# THE SEEDS OF MONOPOLY: SOVEREIGNTY, INTELLECTUAL PROPERTY AND FOOD SECURITY UNDER INDIAN LAW

*Ronaldo Das*[*]

## I. INTRODUCTION

"*Most of the world's poor people earn their living from agriculture, so if we knew the economics of agriculture, we would know much of the economics of being poor.*"
- Theodore Schultz[1]

Agriculture has traditionally been the backbone of India's economy, providing earning and contributing significantly to the country's GDP. Mahatma Gandhi once said, "*India lives in villages and agriculture is the soul of the Indian economy.*"[2] Even now, approximately two-thirds of the Indian population depends on agriculture. However, while India has achieved significant progress in food security since independence; yet by doubling its population and quadrupling food grain output, the foundation of this achievement is increasingly under threat.[3] This threat stems from environmental causes and the legal and economic structures that restrict access to agricultural inputs, notably seeds.

The current agricultural environment contains an unpleasant paradox, *i.e.*, food is recognized as a fundamental human right, but the seeds that support life are frequently subject to intellectual property (IP) laws that limit farmers' liberty.[4] This research critically investigates the influence of seed patents and plant variety protection laws on seed sovereignty including farmers' ability to freely conserve, exchange, and replant seeds. Seed commercialization under intellectual property regimes has changed them from a communal agricultural resource to corporate-controlled assets, thereby altering the power dynamics of food production. This reconfiguration of power mirrors broader struggles within the history of human rights, where shifts in ownership and control often reflect deeper ideological contestations.

Human rights history is frequently intertwined with more significant ideological disputes. As Upendra Baxi points out, socialist and decolonial human rights movements of the twentieth century portrayed the exploited under capitalism as 'insufficiently human,' calling for a profound reform of social and economic institutions.[5] While these movements aimed to demolish the old order of colonial dominance and imperialist capitalism, they paradoxically perpetuated a new

[*] Legal Associate, Chambers of Harsh Gadodia, Kolkata, India.

[1] Theodore W. Schultz, *The Economics of Being Poor*, Nobel Prize Lecture (Dec. 08, 1979), *available at*: https://www.nobelprize.org/prizes/economic-sciences/1979/schultz/lecture/ (last visited on Mar. 21, 2025).

[2] Divya Joshi, *Gandhiji on Villages,* 13 (Gandhi Book Centre, Mumbai, 2002), *available at*: https://www.mkgandhi.org/ebks/Gandhionvillages.pdf (last visited on Mar. 21, 2025).

[3] A.K. Nayak, B. Dhal, *et.al.*, "Status of Food and Nutritional Security and Policy Interventions in India" in *Compendium of Invited Lectures of DEVIL Food Security Workshop* (Odisha, 2018).

[4] Monika Jain, "Right to Food and Intellectual Property Rights: Where is the Paradox?" 1(2) *Journal of Intellectual Property Rights Law* 152 (2018).

[5] Upendra Baxi, "Two Notions of Human Rights: 'Modern' and 'Contemporary' " in *The Future of Human Rights* 33–58 (Oxford University Press, New Delhi, 2008).

global hierarchy in which participation in the critique of capitalism became the prerequisite for full recognition as a political person. In agriculture, a similar dilemma emerges. Food is widely recognized as a human right, yet the essential means of production, *i.e.*, seeds are becoming increasingly entwined in the private logic of corporate capitalism.[6] In this intellectual property–driven system of agribusiness capitalism, the farmer's dignity and freedom are defined not by self-reliance but by their place within the agribusiness economy, which determines what may be cultivated, how, and for what price.

At the intersection of agrarian justice and intellectual property law, India is historically rich in biodiversity and traditional agricultural expertise, presenting a unique problem. The farmer's position has changed from being a guardian of biodiversity to a consumer of legally protected agricultural inputs, shaped by the growth of seed patents and plant variety protections under international sanctions like TRIPS (Trade-Related Aspects of Intellectual Property Rights)[7] and domestic legislations such as the Patents Act, 1970, the Protection of Plant Varieties and Farmers' Rights Act, 2001, and the Biological Diversity Act, 2002. On the contrary, the Protection of Plant Varieties and Farmers' Rights Act (PPV&FRA)[8] aims to strike a balance between farmers' autonomy and corporate innovation. However, this delicate balance is in danger due to the growing concentration of seed ownership within a small number of multinational companies.

This paper builds on existing literature on the concept of seed sovereignty and intellectual property to further develop the idea that seed monopolies owned by corporations not only destroy agricultural autonomy, but also constitutional protections of livelihood and distributive justice. While earlier literature has predominantly examined seed governance from economic and biodiversity perspectives, there remains a gap in systematically connecting these debates with the human right to food and India's constitutional framework. In filling this gap, the paper will use a doctrinal approach to analysis of law as well as review statutes, case law and international instruments to assess the impact of seed monopolies on the rights of farmers in the context of the agricultural sovereignty, intellectual property law and human rights. What does it mean for farmers to buy and rebuy seeds that multinational agribusiness patent if agrarian justice demands that they be free agents of their production? Can food be effectively safeguarded if it is a human right and its production is controlled by private ownership of living things? The commodification of seeds is more than just a matter of market regulation; it poses a direct danger to food security, biodiversity and small farmers' economic independence.[9]

This current conflict is reflected in Upendra Baxi's critique of the post-capitalist vision of human futures. Similar to how early socialist movements aimed to reinterpret the concept of the "sufficiently human", contemporary agricultural capitalism is redefining the farmer's identity as a participant in a strictly regulated[10], private system rather than as an independent producer. This

---

[6] Jack Ralph Kloppenburg, *First the Seed: The Political Economy of Plant Biotechnology* (Cambridge University Press, Cambridge, 2nd edn., 2004).
[7] Archana K., "TRIPS and the Impact on Plant Variety Protection in India" 4(5) *International Journal of Scientific and Engineering Research* 1-11 (May 2013).
[8] The Protection of Plant Varieties and Farmers' Rights Act, 2001 (Act 53 of 2001).
[9] Eleonora Gentilucci, "Intellectual Property Rights and the Commodification of Nature: The Case of Seeds", MPRA Paper No. 90527, University of Padua (2018), *available at:* https://mpra.ub.uni-muenchen.de/90527/ (last visited on Mar. 30, 2025).
[10] *Supra* note 4.

raises a fundamental question: whose rights are being safeguarded when food access is dependent on patented seeds? In this case, the right to food depends on the right to seed sovereignty.

### *A. The Dilemma*

Given that food is seen as a rudimentary human right, the legal systems that control its production must be critically examined. Is it reasonable for intellectual property rules to privatize the seeds used to grow food if access to it is necessary for human existence and dignity? The author repeatedly asks and investigates whether these legislative frameworks support corporate monopolies at the price of farmers' independence and food security.

Moreover, ownership of the means of production is a prerequisite for the agricultural freedom principle. Can farmers be considered genuinely independent if they have no control over seeds? This study examines whether seed patents erode self-sufficiency and maintain structural reliance by examining India's legal system.

This paradox should also be placed against the competing rationales put forward as to the protection of intellectual property in agriculture. On the one hand, advocates say seed patents and plant variety protections drive research and personal investment and help create more yielding, resistant against pests and weather-tolerant varieties. International commitments such as TRIPS reinforce this rationale by obligating member states to adopt legal mechanisms for plant variety protection. From this perspective, intellectual property frameworks are portrayed as indispensable tools for ensuring global food availability and agricultural innovation.

However, according to Vandana Shiva and other agroecology theorists[11], such frameworks often prioritize corporate interests at the expense of ecological and cultural underpinnings of agriculture. Commodifying the seeds, through monocultures and contracts, turns a commons-based resource into a proprietary commodity, thereby displacing centuries-old traditions of saving and sharing seeds. The same is seen in India where the rights of farmers to save, reuse and exchange seeds are formally protected by the Protection of Plant Varieties and Farmers Rights Act, 2001, but these statutory guarantees are increasingly eroded in practice by restrictive licensing arrangements and the growing concentration of seed ownership among multinational corporations. Thus, the dilemma is not merely rhetorical but emblematic of the larger contest between an industrial model of agriculture premised on uniformity and extraction, and an ecological model that affirms diversity, reciprocity, and the commons.

## II. HARVESTING INEQUALITY: INTELLECTUAL PROPERTY, SEED PATENTS AND THE RIGHT TO FOOD

Preserving, distributing, and sowing seeds has been an essential component of agricultural civilizations for ages. Historically, economic self-sufficiency and food security have been inextricably linked to the capacity to manage one's means of production starting with the seed.[12]

[11] Vandana Shiva, Maya Goburdhun, *et.al*. (eds.), *The Future of Food: Farming with Nature, Cultivating the Future* (Navdanya International, Rome, 2019).

[12] Aizhan Tleuberdinova, Nurlanova Nailya Kapenovna, *et.al*., "Food Security and Self-Sufficiency as a Factor of Country's Sustainable Development: Assessment Methods and Solutions" 6 *Discover Sustainability* 50 (2025).

However, seeds have become proprietary assets due to the rise of intellectual property regimes in the 20th century especially the creation of the International Union for the Protection of New Varieties of Plants (UPOV)[13] and the expanding power of patents and Plant Breeders' Rights (PBR). Control over seeds has been centralized in the hands of large agricultural corporations due to the increase of legal protections for plant varieties especially in industrialized nations. This change calls into question long-standing agricultural methods and brings up important ethical and legal problems about food sovereignty, farmers' rights and global equality.

Economic institutions have historically influenced the intellectual foundations of human rights especially concerning production and property. The 'impossibility thesis' contends that capitalist forms of production are inextricably linked to human rights as they are generally understood.[14] In contrast, Marxist theorists have argued that socialist formations sought to redefine rights precisely by dismantling private ownership, since in pre-capitalist civilizations rights were not separated from collective obligations[15]. The applicability of human rights to vital resources like seeds becomes more problematic if they are, in fact, a product of capitalist economic systems[16]. Therefore, it is important to consider this larger ideological context when examining the expansion of intellectual property laws into agriculture which is frequently defended as a way to encourage innovation. Does the intellectual property law-based privatization of genetic resources uphold human rights principles or does its further capitalist forces that put the market's interests ahead of the general welfare? This paper takes up this dilemma in subsequent sections by analyzing whether Indian legal frameworks such as the PPV&FRA and Biodiversity Act succeed in reconciling human rights commitments with the logic of intellectual property, or whether they ultimately reinforce the structural dominance of market forces in seed governance.

India plays a crucial role in this discussion because of its diverse legal system and rich agricultural heritage. Indian farmers have relied on traditional knowledge and seed sharing across communities while operating outside official intellectual property laws[17]. However, India tried to balance the rights of breeders and the acknowledgement of farmers' contributions to genetic variety with the passage of the PPV&FRA[18]. However, the effectiveness of these safeguards is still debatable in an increasingly globalized agricultural industry influenced by corporate consolidation and TRIPS. The fundamental question still stands: Should the resources used to generate food such as seeds be owned privately and monopolized by corporations if food is a human right? This investigation, which addresses sustainability issues, economic fairness and the future of global

[13] International Union for the Protection of New Varieties of Plants (UPOV), *Convention for the Protection of New Varieties of Plants*, Dec. 02, 1961, as revised Nov. 19, 1972, Oct. 23, 1978, and Mar. 19, 1991, *available at*: https://www.upov.int (last visited on Mar. 21, 2025).
[14] Margot E. Salomon, "Emancipating Human Rights: Capitalism and the Common Good" 36 *Leiden Journal of International Law* 857 (2023).
[15] Viralaxmi Moganty, "Marxist Theory of Rights – Philosophical Foundations of Human Rights" in *Philosophical Foundations of Human Rights: Duties and Responsibilities* (2025), *available at:* https://ebooks.inflibnet.ac.in/hrdp01/chapter/marxist-theory-of-rights/ (last visited on Mar. 21, 2025).
[16] *Supra* note 13.
[17] Raman Mittal, "Legal Framework for Protection of Plant Varieties in India: Farmers' Rights Perspective" 12 *Journal of Intellectual Property Rights* 123 (2007).
[18] *Ibid.*

food systems, is not simply legal but also intensely political.[19] The governance of seeds entails controversial issues of power: who owns the means of production, how biodiversity benefits are shared, and whether traditional practices of farmers are being maintained or replaced by corporate patterns of proprietorship. Legal regimes like the PPV&FRA and TRIPS also dictate the rural livelihoods patterns, the level of sovereignty that the state has on its genetic resources and to what degree multinational corporations can exert control over agriculture by influencing access to seeds. These are inherently political choices, as they concern distributive justice, autonomy and the balance between community rights and market imperatives.

This part of the paper will trace the historical development of seed rights and their monetization in order to critically examine the relationship between intellectual property law and food sovereignty. It will investigate whether the existing legal system in India respects the human right to food or sustains economic reliance that threatens agricultural autonomy by looking at the country's legal system in the larger global context. Given the conflicting narratives, those that regard intellectual property as a tool of corporate power and others that see it as a vital force behind advancement, the conversation around the privatization of seeds has to be re-examined. This section highlights the central research question for this part of the paper: does the expansion of intellectual property into agriculture advance food sovereignty and the human right to food, or does it reinforce economic dependence and corporate control over essential resources?

### *A. The Legal Landscape: Intellectual Property and Agriculture*

The administration of plant genetic resources (PGRs) has long been a subject of legal and intellectual debate while reflecting more considerable contradictions between proprietary rights and the preservation of global commons. The unequal geographical distribution of PGRs and their fast depletion have resulted in opposing claims for their conservation, usage, and commercialization[20]. This debate extends to core legal issues such as ownership, access, and the role of intellectual property in driving agricultural innovation and biodiversity conservation.

The role of intellectual property rights (IPRs), which can be considered as a double-edged legal instrument is essential to this discussion[21]. On the one hand, intellectual property rights (IPRs) offer essential incentives for private players, notably biotechnology corporations and commercial plant breeders to find, isolate and improve genetic material resulting in agricultural advances[22]. On the other hand, the exclusivity they impose creates access obstacles, preventing farmers, researchers and even governments from freely using genetic resources that have long been part of humanity's shared agricultural legacy[23]. The legal challenge is defining the breadth of

[19] Daniele Giovannucci, Sara J. Scherr, *et.al.*, "Food and Agriculture: The Future of Sustainability" U.N. Department of Economic & Social Affairs, Division for Sustainable Development (2012), *available at*: https://sustainabledevelopment.un.org (last visited on Mar. 21, 2025).
[20] Ricardo T. Bagarinao, "GIS and Its Role in Plant Genetic Resources Use and Conservation" in *Plant Genetic Resources, Inventory, Collection and Conservation* 77–95 (Springer, 2022), *available at*: https://link.springer.com/chapter/10.1007/978-981-16-7699-4_4 (last visited on Mar. 22, 2025).
[21] Peter K. Yu (ed.), I *Intellectual Property and Information Wealth: Issues and Practices in the Digital Age* (Praeger Publishers, Westport, CT, 2007).
[22] Aakriti Gupta, "The Role of Biotechnology and Intellectual Property Rights in Shaping Agricultural Innovation in Developing Nations" 10(2) *JSS Journal for Legal Studies and Research* 138–160 (2024).
[23] *Ibid.*

proprietary rights over PGRs while protecting the interests of farmers who have historically grown, stored and shared seeds outside formal intellectual property regimes[24].

Over the last few decades this fundamental problem has influenced legal advancements. A landmark in the legal debate was the International Undertaking on Plant Genetic Resources, a non-binding statement stating that all PGRs including advances relating to plants need to be preserved as part of the "common heritage of mankind"[25]. Industrialized nations especially the United States and certain European governments opposed this idea since their legal systems protected separated and purified genetic material as intellectual property. Growing PGR privatization has sparked legislative and regulatory efforts to draw distinct legal lines between public and private-owned genetic resources especially in developing countries and civil society organizations. The PGR Treaty's primary goal is to create a "multilateral system"[26] for genetic material interchange, an invention presented as a "limited common property"[27]. The foundation of global nutrition, sixty-four important food and feed crops are designated under this system as accessible for teaching, breeding and research[28]. The pact, in principle, provides a middle ground i.e. commercial organizations that profit from this genetic repository must pay a portion of their earnings to a trust fund that supports conservation and benefit-sharing especially in developing nations[29]. Therefore, this mechanism poses the question of whether it corrects historical injustices in the exploitation of PGRs or acts as a tool to legitimize their commercialization further.

It is practical to compare with the Convention on Biological Diversity (CBD). The CBD supports a paradigm of bilateral talks between resource-rich governments and business entities by upholding states' sovereign rights over genetic resources inside their boundaries[30]. The PGR Treaty, on the other hand, claims to go beyond this paradigm by using a multilateral framework but inconsistencies of its own nonetheless plague it. It aims to facilitate commercialization to maintain benefit-sharing programs yet this commercialization poses a threat to the same commons that it is meant to safeguard[31]. Therefore, the treaty must be interpreted as a legal attempt to manage these conflicts rather than as a solution while constantly negotiating the line between community stewardship and proprietary control[32]. This contradiction reflects a more significant trend in

---

[24] Sanjit Kumar Chakraborty, "Contestation Over the Ownership, Use and Control of Plant Genetic Resources: Rethinking Plant Intellectual Property Rights from Indian Perspective" 60 *Journal of Indian Law Institute* 369 (2018).
[25] *International Undertaking on Plant Genetic Resources*, Report of the Conference of FAO, 22nd Sess., art. 1, U.N. Doc. C/83/REP (1983).
[26] *International Treaty on Plant Genetic Resources for Food and Agriculture*, opened for signature Nov. 03, 2001, *available at*: http://www.fao.org/ag/cgrfa/IU.htm (last visited on Mar. 22, 2025).
[27] Carol M. Rose, "The Several Futures of Property: Of Cyberspace and Folk Takes, Emission Trades and Ecosystems" 83 *Minnesota Law Review* 129 (1998).
[28] *Supra* note 26, annex I.
[29] Laurence Helfer, "Intellectual Property Rights and the International Treaty on Plant Genetic Resources for Food and Agriculture" *Proceedings of the ASIL Annual Meeting* 97 (2003), *available at*: https://www.jstor.org/stable/25659828, (last visited on Mar. 22, 2025).
[30] U.N. Conference on Environment & Development, *Convention on Biological Diversity*, UNEP/Bio.Div./N7-INC5/4, reprinted in 31 I.L.M. 818 (1992). As of Dec. 2002, 187 states had ratified the Convention. See Parties to the Convention on Biological Diversity, *available at*: http://www.biodiv.org/world/parties.asp (last visited on Mar. 24, 2025).
[31] Laurence R. Helfer, *Intellectual Property Rights in Plant Varieties: An Overview with Options for National Governments*, FAO Legal Papers Online No. 31, at 51 (July 2002), *available at:* http://www.fao.org/Legal/pub-e.htm (last visited on Mar. 24, 2025).
[32] *Supra* note 26.

modern international law where market processes are commonly used to balance conflicting interests. The PGR Treaty is a prime example of how "access and benefit-sharing" can be used as a means of co-optation and resistance[33]. On the one hand, it provides an alternative to unchecked privatization. However, on the other, it reinforces a system that makes the commons' continued viability dependent on the logic of capital accumulation[34].

The PGR Treaty is another chapter in the long history of legal contestation if the fight over plant genetic resources is partly a war over the legal imaginations that influence how we see ownership, access, and fairness. Like the CBD before it, its future will ultimately depend on subaltern voices of farmers, indigenous communities, and civil society actors while articulating alternative legalities that oppose the enclosure of the commons in the name of innovation rather than just the technicalities of treaty enforcement[35].

### *B. The Legal Contours of Article 12.3(d) of ITPGRFA: Defining the Limits of Intellectual Property*

Whether patent claims may be made on isolated and purified genetic material obtained from seeds within the multilateral system was at the center of the final talks surrounding the PGR Treaty. It took much effort to approve article 12.3(d)[36] which supposedly restricts proprietary claims over plant genetic resources (PGRs) but leaves important questions unanswered[37]. According to the clause, PGR recipients are not permitted to assert intellectual property rights or other rights that limit easier access to genetic resources "in the form" they have been given[38]. However, there is still much debate over the specific legal implications of this prohibition.

The juxtaposition of two crucial phrases, *i.e.*, "their genetic parts or components" and "in the form" that became the center of compromise between opposing state perspectives is the basis of the interpretive difficulty presented by article 12.3(d)[39]. Developing nations insisted on including wording that would expand the IPR ban to include any genetic derivatives of PGRs obtained through the treaty to stop the growth of patent monopolies over genetic resources. To ensure that genetic sequences extracted from unmodified seeds and plants would continue to be eligible for patent protection under national and international IP regimes, the United States and

---

[33] Aditi Mishra and Rupam Rupam, "International Treaty on Plant Genetic Resources for Food and Agriculture" *SSRN* (June 09, 2023), *available at:* https://ssrn.com/abstract=4474036 (last visited on Mar. 24, 2025).
[34] *Supra* note 31.
[35] Anitha Ramanna and Melinda Smale, "Rights and Access to Plant Genetic Resources under India's New Law" 22 *Development Policy Review* 423 (2004), *available at*: https://www.researchgate.net/publication/227631891_Rights_and_Access_to_Plant_Genetic_Resources_under_India's_New_Law (last visited on Mar. 24, 2025).
[36] *International Treaty on Plant Genetic Resources for Food and Agriculture* (adopted 3 Nov. 2001, entered into force 29 June 2004), FAO, *available at* https://www.fao.org/4/i0510e/i0510e.pdf, (last visited on Mar. 24, 2025).
[37] *Informal International Consultation on Farmers' Rights*, Sept. 18–20, 2007, Lusaka, Zambia, co-hosted by the Ministry of Agriculture and Food, Norway, and the Zambia Agriculture Research Institute, Ministry of Agriculture, Food and Fisheries, Zambia, *available at*: https://www.regjeringen.no/globalassets/upload/lmd/vedlegg/brosjyrer_veiledere_rapporter/lusakarapporten.pdf (last visited on Mar. 24, 2025).
[38] *Ibid.*
[39] *Supra* note 30.

other developed countries with strong biotechnology industries, on the other hand, attempted to restrict the restriction to these materials[40].

As a result, the legal ambiguity surrounding article 12.3(d) depends on how regulators and courts define the "modification" requirement.[41] It is generally acknowledged that intellectual property may protect an invention if a seed is utilized to create a new plant variety with unique characteristics. The more controversial problem comes when genetic material is taken or separated without being significantly changed. Some stakeholders argue that even isolated DNA fragments should stay in the commons since they are "genetic parts or components" of the initially accessed material.[42] These stakeholders especially NGOs support strict safeguards against biopiracy. However, this interpretation contradicts the position taken by a number of developed countries who have argued that article 12.3(d) does not supersede duties under TRIPS to maintain a broad scope for patentability[43]. Several unilateral interpretative comments by the US, EU, Canada and Australia added to the treaty's official record prevented this interpretational discrepancy. These claims maintain the priority of national patent laws and TRIPS commitments by claiming that nothing in article 12.3(d) is meant to clash with current IPR regimes. Since these interpretative statements are not official reservations to the treaty but serve as signs of how important state parties plan to implement its provisions, their legal importance is still debatable.

The contentious interpretation of article 12.3(d) highlights a more significant structural conflict between the firmly established interests of biotechnology and agriculture on the one hand and the demands of access and benefit-sharing on the other. The pact aims to strike a careful balance by allowing for a restricted commons of genetic resources while also considering the financial realities of innovation driven by intellectual property. However, by permitting a gradual enclosure of genetic information through patent claims that although technically adhering to the treaty's wording effectively limit its intended function, this concession may ultimately undermine the entire goal of the international system.

As a result, even though the PGR Treaty is a historic attempt to formalize the management of plant genetic resources in a way that balances access and ownership claims, its clauses especially article 12.3(d) continue to be the subject of ongoing legal challenges. In addition to treaty interpretation, the resolution of this uncertainty will probably be influenced by national patent offices' pledges, the development of intellectual property jurisprudence and the ongoing support of those opposed to monetizing the genetic commons.

### *C. Governance and the Genetic Commons: Interpreting the Role of the PGR Treaty's Governing Body*

An attempt was made to institutionalize a structured legal system for administering plant genetic resources by creating the Governing Body under the PGR Treaty. This is a change from

[40] *Supra* note 32.
[41] Laurence R. Helfer, "Regime Shifting: The TRIPs Agreement and New Dynamics of Intellectual Property Lawmaking" 29 *Yale Journal of International Law* 1 (2004).
[42] Hope Shand, "Human Nature: Agricultural Biodiversity and Farm-Based Food Security" 12 *Journal of Agricultural and Environmental Ethics* 1 (2000).
[43] *Ibid*.

the disjointed and one-sided methods that have traditionally defined biodiversity protection, bioprospecting, and intellectual property claims. However, in the global system of information and resources, this endeavor is more than just regulatory control; it is a continuous conflict between opposing ideas of sovereignty, property, and justice[44].

Negotiating and standardizing Material Transfer Agreements (MTAs) which specify the acceptable use of plant genetic resources acquired through the multilateral system is a key responsibility of the Governing Body[45]. These contracts provide the legal framework for establishing the scope of intellectual property protection for derivative developments and regulating benefit-sharing commitments. The specifics of these agreements are still up for debate especially about the extent of intellectual property rights over genetic derivatives and modifications. The commercialization threshold that initiates benefit-sharing obligations and Monitoring and enforcement mechanisms to guarantee adherence to these contractual obligations. These agreements are the locus of power where the disparities between agribusinesses, developing nations and traditional knowledge holders are discussed and challenged rather than neutral legal documents[46]. MTAs run the risk of replicating the injustices of the current IP framework if they are designed to benefit dominant market actors, turning access into a commodified privilege rather than an enforced right.

The current version of the convention only covers particular food and feed crops while not establishing a comprehensive genetic common. It was not a coincidental choice to exclude numerous crops; instead, it was the consequence of strategic negotiation especially by governments with high biodiversity that wanted to retain sovereign control over important genetic resources[47]. Nevertheless, if governments are ready to discuss changes, the treaty permits an extension of this list. The central conundrum is whether the multilateral system's growth will be seen as a strategic advantage or a loss of sovereignty. Developing nations who possess enormous genetic wealth vaults are nonetheless wary of more concessions until the benefit-sharing mechanisms of the pact provide tangible financial and technical benefits[48]. States may continue to favour bilateral bioprospecting agreements that provide more immediate commercial benefits if there are no noticeable benefits[49]. This conflict reflects the global South's long-standing fight for epistemic justice or the right to govern not only tangible resources but also the information that comes from them. This way, PGR governance continues the post-colonial conversation on self-determination and opposition to industrialized nations' monopoly on biological knowledge[50].

The Governing Body's third significant problem is encouraging private players such as universities, botanical gardens, and seed banks to donate their genetic resources to the multilateral

[44] Vandana Shiva, *Biopiracy: The Plunder of Nature and Knowledge* 1–15 (South End Press, 1997).
[45] Christine Frison, Francisco López, *et.al.*, *Plant Genetic Resources and Food Security: Stakeholder Perspectives on the International Treaty on Plant Genetic Resources for Food and Agriculture* (Earthscan,Routledge, 2011).
[46] *Ibid.*
[47] Douglas M. Johnston and Dinah Shelton, "Commitment and Compliance: The Role of Non-Binding Norms in the International Legal System" 95(3) *American Journal of International Law* 709–714 (2001).
[48] World Bank, World Development Report 2003: Sustainable Development in a Dynamic World – Transforming Institutions, Growth, and Quality of Life (Overview) (World Bank Group, Washington DC, 2003), *available at:* http://documents.worldbank.org/curated/en/286321468147836246 (last visited on Mar. 21, 2025).
[49] *Ibid.*
[50] *Supra* note 30.

system[51]. Although such contributions are encouraged under the treaty yet participation is still optional. The Governing Body may investigate ways to constrain access in response which might limit the seed treasury's benefits for non-contributors. However, these actions bring up complex moral and legal issues. Limiting access might exacerbate already-existing inequalities in agricultural growth and jeopardize scientific research and innovation especially in the public sector. Any legislation that turns genetic commons into an exclusive system would go against the treaty's core principle of fair access.

States' political will and the responsiveness of international organizations will determine the PGR Treaty's and its Governing Body's success[52]. The treaty's potential to become a game-changing paradigm for global commons governance or merely another layer of bureaucratic formality in an unfair intellectual property regime will depend on how MTAs are negotiated, how the multilateral system is expanded and how private players participate[53]. Ultimately, the PGR Treaty serves as a battlefield of conflicting interests between the North and the South, between the public and private sectors, and between sovereignty and commercialization rather than merely a legal document[54]. In this situation, the Governing Body might either support the current knowledge and property hierarchies in the global order or help establish a new genetic justice paradigm. Their decisions will influence future generations' control of plant genetic resources.

## III. CONTRACTS AND CHAINS: THE LEGAL SHACKLES OF SEED OWNERSHIP

A farmer's independence raises important legal and social questions compared to seed ownership. Modern intellectual property laws that turn seeds into proprietary commodities have systematically eroded farmers' traditional autonomy based on centuries-old practices of storing, distributing and replanting seeds[55]. The role of the farmer is reshaped from that of a co-creator and steward of agricultural biodiversity to that of a licensee with restricted rights due to policies that support utility patents, plant breeders' rights and restrictive licensing arrangements (like the typical "bag tag" contracts)[56].

From a legal perspective, control over the primary production source, *i.e.*, seeds are inextricably tied to the core of agricultural freedom. Farmers are forced to give up the customary freedom of independent reproduction and exchange once seeds are covered by intellectual property rights, undermining a vital aspect of agricultural self-determination. Legal tools initially intended to encourage plant breeding innovation have instead become tools for corporate consolidation, separating farmers from the genetic resources supporting their livelihoods[57].

---

[51] *Ibid.*
[52] *Supra* note 21.
[53] *Ibid.*
[54] *Supra* note 43.
[55] Soumyadutta Shyam, "IPR in Agriculture: Protection of Plant Varieties and Farmers' Rights" *iPleaders Blog*, Oct. 12, 2024.
[56] Vandana Shiva, "Agricultural Biodiversity, Intellectual Property Rights and Farmers' Rights" 31 *Economic and Political Weekly* 1621 (1996).
[57] Reinier R. Smit, "Intellectual Property Consolidation in the Agriculture Industry" *National Law Review* (2021).

The lack of a strong legal framework that ensures a "protected commons" for seeds further exacerbates this alienation[58]. Initiatives like the Open-Source Seed Initiative (OSSI) are a daring, if challenging, attempt to repurpose the master's legal tools, contract law and copyright, to produce licenses that require a free and open interchange of genetic material as Kloppenburg contends[59]. With its two licensing options, a "free seed" license and a "royalty-bearing" alternative, the OSSI method aims to restore farmers' freedom to save, distribute and use seeds without being constrained by proprietary constraints[60]. However, this undertaking is not without legal issues because licensing agreements are inherently complicated and run the danger of reproducing the control structures intended to undermine. However, this paradigm has marginalized the communal and customary methods of resource management that have supported indigenous and peasant communities for millennia. Farmers are often denied the ability to exercise genuine self-determination when seeds historically handled as community assets via saving, sharing and replanting traditions are converted into proprietary commodities by intellectual property regimes[61]. Seeds become objects of exclusive possession when patents, plant variety protections and stringent licensing practices (such as shrink-wrap "bag tag" agreements) are imposed. In addition to limiting farmers' capacity to procreate and trade seeds, this move incorporates them into a legal framework favouring corporate dominance[62]. The historical formulation of modern human rights is inextricably linked to capitalist forms of production which uphold property rights as inviolable[63]. Accordingly, the ownership and control of the means of production are closely tied to the rights to food and life. As a result, a farmer who does not possess seeds is not genuinely free; instead, they are forced to rely on other sources of income for their bare subsistence[64].

Furthermore, a more significant tendency of global inequality is reflected in the dominant legal and economic systems that uphold property claims over seeds. Farmers in the Global South face policies that threaten traditional knowledge systems and the collective management of genetic resources. At the same time, Western governments and multinational businesses use intellectual property rights to bolster their market dominance. The "impossibility thesis" emphasized by Baxi[65] is best shown by the inconsistencies in these legal tools which are intended to encourage innovation while restricting conventional behaviours. According to this argument, many non-Western countries have long practiced collective forms of ownership that are fundamentally incompatible with the basic idea of contemporary human rights based on individual property rights.

### *A. Seeds of Change – Balancing Proprietary Control and Traditional Autonomy*

[58] Sophy K. J., "Farmers' Rights Under Plant Variety Protection (PVP) Legislation in India: A Critical Study" 1 *Rostrum's Law Review* 61-78 (2013).
[59] Jack Kloppenburg, "Re-purposing the Master's Tools: The Open-Source Seed Initiative and the Struggle for Seed Sovereignty" 41 *The Journal of Peasant Studies* 263 (2014).
[60] Maywa Montenegro de Wit, "Beating the Bounds: How Does 'Open Source' Become a Seed Commons?" 44 *The Journal of Peasant Studies* (2017).
[61] Karine Eliane Peschard and Shalini Randeria, " 'Keeping Seeds in Our Hands': The Rise of Seed Activism" 47 *The Journal of Peasant Studies* 1 (2020).
[62] *Supra* note 57.
[63] Archana Parashar, "Human Rights: Imperatives of Theoretical Change" 40 *Journal of Indian Law Institute* 6 (1998).
[64] *Supra* note 45.
[65] *Supra* note 5.

Farmers have been caretakers of numerous seed kinds for millennia, adapting them to local circumstances using traditional knowledge. Seeds, in this system, were a shared, living heritage which are resource available to everyone. However, the introduction of formal plant breeding and biotechnology has turned these commons into a commodity. TRIPS, UPOV, IUPGR and the CBD have prepared the path for patenting plant types and genetically modified seeds, transferring power from local people to corporations[66]. This tendency is evident in India where considerable changes have been implemented. The Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act of 2001 was created as a unique piece of law to reconcile the interests of formal plant breeders, farmers and indigenous populations[67]. Despite these attempts, the legal structure strongly favours commercialization.

As farmers increasingly adopt biotech seeds with enhanced features and institutions such as NITI Aayog lobby for more widespread agricultural biotechnology research[68], the conservation of traditional methods is sometimes overlooked. The trend towards exclusive ownership over seeds has made farmers more reliant on acquiring new seeds each season. This reliance undermines their long-standing habit of seed saving which formerly strengthened them economically and maintained local agricultural expertise. As traditional farmers lose control of their fundamental means of production, their independence and cultural legacy are jeopardized. Plant variety management is an economic matter under the existing legal system. Although the proprietary rights provided under national and international regimes aim to encourage research and development (R&D) in the private sector, this strategy frequently ignores the connections between commercialization, biodiversity protection and the sustainable use of PGRs[69]. The monopolization of genetic resources due to the pursuit of private profit can negatively affect the environment and the farmers who have protected these resources for generations. The US Department of Agriculture commissioned a study that concluded that "…incentives for private investments are unlikely to direct large-scale resources towards solving many problems in developing countries." [70] A sustainable approach to agricultural innovation must balance the need to preserve biodiversity and defend farmers' rights and commercial R&D incentives. The fundamentals of traditional seed methods which have been developed over many generations, must be acknowledged as a basis for sustainable agriculture and a cultural treasure. Therefore, any change to the law or policy should guarantee that farmers maintain significant control over the PGRs they have created and preserved.

### *B. Law, Livelihood and Legal Sovereignty: Constitutional and Judicial Pathways in Seed Governance*

The deeper roots of India's seed law regime are rooted in constitutional ideals and judicial monitoring even though legislative initiatives like the PPV&FR Act represent a praiseworthy step toward striking a balance between proprietary innovation and traditional autonomy. These frameworks operate together to define the degree to which seeds, as resources for agrarian

[66] *Supra* note 25.
[67] *Ibid.*
[68] Dr. Sanjit Kumar Chakraborty, "Genetically Modified Seeds, Intellectual Property and Agriculture: Has India Addressed the Challenges of Commodifying Plant Genetic Resources and Farmers' Right to Access Seed?" 3 *CMR University Journal of Contemporary Legal Affairs* 90 (2021).
[69] *Supra* note 22.
[70] Christopher May, *A Global Political Economy of Intellectual Property Rights—The New Enclosure?* 21 (Routledge, London & New York, 2000).

existence and transmitters of genetic wealth, may be subject to commercialization and private control regimes. A farmer's autonomy over necessary means of production is closely linked to the right to life guaranteed by article 21 of the Constitution which also encompasses the right to livelihood. Farmers' customary rights to store, exchange and reuse seeds are structurally displaced by the implementation of utility protections, seed patents and restrictive licensing methods including "bag-tag" agreements. The constitutional guarantees of economic independence, self-sufficiency and dignity cannot coexist with a legal system that treats farmers like contractual licensees of commodified genetic material.

In addition, the Directive Principles of State Policy, including articles 39(b) and 39(c) place a strong emphasis on preventing monopolistic concentration and distributing material resources fairly. As the most basic agricultural resource, seeds are unquestionably "*material resources of the community*" under article 39(b). However, the growing concentration of seed ownership in the hands of private companies, made possible by commercial licensing and statutory exclusivities, poses constitutional questions regarding the degradation of distributive justice in rural India.

Courts have been careful yet reachable on these matters. In *Emergent Genetics India Pvt. Ltd.* v. *Shailendra Shivam*[71], the Delhi High Court refused to offer blanket protection to genetic material that had been released into Indian agro-ecological systems as trade secrets. Although the petitioners contended that data on breeding and hybrid seed types should be handled as confidential information, the Court pointed out that this data, once released and distributed over informal agricultural systems, could not be protected by the common law rules of secrecy. On the other hand, in the case of *Monsanto Technology LLC* v. *Nuziveedu Seeds Ltd.*[72], showed us a longstanding legal argument to the Supreme Court between 2018 and 2022, the case came down to the question of whether the patent rights to genetically modified traits in BT Cotton could be enforced. Despite the fact that the case itself did not make any clear constitutional determination, the case had an atmosphere of judicial discomfort with absolute corporate control of life forms when such control crossed over into areas of Indian protective statutes regarding farmers. The case has directed to the need to bring the patent regime in force in India in synchronization to the protecting interest of PPV&FR Act and in that way reinstating the intent expressed by the legislature in recognition of seed sovereignty.

With respect to the statutory compliance structure of India to the article 27.3(b) of the TRIPS Agreement, the Protection of Plant Varieties and Farmers Rights Act, 2001 (PPV&FR) is critical in this case. The Act is the only plant variety law anywhere in the world to firmly recognize the rights of farmers to save, use, sow, resow, exchange and share any seed of any variety of any crop, so long as they do not sell it under a brand name. These legal expressions of non-commercial seed freedom within health, bio-security and patents are institutionalized in the Protection of Plant Varieties and Farmers Rights Authority whose role is registration, DUS (Distinctiveness, Uniformity, and Stability) testing and benefit-sharing activities among local communities. However, emergence of restrictive contracts, licensing agreements on seeds and proprietary control, usually through multinational agribusinesses, has seen a de facto override of the statutory

[71] *Emergent Genetics India Pvt. Ltd.* v. *Shailendra Shivam*, I.A. Nos. 388, 1267 and 1268/2004 in CS (OS) 50/2004, decided on Aug. 02, 2011 (Delhi High Court).
[72] *Monsanto Technology LLC* v. *Nuziveedu Seeds Ltd.*, Civil Appeal No. 4616–4617 of 2018, dismissed as withdrawn, order dated Jan. 08, 2019 (SC).

protection. Although they ostensibly comply with contract law, these private means of controlling the law have the potential of eating away the entire public-law ethos of Indian agrarian regulation. This proposal to modernize the Seeds Act, 1966,[73] by compiling the Seeds Bill, 2019[74], has also received criticism in the areas of insufficient harmony of the act within the PPV&FR framework, especially regarding protecting the informal seed systems of farmers.

Complexity is further presented by the Biological Diversity Act, 2002[75], according to which access as well as benefit-sharing of biological resources is regulated. The 2014 Guidelines[76] on Access and Benefit Sharing also tries to govern the commercial use of genetic material, demanding prior authorization and fair compensation of the local knowledge holders. Although this structure is complementary to the PPV&FR Act on a theoretical note, its actual implementation is still in its infancy and uneven in rural and indigenous settings.

Internationally, the legal regime of the United States is instructively different. In the case of *Diamond* v. *Chakrabarty*[77], the U.S. Supreme Court started with the possibility of patenting life forms, when it decided that bacteria which had undergone genetic modification were eligible to the protection of a patent. Later, the development of U.S. law reorganized plant variety protection by providing protection in layers; the Plant Variety Protection Act (PVPA)[78], the Plant Patent Act[79] and the general utility patent law[80]. These laws guard both sexually and asexually proliferated horticulture and have been construed to encompass fanciful characterizes which can be replicated with seeds or by culturing tissue. The ability of trade secret protection to cover any aspect of plant breeding information and techniques of propagation has been debated in the United States by academicians and Courts where disclosure would be destructive to the proprietary value of such information.

However, U.S. courts have also acknowledged that current intellectual property laws are inadequate to fully understand the extent of plant genetic resources. Indeed, as Nomani[81] and others have discussed, the Supreme Court in *Chakrabarty* left open the question of whether trade secret law would provide an appropriate legal vessel to the issue of protecting plant innovation without expressing a view on whether legislative reform might be required in the future to serve the special needs of foiling secrecy in agricultural bioengineering.

---

[73] The Seeds Act, 1966 (Act 54 of 1966).
[74] Seeds Bill, 2019 (draft), introduced to Parliament of India to replace the Seeds Act, 1966 and Seeds Rules, 1968.
[75] The Biological Diversity Act, 2002 (Act 18 of 2003).
[76] Guidelines on Access to Biological Resources and Associated Knowledge and Benefits Sharing Regulations, 2014, notified on Nov. 21, 2014, by the National Biodiversity Authority under the Biological Diversity Act, 2002, s. 18(1)(a), *available at:* https://thc.nic.in/Central%20Governmental%20Regulations/Guidelines%20on%20Access%20to%20Biological%20Resources%20and%20Associated%20Knowledge%20and%20Benefits%20Sharing%20Regulations,%202014.pdf (last visited on Mar. 28, 2025).
[77] *Diamond* v. *Chakrabarty*, 447 U.S. 303 (1980) (U.S. Supreme Court).
[78] Plant Variety Protection Act*,* 7 U.S.C. ss. 2321–2582 (enacted 1970, amended through 1994).
[79] Plant Patent Act of 1930, codified at 35 U.S.C., ss. 161–164.
[80] United States Patent Act*,* 35 U.S.C. §§ 101–105 (general utility patent provisions).
[81] M.Z.M. Nomani & F. Rahman, "Intellection of Trade Secret and Innovation Laws in India" 16 *Journal of Intellectual Property Rights* 341–350 (2011).

On the contrary, Indian courts have exercised greater caution. By choosing not to treat plant varieties as trade secrets, the *Emergent Genetics* decision leaves open significant possibilities of safeguarding the biodiversity commons of India against legal enclosure. Although trade secrets are accepted as a legal concept under Indian contract and commercial law, the courts have so far been reluctant to apply them to apply to the sphere of publicly held agricultural resources especially in situations where the extension of trade secrets rights would conflict with statutory schemes such as the PPV&FR Act and Biological Diversity Act.

Conclusively, the Indian legal regime is a mix of classical forms the world over that suffices in its attempt to balance the need to respect international law with the need to devise country specific rights to agricultural foundation. Nevertheless, the state of judicial doctrines, the working of legislative frameworks, and practices of contracts continues to be in active tension. In order to live up to the constitutional promise of livelihood, equity and ecology, India needs to reaffirm its legal interest in seed sovereignty not as a statutory exception but as a governance structure over agriculture.

This conversation on seed sovereignty is a conversation that does not take place in a vacuum but in a larger agrarian mandate of constitutional rights, as well as legal responsibility. A similar legal demand, this time on the price of production, is highlighted by the Farmers Protest 2.0[82] which is focused on securing a statutory promise to the MSP formula recommended by the Swaminathan Commission and thus turning a market-based entitlement into a lawful right. These demands echo with the underlying constitutional claim that farmers are not simply to make accommodations to commodified systems but are to be enabled legally to be able to take up the right to make their own decisions about the primal resources of farming such as seeds.

## IV. CONCLUSION

In conclusion, this paper summarizes its principal findings, offers suggestions for reform and identifies prospects for further research. In order to reveal the fundamental inconsistencies of modern agricultural administration, it is necessary to question whether a farmer can be free without controlling the means of production starting with the seed. This is a political, ethical and legal provocation rather than a rhetorical inquiry. It calls for a reexamination of how the contemporary state has methodically rearranged the fundamental components of rural life under the influence of international trade regimes and multinational Agri-corporate interests[83].

The findings of this study demonstrate that the seed has been turned into a proprietary artefact, the subject of patent claims, plant variety protections and licensing agreements, after being initially ingrained in a commons-based logic of sharing, preserving and regenerative sovereignty[84]. This change is not coincidental; instead, it results from legal frameworks developed in the furnace of industrial capitalism and intellectual property maximalism where invention is

[82] Gaurav Bansal, *The Political Economy of the Farmers' Protest: Emerging Perspectives from the Field*, in *The Indian Farmers' Protest of 2020–2021* 14 (Routledge India, 1st edn., 2024).
[83] Conference on Agricultural and Environmental Statistical Applications in Rome, *Food & Agriculture Organization of the United Nations* (2001), *available at:* https://www.fao.org/fileadmin/templates/ess/documents/icas2/ICAS2.pdf (last visited on Mar. 28, 2025).
[84] *Ibid.*

separated from widespread knowledge and reframed as the sole purview of corporate scientists[85]. A contradiction between two opposing normative orders, *i.e.*, the neoliberal commercialization of the means necessary to exercise that right and the human rights-based view of food as a fundamental entitlement, lies at the core of this legal shift[86]. The former demands cultural embeddedness, sustainability, and universal access. However, the latter aims for extractive control, enclosure, and scarcity. The paradox becomes apparent, even ludicrous when we consider this question, *i.e.*, whether a farmer can be free without owning the seed in the context of food as a human right. If the right to food does not encompass the right to cultivate, grow, reproduce and distribute the seeds that yield that food then what is the right to food? If a right does not include the ability to exercise it independently of private actors, can it still have any significance? Can autonomy still exist when the most essential resource in the form of seed is governed by agreements, royalties and technical obstacles like terminator seeds[87]?

Examining this issue is an attempt to undermine the authority of the legal systems that support these private arrangements. It is to acknowledge that existing frameworks like the UPOV Convention or TRIPS under the WTO do more than govern agriculture; they also reshape its social relations, taking authority away from farmers and giving it to multinational capital[88]. Agrarian communities are transformed from agents of biodiversity into end users of monoculture by these legal tools, transforming farmers into consumers. By doing this, they not only obstruct freedom but also completely reinterpret it, linking participation with conformity and tying it to market access rather than self-sufficiency[89].

Based on these findings, the paper suggests that initiatives like the Open-Source Seed Initiative (OSSI) are a silent revolution in the legal imagination rather than merely a technological solution to proprietary seed regimes. OSSI and related initiatives advocate a counter-hegemonic ethic of care, mutual duty and ecological stewardship by rejecting the logic of exclusion that forms the basis of traditional intellectual property legislation[90]. They contradict the widely held belief that innovation has to be isolated, turned into a commodity and made extractive. Instead, these programs inspire a relational vision of ownership i.e. a sharing model that respects the stewardship of indigenous and peasant communities who have developed seed varieties for generations, not for commercial benefit but survival, resiliency and intergenerational solidarity[91].

However, in a legal and legislative environment still firmly rooted in neoliberal developmentalism such projects continue to be marginalized despite their radical promise. According to academics like Kloppenburg and Singh, the international legal system which was influenced by laws like UPOV and TRIPS, still supports enclosure and makes it illegal to save, share and replant seeds. In this context, the state frequently serves more as an enforcer of

---

[85] *Supra* note 16.
[86] Stefano Angeleri, "The Normative Contours of a Vulnerability- and Equity-Oriented Right to Health" in *Irregular Migrants and the Right to Health* 61–127 (Cambridge Univ. Press, 2022).
[87] Carine Pionetti, *Sowing Autonomy: Gender and Seed Politics in Semi-Arid India* (International Institute for Environment and Development, 2005), *available at*: https://www.iied.org/sites/default/files/pdfs/migrate/14502IIED.pdf (last visited on Mar. 29, 2025).
[88] *Supra* note 58.
[89] *Supra* note 71.
[90] *Supra* note 58.
[91] *Supra* note 87.

contractual compliance than a protector of human rights while perpetuating the power imbalance between biotech companies and rural populations. Upendra Baxi's critical observations on the violence of global legalism [92] are especially illuminating. Baxi cautions against the blind universalism of international legal systems that pretend to be impartial while sustaining structural injustices. He reminds us that the rhetoric of rights may be appropriated to justify exploitation when detached from the most disadvantaged's material circumstances. In our situation, this implies that if proclamations of the right to food do not challenge the systems that separate farmers from the resources used to produce it, they continue to be performative. Therefore, seed sovereignty is a prerequisite for food sovereignty rather than an adjunct to it. Baxi would refer to this as "judicial romanticism"[93], *i.e.*, a fake invocation of rights that ignores the exclusionary structures ingrained in international economic governance to discuss the right to food while disregarding the dispossession caused by seed patents. It is to forget that when the law is devoid of its moral foundations, it may be used as an instrument for oppression rather than liberation[94]. Alternative seed systems are, therefore, not the only way ahead; a fundamental overhaul of the legal frameworks governing ownership, innovation, and access is also necessary[95].

Therefore, the question of whether food can be a right if intellectual property rules protect its methods and whether a farmer can be free without owning the means of production is emphatically negative. While seeds continue to be controlled by businesses, protected by patent systems and governed by contract law, a farmer cannot be free. Furthermore, even if food is a human right, it is still a myth if legal paywalls protect the essential resources needed to provide it. The law must untangle the seed if freedom means more than market choice and rights mean more than access that is contingent on purchase. Shared custodianship must replace proprietary enclosures and the extraction logic must give way to one of ecological and social justice[96]. Only then can we start to cultivate a society where human dignity, food sovereignty and seed freedom are not mutually incompatible ideals but materially and legally intertwined realities.

According to India's legislative history and jurisprudence, the power of seed sovereignty should ultimately rest with the individual rather than a statutory carve-out or exception. The jury must determine the scope of seed sovereignty within this constitutional framework, where seeds are not the carriers of commerce. This hesitant involvement of judiciary as well as the sui generis legal system established by India, provides a way to challenge the silent colonization of the genetic resources by proprietary regimes. But, this opposition will only material effectively when the law itself defends the rights of farmers not as recipients of welfare but as the co-producers of agricultural knowledge and stewardship of biodiversity. Under this light, seed sovereignty is no longer only a precondition of food security but a legal and moral requirement taking its origins in the Indian constitutional ethos, and the necessity of any just and sustainable future of agriculture.

---

[92] *Supra* note 5.

[93] Ashwini Siwal, Vikas Bhati, *et.al*, "Judicial Activism to Judicial Outburst: Contemporary Analysis of Indian Judicial System" 2(3–4) *NUJS Journal of Regulatory Studies* 52 (2022).

[94] Fernanda Pirie, "Law: Instrument of Oppression or Tool of Justice?" *Oxford University* (Nov. 04, 2021), *available at*: https://medium.com/oxford-university/law-instrument-of-oppression-or-tool-of-justice-74a2f8496db6 (last visited on Mar. 29, 2025).

[95] *Supra* note 60.

[96] Darina Petrova and Tomaso Ferrando, "Three Enclosures of International Law: Commoning Premises, Processes and Aims" in Usha Natarajan and Julia Dehm (eds.), *Locating Nature: Making and Unmaking International Law* 255–283 (Cambridge Univ. Press, 2022).

The questions that were brought up here are not exhausted within the limits of this paper. Future inquiry must look outward, comparing how other jurisdictions have navigated the tensions between intellectual property and seed sovereignty, and inward, by listening closely to the lived experiences of farmers entangled in licensing and contractual regimes. It would be as much a test of the endurance of doctrinal systems as it would be an explanation of the way the law addresses, or fails to address, those whose lives are based on the seed. In this way, the research on seed sovereignty remains an unfinished conversation, one that must continue across disciplines, borders, and generations.