction

Looking at the emergence of farmers' rights and seed sovereignty throughout history is the first step in understanding how and to what extent the two techniques have been rendered technical. A lot can be said about a technique's emergence in regard to whether or not it has been rendered technical. Throughout the course of the following chapter, I will argue that from the inception of the political recognition of farmers' rights the technique has been bounded to the corporate food regime. In fact, as this chapter will attempt to prove, farmers' rights may have been a negotiation tool in validating the belonging of the corporate food regime, as well as the intellectual property regime in the international political arena. The same cannot be said of seed sovereignty. Contextualized more in activist literature and fora, seed sovereignty's emergence is fluid and harder to trace. I will argue seed sovereignty's emergence was more of a reaction to the corporate food regime and the intellectual property regime – unbounded and very participatory.

The first sub-question is dedicated to defining and locating farmers' rights and seed sovereignty through policy and literature review. Throughout the research, the concepts farmers' rights and seed sovereignty will be considered "techniques." Li uses this word, "technique," in her conceptualization of the process of rendering technical. Deeply rooted in Foucauldian discourse, she defines different development interventions as "techniques for conducting conduct." Conducting conduct has been used to describe the process of governments or interventionists making decisions to improve the human or the subject's condition from afar. Li quotes Foucault's (1991) definition of the phenomenon by its purpose of engendering the "welfare of the population, the improvement of its condition, the increase of its wealth, longevity, health, et cetera" (Li, 2007b).

The question answered in this chapter – **how and in whose interests have farmers' rights and seed sovereignty discourses emerged**– will serve as the first step in uncovering the "bounded area of intervention" of the two techniques and begin the process of answering how both techniques have been or have not been restricted through their conceptualization within a specific frame of reference (Li, 2007a). Before arriving at the bounded area of intervention, and in an attempt to answer the first research question, understanding the emergence of farmers' rights and seed sovereignty is essential, as is growing an understanding of whose interests are represented in such emergence.

As farmers' rights and seed sovereignty both rose to the international agricultural policy domain to govern, to some extent, both smallholder farmers and seed, the two techniques serve an essential role in forming the relationship that smallholder farmers have *with* seed. The first step in comparing both techniques in their ability in conducting this relationship is to understand the emergence of each – how they emerged, where they emerged and in whose interest they emerged.

To understand the emergence of farmers' rights and seed sovereignty, first cultivating a basis of the history of the two techniques is required. This will include identifying and tracing the fora and documents where the techniques were created and have been developed. This document and fora tracing will include formal treaties and policies, as well as documents from activist spaces – specifically in the case of seed sovereignty. The process will include how the two techniques are defined, identifying the assumptions the techniques are founded on and analyzing the utilization of both techniques.

The analysis will be separated by techniques, beginning with farmers' rights, followed by seed sovereignty. The research on farmers' rights will initiate with an observation on the discursive restriction of rights – a section heavily influenced by Brewster Kneen's *Tyranny of Rights*. In the following sub-sections, the history of farmers' rights will be described, beginning with rise of breeders' rights through the ratification of the UPOV Conventions from 1978 and 1991. Following the engenderment of breeders' rights within the intellectual property regime, we'll follow the conversation leading up to FAO's International Undertaking on Plant Genetic Resources' political

recognition of farmers' rights. Finally, further observation will be completed on other binding and non-binding legislation and fora that has impacted farmers' rights since the 1990's. Following the analysis of the emergence of farmers' rights.

The analysis on the emergence of seed sovereignty will follow a similar thread, beginning with a more discursive look at sovereignty in the food sovereignty movement. Following, the historical analysis will be separated by first, the hybridization of seed within the corporate food regime, followed by the rise of food sovereignty. Lastly, the history of seed sovereignty will include the rise of seed activism and the creation of seed sovereignty. The final section of this chapter is dedicated to comparing the two techniques and highlighting the essential findings and arguments.

II. Farmers' Rights

Discourse: The Restriction of Rights

Before diving into the emergence of the technique farmers' rights – a technique dedicated to conducting the relationship between smallholder farmers and seed – let's begin by acknowledging the origins of the rights discourse, and how "rights" became something to grant to farmers, as a collective population. In his 2009 book publication, *The Tyranny of Rights*, Brewster Kneen first differentiates "rights" from the moral pedestal they are so often placed. Rights, in fact, are a matter of legality, not morality (Kneen, 2009). Another essential characteristic of rights is that they are subtractable – Kneen makes the case of copyrights, which in practice, is the opposite of what Kloppenburg (2014) would refer to as "open source." Rights are not a common good – especially in the case of breeders' and farmers' rights, the more one has, the less the other has. From a discursive perspective, the United Nations would be better ontologically suited to remember, in the case of legislation such as the Universal Declaration on Human Rights (1948), the word "rights" does not translate in many languages, as Kneen points out, as the word reflects the individualistic nature of the North but absent in many places and cultures in the Global South. In closing his argument on the misplacement of the "rights" language and how it pertains to farmers, Kneen states:

What are mistakenly referred to as farmers' rights are essentially the collective prerogative of a class of people (farmers and gardeners) to practice and participate in the social custom of selecting, saving, swapping and replanting seeds from year to year. These activities can be described as the 'custodial responsibilities' of farmers, gardeners and subsistence peoples for seeds and the knowledge about them. These practices and responsibilities are not granted by any authority, though they may be honoured by a rural community or village in recognition of their importance (pg. 66).

Despite rights' discursive and ontological setbacks, the concept farmers' rights emerged as the shadow or as the counterweight to breeders' rights (Borowiak, 2004; Girard & Frison, 2021; Peschard, 2020). Maybe because, as Borowiak (2004) claims, the arguably easiest way to resist the rights of breeders is through the rights of farmers, of indigenous people and of peasants. On the other hand, Borowiak (2004) does add, that what we'll uncover as "farmers' rights" does not align with the same neoliberal framework that breeders' rights are founded on. As breeders' rights seek to patent, certify and claim seed and genetic resources as property, farmers' rights seek to protect traditional, knowledge, community resources and cultural practices surrounding seed (Borowiak, 2004).

Emergence

The concept of farmers' rights has been said to trace back to as early as the 1930s to when Jack R. Harlan recognized farmers (specifically Native American farmers) as the "amateur" plant geneticists who laid the foundation to the genetic diversity the world benefits from today (Kloppenburg, 2005; Anderson, 2005). Farmers' rights were then picked up by Pat Roy Mooney and Carl Fowler in the early 1980s to bring back to light the essential, yet uncompensated contribution of farmers in the development of the genetic diversity that was becoming controversial among the intellectual property rights debate (Anderson, 2005; Peschard, 2017).

Breeder's Rights

Breeder's rights were formalized through the adoption of the International Union for the Protection of New Varieties of Plants (UPOV) in 1961, with revisions in 1972, 1978 and finally, 1991. The two most recent versions being the most relevant for this study. Established with the original Convention in 1961, UPOV is an intergovernmental organization based in Geneva, Switzerland with the mission of providing an "effective system of plant variety protection, with the aim of encouraging the development of new varieties of plants" (UPOV, 2020a). The organization encourages the usage of intellectual property law through plant variety protection and breeders' rights (Peschard, 2021). The motivation for UPOV came from European seed companies looking to create a shared vision of plant variety protection (Dutfield, 2011).

The founding membership included Denmark, France, Germany, the Netherlands, Sweden and the United Kingdom (UPOV, 2020b). Until the Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement required members of the WTO to have a form of plant variety protection in the mid 1990's, the only member country to UPOV in the Global South was South Africa. After the ratification of TRIPS in 1995, many countries in Latin America, Asia and Africa also joined the Convention (Peschard, 2021). Of the 78 member states that exist as of the time of writing, 17 members are signatories to the 1978 Act, as at the ratification of the 1991 Convention allowed for members to maintain the status allowed by the 1978 version, meaning that the 1978 and the 1991 Convention coexist. If a member had ratified the 1978 Convention prior to 1999, they could choose to belong to the 1978 Act, rather than the 1991 Act. The differences between the two versions will be explored in this sub-section. The definition of a plant breeder, the intended beneficiary of UPOV, according to the first article of the 1991 Act states:

(iv) "breeder" means

- the person who bred, or discovered and developed, a variety,
- the person who is the employer of the aforementioned person or who has commissioned the latter's work, where the laws of the relevant Contracting Party so provide, or
- the successor in title of the first or second aforementioned person, as the case may be.

By this definition of the word, one could argue that farmers' have been meeting parts of this criteria for generations. This initiates the problematic cycle of what Borowiak describes as an "ideological blurring of the distinction between farmers and commercial breeders" (pg. 519). While breeders' rights have a clear benefactor, farmers' rights are generally more vague in who they are intended to serve. Additionally, those who cultivate and harvest crops, on any scale, hardly scratch the surface of those who claim the title "farmer" – fisherfolk, pastoralists, other livestock growers, hunters and gatherers are all dedicated to providing food for self, for families, for communities and beyond. Utilizing a legal term such as "rights" when the actors involved, or the actions required are unknown or unclear have implications on the effectiveness of the term (Borowiak, 2004). As we can conlude from these observations, in the 1978 Act, farmers' agency is already being restricted due to the definition of "breeder" and what we'll uncover on how this definition compares to "farmers" in farmers rights in the following sections.

Many essential studies on the formation of breeders' rights, and therefore farmers' rights, have found critical differences between the 1978 and 1991 Acts, many of which are relevant to this study. UPOV 1978 defines the concept of "breeders' rights" in Article 5.1:

"The effect of the right granted to the breeder is that his prior authorization shall be required for:

- the production for purposes of commercial marketing
- the offering for sale
- the marketing of the reproductive or vegetative propagating material, as such, of the variety."

Therefore, the right of the breeder is similar to a copyright to the genetic information from the new plant variety. The 1978 version emphasizes the protection against resell of the seed and the seeds the plant produces. The ratification of the 1991 Act, however, brought more strenuous resolutions in regard to farmers' agency.

In tangent with the initial formal political recognition of farmers' rights in FAO's 1989 International Undertaking on Plant Genetic Resources (which will be expanded upon in the following sub-section)

the most recent version of UPOV was adopted in 1991. The changes that are found in the 1991 Act can be traced to the development of patents on plant varieties from the biotechnology industry (Peschard, 2021). The 1991 Act includes a legally binding update that restricts the agency of farmers' relationship with seed even further. A change that Vandana Shiva (1997) claims is "as monopolistic as patent regimes" themselves. This is largely due to the fact that the exemptions offered in this act are optional, and Shiva claims will largely be decided upon by transnational corporations (TNCs) in each state. Furthermore, she claims that the shift from UPOV 1978 to 1991 is increasingly problematic as "the stronger the rights of TNCs, the weaker the rights of farmers since it is the erosion of farmers' rights which creates TNC monopolies" (Shiva, 1997, pg. 2582). UPOV 1991's definition of breeders' rights in Article 14 is:

"Subject to Articles 15 and 16, the following acts in respect of the propagating material of the protected variety shall require the authorization of the breeder:

- (i) production or reproduction (multiplication),
- (ii) conditioning for the purpose of propagation,
- (iii) offering for sale,
- (iv) selling or other marketing,
- (v) exporting,
- (vi) importing,
- (vii) stocking for any of the purposes mentioned in (i) to (vi)," (Article 14)

This version of UPOV, includes an exception, mentioned above in regard to Vandana Shiva's (1997) criticism of the addition. Member states must sign off on the exemption when joining the Union, which can be found in Article 15, as mentioned below.

"Exceptions to the Breeder's Right

- (1) [Compulsory exceptions] The breeder's right shall not extend to acts done privately and for non-commercial purposes, acts done for experimental purposes and (iii) acts done for the purpose of breeding other varieties, and, except where the provisions of Article 14(5) apply, acts referred to in Article 14(1) to (4) in respect of such other varieties.
- (2) [Optional exception] Notwithstanding Article 14, each Contracting Party may, within reasonable limits and subject to the safeguarding of the legitimate interests of the breeder, restrict the breeder's right in relation to any variety in order to permit farmers to use for propagating purposes, on their own holdings, the product of the harvest which they have obtained by planting, on their own holdings, the protected variety or a variety covered by Article 14(5)(a)(i) or (ii)."

The second portion, the optional exception, is the topic of much debate between farmers' and breeders' rights. In the 1978 Act farmers are allowed to use, save and exchange seed – even protected varieties – without authorization apart from for the use of commercial marketing (Peschard, 2021). The exception in the 1991 Act is not only dependent on its alignment with national legislation, but is also in, as stated above, "the legitimate interests of the breeder."

An additional difference between the two acts are the requirements on the quantity of genera and species to be protected. Countries member to the UPOV 1978 Convention are able to submit a list of plant varieties that could fit into plant variety protection, and therefore plant breeders' rights. However, in UPOV 1991 all plant genera and species are expected to be covered through plant breeders' rights (Peschard, 2021).

The International Undertaking

The FAO's International Undertaking (IU) on Plant Genetic Resources (PGR) of 1989 would become a key site for the introduction and development of farmers' rights in formal policy fora. The conversation that led up to the conceptualization of farmers' rights began in 1983 with the IU of that year, with the objective to ensure the discovery, conservation and accessibility of plant genetic resources for food and agriculture. This document was created to form the foundation of new debate regarding intellectual property and the relationship between farmers and breeders. This was based on the acceptance of plant genetic resources across the globe being referred to as the common "heritage of mankind" which should therefore, be "available without restriction" (Article 1, 1983 International Undertaking; Anderson, 2005). While there was no mention of farmers' rights at this Conference of the FAO, the Commission on Plant Genetic Resources, which would become an essential actor for the creation of the concept, was formed in Resolution 9/83 (Anderson, 2005). This Commission was created with the purpose of "development, strengthening and monitoring of a global system of plant genetic resources under the auspices or jurisdiction of FAO in order to preserve the heritage of mankind" (FAO, n.d.).

By the First Session of the Commission on Plant Genetic Resources in March of 1985 only 74 of the 156 FAO member states had shown support for the IU, so the Commission on Plant Genetic Resources formed a Working Group (consisting of 23 members from different member countries and country groups) to address the hesitancy which member states were supporting the IU. In the 1985 Report of the Conference of FAO, farmers' rights were still not mentioned, but breeders' rights were a main point of discussion as many members (mostly those considered "genetic rich" countries) were concerned with the efficacy and efficiency with which they could align with the requirements and responsibilities of the Undertaking concerning the rights of plant breeders (Anderson, 2005).

The term "farmers' rights" first appeared in FAO documents in June of 1986 following the first meeting of the Working Group:

The Working Group emphasized that, in addition to the recognition of plant breeders' rights, specific mention should be made of the rights of the farmers of the countries where the materials used by the breeders originated. These materials were the result of the work of many generations and were a basic part of the national wealth. FAO should study this subject with a view to formulating a constructive solution. (Anderson, 2005, pg. 5).

This was an addition articulated to balance the controversy between "developing" and "developed" member states, and to grow the support of the IU. Inspired by the first meeting of the Working Group, a progress report on the IU was released later that year including a chapter (Chapter Three) dedicated to beginning to understand the new concept, farmers' rights. It includes chapters expressing the challenges of recognizing and defining the practices, the places and the people to which farmers' rights would be granted. The chapter emphasizes the *in situ* collection and development of plant genetic resources and the transfer of genetic materials from genetic rich countries to the Global North (Anderson, 2005).

Furthermore, when the Working Group for the Commission on Plant Genetic Resources reconvened in March of 1987, the group prepared many agenda items to address the Commission with the purpose of engendering the concept of farmers' rights. Anderson (2005) publishes the most essential paragraphs, beginning with paragraph 8:

During the discussion of document CPGR/87/4, the Working Group agreed that the breeding of modern commercial plant varieties had been made possible first of all by the constant and joint efforts of the people/farmers (in the broad sense of the word) who had first domesticated wild plants and conserved and genetically improved the cultivated varieties over the millennia (...) However, as document CPGR/87/4 pointed

out, there was presently no explicit acknowledgement of the rights of the first group, in other words, no 'Farmers' Rights'. The Working Group considered such rights to be fair recognition for the spadework done by thousands of previous generations of farmers. And which had provided the basis for the material available today and to which the new technologies were in large measure applied. The Group agreed that what was the issue here was not individual farmers or communities of farmers but the rights of entire peoples who, though having bred, maintained and improved cultivated plants, had still not achieved the benefits of development nor had they the capacity to produce their own varieties. Alternative names such as 'right of the countries of origin' or 'gene donors', were proposed, but the conclusion was that the name 'farmers' rights' was the most expressive (Anderson, 2005, pg. 6).

Paragraph 9 of the report shares the groups' hesitancy in defining farmers' rights, but their dedication to promoting the acceptance of the term. Paragraph 11 states the need to negotiate and consider the relationship and terms between breeders' rights, farmers' rights and the free exchange of genetic material. And finally, Paragraph 12 shares the groups' belief that breeders' rights and farmers' rights are not subtractable, but rather, what would develop to be widely quoted, challenged and criticized by many academics, "parallel and complementary" (Anderson, 2005).

In March of 1987 the Report of the Second Session of the Commission on Plant Genetic Resources established the first official conversation on farmers' rights. This meeting and the report of the meeting served two purposes I find worthy of analysis; first, to verbalize the process through which the new concept of farmers' rights has begun to move through and the obstacles it faces in become actualized, in a more formal manner than through the Working Group. Secondly, in this report, the Commission suggests an International Fund for Plant Genetic Resources to "increase support for the improved conservation and utilization of plant genetic resources in developing countries" and to serve as a "mechanism which would help to realize farmers' rights" (paragraph 30, FAO, 1987: Report of the Second Session of the Commission on Plant Genetic Resources; Anderson, 2005). This fund would see many ideations throughout the coming decades, while being criticized for its attempt to monetize and compensate "genetic rich" communities and countries in a transaction that could be considered an aid structure.

Farmers' rights made further headway later that year, in June of 1987, at the Ninety-first session of the FAO Council and Conference. While the Council's recognition of the Commission's dedication to the recognition of farmers' rights was brief, it marks the official first step to international political acceptance of the importance of such rights. The statement follows:

The Council noted with satisfaction the Commission's decision to initiate negotiations through its Working Group to achieve an agreed interpretation of the controversial parts of the International Undertaking on Plant Genetic Resources, and to include in this interpretation clarification and recognition of plant breeders' rights and farmers' rights (Report of the Council of FAO, Ninety-first Session, paragraph 104; Anderson, 2005, pg. 10).

Apart from recognizing the need to clarify the relationship between farmers' rights and breeders' rights, this paragraph takes note of the need to engender farmers' rights to satisfy the controversies that kept members from becoming signatories of the 1983 Undertaking. It seems that rather than attempting to limit the rights of plant breeders to profit from the genetic resources referred to as the common heritage of mankind, the FAO, and namely the Commission on Plant Genetic Resources, preferred to create a "complementary" right to serve as a counterweight. At this point in history, however, there was not yet an answer to *how* to enforce or protect this new concept of farmers' rights, other than in word and in policy.

By 1989 the first formal political recognition of farmers' rights could be found in the Report of the Conference of the FAO, Twenty-fifth Session. Two draft resolutions were prepared, presented and

passed at this Conference, both pertaining to farmers' rights. The first resolution (Resolution 4/89) was prepared by the Delegation of Spain, the second (Resolution 5/89) by the Commission of Plant Genetic Resources. Paragraph 108, Article 4 of the first resolution states: "The adhering states consider that the best way to implement the concept of Farmers' Rights is to ensure the conservation, management and use of plant genetic resources, for the benefit of present and future generations of farmers" (Anderson, 2005, pg. 12). This was an addition articulated to balance the controversy between "developing" and "developed" member states.

The second resolution (paragraph 108, Resolution 5/89), the resolution more explicitly for farmers' rights, drafted by the Commission, does go further in outlining the concept, itself:

THE CONFERENCE,

Recognizing that:

- a) plant genetic resources are a common heritage of mankind to be preserved, and to be freely available for use, for the benefit of present and future generations,
- b) full advantage can be derived from plant genetic resources through an effective programme of plant breeding, and that, while most such resources, in the form of wild plants and old landraces, are to be found in developing countries, training and facilities for plant survey and identification, and plant breeding, are insufficient, or even not available in many of those countries,
- c) plant genetic resources are indispensable for the genetic improvement of cultivated plants, but have been insufficiently explored, and are in danger of erosion and loss,

Considering that:

- a) in the history of mankind, unnumbered generations of farmers have conserved, improved and made available plant genetic resources,
- b) the majority of these plant genetic resources come from developing countries, the contribution of whose farmers has not been sufficiently recognized or rewarded,
- c) the farmers, especially those in developing countries, should benefit fully from the improved and increased use of the natural resources they have preserved,
- d) there is a need to continue the conservation (in situ and ex situ), development and use of the plant genetic resources in all countries, and to strengthen the capabilities of developing countries in these areas,

Endorses the concept of Farmers' Rights (Farmers' Rights mean rights arising from the past, present and future contributions of farmers in conserving, improving, and making available plant genetic resources, particularly those in the centres of origin/diversity. These rights are vested in the International Community, as trustee for present and future generations of farmers, for the purpose of ensuring full benefits to farmers, and supporting the continuation of their contributions, as well as the attainment of the overall purposes of the International Undertaking) in order to:

- a) ensure that the need for conservation is globally recognized and that sufficient funds for these purposes will be available;
- b) assist farmers and farming communities, in all regions of the world, but especially in the areas of origin/diversity of plant genetic resources, in the protection and conservation of their plant genetic resources, and of the natural biosphere;
- c) allow farmers, their communities, and countries in all regions, to participate fully in the benefits derived, at present and in the future, from the improved use of plant genetic resources, through plant breeding and other scientific methods.

This resolution includes the Commission's first official attempt in defining farmers' rights. It makes clear that the Commission is primarily concerned with the farmers and farming communities in developing countries, in the countries of origin of plant genetic resources. While the documentation of the controversy around the acceptance (or lack thereof) of the 1983 IU, doesn't go as far as to say the push back was from explicitly or especially developing countries (or gene-rich and gene-diverse countries), the prioritization of the protection of farmers in these countries reaffirms the assumption

that countries from the Global South were the members that inspired the acceptance and recognition of farmers' rights in this 1989 IU. This resolution is also both very past oriented, regarding the previous generations of farmers' contributions to the conservation and development of plant genetic resources, as well as very future oriented, regarding the protection of the ability of future generations of farmers to continue to do so.

While this initial recognition is essential in understanding the history of the technique, farmers' rights, as Anderson (2005) argues, the 1989 definition fails to clarify "what they were rights to, who the rights holders were and how the rights were to be maintained" (pg. 14). In these initial conceptualizations, farmers' rights are retrospective to the international community's response to plant breeders' rights – an attempt to balance the rights already granted to breeders, for farmers (Girard & Frison, 2021; Kneen, 2009; Peschard, 2020). Least of all, the new concept of farmers' rights was not legally binding, even from its first iteration (Anderson, 2005).

Responding, in part, to the holes in the 1989 document, the 1991 Report of the Conference of FAO added an amendment to the original founding principle of the IU. In the 1991 Report, "the heritage of mankind" (the world's plant genetic resources) are subject to the sovereignty of the States from where the plant resources originated. This change was due to controversy around the need to clarify access to a member state's plant genetic resources and led to the International Fund for Plant Genetic Resources to be put back on the table. The fund was never actualized, regardless (Anderson, 2005).

Other Essential Legislation & Fora

1992 brought the adoption of the Convention on Biological Diversity (CBD), a legally binding international treaty that implied, to some extent, the protection of farmers' rights. The Convention became open for member states sign at the United Nations Conference on Environment and Development, or the "Earth Summit" that took place in Rio. It was open for signatures until a year later, at which point 168 countries became members. It has three purposes: to conserve biological diversity, to utilize biological diversity sustainably and to ensure such utilization shares the benefits equitably and fairly (<https://www.cbd.int/history/>).

Article 8 of the treaty is concerned specifically with *in situ* conservation for biodiversity. Section J of this article, specifically states:

Subject to its national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices

This protection provided for indigenous and local communities, their knowledge, innovations, and their practices, could be viewed as the first act of legally binding international policy that does such (Anderson, 2005). While farmers' rights were not explicitly mentioned in the CBD, its adoption emboldened many activists and scholars. Vandana Shiva (1997) found that a more earnest recognition of farmers' rights would build off of the CBD, rather than respond to breeders' rights in UPOV, as CBD aligns with the complexity, the diversity and the resilience of farmer seed systems more than the UPOV has the ability to, due to the context UPOV belongs.

The adoption of the International Treaty on Plant Genetic Resource for Food and Agriculture (ITPGRFA) in 2001 is another legally binding international legislation; one that specifically includes farmers' rights. The ITPGRFA was adopted by the FAO at the Thirty-first session of the Conference of the FAO. Created with the intent to conserve plant genetic resources and to promote fair and equitable benefit-sharing, for both the engenderment of sustainable agriculture and food security, the Treaty also has a large part to play in the observation of farmers' rights (Anderson, 2005). Where the

ITPGRFA potentially falls short of legitimizing farmers' rights to the international community, can be found in Article 9.2, that states:

The Contracting Parties agree that the responsibility for realizing Farmers' Rights, as they relate to plant genetic resources for food and agriculture, rests with national governments. In accordance with their needs and priorities, each Contracting Party should, as appropriate, and subject to its national legislation, take measures to protect and promote Farmers' Rights (Article 9.2)

From this moment, the ITPGRFA passed down the responsibility of recognizing, validating or formalizing the rights of farmers to national governments, according to what they deemed appropriate, dependent on their needs and priorities. In other words, while the rest of the ITPGRFA is a binding treaty, with compulsory guidance, the recommendations concerning farmers' rights are merely that – recommendations. National governments that are member to the ITPGRFA can then decide whether or not such suggestions for the protection of farmers' rights fits within their legislation of plant genetic resources (Anderson, 2005). Prior to the adoption of the ITPGRFA, the recognition of farmers' rights, according to the IU on PGR of 1989 was a responsibility “vested in the International Community, as trustee for present and future generations of farmers” (IU 1989, Resolution 5/89).

In doing so, however, the ITPGRFA outlined four measures for member states to follow to enact farmers' rights, which serves as a helpful guide in conceptualizing the technique more practically, as prior to these measures, the FAO had yet to address *how* to recognize the rights of farmers. The first measure is “protection of traditional knowledge relevant to plant genetic resources for food and agriculture” (ITPGRFA, Article 9.2.a). This measure was also protected through the adoption of the CBD. The next is, “the right to equitably participate in sharing benefits arising from the utilization of plant genetic resources for food and agriculture,” (ITPGRFA, Article 9.2.b) which may be referencing the international fund for farmers' rights that has been under discussion for decades without ever coming to fruition and was a major point in this treaty. Thirdly, “the right to participate in making decisions, at the national level, on matters related to the conservation and sustainable use of plant genetic resources for food and agriculture (Article 9.2.b).” This aligns with Vandana Shiva's (1993) call for farmers to have access to participation in shaping their rights, along with their relationship to biodiversity. Lastly, the ITPGRFA, in Article 9.3 states that:

Nothing in this Article shall be interpreted to limit any rights that farmers have to save, use, exchange and sell farm-saved seed/propagating material, subject to national law and as appropriate.

Which, interestingly, isn't claiming farmers' rights to save, use, exchange or sell seed – but rather, vocalizing that *ITPGRFA* is not condoning an exclusion of these rights. Unless, apparently, the national law finds that these rights don't align with the state's political needs and legislative priorities. To elaborate, the ITPGRFA makes a step towards legally binding recognition of farmers' rights, but falls short – if not by definition, in practice. The ITPGRFA does, indeed, set guidelines for a higher recognition for the protection of smallholder farmers through farmers' rights, but only as recommendations. Therefore, and unfortunately so, the most politically powerful international treaty regarding plant genetic resources and how they relate to smallholder farmers and plant breeders remains the 1991 UPOV Convention.

In 2010, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity was signed. The Protocol was proposed and ratified with the purpose of improving the third objective of the CBD: to ensure fair and equitable benefit sharing from the utilization of genetic resources. The Protocol's intention is to incentivize the conservation of genetic biodiversity and to empower the utilization of such resources to improve sustainable development and human well-being (Nagoya Protocol, 2011). This took the CBD one step closer to recognizing farmers' rights, as Article 12 states:

“Parties shall endeavor to support, as appropriate, the development by indigenous and local communities, including women within these communities, of:

- (a) Community protocols in relation to access to traditional knowledge associated with genetic resources and the fair and equitable sharing of benefits arising out of the utilization of such knowledge;
- (b) Minimum requirements for mutually agreed terms to secure the fair and equitable sharing of benefits arising from the utilization of traditional knowledge associated with genetic resources; and
- (c) Model contractual clauses for benefit-sharing arising from the utilization of traditional knowledge associated with genetic resources. 12.4. Parties, in their implementation of this Protocol, shall, as far as possible, not restrict the customary use and exchange of genetic resources and associated traditional knowledge within and amongst indigenous and local communities in accordance with the objectives of the Convention.” (Article 12.3)

This article dedicated to “traditional knowledge associated with genetic resources” still does not go as far as include the concept of “farmers’ rights,” but does directly or indirectly align with the four recommendations made by the ITPGRFA for the recognition of such rights.

Most recently, the United Nations Declaration on the Rights of Peasants and Other People Working in Rural Areas (UNDROP), adopted by the General Assembly in 2018, has been related to farmers’ rights by academics (Girard & Frison, 2021; Haugen, 2020). Inspired by La Via Campesina’s 2008 Declaration of Rights of Peasants, presented jointly with other activist organizations to the United Nations’ Human Rights Council, UNDROP was heavily influenced by the foundation laid by peasant organizations. Likewise, UNDROP can be seen as an extension of the International Covenants of Human Rights (UNDROP, 2018). Article 19 of UNDROP, the “article on the right to seed” states:

- “1. Peasants and other people working in rural areas have the right to seeds, in accordance with article 28 of the present Declaration, including:
 - (a) The right to the protection of traditional knowledge relevant to plant genetic resources for food and agriculture;
 - (b) The right to equitably participate in sharing the benefits arising from the utilization of plant genetic resources for food and agriculture;
 - (c) The right to participate in the making of decisions on matters relating to the conservation and sustainable use of plant genetic resources for food and agriculture;
 - (d) The right to save, use, exchange and sell their farm-saved seed or propagating material.
- 2. Peasants and other people working in rural areas have the right to maintain, control, protect and develop their own seeds and traditional knowledge.
- 3. States shall take measures to respect, protect and fulfil the right to seeds of peasants and other people working in rural areas.
- 4. States shall ensure that seeds of sufficient quality and quantity are available to peasants at the most suitable time for planting and at an affordable price.
- 5. States shall recognize the rights of peasants to rely either on their own seeds or on other locally available seeds of their choice and to decide on the crops and species that they wish to grow.
- 6. States shall take appropriate measures to support peasant seed systems and promote the use of peasant seeds and agrobiodiversity.
- 7. States shall take appropriate measures to ensure that agricultural research and development integrates the needs of peasants and other people working in rural areas and to ensure their active participation in the definition of priorities and the

undertaking of research and development, taking into account their experience, and increase investment in research and the development of orphan crops and seeds that respond to the needs of peasants and other people working in rural areas.

8. States shall ensure that seed policies, plant variety protection and other intellectual property laws, certification schemes and seed marketing laws respect and take into account the rights, needs and realities of peasants and other people working in rural areas.”

While this non-binding declaration may seem like a progressive step forward in protecting farmers' relationship with seed, Haugen (2020) convincingly argues that most of the ways that Article 19 suggests protecting the right to seed have already been covered in other UN treaties, some of which are even binding. For example, the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) a binding piece of legislation under the Convention on Biodiversity, formerly covered in this section, does protect traditional knowledge, defend farmers' utilization of plant genetic resources as well as their rights to save, use exchange and sell seed under its own Article 9 (Haugen, 2020).

This somewhat extensive perspective on the history of farmers' rights inspires a few realizations on what farmers' rights translates to as a technique. As a technique is wielded by different actors for different purposes, farmers' rights are as fluid in its transcription as its users and diffusers are diverse. While the context of farmers' rights in this section was largely the international policy arena, different policies were formed by different parties, creating different definitions, practices and recommendations. For this research, this means, my analysis is more of an interaction of ideas than an objective observation of findings and implications. While making claims based on evidence, it is under the assumption that a different perspective, looking at different for a could make different conclusions on farmers' rights as a technique.

To conclude this section, I would like to draw some attention to who has benefited from the emergence of farmers' rights. Farmers' rights were initially utilized to serve as a counterweight and negotiation tool to offset the influence granted plant breeders through breeders' rights (Borowiak, 2004; Girard & Frison, 2021; Peschard, 2020). In many ways, farmers' rights are used to confirm the neoliberal framework it belongs to. Farmers' rights' discourse is best suited in the corporate food regime, which is not only dominant, but reaffirms itself in the recognition of farmers' rights. It's a discourse that confirms intellectual property rights and seed certification and registration, to the benefit of corporate agriculture.

III. Seed Sovereignty

Discourse: The Potential of Sovereignty

The definition of sovereignty, according to Cambridge Dictionary for Social Studies, is “the power or authority to rule” (Cambridge Dictionary, n.d.). Indeed, in defining seed sovereignty, Escobar (2016) also uses the wording “autonomous control.” Sovereignty is not something that is granted, it is autonomous; sovereignty seems to have more agency than a “right.”

Drawing insights from Caroline Humphrey (2004) in her chapter, “Sovereignty” in *A Companion to the Anthropology of Politics*, sovereignty, through a historical sociological lens, does not always have such a positive connotation. She provides a more situated definition:

If we accept the common definition of sovereignty as the capacity to determine conduct within the territory of a polity without external legal constraint, then the “polity” in question is normally considered to be the nation-state and the “territory” a geographical space bounded by state frontiers. (pg. 418)

Through a Foucauldian lens, sovereignty is more closely related to tyranny, discipline, force than autonomy, freedom, power. To Foucault and related thinkers, on one hand we have discipline and sovereignty, and on the other power and governmentality. Sovereignty is the guarantee of life, not an ideal or good life. However, Humphrey realigns my original definition of sovereignty to what she coins “micro-sovereignty” to describe the everyday interactions in which sovereignty is a type of freedom (Humphrey, 2004). Freedom to choose livelihoods, freedom to receive a wage, or in our case, freedom to achieve livelihood through a certain set of seed practices.

The point being, in the case of seed sovereignty, the potential of sovereignty does not solely lie in the traditional geographical national states’ sense of sovereignty. Not to say this does not play a role – the FAO in the 1989 IU readjusted its perspective on plant genetic resources as the “common heritage of mankind” in the 1983 IU, to better protect the sovereignty of countries in the Global South to protect their autonomy. But rather to say, Humphrey’s “micro-sovereignty” may, by definition, do sovereignty more justice in verbalizing its role in potentially conducting the relationship between smallholder farmers and seed.

This raises a question I’ll return to later in the chapter: is the re-emergence of seed sovereignty a struggle to attain farmers’ sovereignty over seed, or to protect the sovereignty of seed itself?

Emergence

In the following section, the history of seed sovereignty will be broken up by three themes. The first, the corporate food regime, will illustrate how smallholder farmers’ autonomy over seed was originally threatened by the hybridization of seed and the corresponding rise of the intellectual property regime. The second theme, food sovereignty, will include academic and activist voices on the movement and will provide evidence on the importance of seed sovereignty to the food sovereignty movement. Finally, the third section, the rise of seed activism, will give a more recent picture of the engenderment of seed sovereignty and how it being used by activist and peasant groups and organizations today.

These three sections are not necessarily in chronological order, nor are they necessarily causal. However, this organizational breakdown serves in understanding how seed sovereignty became a part of the debate on seed, while highlighting the essential actors for the technique. I will also argue that food sovereignty was a response to the corporate food regime and seed activism was born from the food sovereignty movement. My analysis of the fall and rebirth of seed sovereignty will vary from that of farmers’ rights because their stories have different timelines and different characters.

The Corporate Food Regime

It has been said that farmers, across the world, of multiple scales, were able to maintain a level of “seed sovereignty” up until the 1930s (Kloppenburg, 2005). Farmers were able to decide what seeds they traded or sold and what seed was saved as seed for the next planting season or what seeds they sold as grain (Kloppenburg, 2010). The beginning of the 1930s brought the hybridization of seed through the initiation of the Green Revolution. With it, the hybridization of seeds brought a collection of other dependencies on inputs, such as fertilizer chemicals (Shiva, 1996). Before the hybridization of seed, seed’s ability to reproduce itself served as a barrier to commodification, since farmers didn’t have to buy new seed each year, or what Kloppenburg (2010) called “a partial degree of independence from capital.” All this to say, that to analyze the history of seed sovereignty is to first, understand that sovereignty over seed existed far before seed sovereignty or farmers’ rights were concepts that had their own discourses.

A threat of the hybridization of seed can be seen as corporate control of the food system. One implication, as verbalized by Adhikari (2014) is, as seed is the most basic foundation to the entire food system, corporate agriculture threatens seed sovereignty by creating dependency on them for essential inputs, ultimately leading to monopolistic control of the food industry. He also argues that a corporate agriculture regime that controls seed through patents and the privatization of what was once considered a “commons” comes at the cost of the freedom of farmers to access diverse seeds that they have conserved for generations (Adhikari, 2014). Not to mention that the monopolization of seed also led to corporate control and farmer dependency on fertilizer, pesticide, herbicide and other inputs (Shiva, 1996)

The fall of seed sovereignty is situated within the rise of the corporate *seed* regime through the realization of biohegemony and dispossession. The corporate seed regime can be viewed as the exacerbation of seed commodification and enclosures within the context of capitalist agriculture, an offshoot of the corporate food regime (Escobar, 2016). Biohegemony, coined by Peter Newell (2009) is used to describe a “successful projection of particular interests as general interests such as that the benefits and value of agricultural biotechnology acquire the status of common sense and go largely unquestioned” (Escobar, 2016, pg. 40). Additionally, those communities that serve these “common sense” interests at their own expense, are subject to “bioservitude” (Escobar, 2016).

Escobar (2016) argues that seed, through the corporate seed regime, has become “carriers” to such biohegemony through three forms of sterilization. The first, biotechnological sterilization occurs through hybrid seeds and GMOs. GURTs, or gene use restriction technology, otherwise known as “terminator” or “zombie” seeds, are an extreme, yet potentially disastrous example of such sterilization. GURTs block seeds from germinating until specific chemicals are applied to the plants (Kloppenburg, 2010). The second form of sterilization is legal. Legal sterilization is the patenting, certification and qualification of seed, according to the country or company in the position of hegemon. Lastly, contractual sterilization, closely related to legal sterilization, is the control of seed availability through private contracts between corporations and farmers. Private contracts that have and will limit the diversity and accessibility of seed for farmers and farming communities. In many cases, when farmers buy seed, they sign a contract stating which companies they are obligated to sell their harvests to – in many cases, companies which have agreements or partnerships with the companies who sold the seed to the farmer originally, essentially making the farmer a contract laborer with significantly less decision making power (Escobar, 2016).

David Harvey (2005) is quoted in Escobar’s (2016) work in describing accumulation by dispossession, the corporate food regime’s iteration of capital accumulation. This is apparent not only by land grab, but also through the commodification of essential agricultural inputs such as seed. While seed’s socio-natural barrier against commodification (seed’s ability to reproduce itself) served as a barrier against such enclosures, ultimately biotechnologies three forms of sterilization won out across the globe (Escobar, 2016).

Likewise, Kloppenburg (2010) argues that the exploration of plant genetic resources from across the world in the name of plant breeding under the prerequisite that seed was the “common heritage of mankind” was a “manifestation of primitive accumulation in its simplest, most direct predatory form.” In the introduction of his 2005 work, *First the Seed*, Kloppenburg begs the question: “What realities are masked by the languages of ‘success’ and the prevailing ideology of the benevolence of plant breeding?” (pg. 6). He explains how the changing relationship between farmers and seeds is reflective of Marx’s term, primitive accumulation, through the commodification of seed. Primitive accumulation is epitomized, here, by the separation of the worker and the means of production – this includes seed and other inputs farmers depend on for their livelihoods. This can be observed throughout the changes in the agriculture industry in the past century, changes that transformed farming from a largely self-sufficient livelihood to one that is dependent on a collection of commodified inputs.

Similarly to Escobar’s three forms of seed sterilization, Kloppenburg (2005) illustrates that capital has found two ways around seed’s natural barrier to commodification. The first is technical, or hybrid seed’s inability to be saved or replanted. Hybrid seeds lose their vigor and their predictability in replanting, as their characteristics could reflect genes from either parent plants (Trinklein, 2014). It, therefore, only has value as a grain and farmers must buy seed each planting season. The second is social and it entails the increasing presence of an intellectual property regime that patents and certifies and registers seed (Kloppenbug, 2005).

The intellectual property regime shares many characteristics and implications of the corporate food regime but is more specific to the privatization of what was once considered “common.” The intellectual property regime can be observed by the increasing utilization of patents. Patents, in the context of seed, are described by Kloppenburg (2014) as “the elimination of the right to replant and to use for further breeding, the loss of the derivative right to use” (pg. 1237). The intellectual property regime can be better understood through an excerpt from Vandana Shiva’s *Protect or Plunder?* in which “the process” is referring to the commodification of seed:

“This process is being hastened by the new IPR regimes which are being universalized through TRIPs. The IPR regimes of the west allow corporations to usurp the knowledge of the seed and monopolize it by claiming it to be their private property. Over time, this results in monopolistic corporate control over the seed itself, restricting its free sharing within and across communities.” (pg. 72)

In a Report titled *Seeds, Right to Life and Farmers’ Rights*, a Report of the Special Rapporteur on the right to food, Michael Fakhri (2021) differentiates between two existing seed systems. The first is farmer seed systems, which he defines as a historic regenerative system that protects biodiversity and the free distribution of both seed and the knowledge and practices regarding seed. He argues that this system, rather than the commodity seed system, protects the resiliency of the climates and communities. Commodity seed systems, on the other hand, are insistent on the reproduction of seed varieties that are stable and uniform, dependent on chemical inputs and dedicated to increase profit and produce as much food as possible. These systems are dependent on an intellectual property regime and contractual law (Fakhri, 2021). He argues treaties such as WTO’s Trade-Related Aspects of Intellectual Property Rights (TRIPS) and UPOV are outcomes of an intellectual property regime that caters to commodity seed systems. These agreements serve “long-standing patterns of imperial exploitations” (Article 36) and do “not reflect a commitment to international cooperation or the reality of most small-scale farmers’ and indigenous peoples’ practices” (Article 39).

Another implication of the commodification of seed, and therefore the sovereignty that farmers have over seed being diminished is the asymmetrical and unjust flow of plant genetic resources. Kloppenburg (2005) calls this phenomenon the “germplasm transfer,” germplasm relating to the genetics encompassed in each seed. This germplasm transfer relates highly to the colonial relationship best described by the core and the periphery. Very similar to the extraction of other valuable natural resources from the resource-rich periphery to the core, germplasm left the periphery states as the

“common heritage of mankind,” but would only return as commodities to be bought and sold (Kloppenburg, 2005). That is to say, the very hybrids utilized and bred today are and will continue to be built on the genetically diverse foundation laid by smallholder farmers across the world – primarily in the Global South.

More asymmetry between the Global South and the Global North can be found on a more ontological level – the corporate food regime assumes, to an extreme extent, whose and what knowledge “counts” (Shiva, 1993). It places knowledge that accumulates to profit above knowledge that contributes to health or sustainability. Therefore, contributions from the North are more accredited and compensated than contributions from the South – regardless of the fact that the contributions of the North are deeply and inarguably dependent on generations worth of conservation and development of the South (Shiva, 1993). Maybe most relevant, Shiva (1996) points out that the varieties protected by the corporate agriculture regime are not protected for their ability to produce healthy and climate resilient food, but rather for productivity and profit.

Food Sovereignty

The food sovereignty project emerged as a major “antithesis” to the corporate food regime in the 1990s as a response to the liberalization of global agricultural trade and the WTO’s promotion of free trade agreements (FTAs) between the Global North and the Global South. Arising from a need to locate a more democratic alternative to food security, while strengthening the opposition to depeasantization and the growing dependency of the Global South on food aid from the Global North, food sovereignty arose to challenge the corporate food regime and the neoliberalization of agriculture (McMichael, 2014; Patel, 2009).

Complimentary to the findings of McMichael’s, Peschard (2020) claims both food sovereignty and seed sovereignty developed further simultaneously since the beginning of the twenty-first century. Both terms seem to surpass the ability to be easily defined, due to the place-based nature and localized approach. Food and seed sovereignty are both concepts that can be applied to many geographies, communities and cultures. At the core of both, however, is a shared belief that peasants and farmers must have the freedom to reclaim the decision making power to what and how they produce food (Peschard, 2020).

While McMichael (2014) and Peschard (2020) would agree that food sovereignty began as a peasant reaction to the agrarian crisis best personified by the neoliberalization of markets and the “cheap food regime” caused by food dumping, the movement grew to become a historical political move that could change the trajectory of the corporate food regime. As not only peasants, farmers and their communities would benefit from the realization of food sovereignty, food sovereignty has the potential to create an agrarian reform that impacts societies globally in terms of providing healthy, accessible and culturally appropriate food, as well as the mass migration of peoples from rural to urban places (McMichael, 2014).

While many, wide-ranging definitions of food sovereignty exist, La Via Campesina, the most notable authors of the term, define it as such in the Statement on Peoples’ Food Sovereignty:

Food sovereignty is the right of peoples to define their own food and agriculture; to protect and regulate domestic agricultural production and trade in order to achieve sustainable development objectives; to determine the extent to which they want to be self-reliant; and to restrict the dumping of products in their markets. Food sovereignty does not negate trade, but rather, it promotes the formulation of trade policies and practices that serve the rights of peoples to safe, healthy and ecologically sustainable production.

The report *Food Sovereignty: Global Rallying Cry of Farmer Movements*, written by Peter Rosset (2003) goes on to tell the story of food sovereignty’s conceptualization out of the shortcomings of the corporate food regime’s determination to provide food security. This creates a “clash of models”; on

one side, liberalized agricultural trade, providing access to markets on the basis of power but denying access of local producers to their own markets, on the other, the food sovereignty model. This report includes a “Dominant Model versus Food Sovereignty Model” (pg. 2) that differentiates a few terms that are essential to my research. “Food” for example, under the dominant model, is defined as “a commodity; in practice, this means processed, contaminated food that is full of fat, sugar, high fructose corn syrup, and toxic residues.” Under the food sovereignty model, food is defined as “a human right: specifically should be healthy, nutritious, affordable, culturally appropriate and locally produced.” “Seed,” under the dominant model, is considered “a potential commodity” – in the case of the food sovereignty model, “a common heritage of humanity, held in trust by rural communities and cultures; no patents on life.” Finally, “farmers” are defined as “anachronisms; the inefficient will disappear” under the dominant model. In the food sovereignty model, farmers are rather, “guardians of culture and crop germplasm; stewards of productive resources; repositories of knowledge; internal market and building block of broad-based, inclusive economic development” (Campesina, 2003).

As seed is the very foundation of the food system and as food sovereignty is engaged in making the food system more localized and democratic, seed sovereignty’s role in achieving food sovereignty is intuitive. Kloppenburg (2010) states:

if ‘food sovereignty’ is to be achieved, control over plant genetic resources must be wrested from the corporations that seek to monopolize them and be restored to, and permanently vested in, social groups and/or institutions with the mandate to sustain them and to facilitate their equitable use. That is, realization of food sovereignty is predicated in no small part on the repossession of ‘seed sovereignty’.

Having made clear the crucial element seed sovereignty has in achieving food sovereignty, the next sub-section will continue to illustrate how the history of seed sovereignty can be observed on the cusp of the food sovereignty movement, alongside the rise of seed activism.

Seed Activism & Seed Sovereignty

With the food sovereignty movement shining a new light on the potential for a more equitable, democratic, local and culturally appropriate food system, many civil society and peasant organizations were enabled to organize around the idea of seed sovereignty. This brought a new wave of seed activism, which can be defined as “all actions that oppose the enclosure of seeds and defined individual and collective rights to seeds” (Peschard, 2020, pg. 614).

In *‘Keeping Seed in Our Hands’: The Rise of Seed Activism*, Peschard (2020) catalogues the seed activist movements across the globe. From the European Peasant Coordination (CPE) (which in 2008, transitioned to the European Coordination Via Campesina, or ECVC) active throughout Europe, to the Latin American Seeds Collective and from the US Food Sovereignty Alliance to the Coalition for the Protection of African Genetic Heritage, many groups were formed with the purpose of protecting genetic diversity and seed practices, alike. The Association for Plant Breeding for the Benefit of Society (APBREBES) was formed by seven civil society organizations from across the world with the purpose of advocating for farmers’ rights and the conservation of agrobiodiversity. APBREBES provides a “UPOV Monitor” that publishes restricted documents, with reasons why countries should be wary of joining the Union (APBREBES, n.d.). Peschard does so, to ultimately make the argument that seed sovereignty was established from a “movement of movements,” from groups of activists and civil society organizations professionalizing due to the growing threat of seed enclosures (Peschard, 2020).

Parallely to food sovereignty’s emergence from food security’s shortcomings, Adhikari (2014) claims seed sovereignty also arose as an improved version of “seed security.” The FAO’s definition of seed security, as cited by Adhikari (2014) is:

‘Seed security is defined as ready access by rural households, particularly farmers and farming communities, to adequate quantities of quality seed and planting materials of crop varieties, adapted to their agro-ecological conditions and socioeconomic needs, at planting time, under normal and abnormal weather conditions’ (pg. 36)

Like food security, the focus of seed security prioritizes availability and access, while food and seed sovereignty take the concept further, including elements like democracy and cultural appropriateness. Seed security’s definition lacks the acknowledgement of the political situatedness of seed systems, specifically who controls seed (Adhikari, 2014). Control over seed is a major element in how Adhikari (2014) defines seed sovereignty:

Farmers’ control over the seeds (germplasm) they use and they have developed in addition to community and public provisioning of seeds in their diversity and quality to maintain the culturally, economically and ecologically sustainable farming system (pg. 36)

“Control,” in this definition extends to farmers rights to save, breed and exchange diverse and “open source seed,” which will be described later in this sub-section. Essential to the realization of this definition, is seed sovereignty’s role in conserving diverse and local genotypes, protecting agrobiodiversity and sustainably producing healthy food (Adhikari, 2014).

Adhikari (2014) also finds inspiration on the technique of seed sovereignty from the Campaign for Seed Sovereignty in Europe (CSS Europa). CSS Europa puts forth five demands towards achieving seed sovereignty. They are, first, to deliver open access to patent-free fertile and diverse seeds. The second, the right to save seeds from their harvest to use in following planting seasons, and to share and sell that seed. Next, is to achieve a new agricultural regime that prioritizes localized, sustainable and healthy food production over productivity and profit. Fourth, is an improved trade environment that protect local interests, rather than corporate interests in “free” trade. Finally, CSS Europa prioritizes the development of policies that favor farmers and consumers over big business (Adhikari, 2014).

As mentioned briefly in the Introduction chapter, Kloppenburg (2014) conglomerates four principles of seed sovereignty from Navdanya and La Vía Campesina; these are the right to save and replant seed, the right to share seed, the right to use seed to breed new varieties and the right to participate in shaping policies for seed. The right to save and replant seed, points to the growing dependence farmers are forced to have on capital. This principle is a call for the return of a more autonomous farmer-seed relationship. The second principle, the right to share seed, protects farmers ability to both give and receive seed and it belongs to the conversation of seeds as commons. The right to use seed to breed new varieties, a right that is often excluded from frameworks on farmers’ rights, relates to farmers’ potential resilience against climate change and disaster, as well as the conservation of biodiversity and genetic biodiversity for coming generations of farmers and farming communities. The last principle, the right to participate in decision making processes, correlates to a more democratic process, less influenced by wealthy corporations in the Global North, concerning forming policies on seed saving and seed sharing (Kloppenbug, 2014).

In his observation of seed sovereignty through the lens of Navdanya and La Vía Campesina, Kloppenburg (2014) also records two shared points of opposition between these peasant organizations and the treaties and corporations responsible for oppressive seed policies. The first to the intellectual property regime, the second to the widespread adoption of genetically modified organisms (GMOs). Opposition to the intellectual property regime stems from an ontological difference in the belief of the ability to patent life and the diverse ontologies of seed. The opposition to GMOs is more nuanced. While there are deep-seated epistemological differences between those who advocate for and those who critique the development, distribution and adoption of GMOs, more problematic is the embeddedness in the corporate food regime (Kloppenbug, 2014).

In a similar thread to his 2014 work, Kloppenburg, in situating an innovation of which he is a founder, OSSI, the Open Source Seed Initiative, takes a point to define seed sovereignty through the lens of the leading activist networks, La Vía Campesina and Navdanya. Navdanya was founded in 1987 and is characterized, most widely, by its founder, Vandana Shiva, and is most concerned with the concept of her creation, “seed freedom.” La Vía Campesina, founded in 1992, on the other hand, has food sovereignty as a (and arguably, *the*) core principle (Kloppenburger, 2014). Kloppenburg argues, as mentioned earlier, that both seed freedom and food sovereignty aren’t achievable without the recognition of seed sovereignty, and as both organizations utilize seed sovereignty as an essential milestone, a mutual understanding of seed sovereignty can be obtained by looking at both groups. Kloppenburg relates “open source seed” to “protected commons,” rather than “open-access commons.” The Open Source Seed Initiative has four indicators of “Open Source Seed Freedoms,” as found on the OSSI website:

1. The freedom to save or grow seed for replanting or for any other purpose.
2. The freedom to share, trade, or sell seed to others.
3. The freedom to trial and study seed and to share or publish information about it.
4. The freedom to select or adapt the seed, make crosses with it, or use it to breed new lines and varieties.

The caveat with OSSI, is while the users of open source seed have many freedoms regarding their use of the seed, they make a pledge to allow the free usage of any of the open source seeds and their derivatives (Kloppenburger, 2014). The usage of the word “freedom” rather than “sovereignty” or “rights” will not go undiscussed. Indeed, “seed freedom” is the term preferred by Vandana Shiva and her organization Navdanya, as well. Navdanya’s Declaration on Seed Freedom is:

1. Seed is the source of life, it is the self-urge of life to express itself, to renew itself, to multiply, to evolve in perpetuity in freedom.
2. Seed is the embodiment of biocultural diversity. It contains millions of years of biological and cultural evolution of the past, and the potential of millennia of a future unfolding.
3. Seed Freedom is the birth right of every form of life and is the basis for the protection of biodiversity.
4. Seed Freedom is the birth right of every farmer and food producer. Farmers rights to save, exchange, evolve, breed, sell seed is at the heart of Seed Freedom. When this freedom is taken away farmers get trapped in debt and in extreme cases commit suicide.
5. Seed Freedom is the basis of Food Freedom, since seed is the first link in the food chain.
6. Seed Freedom is threatened by patents on seed, which create seed monopolies and make it illegal for farmers to save and exchange seed. Patents on seed are ethically and ecologically unjustified because patents are exclusive rights granted for an invention. Seed is not an invention. Life is not an invention.
7. Seed Freedom of diverse cultures is threatened by biopiracy and the patenting of indigenous knowledge and biodiversity. Biopiracy is not innovation – it is theft.
8. Seed Freedom is threatened by genetically engineered seeds, which are contaminating our farms, thus closing the option for GMO-free food for all. Seed Freedom of farmers is threatened when after contaminating our crops, corporations sue farmer for “stealing their property”.
9. Seed Freedom is threatened by the deliberate transformation of the seed from a renewable self-generative resource to a nonrenewable patented commodity. The

most extreme case of nonrenewable seed is the “Terminator Technology” developed with aim to create sterile seed.

We commit ourselves to defending seed freedom as the freedom of diverse species to evolve; as the freedom of human communities to reclaim open source seed as a commons.

To this end, we will save seed, we will create community seed banks and seed libraries, we will not recognize any law that illegitimately makes seed the private property of corporations. We will stop the patents on seed.

Including this declaration in its entirety is essential, if not for understanding the concept of seed sovereignty, then for comparing the clarity and agency of this definition compared to the FAO’s definition on farmers’ rights and even to some definitions of seed sovereignty. Articles one, two and three of this declaration situates seed freedom ontologically, advocating for peasant and farmer realities that are often underplayed or excluded from dominant regimes. Article four connects this cause to the struggle over farmers’ rights, clarifying that seed freedom is a different, but aligned cause. Article five does the same, but for the “food freedom” movement, which can be closely compared to the food sovereignty movement. Article six through nine make clear who and what are in opposition to the recognition of seed freedom – an element of farmers’ rights that is constantly neglected. Article seven, in particular, mentions biopiracy. Peschard (2020) quotes Pat Mooney who is responsible for coining the term, in defining biopiracy as “the appropriation of the knowledge and genetic resources of farming and indigenous communities by individuals or institutions that seek exclusive monopoly control (patents or intellectual property) over these resources and knowledge” (pg. 633).

Moving closer towards a nonprofit perspective, the First Nations Development Institute, in collaboration with the Native American Food Sovereignty Alliance created a fact sheet on the legal implications and reasoning of seed sovereignty for indigenous people in North America. They define seed sovereignty as:

the right of a farmer to save, use, exchange and sell his or her own seeds. The primary issue that seed sovereignty seeks to address is the ownership of seeds as a larger majority of seeds are becoming property of several major agricultural/seed corporations. As large commercial agricultural interests begin to claim ownership over seeds, many farmers and Indigenous communities will have difficulty in saving local seeds that have existed in their communities for centuries.

The First Nations Development Institute situates seed sovereignty and its importance in the context of the practice of seed saving in the informational document they released titled, *Seed Saving and Seed Sovereignty*. The organization defines seed saving as the “process of saving seed from one harvest for the subsequent harvest.” The importance of seed saving lies not solely in the protection of seeds for consumption, but also in protecting social and cultural practices. The document also tells of the many seed saving practices that have been handed down from many generations in indigenous communities, such as seed-saving rotations, storage practices that could save seed for hundreds of years, the inclusion of pollination patterns in planting and harvesting seasons and the passing down of cultural meaning to different phases of a seeds’ lifespan (First Nations, 2015).

First Nations also makes a point to tell the story of how activism around seed saving and seed sovereignty arose. They mark the beginning of commercialized seed markets in the 1980s, a bit later than told by academic literature. With the commercialization of seed, however, the story is the same – seed saving becomes regulated and eventually illegal through patents, intellectual property legislation and trademarking in many parts of the world, but specifically in North America. The document released also includes a list of actions that tribes and indigenous communities can take to protect seed, including intellectual property audits on cultural and agricultural property, conserving seed saving practices and creating or maintaining seed banks to protect ownership of indigenous seed. They also

prioritize the maintenance and upkeep of documentation of indigenous seed and social and cultural seed-saving practices (First Nations, 2015).

Taking another perspective from Escobar (2016) in her article, *The Political Ontology of Seeds: Seed Sovereignty Struggles in an Indigenous Resguardo in Colombia*, she argues that to fully understand seed sovereignty and what it means for seed-human relationships we must understand the political economy, political ecology and political ontology of seed. She defined seed sovereignty as “autonomous control of the ways in which seed – as a collective heritage – is produced, owned, saved and endowed with meaning and spirituality” (pg. 204). Bringing together the Diverse Economies Framework and the Community Economy from Gibson-Graham and McMichael’s Corporate Food Regime, Escobar asks an essential question, far outside the realm of my research, but thought-provoking, all the same. That is, is the conflict over seed simply an ontological and epistemological conflict to define what seeds are and whose knowledge, labor and existence “counts” in its development and management? She argues that seeds are not commodities or even only communal resources, but rather beings with agency.

If we look at in whose interest seed sovereignty has emerged, we find a different story to that of farmers’ rights. Seed sovereignty, like its emergence, is leveraged by activists for activism (Peschard, 2020). As it is a reaction to the corporate food regime and the intellectual property regime, it exists outside of a dominant paradigm, offering an alternative to what has been assumed as common sense.

IV. Comparison of Techniques

An important difference between farmers' rights and seed sovereignty as techniques in conducting the relationship between smallholder farmers and seeds in an initial comparison, is the inscription and fluidity each holds. Farmers' rights are more static, with strict boundaries and a clear intended beneficiary population. Its definition, and therefore its inscription, is primarily set by its primary practitioner – the FAO. Seed sovereignty, on the other hand, is as fluid as the activist movements that inspired its emergence. At the time of analysis, “seed sovereignty” has already been replaced by “seed freedom” and “right to seed” by many of the original users of the terms, such as Vandana Shiva's organization, Navdanya. The line between the intended beneficiaries and the practitioners of seed sovereignty is blurry, or in some cases nonexistent, therefore, the inscription is dependent on this relationship. In other words, in comparing *how* the two techniques emerged, the boundaries of the techniques are beginning to unfold.

This difference between the techniques brings many findings to light. The first is that the sociopolitical context a technique belongs to affects not only its emergence and its intended beneficiaries, but also, its potential for utilization. As farmers' rights is contextualized within the intellectual property regime and the corporate food regime, it is seemingly as stable in its translation as the regime it belongs to. It is also as limited as the dominant regimes are in its realizations. Although the definition of farmers' rights surely transformed throughout history, as observed throughout the history of the technique, even the most recent definitions of farmers' rights are still dependent on the regimes that it belongs to. Even the ITPGRFA definition of farmers' rights was careful not to infringe on the Global North's ability to patent seed or place seed under the jurisdiction of private property.

On the other hand, seed sovereignty, more of a reaction to both the corporate food regime and the intellectual property regime, seems more flexible – only as consistent as the movement it is being founded or claimed by. This flexibility could be a weakness as it could negatively influence the practitioners of this technique's ability to organize. On the other hand, this flexibility could be seen as adaptability, the ability to fit the needs of different activist and peasant groups. This fluidity will impact the findings in the following chapters, as I begin to uncover both techniques' ability and vulnerability to be rendered technical.

As observed in the technique's history, farmers' rights were found within the corporate food and intellectual property regimes, with the purpose of balancing the rights granted to breeders. Seed sovereignty, however, was a resistant force, reacting to the apparent injustices of the dominant regimes. In locating *where* both techniques emerged, I've situated my research to also challenge the appropriateness of dominant regimes. An interesting extension of this finding would be to consider that if breeders' rights is the “wrong” (which is an oversimplification), farmers' rights arose to “balance” the “wrong” – like a band aid. Seed sovereignty came to “right” the “wrong” – to treat the injury. This finding goes to show that in locating where the techniques emerged, we also found differences between *why* the techniques emerged.

The main findings from different element of the emergence of the two techniques are summarized in the table below:

	Farmers' Rights	Seed Sovereignty
<i>How?</i>	<i>Within</i> the corporate food regime and the intellectual property regime	As a <i>reaction</i> to the corporate food regime and the intellectual property regime, out of the food sovereignty movement
<i>Where?</i>	International treaties and policies, the IU on PGR, explicitly, and eventually in the ITPGRFA	Activist and peasant organization websites and events, CSO and non-profit resource pages

Why?	To balance the new weight of breeders' rights and the germplasm transfer from the Global South to the Global North	To reclaim the autonomy of farmers to make decisions and belong to a more democratic and culturally appropriate food regime
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An interesting similarity is that the emergence and definition of both techniques utilize the word "right." Whether the right to save seed, the right to sell seed or the right to participate in decision making about seed, both techniques (in some iterations) choose the word "right." Brewster Kneen, in his book, *The Tyranny of Rights* (2009) boldly claims in a statement with which I agree:

"Treating seeds as a commodity, and referring to the traditional practices of saving, swapping and replanting seed as a 'right', is a disrespectful dismissal of an essential and customarily sacred element in the lives of millions of people around the world today and throughout history" (pg. 67)."

The question of the placement of the term "right" in the definition of both techniques is indeed interesting for observation, as it brings to light how different the power relations underlying the two techniques are in theory. Kneen points out that while rights are treated as a moral, almost inborn belonging of a person, they are, in reality, a legal term. Rights assume unequal power relations, as well, as where there is a receiver of a right, there is also a giver of a right (Kneen, 2009). At the heart of the argument on whether "rights" is an appropriate word for the relationship that farmers have with seed, is the absence of the word in many indigenous cultures and languages around the world.

Patel (2009) in an attempt to locate the position of "rights" in the food sovereignty movement makes this argument clear, as well:

But despite its apparent applicability, the language of rights does not come cheap, and it might not be well suited to the idea of food sovereignty. Central to the idea of rights is the idea that a state is ultimately responsible for guaranteeing the rights over its territory, because it is sovereign over it (pg. 667).

Rights, in other words, are relational. Where rights exist, a granter and a receiver of assumed unequal power also exist. Similarly to Kneen's argument on the morality (or lack thereof) of rights, Patel quotes Bentham (2002) in saying, "wants are not means; hunger is not bread." An international institution may declare citizens of the world to have a right to food, but that does not make food materialize for those peoples. The difference between declaring a right and making that right be recognized or achieved is crucial and the responsibility that difference produces, I believe, should fall to the granter of such rights, in the case of farmers' rights, that is the UN's FAO.

Despite the potential burden of being the granter of such rights, the United Nations does benefit from the utilization and adoption of the term "rights" as, for when an individual or group claims rights (farmers' rights, the right to food, the right to conserve traditional knowledge, etc.), they simultaneously recognize the UN as the granter of such rights, and therefore recognizing the authority of the UN. History would illustrate that the UN and other institutions in positions of power are highly capable of making declarations of individuals' *right* to a life free of hunger, injustice, environmental disaster, but significantly less capable of protecting, maintaining or providing such a life.

Chapter Four: Intended Beneficiaries

I. Introduction

In attempting to locate the intended beneficiaries of farmers' rights and seed sovereignty, this chapter will grow closer to understanding the techniques' ability to conduct the relationship that farmers have with seed. While the differences between the intended beneficiaries of farmers' rights and seed sovereignty are mostly differences in discourse, a more important finding of this chapter are the underlying power relations between the practitioners and intended beneficiaries of the two techniques. In this chapter I will argue that the power dynamic between the subject and the trustee of farmers' rights is not conducive to bringing about positive improvement. This stands in contrast to the power dynamics in place regarding seed sovereignty. A more participatory technique, seed sovereignty's subjects and trustees have very few degrees of separation.

The second intention of this chapter is to uncover the representation of the power and needs of the intended beneficiaries. On this dynamic relationship, Li (2007a) offers:

“The practice of ‘rendering technical’ confirms expertise and constitutes the boundary between those who are positioned as trustees, with the capacity to diagnose deficiencies in others, and those who are subject to expert direction. It is a boundary that has to be maintained and that can be challenged.” (pg. 7)

This clearly distinguishes between those who diagnose and those who receive treatment. Interestingly, she says this boundary is something that can be challenged if not maintained – something we will observe in the case of seed sovereignty. Li (2007a) uses the following quote from Rahnema to succinctly illustrate and simplify the underlying relationship between the empowered and the empowering, or the intended beneficiary and the practitioner: “When A considers it essential for B to be empowered, A assumes not only that B has no power – or does not have the right kind of power – but also that A has the secret formula of a power to which B has to be initiated” (pg. 275).

Understanding who are both the intended beneficiaries and the practitioners of the techniques, as well as the assumed power and needs of the intended beneficiaries join together to form the second sub-research question: **who are the intended beneficiaries and practitioners of farmers' rights and seed sovereignty, and how are these groups represented in text?**

Answering this question will begin to investigate both techniques' abilities and vulnerabilities in governing the relationship farmers hold with seed. Understanding the conception and representation of the power and needs of the intended beneficiaries shows different ways the same or similar intended beneficiaries can be represented very differently between the two techniques.

In a 2007(b) paper, Li reviews Foucault's concept of governmentality as a form of power with special attention to the limits that the concept has. Governmentality, is at first glance, “the conduct of conduct.” Moreso, governmentality's purpose is to engender the health and safety of a population at large. As the government cannot coerce every individual to “do as they ought” through force, or what Foucault refers to as discipline, governmentality requires power. Power, Foucault claims and Li agrees, is a reciprocal give and take, a “permanent provocation” (Foucault, 1982). Li puts it: “it is only power so long as the target of that power retains the capacity to act” (Li, 2007b, pg. 276).

Therefore, the power and the needs of the intended beneficiaries of each technique are intrinsically linked and the representation of such power and needs is itself governmentality. Before deepening our understanding of the representation of the power and the needs of the intended beneficiaries, uncovering the deemed deficiency that inspired the emergence of the techniques is helpful. Understanding the practitioners' perspective on the assumed deficiency will aid in understanding specifically the representation of the intended beneficiaries' needs.

The methods employed for this chapter are textual analysis – still looking at policies, documents and other literary and activist fora. While the intended beneficiaries were briefly identified in the previous chapter, through direct explanation or more indirect contextual analysis, in this chapter the understanding of these intended beneficiaries will be expanded. Secondly, the representation of the power and the needs of the intended beneficiaries will be analyzed for both techniques. Similarly to the previous chapter, I will begin on analysis for farmers' rights, followed by seed sovereignty. For both, I will identify the deemed deficiency, in order to locate the representation of the intended beneficiaries' power and needs. This chapter will conclude with a section dedicated to comparing the analysis of the intended beneficiaries for both techniques.

II. Farmers' Rights

Intended Beneficiaries & Practitioners

Beginning with the first formal recognition of farmers' rights in international policy, the International Undertaking (IU) on Plant Genetic Resources takes a minimal step forward in identifying who exactly is intended to benefit from the engendering of farmers' rights. In the Draft Resolution of Farmers' Rights, Appendix 2, three statements vaguely describe who these rights are for:

the farmers, especially those in developing countries, should benefit fully from the improved and increased use of the natural resources they have preserved;

to assist farmers and farming communities, in all regions of the world, but especially in the areas of origin/diversity of plant genetic resources, in the protection and conservation of their plant genetic resources, and of the natural biosphere

to allow farmers, their communities, and countries in all regions, to participate fully in the benefits derived, at present and in the future, from the improved use of plant genetic resources, through plant breeding and other scientific methods.

From these excerpts it can be assumed the intended beneficiaries of this specific definition of farmers' rights are farmers and farming communities in developing countries. It may also be important to note that from this text, "farmers" mean individuals or communities that are involved in raising plants, not livestock.

In the ITPGRFA, Article 9 is dedicated to farmers' rights. Article 9.1 comes the closest to contributing to understanding who this right is meant to serve:

The Contracting Parties recognize the enormous contribution that the local and indigenous communities and farmers of all regions of the world, particularly those in the centres of origin and crop diversity, have made and will continue to make for the conservation and development of plant genetic resources which constitute the basis of food and agriculture production throughout the world.

This article would tell a similar story to that of the IU; the intended beneficiary is local and indigenous people, farmers and communities in developing countries, farmers from countries of origin and biodiversity that conserve plant genetic resources. This is very parallel to that of the IU with the addition of indigenous people.

The CBD utilizes the language "indigenous and local communities" in describing who is intended to benefit from farmers' rights. The Nagoya Protocol of the CBD is concerned with the right of "indigenous and local communities, including women within these communities." The term "local" in this context, as well as in the ITPGRFA, could potentially be used to emphasize the promotion of *in situ* conservation and the role of the communities in a certain geographical location to maintain, adopt or improve practices that conserve the biodiversity that exists in their communities. As the utilization of the characteristic "local" is never directly, discursively linked to *in situ* conservation, we can only speculate on its intention and meaning. It is also notable that this article of the Nagoya Protocol specifically mentions the rights of women within local communities.

Lastly, in UNDROP's Article 19 on the right to seed aims to protect this right for "peasants and other people working in rural areas" (Article 19.1 & Article 19.8). The inclusion of "people working in rural areas" in UNDROP could be attributed to difficulties related to defining "peasants," but again, this is only speculation.

Practitioners of the technique farmers' rights include the United Nations, specialized institutions and policies or declarations belonging to the UN, such as the CBD or the ITPGRFA. The individuals involved in the creation and ratification of these treaties are primarily member state representatives of

the UN and of the FAO. These practitioners are not farmers and may not have a relationship to seed or smallholder farmers. This corresponds to an unequal power dynamic – individuals and groups in positions of power making decisions to conduct the relationship between farmers and seed. The process underpinning the theoretical and methodological mechanics of my research, the practice of rendering technical, is partially dedicated to understanding these asymmetrical relationships. Rooted in Foucault’s understanding of the trustee and the subject, the intended beneficiary and practitioner relationship are founded in the assumption that while one is deficient or inadequate (the intended beneficiary), the other has the ability to empower or make adequate (the practitioner). In this case, different agencies of the UN and the FAO are utilizing the technique of farmers’ rights to “make adequate” the relationship that smallholder farmers hold with seed, assuming the power largely belongs to those writing and ratifying the treaties of the UN and the FAO.

The exception to this argument is in the case of UNDROP, a treaty inspired by the work of La Via Campesina and other civil society organizations. The website of La Via Campesina (La Via Campesina, 2021) shares that membership in their group includes more than two hundred thousand peasants, eighty-one countries and one hundred and eighteen organizations. As UNDROP’s creation was forged from La Via Campesina’s Declaration of Rights of Peasants, the practitioner could also be peasant organizations and smallholder farmers. However, La Via Campesina took this declaration to the United Nations’ Human Rights Council to be considered, which is a recognition of power. I would argue that even in the case of UNDROP where the intended beneficiaries have a more participatory role in the upbringing of an international declaration, the intended beneficiary and practitioner relationship is still the “empowered” and the “empowering,” because in taking their petition to the UN Human Rights Council, La Via Campesina was recognizing the authority of the UN.

This historical analysis of farmers’ rights focused on political utilization of farmers’ rights; first through UPOV Conventions 1978 and 1991, followed by the eventual adoption of the 1989 International Undertaking and finally through other key international treaties (CBD, ITPGRFA, UNDROP). While UNDROP’s practitioners are more diverse and participatory, including peasant organizations, I did choose to focus on the utilization of farmers’ rights in an international political context. This not to silence the voices of the many civil society and activist organizations that have engendered farmers’ rights throughout history, but rather to set boundaries around my research question. I do believe that this perspective holds the most weight for the future of farmers’ rights and the future of farmers’ rights’ ability to conduct the relationship between smallholder farmers and seed.

Needs & Power

Uncovered in the previous chapter, the intended beneficiaries of farmers’ rights, in summary, are local/indigenous/farming communities. As the adjective “local” could likely refer to the United Nations’ priority of including *in situ* conservation methods through the realization of farmers’ rights, the term says more about *why* farmers’ rights than *who* is intended to benefit from them. Therefore, indigenous and farming communities remains, which more succinctly describes the conglomerate group described in the texts analyzed for the technique farmers’ rights.

To understand the representation of the *needs* of the indigenous and farming communities, the intended beneficiaries of farmers’ rights, it may be most helpful to first understand the deemed *deficiency* that inspired the creation of the technique. As we know from the previous chapter, farmers’ rights were created with the hope to balance the rights granted plant breeders and plant genetic resource corporations with the rise of “breeders’ rights,” specifically in UPOV 1978 and 1991 (Anderson, 2005; Haugen, 2020; Borowiak, 2004). However, in the initial political recognition of farmers’ rights in the International Undertaking (IU) on Plant Genetic Resources (PGR) in 1989, farmers’ rights were claimed to be “simultaneous and parallel” to breeders’ rights. While this seems intuitive – how to balance two rights that are parallel and simultaneous – we have already observed ways that farmers’ rights and breeders’ rights are subtractable to each other at best. The more “rights” a breeder has, in many if not all circumstances, the less “rights” to the same seed a member of the indigenous and farming community has.

Many scholars have taken note that the deficiency that inspired the creation of the political technique farmers' rights was due to the erosion of farmers' access to plant genetic resources because of the impeding pressure from the intellectual property regime, as well as the corporate food regime (Peschard, 2017; Kloppenburg, 2010). Anderson (2005) claims that "realizing farmers' rights is seen as a vital means to halt genetic erosion and ensure food security. It is also viewed as central in attempts to counterbalance inequities in the world. As such, it represents a "crucial concept in the fight against poverty" (Anderson, 2005, pg. vii). Her claim is based on analysis of the history on farmers' rights utilizing UN documentation on conversations from the working group of the Commission on Plant Genetic Resources belonging to the IU on PGR from the 1980's, the beginning of the acceptance of the technique in international policy, and represents the *power* assumed to be held by indigenous and farming communities. Likewise, the IU on PGR on 1989 in Appendix 2, the Draft Resolution on Farmers' Rights, states:

- (a) in the history of mankind, unnumbered generations of farmers have conserved, improved and made available plant genetic resources;

How could unnumbered generations of farmers have the power to conserve, improve and make available the plant genetic resources that enabled corporate commercialized plant breeding, but also need, from the authority recognizing this power, the right to continue seed saving and sharing practices that have been culturally institutionalized for generations?

On one hand, indigenous and farming communities do not have the power to continue the seed sharing and seed saving practices that have been passed down from generations for hundreds of years (that power needs to be granted by the UN in the form of a "right"), as it is the deemed deficiency that engenders the technique, farmers' rights. But on the other hand, indigenous and farming communities do have the power to conserve genetic biodiversity for the rest of the world and serve as a barrier between communities and food insecurity. It alludes to the question begged by Borowiak (2004), "how is it that practices that were uncontested for centuries if not millennia should now need a special 'right' to prescribe both what farmers can and cannot legally do?" (pg. 514).

Article 9, the article on farmers' rights, of the International Treaty on Plant Genetic Resource for Food and Agriculture (ITPGRFA) of 2001 is more of the same. Based on a deemed deficiency, the ITPGRFA grants farmers the right to share in the benefits of the utilization of the plant genetic resources they have conserved and continue to conserve and the right to participate in decision making processes on the conservation of plant genetic resources. ITPGRFA also protects the traditional knowledge of indigenous and farming communities related to the conservation of plant genetic resources for food and agriculture.

A key difference in understanding the representation of the needs and power of the intended beneficiaries of this technique is that while the IU of 1989 assumes the authority to grant the rights provided in their documentation, the ITPGRFA prefaces the claims by stating the responsibility for the realization of farmers' rights belongs to national governments. Only after this clarification, does the ITPGRFA grant such rights. The last portion of the article, article 9.3, states the following:

Nothing in this Article shall be interpreted to limit any rights that farmers have to save, use, exchange and sell farm-saved seed/propagating material, subject to national law and as appropriate.

The deemed deficiency is not only the lack of access to benefit sharing and decision making power, but also indigenous and farming communities' ability to save, use, exchange and sell farm-saved seed. Which, at this point in time, after the ratification on the 1991 UPOV treaty, along with the TRIPS Agreement, was highly restricted, depending on nation state and membership in different free trade agreements (Kloppenbunrg, 2005).

In this treaty, the power of indigenous and farming communities is, parallel to that in the IU, the past, present and future ability to contribute to the conservation of plant genetic resources that are essential to the food security of the world. Girard & Frison (2021) quotes Pistorius (1997) in stating that farmers' rights are simply "a moral acceptance of the social and economic value of genetic resources in landraces developed by farmers in past millennia" (pg. 466). This shines a light on the power that indigenous and farming communities have but forgot to mention the need. The most relevant text representing the power of the intended beneficiaries in the ITPGRFA, Article 9.1, can be found below:

The Contracting Parties recognize the enormous contribution that the local and indigenous communities and farmers of all regions of the world, particularly those in the centres of origin and crop diversity, have made and will continue to make for the conservation and development of plant genetic resources which constitute the basis of food and agriculture production throughout the world.

This timeline of power struggle represents Foucault's conceptualization of governmentality quite clearly – as earlier mentioned this back and forth represents a "permanent provocation," as well as a "reciprocal incitation and struggle" – breeders' rights incite, therefore indigenous and farming communities struggle. Li (2007 b.) quotes Foucault's definition of power as "that 'the other' (the one over whom power is exercised) be thoroughly recognized and maintained to the very end as a person who acts' and that, faced with a relation of power, a whole field of responses, reactions, results and possible inventions may open up" (Foucault, 1982; Li, 2007 b., pg. 276). This perspective allows a step back from solely looking at the intervention that is the recognition of farmers' rights, and look at the bigger picture – that is, the back and forth, or the balancing act the UN and other practitioners play between breeders' and farmers' rights.

III. Seed Sovereignty

Intended Beneficiaries & Practitioners

Similar to the historical analysis of seed sovereignty, the exploration of the intended beneficiaries of the technique will also require observation within activist movement documentation, namely La Vía Campesina and Navdanya International. While we can look to academics to contextualize the history of the technique, it is more effective to understand who the intended beneficiaries are from the source of the technique – that is activist and grassroots movements.

In an article from 2016 on La Vía Campesina’s website the answer of who seed sovereignty serves is quite clear: “who we are fighting for is every single peasant farmer – more than 200 million – on the planet” (Adler, 2016). This is certainly an individualized approach, recognizing peasant farmers as the catalysts whose livelihoods are being impacted by the lack of seed sovereignty.

Navdanya International, on their homepage for Seed Freedom states that, “seeds of freedom for farmers are also seeds of freedom for everyone that eats food that farmers grow.” However, in mentioning seed sovereignty, specifically, the beneficiaries are “farmers, including women” (Navdanya International, 2020). The inclusion of women farmers is essential as is those who eat the food that farmers grow. This is reflective of a participatory approach, granting agency to the citizens that consume the foods that are produced from the seeds that are being struggled over.

The First Nations Development Institute’s intended beneficiaries can be observed as tribes, tribal organizations and indigenous communities, specifically farmers belonging to these groups (First Nations, 2015).

Jack Kloppenburg (2014) paints a clear picture of not only who the intended beneficiaries of seed sovereignty are, but also the rallying call in unifying this group of people.

Whatever their many differences, primary agricultural producers of all types and in (almost) all places find themselves confronting Monsanto (and/or its corporate analogs) in similar fashion, with similar implications for their access to and use of seed (Kloppenburger, 2014, pg. 1225).

This not only provides a group of people who Kloppenburg perceives to be the intended beneficiaries of seed sovereignty, but also an actor to play the villain. Kloppenburg argues that through the engenderment of breeders’ rights within the intellectual property regime, farmers across the world began to lose control of what they plant, when they plant and how they plant (Kloppenburger, 2014). While my analysis will focus on farmers primarily in the Global South, it is interesting to observe and consider what similarities farmers from both the Global South and the Global North have regarding what they have to gain from achieving seed sovereignty.

The practitioner of seed sovereignty is overwhelmingly observed as activist movements and leaders. In the case of the First Nations Development Institute, the practitioner and the beneficiary are one in the same – tribal individuals and groups. While academic activists have surely played a role in defining the technique, activists and peasant farmers can be said to play the biggest role in the upbringing of seed sovereignty. Indeed, both Peschard and Kloppenburg, two of my key academic voices concerning seed sovereignty, recognize seed sovereignty as a technique with the ability to bring together diverse groups and farmers in the struggle towards achieving sovereignty over seed. Kloppenburg (2010) calls this the “the potential for conscientization and perhaps even mobilization of diverse types of farmers around a common concern for ‘seed sovereignty’” (pg. 370).

It is worthy to note the fluidity of seed sovereignty dependent on the intended beneficiary, but more importantly the practitioner. While Peschard, Kloppenburg and Adhikari are more prone to use the term “seed sovereignty,” (while not ignoring Kloppenburg’s OSSI’s usage of “seed freedom”), activist organizations like La Via Campesina and Navdanya are more open to connecting the meaning of seed

sovereignty to other terms like food sovereignty and seed freedom. The increasing usage of the terms food sovereignty and seed freedom in conjunction to the utilization of seed sovereignty is not subtractable. I would argue that activist and civil society organization's ability to adopt more concepts in their struggle for autonomy is simply the act of adding more tools to their toolboxes.

Needs & Power

The intended beneficiaries of seed sovereignty include, similarly to farmers' rights, farming and indigenous communities. However, the activist movements that are responsible for the engendering of seed sovereignty are more specific about the technique being for individual peasant farmers. As mentioned in the previous chapter, the 2016 La Vía Campesina article on seed sovereignty claims "who we are fighting for is every single peasant farmer – more than 200 million – on the planet" (Adler, 2015).

The deemed *deficiency* that engendered seed sovereignty is an increasingly aggressive intellectual property and corporate food regime (Kloppenburger 2010 & 2014). Kloppenburger (2010) on the recovery of seed sovereignty, argues that seed sovereignty existed long before corporate agriculture and the life science industry as a whole staked their claim on much of the world's conserved plant genetic resources. This makes the analysis of the represented power and needs of the intended beneficiaries a little less straight forward than for the technique farmers' rights. The dynamic is, according to this perspective, that farmers had sovereignty over seed, breeders' rights and the intellectual property regime overtook this sovereignty and now, through the recovery of seed sovereignty, that freedom is being struggled over and fought for. While this is still representative of governmentality and the "permanent provocation" of power, it differs severely from that of farmers' rights.

Seed sovereignty problematizes the phenomenon that Kloppenburger (2010) terms an "opposition to dispossession." That is opposition largely to the TRIPS requirement that requires countries belonging to the WTO must have intellectual property protection legislation in place to take part in trade agreements (Peschard, 2021). Likewise, the "asymmetric and unjust character" of the corporate food regime inspired the uprising of activists like La Vía Campesina and Navdanyas' utilization of seed sovereignty as a technique, deeming this regime as a whole as the *deficiency* that needs to be made adequate.

In this technique the *need* of the intended beneficiaries, peasant farmers, is represented as an alternative to the dominant regimes at play and autonomy to decision making processes.

In a review of the debate between GMO and hybrid seed and the future of the sustainability of agriculture, Adhikari (2014) describes seed sovereignty as a method to conserve local genotype, biodiversity and agroecology, while producing healthy and culturally appropriate food. This definition is reminiscent of the root of the term – that is the food sovereignty movement. This perspective sets up corporate agriculture on one side of the dichotomy and food and seed sovereignty on the other – not at all "simultaneous and parallel" like the farmer's rights debate claimed to be. Adhikari also makes the distinction between food and seed *security* and food and seed *sovereignty*, marking the difference as control over genetic resources. In food and seed security the emphasis is on access and availability. On the other hand, food and seed sovereignty is founded on the basis of control over food consumed and germplasm utilized. Seed sovereignty, in other words, demands or illustrates the *need* for autonomy while recognizing the politics at play surrounding seed practices and policies (Adhikari, 2014).

Adhikari's discourse around this debate also highlights the *power* of the intended beneficiaries of seed sovereignty. The *power* to conserve biodiversity through the local genotypes and to produce culturally appropriate food while struggling to achieve an alternative food regime – one that is more reflective of the objectives of food sovereignty.

Seed sovereignty from this point of analysis is more reactionary than farmers' rights, even after acknowledging farmers' rights can be perceived as a reaction to breeders' rights. Combining many academics' perspective on the timeline of the relationship smallholder farmers have had with seed, it could be argued that seed sovereignty existed until the corporate food regime and the intellectual property regime formed what was known as breeders' rights, which brought with it the political creation of farmers' rights. Farmers' rights' shortcomings then inspired the renewed struggle for seed sovereignty.

IV. Comparison of Techniques

To answer *by whom* did the techniques emerged and *for whom* are the techniques intended, is to answer who are the intended beneficiaries and the practitioners of the technique. I found that the primary practitioner of farmers' rights are members of the FAO who write and administer policies, declarations and treaties like the IU on PGR, the ITPGRFA, the CBD and the UNDROP. The intended beneficiaries of these legislative acts are indigenous and farming communities. The degrees of separation between the practitioner and the intended beneficiaries, therefore, are numerous.

The boundaries that separate the practitioners and intended beneficiaries of seed sovereignty, contradictorily are quite blurred. The intended beneficiaries of this technique are peasants and smallholder farmers. The practitioners are activist and peasant groups and civil society organizations. Organizations like La Via Campesina, are, in many ways, led by smallholder farmers and peasants. This reflects a more balanced power structure than in the case of farmers' rights. This blurred distinction between intended beneficiary and practitioner (or subject and trustee) could imply that seed sovereignty has not been rendered technical, or at least not to the extent that farmers' rights has been, as seen in this chapter.

	Farmers' Rights	Seed Sovereignty
<i>Intended Beneficiary</i>	<ul style="list-style-type: none"> • Indigenous and farming communities 	<ul style="list-style-type: none"> • Peasant and smallholder farmers
<i>Practitioners</i>	<ul style="list-style-type: none"> • Policy makers for the FAO, largely influenced by the Global North 	<ul style="list-style-type: none"> • Activists and academics, peasants and peasant organizations
<i>Needs</i>	<ul style="list-style-type: none"> • Balance the rights of plant breeders • Capacity building for PGR • Benefit sharing 	<ul style="list-style-type: none"> • Autonomy over seed • Power to make decisions that dictate smallholder farmers' realities
<i>Power</i>	<ul style="list-style-type: none"> • Conservation of plant genetic resources and plant genetic diversity • Protection of local food security 	<ul style="list-style-type: none"> • Resist dominant corporate agriculture regime/ intellectual property regime • Act as citizens, rather than consumers • Maintain biodiversity and promote nutrition

The representation of the needs and powers of the intended beneficiaries also varies between the two techniques. In the case of farmers' rights, the needs are carefully within the realm of its practitioners' capabilities. The FAO could indeed engender farmers' rights as an aesthetic counterweight to breeders' rights. They could also bring about capacity building in countries of origin and create a benefit sharing platform, as they already have intervened with capacity building programs for other agricultural development programs in the past. In a lot of ways these needs relate to the needs portrayed of those in developing countries of the very same practitioners. In this sense, farmers' rights do reflect a development intervention. Li (2007a) states:

“Trustees use a particular population's failure to improve (to turn nature's bounty to a profit), or to conserve (to protect nature for the common good) as rationales for their dispossession, and as the justification to assign resource to people who will make better use of them” (pg. 21).

This quote is blatantly reflective of farmers' rights representation of both the intended beneficiaries' needs and power. While practitioners of farmers' rights do admit to indigenous and farming communities' abilities in conserving plant genetic resources for generations, they don't do so in a profitable way. Hence the practitioners' alignment with the intellectual property regime.

Seed sovereignty represents the power and needs of its intended beneficiaries much differently. Seed sovereignty recognizes the power of peasant farmers to reclaim autonomy over their seed practices. The needs of this technique's intended beneficiaries reach far beyond the realm of the corporate food regime or the intellectual property regime. In fact, these needs are to do exactly that – escape the regime under which their seed practices have been threatened in the first place. Looking at and comparing the two, it seems that farmers' rights portray a more passive representation of its intended beneficiaries and seed sovereignty a more active representation.

While the findings prove that up to this point in the research, farmers' rights have been rendered technical and therefore restricted, seed sovereignty, tells a different story. Pulling inspiration from another quote from Li (2007a):

“Planned development is premised upon the improbability of the ‘target group’ but also posits a boundary that clearly separates those who need to be developed from those who will do the developing. Deficient subjects can be identified and improved only from the outside.” (pg. 15)

While farmers' rights do clearly distinguish between the “developer” and the “developing,” we've found that no such distinction can be found in the case of seed sovereignty. It seems as though the practitioners of farmers' rights are not so dissimilar from whom seed sovereignty is up against. Seed sovereignty is still dedicated to the improbability of the intended beneficiaries but is more reflective of a participatory process. In fact, the improvement of the target group is dependent on the intended beneficiaries and their ability to surpass the restrictions of the dominant regime supported by the “developers.”

Chapter Five: Exclusion from the Boundaries of Intervention

I. Introduction

Exploring elements that have been excluded through the emergence and representation of the intended beneficiaries for both techniques will illustrate some of the most important findings in the research. I found that farmers' rights fail to include alternatives to or realities outside of the corporate food regime. The mechanism proposed for empowerment for farmers' rights are within the realm of the practitioners' skills and resources, limiting its effectiveness, further proof of the technique being rendered technical and being restricted. Seed sovereignty makes more powerful demands in its proposed mechanisms for empowerment and excludes less. Seed sovereignty includes alternative realities, regimes and ontologies, but still does not recognize seed apart from its value and agency to humans.

Building off of the findings from the last chapter, specifically the conception and representation of the power and the needs of the intended beneficiaries, this chapter will investigate how these findings uncover what is included and excluded in the identified area and boundary of intervention. More explicitly, this chapter will answer the question: **Who and what practices are excluded from these domains of intervention?**

Connecting back to the previous chapter on intended beneficiaries, Li notes in her 2007(b) literature, "Governmentality" that the intended beneficiaries of techniques must be "bounded, linked to a defined problem, and that problem linked again to an account of the mechanisms through which the problem can be addressed" (pg. 279). I will begin this chapter by observing each technique's potential mechanisms for empowerment, and therefore alluding to how the area of intervention is bounded simultaneously to the population that serves as the intended beneficiaries of each technique.

The purpose of including the proposed mechanisms for empowerment in answering this sub-question is to illustrate the ways that each technique perceives their boundary or realm of intervention. It exposes the limits within which practitioners perceive their potential for impact or improvement. This phenomenon is summarized clearly by Li (2007a): "Their [the practitioners] claim to expertise depends on their capacity to diagnose problems in ways that match the kinds of solution that fall within their repertoire" (pg. 7). It's important to note that I am collecting findings on the *proposed* mechanisms for empowerment. I am not attempting to decipher what either technique is doing in reality to empower the intended beneficiaries, only what the practitioners claim they are able to achieve in empowering the intended beneficiaries. This objective aligns with my methodology of textual and policy analysis.

This chapter introduces another term from Li's practice of rendering technical: boundaries of intervention. This boundary of intervention is an area that constricts what is within the realm of improvement. It describes how practitioners of interventions "construct a boundary around a knowable, improvable, technical domain" (Li, 2007a, pg. 154). The obvious threat to this mode of "development" is that it limits what (and more importantly, whose) knowledge matters. Li also argues for this approach as it "enables me [Li] to discover what these programs sought to change and what was excluded from their technical domain" (pg. 123). This portion of the research is concerned with what Li refers to as "exposing gaps" – discrepancies between "the world conveyed in the texts and the world to be transformed," as well as between "what the programs proposed and what they delivered" (pg. 123).

This process can be further understood by when practitioners "identified an area of intervention, bounded it, dissected it and devised corrective measures to produce desirable results" (Li, 2007, pg. 123). It is an essential and intentional step in the practice of rendering technical. The boundary of

intervention is important to my research as it problematically and systematically excludes elements of the deficiency the practitioners of certain techniques are attempting to improve.

What this question truly answers, is *to what extent* have farmers' rights and seed sovereignty been rendered technical. In understanding both techniques' vulnerability to being rendered technical, we are building the understanding underpinning farmers' rights' and seed sovereignty's ability to conduct the relationship between smallholder farmers and seed.

This chapter will begin with analysis done on farmers' rights. It will be split between the proposed mechanism for empowerment, which are drawn from the representation of the needs of the intended beneficiaries from the previous chapter. While the proposed mechanisms for empowerment will begin to uncover the boundaries for intervention, most important for the purpose of my research, is understanding what has been excluded from these boundaries. Therefore, following the analysis of the proposed mechanism from empowerment, I will explore what was excluded from this bounded area of intervention. Following this analysis on farmers' rights, the same will be done for seed sovereignty. Finally, this chapter closes with a comparison of the findings for both techniques.

In closing, Li (2007a) highlights why this sub-question is so essential to the rest of the research. She states: "questions that experts exclude, misrecognize, or attempt to contain do not go away." While rendering population deficiencies, the intended beneficiaries and the boundaries of intervention technical does simplify the role of practitioners as well as confirm their importance to the intervention, it does not change the realities of the population.

II. Farmers' Rights

Proposed Mechanisms for Empowerment

To begin the discourse on the proposed mechanisms of empowerment through the technique, farmers' rights, Borowiak (2004) can shine an interesting light on farmers' rights as a potential mode of resistance against the inequalities of the intellectual property regime.

“Unlike breeders' rights, which, as a form of individualized property right, pertain to excludable goods with identifiable owners and place state-enforceable obligations on individuals to respect such rights, farmers' rights were, from their inception, understood to be something distinct from conventional property rights. Shared knowledge, diffuse communities, traditional practices, and the contributions of past generations, all provide the groundwork for farmers' rights. And yet all of these things are in various ways at odds with the liberal framework that defines conventional property.” (Borowiak, 2004 pg. 528)

The question of what mechanisms are available to empower indigenous and farming communities, while belonging to the corporate food regime remains. Farmers' rights are inflicted with belonging to a regime that, by definition, contradicts the very nature of what they are meant to achieve. Can the same regime that grants individualized property rights established in the ability to exclude grant rights for the common good with the purpose of inclusion? But Borowiak (2004) doesn't stop there. Not only do farmers' rights face the obstacle of belonging to an ill-fitting regime, but also the obstacle of identifying specific mechanisms that influence the realities of farmers, already victims to such a regime. He states:

“Formally recognizing farmers' rights is one thing. Knowing where to locate their corresponding obligations and how to translate them into practice is quite another. Determining just what farmers' rights are and how to make them practicable has been a matter of intense and continuing debate.” (Borowiak, 2004, pg. 529)

Out of the many *proposed* mechanisms for empowerment through the recognition of farmers' rights, maybe the most interesting for analysis is the fund for indigenous and farming communities suggested first in the 1989 International Undertaking. In the IU, the FAO references a pre-existing fund, the International Fund for Plant Genetic Resource as a potential monetary fund that could carry out the compensation process for indigenous and farming communities. The text most directly referring to the fund in Appendix One of the IU can be found below:

To reflect the responsibility of those countries which have benefitted most from the use of germplasm, the Fund would benefit from being supplemented by further contributions from adhering governments, on a basis to be agreed upon, in order to ensure for the Fund a sound and recurring basis.

While at first glance the fund may seem like a good mode for improving equal benefit sharing, Vandana Shiva (1996) claims “this system of compensation through aid or assistance for the exploitation of these resources by the north is inappropriate, insufficient and undignified” (pg. 1625). Another essential point Shiva makes in regard to the fund is that while patents and royalties are mandatory, belonging to an entire intellectual property regime, the fund suggested by the FAO was to be on a voluntary basis. However, this fund has yet to come into fruition, so analysis can only be done on the proposal of such mechanism for empowerment, not on the actual implications of such a mechanism.

Another proposed mechanism for empowerment is in the same article of the 1989 IU,

Special priority should be placed on intensified educational programmes for biotechnology specialists, and strengthening the capabilities of developing countries in genetic resource conservation and management, as well as the improvement of plant breeding and seed production.

This too, can be observed as a form of indirect aid. However, it portrays a slightly different set of needs of the intended beneficiaries. Capacity building programs in developing countries as a mechanism for empowerment is reflective of a collection of post-colonial beliefs that is founded in the idea that the seed practices of the South ought to reflect those of the North, and the South is able to do so through the empowerment of the North.

Article 9 of the ITPGRFA, informally known as the Seed Treaty, is, as mentioned in the previous chapter, the article on farmers' rights. This article highlights three mechanisms for empowerment in the realization of farmers' rights:

- a) protection of traditional knowledge relevant to plant genetic resources for food and agriculture;
- b) the right to equitably participate in sharing benefits arising from the utilization of plant genetic resources for food and agriculture; and
- c) the right to participate in making decisions, at the national level, on matters related to the conservation and sustainable use of plant genetic resources for food and agriculture.

The first clause, concerned with the protection of traditional knowledge, arguably lies outside of the realm of the corporate food and intellectual property regimes. It also implies to a certain extent that farming and indigenous communities *need* the protection of the FAO for the conservation of their seed practices. The second clause refers to some mechanism of benefit sharing, which was discussed previously in the paragraphs pertaining to the International Fund for Plant Genetic Resources. While the ITPGRFA does not explicitly state this is the set up recommended for benefit sharing, it does not offer another format. Lastly, the ITPGRFA advocates for participation in decision making processes regarding plant genetic resources. This reflects both the need that the intended beneficiaries have to participate in forming the policies that shape their realities and the power they have to shape those policies for the better.

To bring this section to a close, farmers' rights are surely bound by the regime which they belong in terms of this technique's representation of its intended beneficiaries, with the exception of its recognition of the importance of traditional knowledge. Farmers' rights, as a technique, in this analysis, assumes farming and indigenous communities to be subjects to not only the international institution that dictates such rights, but also the dominant regime this international institution is member to.

Exclusion from Bounded Area

Most notably excluded from farmers' rights bounded area of intervention is a recognition of the politics underlying the claim to farmers' rights. The FAO in the engenderment of farmers' rights fail to first, recognize that their intervention is firmly situated within the corporate food regime, highly reactive to capitalism's demands. Secondly, they fail to realize the alternatives to capitalism that exist well within the realities of the intended beneficiaries, seed saving and seed gifting, for example.

Li (2007a) also, inspired by Marx's recognition of the aggressive threats of capitalism's dominance states "capitalism is not an autonomous system. Primitive accumulation is a violent process. The laws that support private property, enforce exclusion, and produce 'free' labor are violence by other means" (pg. 20).

The dominance of capitalism is a force that will continue to reproduce itself through farmers' rights in its acceptance of a legal framework that confirms private property and patents on life. Farmers' rights fail to recognize the existence of informal seed systems (Peschard, 2017). Fakhri (2021) states:

The challenge is that States enact farmers' rights within their specific contexts and against different geopolitical power dynamics. This creates a diverse set of farmers' rights that are applied through formal and informal markets and cultural practices, and also through different property regimes (Fakhri, 2021, pg. 10).

He argues that if a system depends on forms of legality such as private property, contracts and certification and commodification it eventually eradicates the presence of human rights. If farmers' rights leaves room for corporate interest, he claims, the interest of smallholder farmers and peasant communities will be excluded. In other words, the inclusion and engenderment of commodity seed systems represents an exclusion of farmer seed systems (Fakhri, 2021). In what Fakhri would consider the commodity seed system, the few powerful seed suppliers even have power in dictating which crops are rendered important and accessible, lending itself to genetic erosion (Sievers-Glotzbach, 2021). Farmers' rights exclude a form of resistance against private enclosures.

Adhikari (2014), in comparing the demands of seed sovereignty to what is currently being promoted regarding the right to food, mentions farmers' rights' exclusion of indigenous peoples' right to their natural resources, including plant genetic resources. But maybe more importantly, he also shares the importance of "recognizing and enforcing communities' legal and customary rights to make decisions concerning their local, traditional resources, even where no legal rights have previously been allocated" (pg. 35). This could be summarized by saying farmers' rights lack diverse ontologies of seed and smallholders farmers.

Farmers' rights exclude farmer seed systems and farmers' realities, to the benefit of corporate agriculture and the corporate food regime.

II. Seed Sovereignty

Proposed Mechanisms for Empowerment

As reviewed in the previous chapter, Adhikari (2014) reviews the demands made by the Campaign for Seed Sovereignty (CSS) Europa as:

- 1.) Open access to fertile and diverse seeds free of any form of legal protection or patenting;
- 2.) The right of farmers and gardeners to obtain seeds from their harvest, to re-sow, distribute and sell them;
- 3.) A new model of agriculture based on local, small-scale food webs rather than monocultures requiring high inputs;
- 4.) New agricultural and trade policies promoting production for local needs and not global 'free' trade, dominated by transnational corporations; and
- 5.) Policies that favor the needs of farmers and consumers, health and the environment instead of profits for big businesses.

These mechanism of empowerment through seed sovereignty set the agenda for the movement quite clearly and succinctly. As the portrayal of smallholder farmers in this technique accounts for the social and political agency of individuals, the mechanism of empowerment reaches beyond economic compensation.

The first, open access to fertile and diverse seeds, without patents is the first form of opposition against the intellectual property regime. Kloppenburg (2014) explains a vision for open source seed, an idea parallel to open access seed as a “space in which farmers can continue to apply their local knowledge and ingenuity in the service of an agriculture that sustains not only their communities, but the environment” (pg. 1232).

The second, the right to save seeds to replant, share and sell seeds, in the context of seed sovereignty, is an argument to return to a reality prior to the intellectual property regime. The third, likewise, challenges this regime, by advocating for a more localized and democratic seed and food system. Again, this also reflects how farmers, in this technique, are represented to have the *power* to do so.

The fourth and the fifth demand of CSS Europa calls for a shift in the dominant policies surrounding seed. Shiva (1996) advocates for three changes in policies and trade deals. The first is the ethical and ecological recognition of the value in all plant species – even those that UPOV wouldn't regards as distinct, uniform or stable. The second is the equal recognition of the importance of the diversity between cultures and communities. The final suggestion that Shiva makes is the recognition of the economic responsibility to provide all peoples with health and nutrition.

The proposed mechanisms of empowerment for seed sovereignty are aligned with the technique's emergence, as well as its representation of its intended beneficiaries. As seed sovereignty's emergence is embedded in resistance and opposition, its mechanisms for empowerment stand in drastic contradiction to the corporate food regime and the intellectual property regime. Not only does this technique oppose the dominant regimes in place, but also works to illustrate alternatives moving forward.

Exclusion from Bounded Area

While seed sovereignty excludes significantly less than farmers' rights, seed sovereignty still, by many definitions, still lacks total recognition of seed's agency. Escobar (2016) shares another way that both techniques are limited in her argument for recognition of species-narcissism:

I believe scientific studies in genetics and seed development need to be decoupled from corporate greed, western supremacy, and human's suicidal quest for ultimate power and control over nature or what Bird Rose (2012) calls species-narcissism. Nature has fragile limits, rights, and unlimited creativity and agency that always surpass humans' control and plans. (...) Seeds and other forms of life were developed over millions of years of evolution under processes and networks we know insufficiently; it is arrogant and irresponsible to pretend to undue or control evolutionary processes in the span of years or decades (Escobar, 2016, pg. 32).

Her research, specifically on indigenous peoples in Colombia's complex relationship with seed convincingly contends for more nature inclusive research. She compares the loss of seed diversity to losing a language or other cultural identity markers. She observed seed's ability to build relational worlds together with smallholder farmers and seed savers. Her research cites communities of women who consider the seed that they save "sacred and willful beings with whom they establish strong – even kinship– relations" (pg. 16). All of this to say, seed sovereignty does indeed make many steps forward in protecting the relationship farmers have with seed, but seed sovereignty does still exclude the rights of seeds.

Most notably absent from seed sovereignty is the recognition of seed as an independent being with its own agency, potentially deserving of its own rights. Escobar (2016) claims a more place-based and ontologically appropriate definition of seed would be "an interspecies assemblage + a set of practices + a cosmovision / way of worlding" (pg. 218). That is to say, to first recognize the agency and importance of seed-human relations and then to accept that seed saving practices is not only a recognition of the "other," but also a way to conserve a different way of worlding.

III. Comparison of Techniques

The largest observation in exploring the difference between farmers' rights and seed sovereignty regarding what each technique excluded from its domain of intervention is that while seed sovereignty allows space to recognize and engender alternatives to the corporate food regime and the intellectual property regime, it still only perceives seed through its relationship and value to humans.

The proposed mechanisms of farmers' rights are likewise restricted to the confines of the corporate food regime, apart from the right to save, share and sell seed. However, this mechanism is only proposed with the caveat that national governments maintain their right to make decisions on saving, sharing and selling seed, dependent on their own priorities and policies regarding intellectual property. Seed sovereignty's proposed mechanism for empowerment are more reflective of alternatives to the dominant regime. If achieved, these mechanisms would personify a regime shift, towards one more reflective of the food sovereignty movement.

	Farmers' Rights	Seed Sovereignty
<i>Empowerment Mechanisms</i>	<ul style="list-style-type: none"> • The International Fund for Plant Genetic Resource • Educational programs and capacity building for genetic rich countries • The right to save, share and sell seed 	<ul style="list-style-type: none"> • Access to diverse seeds without patents • A more localized and diverse agriculture regime • Freedom from FTAs controlled by TNCs • Priority on human and environmental health over profit
<i>Excluded from Domain</i>	<ul style="list-style-type: none"> • Recognition of alternatives to the dominant regime 	<ul style="list-style-type: none"> • Recognition of seed beyond its relationship with humans

Farmers' rights limitations have been made increasingly clear throughout this chapter, while the opposite could be said about seed sovereignty. Kloppenburg (2014), referencing Marx (1998) and Nicholson (2009) states:

The seed and its attendant political ecology are now a potential vector for development of the sort of shared consciousness envisioned by Marx and welcomed by La Vía Campesina (LVC) leaders as 'a common base ... for globalizing the struggle' (Nicholson in Wittman, 2009) against the corporate food regime (Kloppenbug, 2014, pg. 1225).

The observation of seed sovereignty's proposed mechanisms for empowerment, echo this statement. While this chapters' findings question whether seed sovereignty has been rendered technical at all, I did observe the exclusion of the "right of seed" (Escobar, 2016). Whether this shortcoming effects the relationship that farmers hold with seed is beyond the scope of my research, however, it is excluded all the same.

Chapter Six: Discussion & Conclusion

Discussion

Alternatives to Farmers' Rights & Seed Sovereignty

Throughout the course of my research many alternative techniques to conduct the relationship between smallholder farmers and seed have come to light. Seed freedom, seed security, the right to food, the right to seed and the discourse surrounding food sovereignty have all played diverse parts in dictating this fragile and essential relationship.

The inclusion of alternative techniques such as seed freedom, brings to light an interesting possibility. Like so many revolutions or regime shifts in the past, maybe the struggle for farmers' autonomy over seed, takes many aligned, but diverse movements. While farmers' rights have arguably emerged as a negotiation tool to allow breeders to maintain their right to patent and certify seed, the technique has, throughout history, gained traction and served as a tool to unify many beneficiaries. Simultaneously, seed sovereignty has brought together activist and peasant organizations, personified alternative voices and diverse realities and represented an alternative path forward. As food sovereignty becomes recognized by the international political community,

The right of seed, only briefly suggested in the work of Escobar (2016) brings an interesting alternative to the table. It is unlikely that policy makers are able to make such a jump forward in observing the inherit agency of seed and determine seed, as a being, worthy of rights or recognition, it could be something that seed sovereignty or seed freedom highlights or includes.

At the end of the day as policy makers write legislation and academics grapple with the meaning and implications of new legislation, it is farmers who feel the implications of the governmentality surrounding seed practices. Whether the more appropriate technique in improving the relationship had between smallholder farmers and seed is farmers' rights, seed sovereignty, both or neither, this research is important because words matter, farmers matter and the words used to describe, personify and govern farmers matters. The language surrounding complex issues such as the ones described in my research shapes the way that we perceive not only the issues, but the actors involved with the issues, as well. This was made clear in the comparison between the representation of the power and needs of the intended beneficiaries for farmers' rights and seed sovereignty.

The Post-Colonial Context & Other Lingering Thoughts from Li

Conversations around the practice of rendering technical exists within the context of development interventions in the post-colonial paradigm. Whether we can claim the techniques farmers' rights and seed sovereignty belong in the development and post-colonial context is debatable and beyond the scope of my research. Regarding colonialism, Li states "they [certain groups of minorities] were excluded from the exercise of rights granted to other citizens on the grounds that they were incapable – or not yet capable – of exercising the attendant responsibilities" (pg. 14). While the FAO does grant such rights to farmers, they still do assume a certain lack of power through what I found to be the deemed deficiency.

Escobar (2016) argues that the corporate seed regime is rooted in the coloniality of power as it only recognizes knowledge and "improvement" through a Westernized lens. Science that is considered "inventive" belongs to the Global North, while that science simultaneously rendering seed-human relationships unimportant (Escobar, 2016).

Interestingly, in the introduction to Li's *The Will to Improve* (2007a) she makes a distinction between the practice of government and the practice of politics. In the practice of government, improvement becomes "technical as it attached to calculated programs for its realization" (pg. 12). This could be said of farmers' rights. Firmly situated and bounded to the corporate food regime, farmers' rights have by definition been rendered technical. We have observed that through its emergence, through its

representation of the intended beneficiaries and through what has been excluded from its boundary of intervention.

In comparison, Li (2007a) defines the practice of politics as “the expression, in word or deed, of a critical challenge. Challenge often starts out as refusal of the way things are” (pg. 12). We have clearly seen throughout the course of my research that seed sovereignty reemerged as a resistance to the corporate food regime and the intellectual property regime. Li goes on to say, on the practice of politics, “it opens up a front of struggle. This front may or may not be closed as newly identified problems are rendered technical and calculations applied” (pg. 12). Seed sovereignty, especially in combination with the food sovereignty movement, has served as a unifying front of struggle for peasant farmers specifically.

Conclusion

In answering the research questions in the previous chapters, I've come closer to understanding to what extent and in what ways farmers' rights and seed sovereignty have been rendered technical. But what exactly are the implications of such techniques being rendered technical? Regarding development programs, the implications of interventions being rendered technical are gaps – gaps between the realities represented and the realities lived, gaps between the problem represented and the problem lived. These gaps relate to implications and misrepresentations and translate to unsuccessful interventions (Li, 2007a). The same could be said of farmers' rights and seed sovereignty's ability to conduct a beneficial relationship between smallholder farmers and seed.

The findings from the three sub-questions have painted a picture of the ways that farmers' rights have been restricted to achieve particular ends to the benefit of agricultural corporations. The emergence of the technique made clear that even the original creation of farmers' rights was bound to the corporate food regime. The utilization of farmers' rights was primarily as a negotiation tool for the Commission for Plant Genetic Resources. Likewise, the representation of the intended beneficiaries was carefully bounded to an intelligible field within which the practitioners of the technique could intervene within their skillset and their power. This led to an exclusion of smallholder realities and ontologies.

Seed sovereignty, on the other hand, emerged outside of the realm of the corporate food regime and the intellectual property regime as a unifying front for the struggle for seed autonomy. Seed sovereignty is a reaction to the corporate food regime, whereas farmers' rights is merely an outcome of the dominant regime. Seed sovereignty's utilization is far more flexible and participatory. The practitioners of this technique are in many cases the same as the intended beneficiaries.

The poem included after the title page of my thesis reminds me of the social and historic context in which my research takes place. The corporate food regime is dominant and regime shifts do indeed take a revolution of some form. The first verse acknowledges that revolutions can be painted as aesthetically pleasing, poetic at best – painted signs and marching at protests:

*A revolution sounds fanciful,
noble, reckless, cool-esque,
written within catchy love songs,
marching signs and protests.*

But I envision La Via Campesina, Navdanya and other activist and peasant organizations protesting the GATT and other WTO treaties. These organizations do the hard, on the groundwork of unifying farmers from across the world. As I've mentioned previously in the research, many farmers whose livelihoods are threatened by the aggressively approaching intellectual property regime may not have known the risk treaties like UPOV could have, without the advocacy work these organizations have done for decades.

Then the second verse reminds me that a revolution takes more than protests – it takes a force powerful enough to surpass trends, to surpass what is dominant. This verse reminds me of the original hope for farmers' rights. Motivated by the Global South's hesitancy towards the International Undertaking of Plant Genetic Resources, the FAO's Commission for Plant Genetic Resources was forced to create a counterweight for the newfound influence of breeders' rights.

*But a revolution takes courage,
traveling far beyond trends;
it starts in shadowed places,
and dares to turn bends.*

Even before farmers' rights were able to be defined, there were a group of diverse leaders, leaders like M.S. Swaminathan, who fought for the voice of smallholder farmers' to be heard in the international political arena (Swaminathan, 1995).

The final verse of this poem by Tess Guinery, I believe, illustrates a potential path forward in conducting the relationship between smallholder farmers and seed. The corporate food regime has rendered farmers' rights technical, and therefore restricted. That has been seen in its emergence, in its utilization, in its representation of its intended beneficiaries and finally, in its exclusion of diverse realities. While seed sovereignty has not yet been restricted to the confines of the corporate food regime and the intellectual property regime, it is not yet recognized as technique for conducting the relationship between farmers and seed by the people who form international policies and treaties. The final verse reads:

*A revolution is honest,
a walk the other way,
making changes,
not adhering,
not following common sway.*

Farmers' relationship with seed began long before the commodification of seed and will surely remain essential beyond whatever tribulations farmers withstand due to such commodification's implications in the coming decades. While I don't foresee farmers' rights being replaced with techniques like seed sovereignty or seed freedom in international policies or treaties in the near future, I do believe the utilization of farmers' rights in combination with the engenderment of alternatives could move towards the recognition of more appropriate and diverse realities for the smallholder.

Like many revolutions throughout history, there may not be one correct answer in how to most intentionally and appropriately conduct the relationship between smallholder farmers and seed. A potential error in my research could have been my desire to compare farmers' rights and seed sovereignty. Rather, a better way forward could have been seeking ways to leverage the two techniques simultaneously. Admittedly, farmers' rights have been rendered technical. Though restricted, farmers' rights have gained territory for conversations surrounding the welfare of smallholder farmers in international policy. And though nuanced, because of this new territory, decision makers are beginning to account for the interest of diverse others in international policies and treaties. Farmers' rights fall short. Short of being able to effectively or impactfully conduct the relationship farmers have with seed.

Seed sovereignty picks up where farmers' rights fall short. Seed sovereignty's emergence is a recognition that the current, dominant regime does not serve the needs or represent the power of smallholder farmers. It widens the boundary of intervention to account for more realities and more forms of resistance.

But a plant is nothing without its seed and a seed cannot germinate without its roots. Maybe the seed represents the agency of plants, but the ability to grow roots personify why seeds have agency in the first place. While trying to think more creatively about seed and the concepts utilized to dictate the relationship farmers hold with seed, I began digging through the art supplies at my house. I found a piece of black scratch paper and got to work. I found that the dualistic nature of seed is a lot like the iceberg analogy. What we cannot see is arguably more important than what we can. In this analogy, seed is rooted in historic and geographic inequality (Kloppenburger, 2005). While it is indeed, a storage place for culture and heritage (Shiva, 2001), it is also embedded in accumulation by dispossession (Kloppenburger 2010, McMichael 2014). The only way we can give justice to the social characteristics of seed, therefore, is to give attention to what it is rooted in. In the case of seed politics, that is historic and geographic inequality, asymmetrical germplasm flow and accumulation through dispossession (Kloppenburger, 2005, 2010 & 2014).

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Annex

The drawing below was a helpful way I envisioned seed as I finished writing my thesis. I took the picture with zinnia seeds, because every year since I've helped in my family's garden, we've bordered all of our plots with zinnias to attract pollinators. In the past five years we've realized we could just save the seed from the dried zinnias in paper bags for the next year. Harvesting and saving the seeds this year served as some of the best reflection time while thinking through the end of the thesis process. I only added color to the drawing below the soil, as the social characteristics of seeds, those I portrayed as "below the soil" were what I felt were most important to think about.

