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PATENT POLITICS AND LEGAL ACTIVISM

Every seed makes a political statement.
—Manu Moudgil (2017)

For a decade after the commercial introduction of transgenic crops, confusion reigned about intellectual property (IP) rights over biotech seeds in Brazil and India. The introduction of transgenic crops in the early 2000s introduced wide-ranging changes to the legal landscape by requiring member countries to extend patents to microorganisms and microbiological processes, and to provide some form of property rights protection for plant varieties. The legislative changes enacted in Brazil and India to implement the World Trade Organization's Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) raised complex legal questions that were left unresolved. The main question concerned whether a biotech crop, as a plant variety, was protected under plant breeders' rights, or whether it was protected under patent law because it contained genetically engineered sequences. Some of the ambiguities in the wording of the TRIPS Agreement—for instance, regarding the definition of a microorganism under Article 27(3)b—were also transposed into domestic patent legislation. Since IP rights in agriculture had only recently been introduced in Brazil and India, expertise in this area was sorely lacking.

Finally, Monsanto's lack of transparency and deliberate obfuscation regarding its Brazilian and Indian patents added to the confusion.

The gray area was vast, and Monsanto exploited it fully. The fine line trod by financial traders—"We take advantage of the grey area between what we know we can't do and what we believe we can get away with"—could well describe Monsanto's approach to intellectual property (quoted in Brown 2018). Between 2002 and 2006, for example, the corporation charged an extremely high rate of royalties (or trait fees) on Bollgard I Bt cotton—equivalent to 75 percent of the total price of seeds. Remarkably, it did so despite the fact that it did not hold a patent in India. In Brazil, Monsanto continued to charge royalties on Roundup Ready soybeans for two and a half years after its patent expired.

The hype around transgenic crops in the early years meant that governments, scientists, and farmers in agricultural powerhouses like Brazil and India were anxious to gain access to the technology, and Monsanto ably exploited these sentiments. It resorted to lobbying and cooptation to impose unprecedented private systems of royalty collection. The model developed by Monsanto in the United States—consisting of strong patent rights, extensive licensing contracts signed by farmers upon the purchase of seeds, and an elaborate surveillance system to ensure compliance—was impossible to implement in countries like Brazil and India. In the latter country, for example, Monsanto was faced with millions of farmers on small land holdings, intractable legal enforcement issues, and the political impossibility of suing farmers. As Suman Sahai, chairperson of the Indian NGO Gene Campaign, observes: "Suing farmers for patent infringement would be committing suicide. You just don't sue farmers here in India" (Interview #9).¹

As in the United States, the royalty collection systems implemented in Brazil and India were based on private contract law and sublicensing agreements. The modalities, however, were adapted to each country's crops and agrarian conditions. In Brazil, Monsanto implemented the collection of royalties on Roundup Ready soybean at the point where farmers sell their harvest to grain elevators and cooperatives. In India, Monsanto implemented the collection of royalties upstream in the cotton production chain, through the sublicensing agreements with the companies that produce Bt cotton seeds. In both cases, the royalty collection

system effectively did away with the right to save seeds—by charging royalties on harvested grain in the case of Roundup Ready soybean, and by contractually restricting the Bt trait to hybrids in the case of Bt cotton. In short, while Brazil and India have provisions in their respective legislations allowing farmers to save seeds for replanting, the royalty collection systems implemented by Monsanto in effect rendered these provisions moot.²

While the Brazilian and Indian states may not have supported the introduction of proprietary rights regime as actively as their United States and Canadian counterparts (Pechlaner 2012), they have certainly been complicit in their implementation. I can only concur with Felipe Filomeno's assessment that in South America, "the implementation of Monsanto's system of royalty collection relied on coercion and cooptation of some associations of rural producers, local seed companies and national governments, bringing its legitimacy into question" (2014, 13–4).

Shalini Randeria's conceptualization of the constrained agency of subordinate states in the Global South allows for a more nuanced understanding of the role of the state in the implementation of IP regimes for biotech crops (2003a, 2007). According to Randeria, states in the Global South remain pivotal in selectively transposing neoliberal policies and international norms to the national terrain, while at the same time capitalizing on their perceived weakness in order to render themselves unaccountable to their citizens (Randeria 2003b). Hence, in the case of Bt cotton, the Indian government hid behind its international obligation to implement Article 27.3(b) of the TRIPS Agreement to grant exclusive rights to Monsanto when the latter, in fact, did not hold a valid Indian patent. As Carl Pray and Latha Nagarajan (2010, 300) observe in the Bt cotton case, the "Indian regulatory system gave [Mahyco Monsanto Biotech³] a temporary monopoly on the Bt gene."

Instead, both the Brazilian and the Indian governments could have used the flexibilities available in the TRIPS Agreement to set limits to IP rights on biotech crops in the interest of farmers—especially since Article 27(3)b was still under review. As Philippe Cullet (2005b) observes, India could have introduced restrictions on the patentability of microorganisms in conformity with its own TRIPS-compliant Patents Act. These restrictions could have taken the form of a provision stating that

“micro-organisms are only protected in isolation and not where they are inserted into another organism which is itself not patentable under the Patents Act” (Cullet 2005b, 3609). This interpretation would have been consistent with the exclusion of seeds in Article 3(j) of the Indian Patents Act and would have prevented the courts from interpreting a patent owner’s right over a genetic sequence as extending to seeds and plants, as in the case of *Monsanto v. Schmeiser*. Governments could also have established that patent rights and private sublicensing agreements could not override farmers’ rights to save seeds under plant variety protection law. The following account by Peter Newell is indicative of the influence of corporate lobbying and of governments’ omission at a critical juncture in the implementation of IP regimes for biotech crops:

When Argentina called a meeting of Ministers of Agriculture in Mercosur in 2005 to generate support for its position against paying Monsanto royalties on soya crops (rather than seeds), initial support was forthcoming from Brazil and Paraguay. Intense pressure in the wake of the meeting, however, led to these governments retracting their positions on the basis that they were concluding their own agreements between the private sector and Monsanto. (Newell 2008, 263)

In sum, various options were available to regulate IP rights on biotech seeds under the TRIPS regime, but these were not explored, and thus Monsanto was given a free hand to proceed as it pleased.

LEGAL ACTIVISM AROUND INTELLECTUAL PROPERTY AND BIOTECH SEEDS

As farmers and other actors in the soybean and cotton production chain felt the impact of these new proprietary rights systems, they began to question Monsanto’s IP rights and practices in national courts. Farmers were put off by what they perceived as the excessively high cost of royalties and seeds, and they resented Monsanto’s aggressive and intrusive practices, such as performing GMO detection tests on farmers’ grain when they showed up at the grain elevator. This sentiment was expressed by one grain cooperative manager in the Brazilian State of Rio Grande do Sul, who told his member of Congress, “I can’t stand it anymore—seeing those Monsanto people showing up at the grain elevator and behaving as

if they own everything.”⁴ Luiz Fernando Benincá, the Brazilian soybean producer, did not mince his words: “As [Monsanto] is amoral, it will do anything for profits. It does not respect anything. It ends up committing the worst crimes against nature and against people. Whoever gets in its way gets eliminated” (Interview #33).⁵ One might expect to hear this statement from a member of one of Brazil’s left-wing agrarian movements. These words, however, were spoken by a politically conservative large landowner and illustrate my contention that legal disputes around intellectual property and biotech crops have brought together strange bedfellows.

Indeed, those challenging the legitimacy of IP rights over biotech seeds are not those who are involved in litigation focusing on health and environmental regulations, and who are part of the broader movement for food and seed sovereignty. As described in chapter 2, the Roundup Ready soybean class action in Brazil originated when Luiz Fernando Benincá, a large soybean farmer who felt deeply dissatisfied with the royalty collection system, approached his lawyer after failing to obtain the backing of his own federation. Feeling his federation had been coopted, he filed a class action lawsuit through his local rural union. Two more rural unions and, importantly, the state federation of family farmers (FETAG-RS) joined the class action shortly afterward. In the polarized Brazilian countryside, the class action thus represented a rare example of an alliance between large rural producers and small farmers. If differences in land access and ownership are key differentiating factors among rural-based working classes and groups (Edelman and Borrás 2016), all farmers rely to some extent on access to seeds and the ability to reproduce them.

In the case of Bt cotton in India’s State of Andhra Pradesh, two left-leaning farmers’ organizations affiliated with the Communist Party of India—the All India Peasant Union and the Andhra Pradesh Rythu Sangam—filed an initial complaint against Monsanto in 2005.⁶ In the more recent phase of the dispute before the Delhi High Court (2015 onward), national as well as multinational corporations—including Indian seed companies and Monsanto—have replaced farmers’ organizations as the main protagonists. Domestic seed companies have enlisted the support of influential Hindu nationalist organizations, including those representing farmers, against Monsanto.

Finally, the Bt brinjal biopiracy case was spearheaded single-handedly by the small Indian NGO Environment Support Group, which uses strategic litigation to advance environmental causes, while the larger GM-Free India coalition did not actively support the case. As can be seen from this brief overview, those who have engaged in litigation around IP rights to biotech crops are remarkably diverse. They are also distinct from the actors that have mobilized against GM crops more broadly—the GM-Free Brazil Campaign and the Coalition for a GM-Free India.

Why then, one wonders, have food and seed sovereignty activists not played a greater role in legal challenges over intellectual property and biotech crops? This is certainly not due to a lack of concern. In fact, activists have long been critical of biotech patents and royalties, and have been among the first to raise concerns regarding their impacts on agrobiodiversity as well as farmers' livelihoods. However, the high cost and prolonged nature of litigation represent important barriers for organizations with limited financial and human resources. Asked in May 2016 whether she believed Monsanto's patents were in compliance with the Indian legislation, one prominent Indian activist responded, "To be honest, no one really knows. The problem is that these patents have never been tested in the courts." But, she went on to deplore, "who among us can afford to take on such a legal challenge?" (Interview #9).

With the exception of the Indian seed companies in the Bt cotton case, which as commercial actors have more resources than civil society actors, the two sides have vastly unequal means and resources. Monsanto employs a huge professional legal team and sets aside vast sums of money to cover potential litigation costs.⁷ Farmers' unions and NGOs, in contrast, have extremely limited financial resources and typically rely on pro bono lawyers. In both the Roundup Ready soybean lawsuit and Bt brinjal public interest litigation, lawyers representing farmers have worked on a pro bono basis, at a great personal cost, for over a decade. Asked why he had embarked in this class action lawsuit, the lawyer acting on behalf of farmers' unions told me, "I have dedicated a significant part of my professional life to this class action. Why? Because I think this is right. For no other reason. I think that what they are doing is wrong. And one day—maybe not now, but one day—we will win" (Interview #29A).

The fact that litigation is costly and time consuming partly explains why food sovereignty activists with limited resources may have been reluctant to initiate legal proceedings. But why, then, did they fail to actively support these lawsuits when they were filed by other actors? I believe the reasons are both strategic and ideological, and reflect a keen awareness of the risks of cooptation. First, some activists are critical of litigation as a strategy to achieve their goals. Commenting on the Bt brinjal case, one food and seed sovereignty activist opined that the legal route can, under certain circumstances, represent a good short-term tactic in order to buy time. Hence, public interest litigation may be warranted to prevent the impending commercialization of new GM varieties, as has been done for fifteen years by public interest lawsuit no. 260/2005 (*Aruna Rodrigues v. Union of India*, 2005). As of 2020, this lawsuit had prevented the environmental release of Bt brinjal and GM mustard in India, in the absence of a proper regulatory process and biosafety protocol. According to the same activist, however, it is not necessarily a good long-term strategy, because it relies too heavily on receptive officials within regulatory institutions; when these individuals leave or are transferred, litigants are back to square one. This is what that activist thought had happened with the Bt brinjal biopiracy case. She did not have much faith in the effectiveness of protecting biodiversity and farmers' interests by enforcing the existing legislation. She believed, for example, that the individualistic approach of the Indian Protection of Plant Varieties and Farmers' Rights Act was merely pitting farmers against one another and that, rather than preventing biopiracy, the Biological Diversity Act could, in practice, allow corporations smoother access to traditional knowledge (Interview #14A). These views on the limits of legal mobilizations and of the implementation of existing legislation echo the sentiment of many food sovereignty activists elsewhere. As one NGO member from Colombia put it, "We have grown tired of legal activism. Even when we win, the state manages to turn things in their favor" (quoted in Silva 2017, 155).

Activists also perceive the protracted nature of legal battles as an important drawback. Temporality plays out differently, depending on the nature of the issue, and the fact that seeds are living entities has important implications. As Shalini Randeria and Ciara Grunder (2011) argue in their study of evictions in urban India, litigation can be used strategically

by poor city dwellers to “stretch time” and delay forced displacement. However, in the case of seeds, prolonged court cases mean that transgenic varieties have the opportunity to spread, whether legally or illegally. As living entities that reproduce, seeds have the ability, so to speak, to evade formal legal processes. In Brazil and India, the widespread cultivation of unapproved GM varieties in the early 2000s put pressure on governments to authorize their cultivation (Herring 2007), and history repeated itself with herbicide-tolerant (HTBT) cotton in India in the late 2010s (Jadhav 2019). In this context, some activists feel that they cannot afford long-winded legal processes that face an uncertain outcome. In addition, until a dispute is settled, a litigant company can continue to charge royalties on a genetically modified product, so delays in court benefit the corporation, as in the case of Roundup Ready soybean in Brazil.

Moreover, many activists express a healthy skepticism regarding IP rights. Proprietary issues surrounding transgenic crops are often deemed less urgent than is preventing their environmental release. More important, activists are concerned that engaging on IP-related issues might ultimately contribute to legitimizing existing IP regimes for plant varieties. For example, when the Indian government announced in 2016 that it would hold public consultations on the Licensing Guidelines for GM technology agreements, GMO critics were faced with a dilemma: should they participate in the consultations in order to influence the outcome and perhaps arrive at a royalty collection system that would be fairer for farmers? Or should they avoid the consultations, since doing so would amount to legitimizing the royalty collection system? (Interview #14B). This is a classic example of the risks of cooptation that social movements face when they engage in institutional processes. By participating in processes dominated by influential actors, they fear that they may end up endorsing the status quo rather than challenging it.

Indian seed sovereignty activists, for example, see the government regulation of Bt cotton as a double-edged sword: while they welcome efforts to curb corporate practices considered to be predatory, they also feel wary that capping Bt cotton seed prices and royalties could make Bt cotton cultivation more attractive to farmers. This illustrates Michael McCann’s argument about the twofold potential of legal mobilization that offers both opportunity and constraint, in effect generally upholding the status

quo but at times providing limited opportunities for challenges and change (McCann 2004). This concern about the double-edged dimension of activism around intellectual property and biotech crops was echoed by one European activist: in mounting legal challenges to IP rights based on biopiracy, the coalition of which he was a part deliberately steered clear of biotech patents, privileging litigation around non-GM plant resources instead (Interview #71). In the context of the legal disputes concerning Roundup Ready soybean, Bt brinjal, and Bt cotton, activists at the same time felt highly critical of Monsanto's IP practices and were keenly aware of the risks of cooptation involved in lending their support to disputes that were driven in large part by the short-term commercial interests of other actors in the agbiotech economy, such as large soybean growers and seed companies.

The dilemmas that food sovereignty activists face took on an additional dimension in the context of the Bt trait-fee controversy. The ideology of food sovereignty activists, rooted in transnational solidarity among peasant organizations, stands at odds with the ultranationalist ideology of right-wing Hindu organizations, and yet the two converge in their critique of GM crops. Food and seed sovereignty activists oppose GM crops because they consider these crops to be detrimental to the environment and to biodiversity, besides promoting corporate concentration at the expense of farmers. Hindu nationalists, for their part, emphasize that these technologies owned by multinational corporations are not *swadeshi*—literally, “of one's own country”—and therefore have integrated the idiom of seed sovereignty in their discourse. In the words of one leader of the farmers' organization BKS (Bharatiya Kisan Sangh), part of the Hindu ultranationalist RSS movement, “Monsanto should go back, as it is important for seed sovereignty. We can produce our own seeds like we did in the past” (Agha 2018; see also Bhardwaj, Jain, and Lasseter 2017). The BKS has also labeled Monsanto a “threat to seed sovereignty” (Andersen and Damle 2019, 142).

Some RSS critiques of GM crops are couched in an ultranationalist and essentialist discourse about “natural food” and the inherent value of desi plant varieties. The term *desi* refers, in this context, to plant varieties that are thought to be native to the Indian subcontinent. The line between discourses of seed sovereignty and ultranationalist discourses is sometimes blurred: environmental activist Vandana Shiva, for example, uses

nationalist and essentialist tropes when she writes about the “clash of civilization”⁸ between India and the West and about “India’s ancient love for nature” (Shiva 2016b).⁹

Despite their political differences, many left-wing and right-wing activists throughout India share a common concern about corporate concentration of power and the erosion of agrobiodiversity. Hence, organizations from both sides of the political spectrum—for example, Greenpeace and RSS organizations—have lent their support to the “Monsanto Quit India” Campaign and have opposed GM crops (Mohan 2016). These ironies are not lost on the activists themselves. A leader of the RSS economic wing observed to me, with an amused smile, that he had found himself speaking at a press conference on GM mustard organized by civil society and sharing the podium with a number of well-known food sovereignty activists who otherwise would not have stood on the same platform with him because they espouse radically different political views (Interview #68).

More fundamentally, food and seed sovereignty activists’ reluctance to engage in legal mobilizations on IP issues stems from the evolution of their views and analyses concerning intellectual property and the legal status of seeds. In the course of the past three decades, a shift within the food and seed sovereignty movement has been observed toward pursuing strategies outside of formal legal frameworks (Peschard and Randeria 2020). At the end of the day, some activists hold the conviction, born out of the arduous and ultimately failed efforts to secure farmers’ rights through international negotiations and agreements, that the sole effective way to protect farmers’ varieties is to work at the grassroots level to keep seeds in farmers’ hands, instead of relying on the courts. The outcome of the Bt trait-fee dispute—an out-of-court settlement putting an end to litigation and preempting a court ruling—suggests that they are right to be cautious.

The motivations of litigants in these lawsuits were diverse: a deep sense of dissatisfaction with corporate practices, strong nationalist sentiments, competing business interests, concern about the biopiracy of farmers’ plant varieties and traditional knowledge, and a commitment to farmers’ rights. Litigants did not set out to mount an outright challenge to

the corporate food regime. And yet in some cases, the processes they set in motion reached beyond what some of the parties to the disputes had initially envisioned. In the case of Bt cotton, for example, Indian seed companies sought government regulation of the royalties they paid to Monsanto. The government then intervened to regulate not only royalties but also seed prices, a decision that benefited farmers but not seed companies, leading an observer to comment that seed companies had shot themselves in the foot by seeking government intervention (Fernandes 2018). More important, lawsuits initially concerning royalties evolved to encompass broader questions regarding patents. The irony is that these lawsuits ended up achieving what some seed and food sovereignty activists had been longing for: questioning the very validity of the biotech patents at the heart of the new proprietary-rights regime in agriculture.

TOWARD A NEW LEGAL COMMON SENSE?

The judiciary plays a key role in validating patents, especially when intellectual property expands into uncharted waters, as was the case with the extension of patents to microorganisms and microbiological processes in the mid-1980s. As a Monsanto Canada spokesperson declared in 2001 during the patent infringement lawsuit against Canadian farmer Percy Schmeiser, “we did have a number of people waiting in the queue, but [Schmeiser] was the first case where we attempted to find out if the patent was valid. You don’t know how strong that patent really is until somebody violates it and it’s upheld in a court of law” (*Canadian Press* 2001). In both Brazil and India, one crucial reason Monsanto has enjoyed a free rein to implement private royalty collection systems was that the legality of its biotech patents under the domestic legislation had not yet been tested in the courts.

Until the 2018 decision of the Delhi High Court in *Nuziveedu v. Monsanto*, the only case concerning the patentability of living organisms in India was a 2002 judgment of the Calcutta High Court in *Dimminaco AG v. Controller of Patents*. The Indian Patent Office had rejected an application by the Swiss biotechnology company Dimminaco AG for a patent on a method for producing a live vaccine, on the grounds that a process

resulting in a living substance was not patentable under the Patents Act. Dimminaco appealed and the Calcutta High Court overturned the decision, stating that “there is no statutory bar to accept a manner of manufacture as patentable even if the end product contains a living organism” (*Dimminaco AG v. Controller of Patents*, 2002). For the purposes of this discussion, it should be noted that the case was limited to the patenting of a *process* and not of a *product*, that the case did not involve a higher life form, and that the microorganism in question was not transgenic. As for Brazil, there had been no litigation involving patents on living organisms before the legal challenges discussed here.

In her comparative study of controversies around patents on life forms in Europe and the United States, Shobita Parthasarathy (2017, 156) emphasizes “the long-standing differences in how the two jurisdictions saw patents—as techno-legal in the United States, and as moral and policy objects in Europe.” As she observes, “US patent-system institutions were reluctant—and often simply lacked the capacity” to explicitly consider moral and socioeconomic concerns, not to mention the distributive implications of patents (Parthasarathy 2017, 174). Hence, when the Organic Seed Growers and Trade Association filed a lawsuit in the United States arguing that Monsanto’s enforcement of its patent rights was harming both farmers and consumers, the Court dismissed the lawsuit as baseless and “derided the plaintiffs’ efforts to use the court to address moral and regulatory issues” (Parthasarathy 2017, 173).

In this regard, Brazil and India are closer to the European patent culture than to that of the United States. In the post-independence period, both countries have pursued policies that sought to balance IP rights with industrialization and the public interest. Their diplomatic turnaround in the WTO negotiations did not transform the broader patent cultures overnight. But in the absence of clear policies and case law, their respective patent offices were left to their own devices to interpret the new legislation and then to make complex decisions about the first patent applications involving transgenic plants.

The Indian Patent Office publishes and regularly updates a *Manual of Patent Practice and Procedure*, to provide guidance to patent examiners. The 2005 edition explicitly stated that genes were not considered patentable (Ravi 2013, 324). For undisclosed reasons, that statement was deleted

from the 2008 edition of the manual (OCGPDT 2008). The *Guidelines for Examination of Biotechnology Applications for Patent*, published in 2013, state that patents can be claimed on, inter alia, polynucleotides or gene sequences, polypeptides or protein sequences, gene constructs or cassettes, microorganisms, transgenic cells, and plant tissue culture (OCGPDT 2013, 4). The mere discovery of any living thing occurring in nature is not considered a patentable invention (OCGPDT 2013, 11).

The first patents on biotechnology were granted in India following the last amendments to the Patents Act in 2005 (GoI 1970). That year, 73 patents were granted. The pace picked up in the following years, with 1950 applications and 314 grants in 2007–2008, the last year for which data is available (Singh 2015, 108). Under the heading “Patent grants by the [Intellectual Property Office]: Is there a method in the madness?,” Bhavishyavani Ravi (2013) seeks to identify the criteria used by the Indian Patent Office to assess patent applications involving nucleotide sequences. The heading is a reference to the apparent inconsistencies in how patent applications related to genetic material were treated by Indian patent offices. However, according to Ravi, there was a consensus among the patent examiners he interviewed that the exclusion referring to plants and plant parts in the Patents Act were not applicable at the molecular and cellular level when genes were involved (Ravi 2013).¹⁰

Chan Park and Arjun Jayadev (2011) observed, with reference to pharmaceutical patents, that the dearth of Indian patent case law since the amendments to the 1970 Patents Act has meant that courts and patent offices have relied on foreign judgments to interpret the basic criteria for patentability. Stated differently, the fact that these traits had obtained patent protection in major patent jurisdictions such as the United States and Europe weighed in considerably when patent offices in other countries such as Brazil and India examined these patent applications, and overrode the fact that these countries had different patent laws. This can explain the fact that the Brazilian Patent Office made a submission to the court in support of revoking the patent it had granted to Monsanto on Intacta soybeans in 2012 (Fincher 2012). The Patent Office declared that it had erred in granting patent PI 0016460–7, since the latter combined already-existing technologies (the Roundup Ready and Bt traits) and therefore did not meet the inventive-step criterion (Tosi 2018). While

the Patent Office did not explain why it had initially granted the patent, one can infer that its decision at the time might have been influenced by the fact that Intacta RR2 PRO had been patented in the United States and other jurisdictions. Patents, however, are granted at the national or, at most, regional level, thus foreign judgments on patents are not legally binding in other jurisdictions (Park and Jayadev 2011). Therefore, the possibility remains that Brazilian as well as Indian courts could forge their own jurisprudence in evaluating the basic criteria for patentability and in balancing IP rights with other concerns, such as farmers' rights and food security.

There are signs that this is starting to happen with regard to agbio-tech patents. Notably, the April 2018 ruling by the Delhi High Court in the patent infringement case opposing Nuziveedu to Monsanto began to make up for the lack of case law and offered the chance for the first interpretations by the Indian judiciary on the patentability of biotech seeds. Overall, however, these two trends—countries relying on foreign jurisprudence versus forging their own jurisprudence—compete with each other in the decisions delivered by Brazilian and Indian courts so far.

In the three case studies discussed in previous chapters, the main judicial decisions in favor of Monsanto are narrowly grounded in patent law. In the Roundup Ready soybean class action, Brazil's Superior Court of Justice ruled that as a product of genetic engineering, biotech seeds come under the exclusive protection of the Industrial Property Act, and that those who opt for them must compensate the patent holder for the use of the technology. The Court accepted the argument that exclusive rights granted to a patent owner can extend to a cultivar and dismissed the Plant Variety Protection Act as altogether irrelevant to the case (*Sindicato rural de Passo Fundo v. Monsanto*, 2019).

This line of interpretation mirrors those of the Supreme Courts of the United States and Canada in major rulings on intellectual property and GM crops (for example, *Monsanto v. Schmeiser* 2004; *Bowman v. Monsanto*, 2013) and often explicitly builds on US and Canadian case law. For example, in its 2017 decision on Bt cotton, India's Delhi High Court argued that the reasoning of the Supreme Court of Canada in *Monsanto v. Schmeiser* was "weighty, deserving to be adopted by this court" (*Monsanto v. Nuziveedu*, 2017, 80). More specifically, Judge Gauba adopted the Canadian

Supreme Court interpretation that the fact that a patented object or process was part of a broader unpatented structure (that is to say, a plant) was ultimately irrelevant. Based on this reasoning, the Delhi High Court ruled that Indian seed companies' activities—generating hybrid varieties of cotton seeds through biological processes—could be construed as infringing on Monsanto's patent, even if essentially biological processes for the production or propagation of plants are excluded from patentability under the Indian Patents Act (*Monsanto v. Nuziveedu*, 2017). Similarly, in the Roundup Ready soybean class action, the Brazilian court of appeal referred to a key argument used by the US Supreme Court in *Bowman v. Monsanto* (2013). The argument concerned a tricky issue created by the extension of patent rights to life forms: when do the exclusive rights of a patent owner end in cases where the invention is a self-replicating organism (or become "exhausted," in patent parlance)? In *Bowman v. Monsanto*, the US Supreme Court ruled that patent owners' rights extended to successive generations of the plant. This reasoning was adopted by Brazil's Court of Justice of Rio Grande do Sul in its ruling that overturned the lower court decision by Judge Conti (*Monsanto v. Sindicato rural de Passo Fundo*, 2014). In short, there is no bar to relying on foreign decisions. In these cases, however, that reliance meant glossing over the significant legal differences between, on the one hand, the Brazilian and Indian legislation and, on the other, those of the United States and, to a lesser extent, Canada.

In contrast, the main decisions against Monsanto strove to interpret the issue in light of a wider set of legal norms, including each country's respective constitutions and domestic laws related to patents and plant variety protection.

In his first decision in the Roundup Ready soybean class action, for example, Judge Conti took a more restricted view of a patent holder's rights, and argued that the Plant Variety Protection Act (PVP Act) should take precedence over the Industrial Property Act when it comes to plant varieties. To support this interpretation, he pointed to the fact that the PVP Act (1997) was passed one year after the Industrial Property Act (1996), as "the sole form of protection in the Country for plant varieties" (Art. 2), thus reflecting an intent to submit plant varieties to a distinct legal

regime. This intention, he added, was further exemplified by Brazil's decision to join the 1978 Act—and not the more restrictive 1991 Act—of the UPOV Convention (*Sindicato rural de Passo Fundo v. Monsanto*, 2012, 14).

The dissenting opinion, presented by Judge Lopes do Canto, in the class action suit was informed by broader concerns over food security and over the limits and social function of property rights. According to this dissent, the Brazilian Constitution holds that “No property right is absolute and can prevail over its most relevant social functions” (*Monsanto v. Sindicato rural de Passo Fundo*, 2014, 65). Judge Lopes thus redefined the conflict as one between a third party's intellectual property and the rights guaranteed to small farmers in the Constitution.

According to that judge, no perpetual rights inhere in plant breeding itself (*Monsanto v. Sindicato rural de Passo Fundo*, 2014, 73). Judge Lopes reasoned that Monsanto holds property rights over the initial technology, but that these do not extend either to the entire production process or to successive generations of plants. In his opinion, charging royalties on harvest represented an attempt to obtain financial gains far superior to an equitable remuneration for use of the technology. He argued that the patent holder can charge royalties on the sale of seeds to farmers, but insisted that patent rights are exhausted from then onward. In other words, he took the view that patent law is no longer applicable when a farmer sells his harvest as food or raw material, sets aside and replants seeds, or multiplies seeds to give or exchange, or if the cultivar is used for plant breeding or scientific research (*Monsanto v. Sindicato rural de Passo Fundo*, 2014, 67).

In sum, Judge Lopes do Canto argued that since a specific law exists, having been passed with the objective of protecting the country's small farmers in compliance with the Constitution, this statute must prevail if a conflict is seen with another law: “When there is a normative conflict, the social interest must prevail over purely private interests. In other words, the law that must be applied is the one that best serves collective interests, in this case, the PVP Act” (*Monsanto v. Sindicato rural de Passo Fundo*, 2014, 73). Given the importance of family agriculture for Brazilian food security, he concluded, it was essential to guarantee the right to plant freely in the interest of society.

Indian courts have raised a similar set of considerations in some of their rulings. In the 2017 ruling of the Delhi High Court, the judge observed

that Article 39 of the Constitution of India mandates the State to “direct its policy towards securing that the ownership and control of the material resources of the community are so distributed as best to subserve the common good” (*Monsanto v. Nuziveedu*, 2017, 35). In the same decision, the judge also noted that the Essential Commodities Act was enacted in the public interest (*Monsanto v. Nuziveedu*, 2017, 37).

As for the 2018 ruling of the Delhi High Court, it was remarkable for being the first to examine the legality of patents on agbiotech traits under Indian law and, further, to delve into the substantive issues. The ruling stood out for a number of reasons. First, the judges addressed the fact that the claims made in the patent application had to be modified substantially to conform to the national legislation. On account of Section 3(j) of the Indian Patents Act, which covers exclusions to patentability, the Patent Office had rejected more than half the claims made in the original patent application. These claims were related to plants, plant cells, tissues, and progeny plants containing the nucleic acid sequence, as well as plants created through an essentially biological process. Of the remaining 27 claims that were granted, 24 were process claims, and only three were product claims related to a nucleic acid sequence. According to the judges, this narrowing of the patent claims was relevant and had implications for the scope of protection granted by the patent (*Nuziveedu v. Monsanto*, 2018).

Second, the judges interpreted patent rights over biotechnological inventions in light of India’s distinct legislation in the area of agricultural patents and farmers’ rights. In his decision, the single-bench judge had relied on *Monsanto v. Schmeiser*. The division bench judges rejected this line of reasoning, arguing that the uniqueness of the Indian legislation sets it apart from the United States and Canada and that *Monsanto v. Schmeiser* could therefore not be extrapolated to India. The judges also noted that the Indian Protection of Plant Varieties and Farmers’ Rights Act (PPVFR Act) grants substantive rights to farmers, in contrast to the United States and Canada, which do not formally recognize farmers’ rights.

Third, the judges questioned the interpretation that biotech traits are transgenic microorganisms. They rejected Monsanto’s claim that the subject matter of the patent is a microorganism, patentable under TRIPS Article 27.3(b). They argued, instead, that a nucleic acid sequence is not a microscopic organism, because it has no existence of its own. It is only of

use after it is introgressed into seed material, which must in turn undergo hybridization. The judges recognized that Monsanto can assert patent rights over the nucleotide sequence responsible for the Bt trait. However, they argued that the trait has no intrinsic worth. It only becomes valuable if it is part of a plant cell or seed, both of which are explicitly excluded from patentability under Section 3(j) of India's Patents Act.

Fourth, the judges argued that the transfer of the Bt trait to plant varieties through hybridization is an essentially biological process, which is also exempted from patentability under Section 3(j). Under the sublicensing agreement, Monsanto supplies donor seeds incorporating the Bt trait to a seed company, which then uses the donor seeds to transfer the Bt trait to its own varieties through conventional breeding techniques. The judges concluded that the moment the DNA containing the nucleotide sequence (the subject matter of the patent) was hybridized to produce the transgenic seeds or plants, the latter fell within the purview of the PPVFR Act, the Indian legislation regulating plant breeders' rights.

These decisions and dissenting opinions show that there are no foregone conclusions when it comes to the patenting of genes, seeds, and plants. On the contrary, the extension of intellectual property to plant materials left many unresolved issues and much room for alternative legal interpretations grounded in a country's domestic legislation, patent culture, and political priorities. By remanding the case to the Delhi High Court, the Supreme Court of India missed the opportunity to rule on a matter of considerable public interest. The Supreme Court could have argued, as it did in *Novartis AG v. Union of India*,¹¹ that the matter warranted an expeditious decision. In any case, the out-of-court settlement reached by the parties meant that there would be no ruling on the patentability of genes for the time being.

I would like to end this chapter by briefly discussing a legal ramification of the dispute over Monsanto's Roundup Ready patent. There is no question that the Brazilian patent on Roundup Ready (RR1) soybean expired in August 2010. However, as I detailed in chapter 2, Monsanto sought to obtain an extension of the term of protection of its patent in Brazil in line with the extended term it had obtained in the United States, and

then sued the Brazilian Patent Office when it denied the extension. After having lost in three instances, Monsanto filed an extraordinary appeal to the Supreme Court of Brazil. The rules concerning the term of protection for pipeline patents are laid out clearly in the Industrial Property Act, and Monsanto was unlikely to win the case. Yet by using all the appeal mechanisms available, Monsanto was able to delay for years a final decision on the validity of its patent on Roundup Ready (RR1) soybean.

In the meantime, the judgment of the extraordinary appeal to the Supreme Court was suspended due to a Direct Action of Unconstitutionality (ADI) concerning the pipeline provisions of the Industrial Property Act (ADI 4234 DF 2009). An ADI is a Brazilian legal instrument that allows a challenge in the Federal Supreme Court to any law whose constitutionality may be in question.¹² In this case, the Attorney General of the Union¹³ argued that pipeline patents were unconstitutional because they allowed, to the detriment of the novelty principle, the patenting of something that was already in the public domain, thus fostering the expropriation of the common good. As I laid out in chapter 1, pipeline patents—also called revalidation patents—allowed the retroactive patent protection of inventions that were in the public domain in Brazil but were patented abroad, without requiring a technical examination of the patentability requirements.

The Federal Supreme Court received the ADI in April 2009. The president of the Court determined at the time that the case would follow an expedited process, in which an ADI is sent directly to the full Supreme Court for final decision. However, in a decision entirely at odds with the spirit of the expedited process, the Court president then took nine years to schedule the case for judgment, and the case was again removed from the agenda in June 2021. As ADI 4234 was proposed more than 10 years ago, and since there are no more pipeline patents in effect, the Court may decide not to rule on its merits on the grounds that the case has lost its object. If this happens, it will confirm the view that the court chose to let the case die, in a case of “deliberate omission” on a matter of high relevance for both public health and agriculture. As Soraya Lunardi and Dimitri Dimoulis (2017) argue, this inaction had serious consequences. Pipeline patents granted in 1997 have expired and the inventions they cover thus entered the public domain in 2017 at the latest. The inaction

of the Supreme Court meant that Brazilian society paid the significantly higher cost of patented medicines and patented seeds during those years (2009–2017) without the Supreme Court having ruled on the merit of the ADI.

In the case of Roundup Ready soybeans, the combined effect of the lawsuits against the Brazilian Patent Office and of the delayed judgment of the ADI was to prolong the uncertainty surrounding the Roundup Ready soybean patent. The ruling of the Superior Court of Justice in the class action, delivered in October 2019, stated that owing to the extraordinary appeal and ADI itself, the term of protection of the Roundup Ready (RR1) soybean patent was still open to question (*Sindicato rural de Passo Fundo v. Monsanto*, 2019, 17).

Litigants who set out to challenge IP rights on biotech seeds in Brazil and India have had mixed success in the courts. As Boaventura de Souza Santos (2002) reminds us, although the law *can* be emancipatory, it is never inherently so. The significance of these legal challenges lies elsewhere: by drawing attention to the role of both corporations and governments in the implementation of royalty collection systems for biotech crops, litigation has revealed the political nature of biotech patents as well as royalty collection systems. These legal challenges have destabilized the dominant pro-biotech interpretations of patent rights that had been endorsed by the Supreme Courts of the US and Canada. Such legal challenges have shown that within the minimum norms established by the TRIPS Agreement, considerable leeway still exists to balance patent rights against other considerations, such as food security and farmers' rights. Most important, these lawsuits have forced the courts to begin to examine the complex issues raised by the extension of intellectual property to plant-related material in the context of each country's constitutions, domestic laws, and policy goals. Amid growing concern over historically unprecedented levels of concentration in the global seed industry, these lawsuits offer insight into the emergence of a new legal common sense concerning the merits and limits of extending intellectual property to plants and seeds.

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