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Farmers' Rights vs Plant Breeders' Rights: Navigating Justice in Agricultural Innovation

Anirudh S
Department of CSE
RV College Of Engineering

Eisa Jameel
Department of CSE
RV College Of Engineering

Eshaan Mathur
Department of CSE
RV College Of Engineering

E S Gnana Yashwitha Lakshmi
Department of CSE
RV College Of Engineering

Dr. Chitra B. T
Department of IEM
RV College Of Engineering

Abstract- This paper examines the legal and ethical tension between farmers' rights and plant breeders' rights in the context of global agricultural justice. It provides a comparative analysis of international instruments (TRIPS, UPOV, ITPGRFA) and national laws (notably India, the United States, and selected African jurisdictions) that shape intellectual property protection for plant varieties and the corresponding entitlements of farmers. The study explores how different legal regimes balance these rights, highlighting doctrinal issues (e.g. sui generis plant variety protection, patent exemptions) alongside socio-legal perspectives (seed sovereignty movements and public interest interventions). We frame the debate through theories of justice: distributive justice (fair allocation of genetic resources and benefits), procedural justice (inclusion of farmers in decision-making), and restorative justice (remedying past inequities in resource access). Case studies illustrate how grassroots organizations in India (e.g. the Navdanya seed movement), the US (seed freedom coalitions), and Africa (Alliance for Food Sovereignty in Africa) challenge or adapt national policies to uphold farmers' interests. For example, India's *Protection of Plant Varieties and Farmers' Rights Act, 2001* explicitly recognizes farmers' contributions and allows saving and sharing of farm seeds, whereas in parts of Africa strict seed-certification laws have criminalized traditional seed exchange, provoking social resistance. Our analysis shows that prevailing IP-centric regimes often conflict with farmers' customary seed practices, raising concerns about equity and human rights. The paper concludes with practical policy recommendations—such as strengthening benefit-sharing, legalizing farmers' seed networks, and aligning national laws with UN Declaration on the Rights of Peasants and ITPGRFA guidelines—to better reconcile farmers' and breeders' rights in pursuit of agricultural justice.

Keywords- Farmers' Rights; Plant Breeders' Rights; Intellectual Property; Seed Sovereignty; Agricultural Justice

INTRODUCTION

Agriculture has long depended on the work of farmers to preserve and improve crop diversity, but modern intellectual property regimes have introduced competing rights for commercial plant breeders. On one hand, Farmers' Rights are based on the notion that peasant communities are custodians of crop genetic resources and should be recognized and rewarded for conserving and developing seeds over millennia. On the other hand, Plant Breeders' Rights (often granted under patent or sui generis systems) protect the investments of plant innovators and aim to encourage varietal development for society's benefit. These two claims can conflict: for example, farmers' customary practices of saving, sharing, and selling farm-saved seeds may infringe breeders' exclusive rights, while stringent IP protections may undermine farmers' livelihoods and agrobiodiversity. This paper investigates this tension through a justice lens, addressing both legal rules and the narratives each side uses.

We first review the relevant Legal Frameworks, including international treaties and national laws in different jurisdictions. We then consider Case Studies highlighting how farmers and civil society actors respond on the ground. Building on critical scholarship, we develop Justice Narratives that frame the debate in terms of distributive, procedural, and restorative justice. Finally, we offer Recommendations for policy reforms to balance innovation incentives with farmers' rights. The analysis spans multiple contexts (India, the United States, and Africa) to draw comparative lessons. By integrating doctrinal and socio-legal perspectives, the paper seeks a nuanced understanding of how law and justice intersect in the regulation of seeds.

I. INTERNATIONAL LEGAL INSTRUMENTS

A. WTO TRIPS Agreement

B. The WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS, 1994) requires member states to make patents available for inventions in all fields of technology, subject to certain exceptions. In particular, Article 27.3(b) directs members to provide protection for plant varieties "by patents or by an effective sui generis system or by any combination thereof". This provision was intended as a compromise: it acknowledges that plant varieties deserve IP protection but leaves flexibility for national approaches. In practice, TRIPS has led many countries to introduce plant variety protection

(PVP) laws or to extend patentability to plants. However, TRIPS does not itself define the scope of farmers' rights; it merely allows member states to include exceptions (for example, to permit farmers to save seed) at their discretion. Scholars note that Article 27.3(b) built on precedents from the 1980s and 1990s, but its open wording has also enabled stronger breeders' rights in many countries.

C. UPOV Conventions:

The International Union for the Protection of New Varieties of Plants (UPOV) has crafted successive treaties (1961, 1978, and 1991 Acts) to harmonize plant variety protection. UPOV sets minimum standards for breeders' rights: for example, UPOV91 mandates that protected new plant varieties (if harvested or sold) can only be propagated or reproduced with the breeder's permission. The UPOV 1991 Act significantly narrowed farmers' exceptions compared to earlier versions. Under UPOV91, farmers may replant seed from a protected variety on their own farm (the "farmers' privilege") only to the extent allowed by national law, and they generally cannot sell protected seed without authorization. In sum, UPOV exemplifies a model that heavily favours breeders: as UPOV's own FAQ states, it seeks to "provide and promote an effective system of plant variety protection, with the aim of encouraging the development of new varieties" by granting breeders an exclusive intellectual property right. Many developed countries (including most of Europe, Japan, and earlier-adopter Latin American nations) are bound by UPOV91. UPOV's requirements influenced TRIPS negotiations and domestic law, contributing to tighter IP regimes that limit traditional seed use.

D. ITPGRFA and Other Agreements

By contrast, the 2001 International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) explicitly recognizes Farmers' Rights. Article 9 of the Treaty "recognize[s] the enormous contribution" of farmers in conserving and developing plant genetic resources, and mandates national measures to protect farmers' knowledge and share benefits equitably. Notably, Article 9.3 states that nothing in the Treaty "shall be interpreted to limit any rights that farmers have to save, use, exchange and sell farm-saved seed", thereby affirming seed-saving as a protected practice. The ITPGRFA also calls for benefit-sharing funds and participation of farmers in governance. Alongside ITPGRFA, other instruments highlight farmers' interests: the Convention on Biological Diversity (CBD, 1992) speaks of respecting "traditional knowledge, innovations and practices" of indigenous farmers (Article 8(j)), and a recent UN Declaration on the Rights of Peasants (2018) explicitly guarantees peasants "the right to save, use, exchange and sell their farm-saved seed or propagating material". These global norms mark a growing recognition of seed sovereignty and equity: for instance, UNDROP Article 19 mandates that states ensure PVP and IP laws "respect and take into account the rights, needs and realities of peasants.".

E. TRIPS Flexibilities and National Choice

While TRIPS requires protection, it leaves substantial leeway. Countries may opt for sui generis plant variety laws (often modelled after UPOV or other systems), or allow patents on plants only for micro-organisms (as European patent law does). Some developing countries have chosen customized systems. For example, India's Protection of Plant Varieties and Farmers' Rights Act, 2001 implements a sui generis regime designed to comply with TRIPS while safeguarding farmers' interests. In general, international instruments present a spectrum: UPOV represents a breeders'-rights paradigm, whereas ITPGRFA and UNDROP embody a farmers'-rights approach. The global legal framework is therefore a patchwork, with many tensions: breeders emphasize innovation incentives, while farmers' advocates cite historical and food-security arguments for preserving customary rights.

II. National Laws: Comparative Perspective

A. India

India is often cited as a pioneering example of balancing breeders' and farmers' rights. Its 2001 PPV&FR Act explicitly recognizes farmers' contributions: a farmer who breeds a new variety "is entitled for registration and other protection in like manner as a breeder". The Act also allows farmers to register traditional or extant varieties, and it grants farmers broad privileges to save, use, exchange, and sell farm-saved seed "including seed of a variety protected under the PPV&FR Act", provided they do not sell it as certified branded seed. In short, Indian law institutionalizes farmers' rights in multiple ways (registration rights, benefit-sharing, relief for crop failure, etc.) alongside breeders' rights. As one report notes, "India is among the first countries in the world to have passed legislation granting Farmers' Rights", and its law is "unique in that it simultaneously aims to protect both breeders and farmers".

Despite its progressive intent, implementing farmers' rights in India has been complex. Doctrinally, the Act creates a tripartite system: a Plant Varieties Authority oversees registration of new varieties, essentially derived varieties, and traditional (farmers') varieties. It also sets up a National Gene Fund to reward farmers for conserving germplasm. However, criticisms remain. Some scholars argue that onerous registration criteria (DUS – distinct, uniform, stable) and bureaucracy can disadvantage smallholder farmers. Others observe that public awareness of the Act is low, limiting farmers' use of its provisions. Nonetheless, India's approach diverges sharply from strict UPOV-style laws: by preserving farmers' seed-saving and exchange (within limits), it enshrines a measure of distributive justice favouring traditional communities.

B. United States

The U.S. legal regime provides stronger breeders' protections with narrower farmers' rights. The Plant Variety Protection Act (PVPA) of 1970 grants 20-year certificates to developers of new sexually-reproduced plant varieties that meet novelty, distinctness, uniformity, and stability criteria. Unlike UPOV91, the original PVPA included a farmer's exemption: protected variety owners could save seeds for replanting on their own farms without violating the breeder's rights. This exemption reflects a utilitarian compromise: lawmakers

acknowledged that "farmers could reliably reproduce non-hybrid seeds… and had no need to return to the seed company after buying from them once.". Thus, U.S. breeders' rights (then under PVPA) coexisted with a limited farmers' privilege.

However, starting in the 1980s, biotechnology and patent expansion narrowed that balance. The Supreme Court in Diamond v. Chakrabarty (1980) held that genetically engineered organisms are patentable, and later agency and court decisions (e.g. Ex parte Hibberd, 1985) allowed utility patents on plant traits. Today, many U.S. crop varieties (especially hybrids and biotech seeds) are protected by patents, which carry no farmers' exemptions. Plant patents and utility patents give rights-holders broad control to exclude uses, including research uses that previously were possible under breeders' rights. In practical terms, this means U.S. farmers have much less freedom to save patented seeds. Critics argue this shift undermines distributive and restorative justice: just a few corporations (often called the "Big 4" seed companies) now control a large share of global seed supply, raising concerns about consolidation and farmers' dependency. By contrast, supporters contend that strong IP is necessary to fund costly breeding programs and deliver high-yielding seeds to agriculture. Indeed, agricultural policymakers often emphasize productivity: for example, a Kenyan negotiator recently lauded certified "improved seeds" as giving "farmers better yields" and legal recourse for poor seed quality. Such narratives stress innovation and efficiency but tend to sideline smallholder perspectives on justice.

C. Africa

African countries present a mixed picture. Many states belong to the African Regional Intellectual Property Organization (ARIPO) or the Organisation Africaine de la Propriété Intellectuelle (OAPI), and several have adopted UPOV-based or hybrid PVP laws. For instance, Ghana (2013), Kenya (2012, revised 2016), Uganda (2014), and Nigeria (2019 Seeds Act) all introduced plant variety/seed laws emphasizing certification and breeders' rights. These laws often mirror UPOV-style protections: they grant breeders exclusive control over multiplication and marketing, with only limited or administrative farmer exemptions. Simultaneously, governments justify these rules by aligning them with regional policies: some officials claim seed laws "boost productivity" and are aligned with ARIPO norms. In practice, however, farmers' groups argue the impact is exclusionary. Reports document that seed acts in Kenya, Tanzania, Nigeria, and elsewhere make it "a crime" for farmers to exchange or replant non-certified traditional seeds. For example, Kenya's Seeds and Plant Varieties Act criminalizes propagation and distribution of uncertified seeds, exposing violators to fines or imprisonment. These stricter regimes have coincided with high-profile protests: farmers and youth movements in Ethiopia, Ghana, Zimbabwe and other countries have mobilized against what they call seed colonialism. In one African Climate Wire report, rights activists warned that current laws "phase out African traditional food systems while protecting industrial plant breeders' rights"

There are also positive developments. Some African nations explicitly recognize farmers' contributions. Ethiopia's Biodiversity Law (2005) and South Africa's Biodiversity Act (2004) both mention farmers' rights to benefit-sharing and to maintain traditional varieties. Civil society networks like the Alliance for Food Sovereignty in Africa (AFSA) have advocated for such recognition and have used participatory processes to draft model policies. Moreover, African governments have been signatories of the ITPGRFA, which in principle commits them to safeguard seed-saving and benefit-sharing. Nonetheless, the tension remains palpable: on one hand, governments under international pressure expand IP and seed regulations; on the other, farmers demand respect for customary practices.

III. Case Studies and Grassroot Movements

Understanding law in action requires examining how stakeholders respond. In India, grassroots initiatives have worked alongside legal reform. The Navdanya movement, founded by Vandana Shiva, established community seed banks to "rescue… and distribute [native seeds] according to farmers' needs.". Such efforts operationalize farmers' rights by conserving agro-biodiversity independent of formal IP systems. Civil society in India has also litigated and lobbied to strengthen farmers' rights. For example, the National Gene Fund (established under the PPV&FR Act) has yet to be fully implemented, and activists continue to press for genuine benefit-sharing when breeders commercialize local varieties.

In the United States, a diverse "seed sovereignty" movement has emerged. Organic and small-scale seed growers, represented by organizations like the Organic Seed Alliance, run training programs on seed saving and IPR, and sometimes contest overly restrictive patents. While the U.S. legal system offers less direct recourse for farmers (no nationwide seed-saving right under patents), community seed exchanges and public breeders act as de facto counterweights. Public interest lawsuits (though more common in biotechnology than seed law) often invoke property and antitrust principles to challenge corporate dominance, reflecting a socio-legal resistance to enclosure of genetic resources.

Across Africa, young activists and NGOs are increasingly vocal. The African Climate Wire article highlights "youth groups… taking to the streets and courts" to protest harsh seed laws. Groups like AFSA, PELUM (Participatory Ecological Land Use Management), and Seed Freedom Ghana have organized seed fairs, legislative hearings, and cross-border networks to support farmers' seed systems. In Kenya, civil society successfully campaigned in 2019 to slightly relax the 2012 Seeds Act by allowing some local seed trade, demonstrating that enforcement of breeders' rights can be contested. Similarly, Ghanaian farmers' organizations have lobbied to include clearer seed-saving exceptions in the country's Plant Protection Act. These examples show that farmers' rights are being asserted not only in theory but as a practical policy demand by grassroots constituencies.

IV. JUSTICE NARRATIVES IN THE DEBATE

Different stakeholders frame the farmers-versus-breeders conflict in contrasting narratives of justice. Farmers' advocates often appeal to social and environmental justice. They emphasize that crop diversity is a commons built by generations of smallholders: "Farmers' Rights are a precondition for the maintenance of crop genetic diversity, which is the basis of all food and agriculture production in the world.". This view treats genetic resources as part of humanity's shared heritage, deserving fair distribution (distributive justice) and communal control. Accordingly, these advocates point out that restricting farm-saved seeds exacerbates inequality: for example, criminalizing seed exchange effectively makes impoverished farmers dependent on costly commercial inputsThe African Climate Wire report exemplifies a justice narrative that links seed law to sovereignty and debt: activists warn that seed regulations may serve foreign lenders rather than local needs, framing this as an inequitable imposition. In these accounts, the "risk and benefit" of plant breeding have not been shared fairly—corporations reap profits, while communities face higher costs and legal penalties.

They also invoke procedural justice. Farmers' groups demand a voice in decision-making about seeds and biodiversity. The ITPGRFA's guarantees of participation reflect this: Article 9.2(c) affirms "the right to participate in making decisions… on conservation and use of plant genetic resources". Civil society points out that farmers were largely absent from TRIPS negotiations or domestic lawmaking, leading to rules that disregard their realities. For example, the Grain report notes that modern seed laws are often drafted "in secrecy" or under pressure of trade deals, compromising inclusive governance. Movements for seed sovereignty explicitly seek to democratize these processes through farmers' forums and polycentric governance models.

Finally, a restorative justice narrative emerges around compensation and remedy. Since farmers have historically developed many crop varieties at their own expense, activists argue they deserve tangible benefits. Legal instruments partly acknowledge this: the ITPGRFA (Art. 9.2(b)) mandates benefit-sharing from commercialization, and India's PPVFR Act provides monetary awards for farmers whose traditional varieties are commercialized. Such provisions can be seen as reparations for past unrecognized contributions. Yet in practice, enforcement is weak. Commentators note that farmers' work has often gone uncompensated: "People… generally do not agree that the work that farmers do to feed the world should suddenly become a crime.". Restorative measures—like national germplasm funds, capacity-building in rural communities, or acknowledgment of indigenous seeds in public policy—are still contested terrain.

On the other side, breeders' narratives typically focus on innovation and utilitarian justice. Breeders and seed companies argue that strong IP is needed to motivate R&D in plant science. They present themselves as providers of improved genetics that can alleviate hunger and climate shocks. This is evident in statements by officials who claim that improved, certified seeds are key to "protect[ing] [farmers] from food insecurity". In this account, unrestricted seed saving is portrayed as anti-competitive and inefficient: farmers, it is argued, should exchange only non-commercial seeds, while commercial markets and variety registration ensure quality and accountability. UPOV rhetoric similarly frames breeders' rights as benefiting "society" by enlarging the pool of new varieties. Such arguments appeal to distributive ideals in terms of maximizing overall food production. However, critics respond that this narrative downplays who ultimately benefits; as one analysis warned, a small number of corporations now "control more than 60% of proprietary seeds worldwide", raising concerns of inequitable concentration.

These competing narratives—seed commons vs. commodity, traditional knowledge vs. technological patents—illustrate that justice itself is malleable in the agri-food context. What seems fair depends on values. Our findings suggest that reconciling the narratives requires bridging concepts. For instance, proponents of procedural justice might support breeders' innovation if farmers have a say in research priorities (e.g. participatory plant breeding). Restorative justice approaches call for mechanisms to compensate farmers for historical knowledge (e.g. through benefit-sharing funds, recognition awards, or formal seed deposit systems). Distributively, some hybrid solutions appear: India's approach of granting farmers explicit use-rights while granting breeders commercialization rights is one such compromise. Ultimately, achieving justice in agriculture may mean redefining "innovation" to include farmers' empirical knowledge, and insisting that the fruits of innovation are shared fairly.

V. POLICY RECOMMENDATION

Based on the foregoing analysis, we recommend several practical reforms to better harmonize farmers' and breeders' rights under principles of justice:

- Legal Recognition of Seed-Saving: Amend national PVP and seed laws to explicitly permit farmers to save, replant, and exchange farm-saved seed for subsistence and local trade. For instance, countries should emulate India's provision that "a farmer can save, use, sow, re-sow, exchange, share or sell his farm produce including seed" of protected varieties. UPOV signatories could adopt optional declarations or move to UPOV '78-style models that preserve the farmers' privilege.
- Benefit-Sharing Mechanisms: Strengthen implementation of ITPGRFA and CBD benefit-sharing provisions by establishing transparent funds or royalty schemes. Governments should ensure that a share of commercial gains from protected varieties derived from farmers' materials is returned to farming communities. For example, India's National Gene Fund could be properly capitalized and administered by farmers' representatives.
- Inclusive Decision-Making: Institutionalize farmers' participation in policy processes. Set up formal seats for farmers and indigenous organizations on IP and biodiversity boards (as India's PPV&FR Authority partially does). Require public hearings when drafting seed

and IP laws. This procedural inclusion aligns with Article 9.2(c) of the ITPGRFA, affirming farmers' "right to participate in making decisions" on genetic resources.

- Support for Community Seed Systems: Promote and fund community seed banks, participatory breeding programs, and local seed fairs. Public agricultural research institutes should engage in decentralized breeding with farmers, valuing traditional varieties and agroecological methods. Such support recognizes farmers as co-breeders and aligns innovation incentives with rural livelihoods.
- Human Rights Safeguards: Ensure that IP and seed laws comply with human rights standards. Legislatures should review seed acts for due process and non-discrimination, as raised by international declarations. Implying innocence for traditional practices (rather than presuming guilt) would honor the spirit of UDHR. Policymakers should explicitly reference instruments like the UNDROP, embedding "the right to seeds" in national constitutions or legal frameworks.
- Education and Outreach: Increase awareness of farmers' rights among rural communities. Legal literacy programs can inform farmers of their entitlements under statutes like PVP laws. Likewise, outreach to breeders can clarify the legal space for farmers' use. Informed stakeholders can better negotiate settlements and avoid conflicts (e.g. licenses that respect farmers' saving rights).
- Gradual IP Harmonization: On the international stage, developing countries should continue to advocate in WTO, WIPO, and FAO for balanced IP rules. For instance, negotiating a TRIPS waiver or carve-out for traditional seeds, or supporting a UPOV movement for farmers' privileges, would advance distributive justice globally.

VI. Conclusion

The clash between farmers' rights and plant breeders' rights epitomizes the challenge of aligning innovation policy with social justice in agriculture. Our review shows that legal regimes vary widely: India has pioneered a middle path that affirms farmers' entitlements alongside breeders' interests; the U.S. system largely privileges breeders (with only a modest farmers' exemption); and many African countries are still grappling with how to protect heritage seeds under external pressure. Internationally, treaties like the ITPGRFA and UNDROP enshrine progressive norms, but without strong enforcement they coexist uneasily with powerful IP conventions and corporate influence. Through case studies and theory, we find that neither side's narrative fully addresses the concerns of justice on its own. Farmers' advocates rightly demand fair sharing of genetic commons, while breeders need economic incentives. Bridging these views calls for innovative legal and policy designs: mechanisms that recognize farmers as rights-holders and innovators in their own right, while still encouraging breeding.

In sum, achieving justice in seed law requires distributive fairness (sharing benefits with farmers), procedural fairness (including farmers in governance), and restorative actions (compensating past exclusions). The recommendations above aim to guide such reforms. Looking ahead, future research could assess the real-world impact of these policies—for example, empirical studies of how benefit-sharing actually reaches farmers, or anthropological work on community perceptions of justice. But one thing is clear: as food security and biodiversity become ever more critical, ensuring that the law treats seed-savers and breeders equitably is not just a legal choice, but a matter of global justice.

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