7 Seed sovereignty as civil disobedience in northern India?

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"The catch is before you can give all this away you have to take it…"~Zizek, 2006

Introduction

In 2004, the Government of India circulated a bill that would revise and replace many of the policies governing seeds and seed saving in India. Prior to this, legislation had increasingly liberalized India's trade laws, but policies regarding the saving of seeds had not changed much since the 1966 Seed Act. The 2004 National Seed Policy would require the registration of all seeds, domestic and foreign, with the government before they could be sold. The bill would also make it easier for foreign direct investment in India's seed's market, largely through the genetically modified (GM) trait market. Resistance to multiple aspects of the bill has kept it from being passed, but the bill sparked debates over what the introduction of transnational capital and GM seeds will mean for India's agrarian future. Since the Green Revolution, public- private partnerships have developed so-called "improved varieties" from indigenous seed varieties which were then sold back to farmers. The 2004 Seed Policy would effectively end any autonomous seed saving that had any commercial sales associated with them, significantly reshaping marketing strategies for small-scale producers. Kloppenburg (2010) argues that the right to control genetic resources is a key component of food sovereignty. The debate over who controls genomic material signals a broader struggle over the right to food and the future of agriculture.

Charismatic activists resist the liberalization of seed laws in India under the banner of food sovereignty (Scoones, 2008), and in the case of one prominent anti-GM activist, Vandana Shiva, this resistance is framed as civil disobedience, or "satyagraha". The right to save seed is articulated in these narratives as part of a package of universal rights to food, and her network of seed banks throughout India assists farmers in saving open-pollinated seed varieties to be used by organic farmers. This chapter addresses a set of questions raised by the framing of seed sovereignty as civil disobedience, and the empirical investigations of small-scale farmers participating in a variety of seed saving actions. First, is framing seed saving as civil disobedience a useful strategy for farmers? Second, what does it say about the struggle to identify the future of agrarianism that is at the heart of development projects? Last, how does the framing of seed saving in the context of this organization relate to food sovereignty? I am less interested in assessing the actual benefits of seed saving, and more interested in understanding the way seeds and seed procurement strategies are framed politically and what they are used to mobilize. But first, a little background on the subject.

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Background and Context

Historically, seeds were the product of traditional knowledge obtained through research conducted by farmers as producers and consumers of agricultural products. In the Green Revolution, the germplasm developed and preserved in agricultural communities was used to develop high yielding hybrids of globally consumed crops, maize, wheat and rice. Public-private partnerships were key to this research in which private companies obtained seed germplasm from public institutions. The so-called "improved varieties" were then sold back to farmers with the expectation that they would also purchase and invest in the costly inputs that accompanied them, pesticides, fertilizers and tube wells (Gidwani, 2009). Unlike open-pollinated varieties, hybrid seeds do not "breed true," and are not self-pollinating, meaning that, if saved, they will not express the same characteristics, including their increased yields, in the next generation. Historically, the private enterprises that invested heavily in the production of hybrids, maintained control of the technology and through technical, rather than legal (i.e., patents) means.

The legislative process, however, has been an effective arena for liberalizing governance of seeds and agriculture, especially in the context of the introduction of transgenic crops (Kim, 2006). The Government of India progressively liberalized its seed laws throughout the late 20th century, mobilizing discourses of development, food security and market reform of agriculture as justification. The Seed Act of 1966 centralized control over seed production, registration and distribution and created state monopolies for major crops. In the late 1980s, several policies, including the "New Industrial Policy" of 1991 opened India's market for seeds to multinational corporations, foreign direct investment and the importation of seed germplasm for research and development. In 1995, India joined the WTO, which required it to become a signatory to the Agreement on Trade-related Aspects of Intellectual Property Rights, affording patent protection for plants through a variety of mechanisms. The Plant Varieties Protection and Farmer's Rights Act (PVP) of 2001 was designed to strengthen the industry by providing further protections to commercial plant breeders. The likely object of much this legislation, Bt cotton (and other GM crops) was approved for commercial release in 2002, although it had been planted illegally throughout India. The National Seed Policy of 2004 has not yet been passed, but outlines strict requirements on registration of commercially available seeds, and would criminalize the saving of patented seeds.

Writing at the time of the liberalization of India's seed laws (and in favor of it) Pray (1990) and others advocated for a particular future for India in which even small hold farmers participate in the marketization of agricultural inputs and products. According to Pray et al (1991) private research on seeds, including the cost-effective exclusion of non-buyers (seed-savers) from the technology either through patents or hybrids is a "socially beneficial activity which ought to be encouraged by agricultural policy" (317). Pray et al are clear

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however, that yield is the only benefit that can or will be quantified as a benefit, and concede that farmers are often at the mercy of distributors in the supply chain. Pray et al (1990) also dispute the commonly held notion that "poor people's crops" (315) such as sorghum and millet, are not a profitable investment for private enterprise, and encourage research on food crops as well.

Much of the research and development on seeds still takes place largely through public private partnerships. Public funds are used for basic research to identify and catalog seed varieties, while private capital is invested in developing "improved varieties" through applied research. In addition, private sector seed companies in India purchase technology in the form of "traits" developed by multinational companies and use this germplasm to develop varieties, usually a GM hybrid, the seeds of which are then propagated by contract farmers. [i]According to Ramamurthy (2011) hybridization is more useful to MNCs "because legal contracts would be practically impossible to enforce in India" (1043) with its millions of small hold farmers. GM hybrid seeds thus enable the technical control of the transgenic innovation, and enforce the enrollment in yearly purchases of the product, albeit in ways that are partial and contested by farmers (Pray et al, 1991).[ii]

Plant varieties are created as new forms of technologies in a variety of highly political and "noninnocent" ways (vanDooren, 2008). First, the plant genomes used in basic research are often the "indigenous varieties" developed by farmers in India for centuries. In the appropriation of this research, the genomic material in seeds has been transformed from "fixed capital into liquid capital" (Roy, 2014:143). Secondly, the politics around the introduction of GM crops signal a political-economic alliance with the United States and its markets, rather than the European markets which are much more circumspect about GM technologies. Third, the food security and development justifications for investment in agro-technologies are partial truths distributed to get political buy-in and do not tell the whole story (Kloppenburg, 2010). The use of plant material to make improved varieties that are marketed back to farmers as increasing yield enroll them in global capital in ways that may not necessarily be in their interests.

Technology and Food Security

While plant scientists argue in favor of hybrid and GM technologies and their role in combating hunger, social scientists are widely in agreement that traditional seed varieties and local seed exchange networks are essential for maintaining agrobiodiversity as well as peasant livelihoods (Kloppenburg, 2010; Rhoades and Nazarea, 1998; Zimmerer, 2003). For example, Zimmerer (2003) found that multi-community and intra community networks of seed flows enhanced adaptation to local environmental conditions than did single-site seed production practices. The continued use and development of farmer varieties (FV) was especially key in an increasingly neoliberal environment in Peru, where

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state-subsidies for the development and distribution of hybrid varieties is in decline. Similarly, Kloppenburg (2010) argues that "bioprospecting" in genomic material for transnational capital to transform and market back to farmers, is accumulation through dispossession. In his view, the patenting of life forms in seeds undermines the livelihoods of food producers, and he advocates for plant breeding methods that keep the information about the genome freely available to the public, in what he calls "open-source" plant breeding.

States, multinationals and NGOs articulate different visions and enroll a variety of actors in their justifications for the use of technologies, particularly genomic technologies. The Green and Gene Revolutions were justified through the use of food security narratives, and operate under the assumption that improved varieties and higher yields are a solution to the problem of hunger (Patel, 2013). The food security approach assumes that the increase in yield will make food available at a low enough cost for consumers (Schanbacher, 2010). Such an approach often fails to feed the poorest who cannot afford to buy food at all, and contributes to the immiseration of farmers. As evidence for this, India still has more under-nourished people than any other country. Overall incomes have risen in the past several decades, but calorie consumption has fallen. Some suggest that new household expenses have made the food budget shrink in relation to other expenses (Pritchard et al, 2014). This explanation suggests that food production is not the whole problem at all, but rather a modernizing project that produces new consumers as well as new kinds of poverty, and becomes entangled in existing social relationships.

Morvaridi (2012) argues that both the Green and Gene Revolutions position farmers not as producers, but as consumers, through the vehicle of philanthrocapitalism. The research that produced the seeds for the Green Revolution was largely financed through charitable donations from the Rockefeller and Ford Foundations. In addition to providing the capital for development, these philanthropic foundations also promoted market expansion into non-aligned countries (Morvaridi 2012). This had the result of directing the attention of the state into the biopolitical management of rural development through agricultural modernization, and the diversion of attention away from the expansion of capitalism that produced the problems of food security in the first place (Patel, 2013). The Gates Foundation, much like the foundations that financed the Green Revolution has contributed significant capital to the production of GM crops in African countries. Žižek (2006), in a direct critique of the Gate's foundations philanthropic activities says, "The catch is that before you can give all this away, you have to take it." In this view, there is no systemic production of inequality in capitalism, such that poverty is produced through accumulation, but only problems of food insecurity to be solved through technology and with capital.

Much like development projects are both geographically and economically uneven in their implementation and benefits, so is the resistance to development capital loosely organized

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and disjointed. Scoones (2008) writes that resistance to the Gene Revolution is poorly coordinated across groups in India, led by charismatic individuals, whose critics suggest they may be mobilizing dissent for their own material gain (Paarlberg, 2001). Most significantly, however, Scoones suggest that within the anti-GM mobilizations there are deep divisions around the appropriateness and desirability of GM technologies. What Scoones (2008) derives from this finding is that the significance of the critique is not so much about whether and how GM crops are different or better, it's that they enroll farmers in circuits of capital as consumers of technology in highly political ways. In short, Scoones suggests that the debate about GM crops is less about any specific technology and more about what the future of small-scale agriculture looks like, and what say, if any, that peasants and farmers will have in shaping it. While it is clear that India is well down a road to liberalize its agricultural economy, less obvious is what this means for rural development in India.

Development and Transnational Capital

On the one hand development is positioned as the investment of capital in infrastructure to bring less economically developed regions (the periphery) into the global economy (Lawson, 2014). Development, in this case is framed as bringing wealth and prosperity to previously impoverished people. This is frequently the way development agencies, states and NGOs discursively deploy development, as aid and progress. In another set of narratives, development is positioned as capitalism, and the goals of development are to develop markets and consumers were none existed before and ultimately accumulate capital through dispossession ((Wainright, 2011; Gidwani, 2002; Harvey, 2003) Hart (2010) suggests that both capitalist objectives and outcomes are part of modern development, and that within the project of development lie the seeds of its internal contradiction and ultimately, failure. She also argues, like Gidwani (2002), that development is not just a neoliberal project exported from the West. It is rather a process and practice that arises across a variety of spaces of engagement with diverse and contradictory outcomes that are not predictable or perhaps even foreseeable (Li, 2007).

Li (2007) also suggests that another effect of development may appear in the form of mobilizing political actors among the recipients of development investments to critique and transform the experience and process of development. In other words, development programs are not only productive of particular social and economic relationships that may or may not involve increasing wealth and prosperity, but they also stimulate political responses. Pechlaner and Otero (2008) argue that participants in development project, such as agro-technological innovations are neither eager nor coerced recipients of the technology, but rather organize themselves to resist its introduction. These are significant interventions that have implications for the unfolding food regime in general, and position citizen-subjects of development as important actors in the political project of both capital

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and state. In an analysis relevant to India and the introduction of genomic technologies, Otero (2004) asserts that the

> nation-state continues to be the most critical sphere of political action—both for the imposition of ruling class interests and for subordinate groups, communities and classes to become constituted politically and to shape state intervention in their favor (341).

According to Roy (2014), in India, this struggle for power occurs in and through market-oriented "inclusive growth" in which the formerly excluded groups are enrolled in development projects. These frequently take the form of public private partnerships, such as state-capital arrangements to develop seeds, which reshape the form and direction of agricultural policy in post-colonial India. Like Otero (2004), Roy (2014) suggests that "post-colonial government" (the state) is the vehicle for appropriation of space and territory for transnational capital and elites in India. Her example of the privatization of previously squatted lands in the megacities of India underscores how property is privatized under the auspices of lifting the poor out of poverty. In so doing collectively held territories become privatized properties enrolled in circuits of capital, effectively creating a market for land where none existed before. The appropriation of open-pollinated varieties of seeds developed by farmers in India by private capital is another case of such privatization efforts as a form of development, which has its agonists.

Food Sovereignty, Food Security and Alternative Food Networks

Kloppenburg (2010) argues that the right to control genomic information is a key component of food sovereignty, and is part of a larger struggle over rights and property. As elaborated on in the introductory chapter of this volume, food sovereignty seeks to redefine relationships regarding markets, property and governance (Nyéléni 2007, 25-27). The Nyéléni documents elaborate on the world that food sovereignty imagines, especially with regard to local control of resources and decision-making. The Nyéléni delegates identify that "currently trade is based on an unsustainable production system and is controlled by [transnational corporations]" (25) and recommend returning democratic control of food distribution to producers and consumers, and implementing "autonomous control over local markets" (26). They also seek to ensure inclusive and democratic control of all productive resources including water, land and seed. They conclude with a simple statement: "We will fight privatization and patenting" (35). In India, the fight against patents is framed as a "satyagraha" or civil resistance by the most ardent anti-GM activists.

The fight against privatization elsewhere takes the form of civil disobedience in some of the more famous forms of land and food sovereignty. The Movimento dos Trahalhadores Sem Terra, also known as MST, or the landless rural workers, is perhaps the most widely recognized member of La Via Campesina. The MST uses the strategy of squatting on

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unproductive land to not only produce sustainable livelihoods, but to restructure the political, economic and social relations of agricultural production and trade (Patel, 2007). Other examples of civil disobedience include "guerrilla gardens," which temporarily, often overnight, turn urban space into gardens (Lamborn and Weinberg, 1999). The assumed and widely accepted temporality of these installations allow them to become spaces of resistance, and reveal the way a state or municipality exercises incomplete or partial control over space.

Civil disobedience as an act of resistance aims to secure additional rights usually through illicit actions that draw attention to the injustice of the law forbidding or criminalizing things or states of existence that people have a right to have (Bauer and Eckerstrom, 1987). In this context, the forms of power that are available to activists are non-violent refusals to participate in modernity, development or capitalist privatization of space. Civil disobedience in the face of food system injustices is not new in the context of liberal democracies (Heynen, 2010). For example, Delind and Howard (2008) identify multiple instances of illicit action to expand rights. They argue that resisting laws that push small-scale producers into marginal economic positions in the US can only strengthen the food system. They conclude that "a safer food system will require much more decentralization and democratic input than exists currently" (314) and identify civil disobedience as a critical tool in "strengthening our individual and collective political will" (314).

This political will is informed by what Patel (2009) calls a cosmopolitan federalism that recognizes a moral universal in the right to food. Action or policy that undermines this right is considered immoral and unjust in this reimagining of the geographies of rights. Food sovereignty, according to Patel, not only questions the morality of neoliberalism, but calls for democratic political action to replace policies that privilege the powerful. The insistence on political rights for the powerless distinguishes food sovereignty from the many challenges to the corporate food regime that have come before it. Holt Gimenez and Shattuck (2011) suggest that foods sovereignty differs from progressive alternatives in the form of alternative food networks, (such as organic agriculture) in partial but significant ways. The most significant difference they cite is the resistance to transnational capital and privatization, and the return of common and collective access to and use of capital. They caution that mission creep away from this political position threatens food sovereignty and radical movements in the food system in general.

The saving of seeds in the neoliberal environment of India in a post-colonial development context is most certainly a political act, but can it be usefully framed as an act of civil disobedience? There can be no doubt that the influence of transnational capital in the food system, particularly through the patenting and control of life forms poses a potential threat to the sustainability of the food supply everywhere (Kloppenberg, 2010). The efforts to encourage farmers to save seeds, particularly farmer developed varieties benefit small

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scale farmers, and the seeds may be potentially useful in the effort to combat and adapt to climate change, a major socio-ecological threat in the region (Xu et al, 2009). But can the saving of other seeds—non farmer varieties--make sense as a useful livelihood strategy for small-scale farmers? Last, in a broader sense, what does seed saving framed as civil resistance do, if anything, for the political struggle for food sovereignty and the future of agrarianism?

Methods and Study Sites

This research takes as its central assumption that social realities can be conveyed via narrative data, and that these narratives are useful to understand politics and political positions (Ramamurthy, 2011). This research is part of a larger project which employed a global ethnography in an extended case study on food sovereignty that spanned several field sites in Asia, Europe and North America (Burawoy, 2000). Positioned against more traditional ethnography that examines social relations intensively in one place over a long period of time, a global ethnography allows for the examination of "unseen socialities" (Castree 2001, 1522) in a wider spatial field than a village or a community. In this case, the field is constructed between the farmers and seed savers in two Indian villages in District Uttarkashi of the Garwhal Region of the state of Uttarkhand and a seed saving NGO that operates financially and politically at supranational scales.

The research was conducted over a six week period in 2010 and for a four week period in 2013. The field work was conducted by the author and a research assistant in villages in the rain-fed wheat and rice cultivating regions of the Central Himalayas. Interviews were conducted with five NGO leaders and coordinators and ten farmers from each, including village leaders and women seed savers. Additional field work was undertaken outside the city of Dehradun at Bija Vidyapith, the research farm where Navdanya has its headquarters. An organic mainstreaming workshop, hosted by Navdanya was held at Bija Vidyapith, and the author was invited to participate in the brainstorming sessions. The primary mode of data analysis is a form of inductive content analysis (Lecompte and Schensul 1999) of transcribed field notes produced through participant observation; in-depth semi-structured interviews, which were audio recorded, translated from Hindi and Garhwali and transcribed; and secondary data collected while working with Navdanya.

Village Seed Saving Strategies

A variety of charismatic actors have resisted the influence of transnational capital in India as it relates to seed production and distribution. Dr. Vandana Shiva, as India's most vocal

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and well known anti-GM activist has a global following and mobilizes legal and social action against multinationals, particularly Monsanto in India (Scoones, 2008). Navdanya, a non-profit she founded in 1987 is dedicated to preserving open-pollinated seeds and educating farmers on agro-ecological farming methods. Navdanya[iii] is a word that derives from Hindu cosmology and literally means "nine seeds." It invokes both a specific mythology, but also a planting practice that emphasizes diversity and polyculture. Navdanya began as a seed bank to preserve and collect and grow out varieties that Shiva and others feared would be lost due to lack of use with the introduction of new seed varieties, particularly transgenic crops.

The objective of the seed bank is to receive and store different seed varieties and reintroduce them into production, through seed banks in rural villages and education in organic farming methods. In addition to education and seed sharing, Navdanya works to create markets for organic food products both in Indian and abroad, as well as to practice and develop permaculture around a nine crop planting system, similar to the twelve crop planting systems used in rural villages. Navdanya's research efforts are mostly focused on rice varieties, and the bank stores 150 varieties of rice that are planted out each year on the farm. While the financial records of the NGO are not made public, Navdanya is largely supported by philanthropic and other donations from European and American donors. For example, the Swift Foundation, the charitable arm of the United Parcel Service, gave $25,000 to Navdanya for seed sovereignty in 2011 and $20,000 in 2012.

Shiva positions her work on seed-saving and the cultivation of traditional seed varieties as "satyagraha" in hundreds of publications and in her public speeches and farmer training sessions. In a publication distributed by Navdanya, "*The Seed and the Spinning Wheel"* seeds are positioned as equivalent to Ghandi's spinning wheel, which he effectively used to demonstrate the importance of self-sufficiency as a prerequisite for independence from Britain. Satyagraha is a Sanskrit-derived word, coined by Mahatma Ghandi, often translated as an "insistence on truth." According to Ghandi, who preferred the term "civil resistance" as a synonym for his political strategies of non-violence, was not to frustrate the objectives of the opponent, or to realize ones objectives in spite of one's opponent, but to convince the opponent to cooperate with or to stop frustrating the objectives of the civil resistors. The voluntary acceptance of suffering and compliance with other laws of the State are key principles of his approach to converting political opponents to undo unjust laws. Ghandi's ideas on "satyagraha" were used in apartheid South Africa and inspired civil rights movements in the US. These ideas have also been applied to environmental movements, particularly as they relate to realizing the rights of nature (Dwivedi, 1990).

In the Navdanya document, a seed satyagraha is defined as "a fight for truth based on non-cooperation with unjust regimes" (8). The unjust regime that Shiva identifies in this

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document is “totalitarianism built into the project of owning life, owning seeds, owning water” (5) This is facilitated through patents and new biotechnologies that she says “are today’s imperialism” (5) Shiva asserts that the intellectual property agreements that the Government of India made with the World Trade Organization facilitate the calling of seed saving an “intellectual property crime” (5) which she wants farmers to commit in the name of civil disobedience. In this document, seeds are positioned as “the site and symbol of freedom in the age of manipulation and monopoly of life.”

According to Shiva, without a right to seed (which in this framing means seeds without patents associated with them) there is no ability to achieve and maintain an agricultural livelihood. The right to save seeds is thus established as part of a set of human rights that form the basis for the right to food. Here, Shiva discusses her views on non-cooperation and seeds in a public speech given at Navdanya in 2010.

> After the publication of my book [The Violence of the Green Revolution], I was invited to a biotechnology conference where the industry made its plans about how they wanted to patent our seeds and genetically modify our crops. 5 companies would own the food supply of the world. That's how they said it. I was listening and I said that sounds like a dictatorship, and it's not a dictatorship over human society, it's a dictatorship over all life (Shiva).

Shiva has been ardent activist against GM crops in India, launching a “Monsanto, Quit India” campaign with other activist groups that echoed the unsuccessful 1942 Quit India independence movements against the British. This was in response to the 2004 Seed Policy Act, that included provisions against saving seeds.

> The 2004 National Seed Policy would make it illegal for farmers to have their own seed…in 1988 the World Bank wrote a new seed policy that required that foreign corporations be allowed into the country. That's how Monsanto and all entered. Then in 2004 there was an attempt to change the [1966] Seed Act which is a law….This was done because of Monsanto, because they had tried in other laws to prevent farmers from saving seeds.

In response to what she saw as predatory activities by multinational corporations through both the introduction of technology, but the imposition of legislation to protect the technology through preventing seed saving and exchange, she organized to include in the 2004 law

> …a clause that farmers have a birthright to save seed and no one can take this away. It is an inalienable right. That has stayed in the laws and they can't stand it because they can't criminalize farmers. You see, until you criminalize the farmer [for seed saving] they [MNC’s] cannot sell their seeds. They have to make local seed illegal in order to expand their market (Shiva).

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In addition to working on the legislation governing seeds and seed saving in India, Shiva is involved in a campaign for seed sovereignty, mobilizing the language and narratives of food sovereignty to frame seed saving as a right.

> "We called it Bija [seed] Satyagraha, you know for Ghandi's non-cooperation movement, and collected hundreds of thousands of signatures, which I took to the prime minister and said we will have to do what Ghandi did with the salt laws. We will have to disobey because we have to save seeds (Shiva).

By positioning seed saving as an activity protected as inalienable rights to farming livelihoods, Shiva makes an appeal to what Patel (2009) calls food sovereignty's moral universal right to food. According to Shiva, this action delayed the implementation of the 2004 legislation, which is yet to be signed into law. She mobilizes the construction of seed banks in rural villages from this platform of rights, and with her NGO exploits the gap in the legislation that has yet to criminalize seed saving. According to one of the seed bank coordinators at Navdanya in 2013, the idea behind these programs,

> …is that we are helping a community start a seed bank, but we are not in control of a seed bank. So for the first three years we are involved, and by the third year we phase out our involvement so that by that time the people of the community or whoever took that initiative can be well started in seed saving (Amita).[iv]

Seed Banks and Organic Farming

Navdanya stores seeds to share with farmers, but also works to decentralize the seed stores through a network of over 70 seedbanks in rural villages. As part of the agreement with Navdanya, the farmers who take seeds are asked to return a percentage to Navdanya or share seeds with other villages to establish other banks. While there is no protocol at Navdanya to identify the genome of the seeds that are collected, other than through assessing the phenotype of the seed, Amita says that

> …we share only the indigenous variety. However lots of visitors bring varieties of their own, including some which are from Kokopelli [a large international seed NGO]. We are not going to turn away those seeds as they are a good gesture, but we do not exchange seeds that come from abroad. We try to give seeds to the farmer which suits their local bioregion. We do this by asking farmers for details of their land. When we have coordinators from that area, we are able to monitor the yields of the seeds taken from our area (Amita).

In this way, Navdanya heavily influence farmers to use Navdanya's varieties, and puts this largely in terms of the market, which Amita says is due to a lack of availability of similar seeds, which puts farmers who want these varieties at a disadvantage. She says,

> If left to the market it limits the farmer's choice considerably, to the extent that when there are only a few companies supplying the seeds, there is are very few choices. To be made. And if one is looking for native varieties, there is effectively no choice at all (Amita).

In this statement, Amita indirectly references organic production. Seeds are key in the organic supply chain, since organic certification forbids the use of transgenic seeds in production. Organic markets thus rely on the distribution of non-GM seeds at the production end of the supply chain. Scarcities in the market drive up prices and lower the margin for farmers. Narratives of profitability are key to the strategies Navdanya coordinators use to convert farmers to organic production and seed saving. In the context of a larger conversation about the perceived failures of organic cotton cultivation to produce higher yields, and thus higher profits, Arun, a Regional Coordinator in 2013 says this about their research on cotton seeds and organic methods.

> However on further enquiries, the inorganic farmers said their BT seed cost was about 3500 rupees/acre, while the organic cotton farmers said it cost 500. In addition their herbicide, pesticide and fertilizer cost for the inorganic farmers came to 12,000/acre and including labor, irrigation and other costs it came to 32,000. For the organic farmer costs per acre were about 8-9000. I explained to the inorganic farmer that he was spending approximately 22000 more than the organic, and if this was taken into calculation then in effect they were not making more than the organic farmers 5 quintals [500kg]. I pointed out to them that not just production but this cost-benefit accounting needs to be done to get a proper idea….From Navdanya's side we offer 10% higher than prevailing market rates, which we consider as justice (Arun).

Arun goes on to say that they recruited an additional 25 farmers to organic methods in that village by explaining these profit margins to them. In addition to using persuasive economic arguments Navdanya is very much in control of the production and certification process for the organic products it purchases from farmers. According to Prakash, village seed coordinator in 2013,

> the certification auditor has to inspect the fields, surroundings and the house of the source or member of the group requesting certification very thoroughly for clues of discrepancy in the claims….If discrepancies are found, one warning is given, and if repeat discrepancies are found in the next audit the group's certification is downgraded. Third warning, the group's certification is withdrawn. The auditor has to understand and map out his reach and capacity and work within these bounds.

Navdanya thus facilitates and perpetuates on the supply end, an alternative food network for organic products in the region, including an organic box scheme for consumers in New Delhi. The need for markets was codified in a meeting of political and civil leaders from the

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state of Uttarkhand to discuss the development of an organic policy document for the state of UK. The idea was to develop a plan similar to the ten year organic transition plan implemented in the state of Kerala in 2010. The objective of the two day meeting was to establish an organic agriculture transition plan to be implemented in the next year. A key component of the plan was the development of markets for organic products, and was identified by all but one of the eight participants as a key part of the policy. Seeds are a crucial element in the development of this supply chain.

Kuran Village

The emphasis placed on local seed saving in villages was clear from conversations with farmers during a site visit to a seed bank sponsored by Navdanya. The exchange between farmers and seed savers spanned more than an hour, and initially began by seeking to understand the problems the villagers were experiencing in the region (i.e., drought) to which Navdanya staff proposed solutions (i.e., rain water harvesting). In this excerpt, Navdanya staff turn the conversation from a long discussion about drought to a question of seeds. They conclude the conversation with a direct request that the seeds from the government or corporations not come to the village.

> Navdanya Staff: You have seen that you have to use seeds again and again before you can get a crop. In this situation of long droughts, tell me how will you save your seeds?
>
> Female respondent: In the normal course, we save 10, 20 kilos of seeds when we get a good crop.
>
> Navdanya Staff: So now, how much more of seed saving do you have to do than before, to handle this new situation of droughts?
>
> Another female respondent: So are you saving larger quantities now?
>
> Respondents, collectively: Yes.
>
> Navdanya Staff: And are you doing this cooperatively?
>
> Female respondent: Yes. And we don't use the seeds from the market for this. For example wheat, we are able to save our store for up to 2 years. And we do the same with rice.
>
> Navdanya Staff: Because if you don't do this, companies will, through the government, push their own seeds. Even though Uttarakhand has laws regarding agri-diversity, we should still make sure that those seeds do not come here. The government itself has enacted those biodiversity conservation laws. If you have to conserve seeds, it should be your own seeds, shouldn't it?

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This dynamic continued throughout the exchange. In spite of the efforts to keep the subject on seeds, the questions and concerns raised by the farmers returned again and again to water, both in terms of climate change, but also dams and hydroelectric projects that divert water away from their rain-fed terraced fields.

Thadung Village

In the village without a partnership with Navdanya, (Thadung) an interview with farmers in 2013 revealed that they practice a variety of strategies to procure and save seeds. They are largely self-sufficient in their food needs, purchasing only salt and sugar by selling surplus produce in a local market. They share food in times of need and the headman made a point of saying "we don't take money from each other," which suggests a non-capitalist form of food security. He also said that "Everyone saves their own seeds for the next season's sowing." A farmer describes the process of storing seeds thus:

> We store our seeds in metal canisters, but usually in wooden caskets. The large ones we use are made of wood. They have 12 sections inside, and inside each section there are 6 separate containers. The rice, wheat and millet go into this.

The technology they use suggests innovative experimentation with seed saving strategies stemming from years of experience. The widespread use of saved seeds also suggests a high level of self-sufficiency and unconcern with the potential illegalities of seed saving, even when they receive the seeds from government agencies. They express low concern for the consequences of working with the government agencies, and frequently share their seeds with them as well.

One farmer says,

> Occasionally we also test the seeds given by these people. We are not aware of any varieties which we got from the government which don't grow well in the next season. Usually they may not suit our soils, or sometimes we see a few plants which seem to be not doing well.

This level of cooperation between the village and the government agencies and the ability of the farmers to save seeds from year to year suggests that the seeds are not patented, nor are they hybrid seeds if they can be resown from eyar to year. The efforts undertaken by the government agencies to distribute seeds further suggest an emphasis on health, self-sufficiency and security. A farmer in Thadung says this of the seeds they receive:

> We do get seeds from the ration agency, which we sometimes use for our sowing particularly for wheat and lentils. I don't remember the names of the variety, there usually some number code. Kulath is another dal whose seeds we get from rations, this is very good for health, which even our doctors suggest us to consume. The

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> agricultural extension people sometimes come to check if some of these grains grow in our fields, and when they do, give us seeds it's at half the market rate.

The farmers in Thadung found NGOs to be least helpful, largely because they had little authority in the community and their efforts to distribute seeds are widely resisted. They also reported the NGOs to be out of touch with their planting systems.

> Once an NGO had also come to offer us their seeds, they asked us to try and cultivate it. They came a couple of times, some in the village tried but soon gave up the effort. I cannot remember the name of the NGO. The last time we saw them was the previous year, but arrived after we had already planted the rice.

In Thadung, the farmers articulate a marked level of unconcern with profits and markets. Few food products are sold for money, and even fewer are purchased with money. Seeds are freely saved and shared within the community as well as between the village and the government agencies which supply them with seeds that are appropriate for their growing conditions and useful for health, even according to the traditional doctors working in the villages.

Conclusions

The recent liberalization of seed laws in India indicates an engagement with modernist development agendas that brings into being large-scale, capitalized farmers who will purchase "improved varieties" including GM hybrids. The public-private partnerships developed to fund research and development on hybrid seeds are consistent with capitalist development disguised as "self-governance" (Roy, 2014). This vision for the future of India's agrarian societies is antithetical to the notions of sustainability and autonomy articulated by anti-GM activists in India, many of whom frame their rhetoric around food sovereignty as civil disobedience in the name of the right to food. This research investigated the "unseen sociality" of seed saving and seed procurement in two villages in Northern India to investigate the claims of seed saving as "satyagraha" or civil resistance in the speeches and publications of Dr. Vandana Shiva and her NGO Navdanya.

Food sovereignty articulates a politics that are firmly anti corporate, and advocates for local markets as an essential part of food security. As discussed by many, food sovereignty has a complicated and nuanced relationship with the state (Holt-Gimenez and Shattuck, 2011). The Nyéléni delegates frame food sovereignty as agriculture that requires state-based legal protection from transnational capital for producers and consumers. In the absence of this protection, civil disobedient strategies, such as land squatting by the MST, are often practiced and articulated as a key politics when state-based policies support global capital. According to the narratives of global seed sovereignty activist, Dr. Vandana

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Shiva and her NGO Navdanya, seed saving is an act of civil disobedience when national scale laws forbid it in the interests of protecting the patents of multinational corporations. This rhetoric opens up an important space of dialogue and resistance to liberalization of economy that is resonant with food sovereignty's political vision.

While this is an important politics, seed saving is not in fact illegal in India and seed saving is encouraged, as least in Thadung village, by the government. Farmers continue to save seeds in both villages in this study. In fact, in Kuran, farmers have to be told by Navdanya NOT to save the non-farmer varieties. While the Navdanya mission may be consistent with food sovereignty narratives and objectives, the restrictions placed on the villages that receive seeds from the NGO seem inconsistent with food sovereignty efforts to promote local self-governance. In addition, the way in which marketness, particularly for organic products is used to persuade villagers to save Navdanya's suggests a bit of mission creep toward alternative food networks that Holt-Gimenez and Shattuck (2011) warn against. The right to food certainly includes the right to save seeds, but the right to save seeds as articulated in many food sovereignty narratives should include any seed that meets the needs of the people who grow and consume the crops produced from them. If we agree with Scoones (2008) that seed politics are really about articulating a vision for agrarian development, it seems a narrow vision for the future of agrarian societies to restrict seed saving to only those varieties that can be used in the marketing of certified organic crops.

The framing of seed saving as "satyagraha" draws upon stereotypes and fondly held narratives about Indian resistance to the British, perhaps one that appeals to donors who perpetuate the existence of the NGO itself, rather than support a popular movement to agitate for rights. While Navdanya opens up a space for critical politics around seeds in India, the organization itself survives on the donations of charitable organizations, many of whom are large corporations who receive enormous tax subsidies for giving away capital to organizations like Navdanya. Far from articulating an anti-corporate stance, the receiving of money via philanthrocapital, helps perpetuate the existence of corporations, and serves a critical function for the global economy. It is very much in the interests of multinational corporations to allow NGOs to exist as recipients of aid. It is also in their interest to let NGOs like Navdanya subsist on their donations, as this provides an important site of non-market influence in civil society. If the radical aims of food sovereignty to end the influence of corporate capital in the food system are to be realized, it is probably not in its interest to meet those objectives through the support of corporate offerings.

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[i] Monsanto dominates the trait market, with Dow and Bayer as its major competitors in India. These companies also buy Indian seed companies and are heavily invested in the ones they do not purchase.

[ii] Pray et al (1991) write that farmers "opportunistically renege on their contracts and sell hybrid seed to the highest bidder rather than the company with whom they have contracted" (322).

[iii] The use of Hindu mythology and language is also problematically consistent with the Hindu nationalism of contemporary India, where key social concepts and political moments are shaped by a particular narrative of Hinduism. The use of these terms contributes to a communal consciousness that works to produce an exclusionary politics.

[iv] All names of research respondents have been changed.

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