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Seed Sovereignty and Intellectual Property Rights: A Critique on the Legal Spectrum in South Asia with Special Reference to the Indian Legal Landscape

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Abstract

Seed sovereignty has emerged as a critical issue as the expansion of the global intellectual property rights regime is increasingly challenging traditional agricultural practices, farmers' rights, and biodiversity. This study critically explores the interplay between intellectual property rights and seed sovereignty in the region of South Asia, while focusing upon legal, institutional, and policy frameworks in the countries, while giving a special reference to the Indian legal system in the context. The research highlights how agreements like TRIPS and UPOV intersect with the domestic efforts to protect the rights of farmers and the traditional knowledge. A reference is taken from the law publications, case studies and institutional reports to assess the effectiveness of the regional mechanism and the response of civil society in ensuring that equitable access to seeds is upheld. The community programs and initiatives as Seeds Without Borders, are also examined to understand their potential to resist corporate control on the seeds and to promote regional seed exchange. The research also critically analyses the role of the intellectual property laws in supporting and undermining the idea of seed sovereignty. Overall, the study calls for uniform regional harmonization, farmer-centric approach that aligns with the biodiversity of the region, with a legal mandate to empower farmers to conserve biodiversity and develop agriculture in South Asia.

Keywords: Farmers' Rights, Intellectual Property Rights, Seed Sovereignty, Traditional Knowledge, TRIPS Agreement

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Introduction

Seeds are the foundation of food security and the bedrock of all agricultural practices. A seed carries the genetic blueprint of the crop and embodies within it, centuries of ecological adaptation, community-stewardship, and thoughtful cultural selection. Seed sovereignty, in the context of Indigenous tribal and rural communities, is the farmers' right to freely stock, save, use, exchange, and breed the seeds without legal or technological restrictions. Seed sovereignty emphasizes collective ownership over plant genetic resources, along with the protection of indigenous knowledge systems, and the autonomy of the local farming community is while determining their own agricultural practices and techniques. Intellectual property rights (IPRs), in the context of agriculture, refer to the legal mechanisms that grant exclusive ownership and control over new plant varieties, breeding technologies, or genetic traits. IPRs are usually granted to the plant breeders. Seed companies or biotechnology firms are to provide them with a legal monopoly superseding the commercial use of seed for a particular time. In agriculture, the most common forms of such intellectual property rights include: trade secrets related to seeds, genetically modified organisms (GMOs), breeding techniques, patents, and plant variety protection (PVP). Fundamentally, these two systems represent two different perspectives, whereas seed sovereignty promotes biodiversity, open excess, cultural sustainability and continuity; IPR focuses upon profits, private ownerships, and standardisations. With the expansion of IPR frameworks globally, supported by international trade agreements such as the Trade Related Aspects of Intellectual Property Rights (TRIPS) Agreement of the World Trade Organisation (WTO) and many regional efforts to harmonize the seed laws, an increasing political and legal tension between the formalized intellectual property regime and the traditional seed system can be sensed.

Farmers across South Asia have been engaged in community-based seed preservation, seed breeding, selection, and exchange for thousands of years. These informal systems were ecologically attuned, decentralized, and more humane in disposition; developed with time after carefully adapting to local climates, soil, and the food culture prevalent in the region.

Seeds became cultural artifacts as the knowledge about them was passed down through generations, making the seed not only a biological input but also a generational wealth. It was due to the recent developments in the field, like commercial seed laws, IPR enforcement mechanisms, evolution and spread of hybrid and genetically modified seeds controlled stringently by profit-driven multinational corporations, that these traditional systems have come under threat. The longstanding practices of seed sharing and farmers' autonomy have been disrupted due to the legalization of seed ownership through intellectual property rights. For example, a wide practice is that the farmers exchange, save and replant the seeds of the protected plants but the International Union for the Protection of New Varieties of Plants,

Convention (UPOV) of 1991 restricts this. This widely adopted convention prohibited the farmers from exchanging, saving, or replanting the seeds of protected plant varieties without paying the royalties or without obtaining a license from the IP rights holders. Along with International Conventions, some of the national laws also attempt to balance the rights of the plant breeders and the farmers. In India, the Protection of Plant Varieties and Farmers' Rights (PPVFR) Act, 2001, favours the breeders and reflects a clear influence of corporate seed companies on it. The enforcement mechanism provided in the statute tips the scales in favour of breeders due to a lack of awareness among farmers. Due to this legal imbalance, a situation is created wherein the small landholder and indigenous farmers become economically and agriculturally dependent on external inputs and commercial seed systems. These are usually the farmers who have, through time, conserved and cultivated diverse seed varieties. The dependence extends to those traditional crops which were originated within such farmers' own community.

Patents on genetically modified seeds or native plant varieties, which are many a times acquired without informed consent, have raised serious concerns of biopiracy, which includes unauthorized appropriation of the traditional knowledge and biodiversity either by the research institutions or corporate bodies. SAARC countries have witnessed many public protests, legal challenges, and suicide by the farmers, due to seed privatization and debt cycles, which can be closely associated with the idea of IP-protected seeds.

The legal conflict between seed sovereignty and IPR is particularly critical in the context of the South Asian region, which is home to approximately 18 billion people, out of whom a large portion relies on agriculture for their livelihood. The region is also rich in agrobiodiversity, including hundreds of indigenous varieties of rice, millets, maize, and pulses etc. It is also a habitat of a large number of small landholders and subsistence farmers, who solely depend on saved seeds. The region also has a climate-vulnerable farming system that requires resilience and local seed adaptations for a good harvest. Hence, in SAARC countries, the traditional seed system is essential for ensuring food sovereignty, climate resilience, and long-term agricultural sustainability. Additionally, it plays a vital role in conserving the genetic diversity, crucial for the future breeding and adaptation of the seed. However, due to the growing influence of multinational seed corporations and the international trade regime, the national governments are being pressurized to adopt stronger IP protection without any effective and adequate safeguards for the farmers and indigenous communities.

Some of the instances are: the sui generis model of India under the PPVFR Act, 2001, which is often hailed as a balanced legal framework. Yet the implementation of this law has faced many challenges due to inefficient institutional capacity, strong corporate logging, and awareness. Similarly, Bangladesh's Seed Act, 2018, also triggered protests amongst the farmers, who were apprehensive about the loss of

rights to save and sell traditional seeds. Pakistan was also broadly criticized for its Plant Breeders' Rights Act, 2016, which offered limited protection to the farmers, similar to the UPOV Convention, 1991. Nepal and Sri Lanka also have some minor laws and policies on plant variety protection, but there is a big void, as there is no comprehensive framework that recognizes the traditional seed custodianship of the farmers. In each of such initiatives, the national seed policy is mostly based not only on local needs, but also on the biotech industry interests and the pressure of global trade. Therefore, the result is a legal landscape that increasingly marginalizes the informal seed system, while undermining the traditional knowledge and increasing the risk of narrowing the genetic base of agriculture across the South Asian region.

Research Objectives

This research attempts to critically analyse the legal conflict between seed sovereignty and Intellectual Property Rights (IPRs) in the context of the agriculture sector of SAARC countries. The specific objectives of this paper are to define and conceptualize seed sovereignty within the tradition and practices in agriculture in South Asia, along with an analysis of the impact of international intellectual property regimes like TRIPS and UPOV on the domestic seed laws in SAARC countries. The paper also compares national legal frameworks, particularly in countries like India, Bangladesh, and Pakistan, while highlighting the areas of conflict and convergence. The paper also attempts to propose a few policy recommendations for a more balanced legal framework within the SAARC region to uphold both innovation and traditional seed rights.

Methodology

A policy contents analysis approach is adopted while writing this paper. The methodology uses a combination of doctrinal legal analysis of the national seed laws, the IPR frameworks and the obligations under the various treaties related to the topic. A comparative analysis is also done to study how different SAARC countries respond to international intellectual property pressures while protecting seed sovereignty. For this, the case study method is used to explore practical implications, court cases, movements by the farmers, and ground realities related to seed-related conflicts. The paper is primarily based on the reviewing of academic literature, reports, government policy documents, and international treaty texts, and analysing the policies to evaluate the agronomic and social consequences of the legal frameworks on food security, farmer livelihoods, and biodiversity. An Interdisciplinary approach is adopted to create a nuanced understanding of laws and their intersection with agricultural policies and practices, and what all this means for the future of the seed system in South Asia.

Literature review

The socio-legal conflict between seed sovereignty and IPRs has been discussed, widely, in the literature related to agriculture, law, and society. Vandana Shiva (1997, 2000) defines seed sovereignty and criticizes global seed monopolies and the erosion of the traditional agricultural system in her works, like Biopiracy (1997) and Stolen Harvest (2000). Jack Kloppenburg's First the Seed (1988 and updated 2004) shares a political and economic perspective on seed commodification, while discussing how plant breeding transformed seeds into a commodity and is governed through IP regimes. Similarly, Pat Mooney (1983) and Louwaars (2007) outline of seed systems of farmers in maintaining agro-biodiversity and food system resilience. The Member States are compelled to implement IPR protection for the plant varieties, under Article 27(3)(b) of the TRIPS Agreement. Graham Dutfield (2003, 2011) emphasizes that TRIPS and other treaties related thereto primarily segregate the indigenous knowledge from the agriculture industry, as it does not offer adequate protection to it. Similarly, Carlos Correa (2000) criticizes the imposition of uniform practices by the International Union for the Protection of New Varieties of Plants (UPOV) Act, 1991, limiting the right of farmers to save and reuse the seeds of selected and protected varieties without understanding the local agricultural factors and conditions. Both scholars explicitly advocate for flexibility in designing the laws related to plant varieties so that the local agricultural practices are taken care of. Anderson (2016) and Chaudhary and Bala (2020) examine how the laws aligned with UPOV often marginalize the traditionally bred seeds by requiring strict compliance with parameters like distinctiveness, uniformity, and stability, etc., which are not the traits of typical indigenous varieties. They also highlight how the legal definitions exclude Community seed practices from the formal framework of protection.

In South Asia, the Protection of Plant Varieties and Farmers Rights Act, 2000 of India, is considered to be a sui generis alternative to UPOV. Legal scholars like Bala Ravi (2005), Kesan and Ahuja (2009), and Sharma (2018) analyse the unique provisions of Indian legislation, recognizing the farmers as breeders and hence ensuring benefit sharing to them while pointing out its limitations. Suman Sahai (2003, 2005) critically examines the Act and highlights that the law is progressive in theory but very limited in benefit-sharing and accessibility. Anuradha and Gopalakrishnan (2006) highlight the gaps in the law and its implementation, citing the bureaucratic hurdles and limited participation of farmers as the reason.

The Seed Act, 2018, in Bangladesh attracted a lot of criticism, which is highlighted by Zaman (2019). Zaman argues that these laws criminalize the act of seed saving by the farmers while favouring the corporate breeders. Farida Akhtar (2014) criticizes the Act and proposes a comprehensive PVP law on the community Seed System and promotion of regulated corporate control.

Similarly, in Pakistan, the Plant Breeders' Rights Act, 2016, is critically analysed by Naseem (2020), highlighting its provisions that excludes traditional seed varieties and

benefit sharing aspects. According to him, the Act prioritizes breeders' interests without safeguarding the traditional knowledge and the rights of the farmers.

Gautam (2016) highlights that the draft Plant Varieties Protection law of Nepal attempts to address the rights of farmers, but the law has remained stalled for a long time due to political and corporate barriers.

Tripp (2001), Smale et. al., (2014) and Gruere, Mehta, Bhatt, and Sengupta (2008) in their empirical studies, highlight using the case of BT cotton, that intellectual property rights-led seed system increases the dependency on proprietary seeds, resulting in raising the cost of seeds for farmers, reducing biodiversity, and threatening climate adaptability.

Despite the variety of substantial works available on the topic, the comparative analysis across SAARC countries remains limited in the discourse. This paper tries to fill that gap by examining the regional illegal landscape along with its compatibility with seed sovereignty while discussing its divergence with intellectual property rights.

International IPR Regime and its Impact on Seed Sovereignty

The TRIPS Agreement, 1995 mandates all the WTO member States to create a mechanism through patent or sui-generis systems to protect plant varieties.[1] A large number of developed countries have implemented this through their patent regimes and membership in the UPOV, particularly the 1991 Act, which ensures an exclusive right to the breeders and restricts the farmers from saving or reusing protected seeds without prior permission. UPOV, 1991, is widely criticized for restraining farmers' customary rights on seeds. The breeder-centric model of UPOV creates a conflict between the traditional farming system, where seeds are developed and shared communally, and TRIPS, which offers flexibility through bilateral trade and a mandate to harmonize their laws under UPOV standards to create uniformity, but also works under the global trade pressures.

The 1991 UPOV Convention narrows the space for the farmer's traditional practices related to seed sovereignty. UPOV 1991 grants breeders an exclusive right to reproduce, produce, sell, import, export, and propagate material of protected varieties, in the market under Article 14(1). Member States are permitted to provide a limited 'farmer's privilege', which allows farmers to save the seeds for replanting them on their own holdings under Article 15(2), but it is optional and often strictly interpreted in national legislation.

UPOV 1991 critically removed the wide informal rights, including the rights related to seed exchange and sale amongst the farmers, which existed in the 1978 Act, hence marginalizing the customary practices, which were the basis of agricultural biodiversity in South Asia.

[1] Article 27(3)(b), TRIPS Agreement, 1995

However, TRIPS explicitly do not require any adherence to UPOV; still, free trade agreements and bilateral treaties, along with the technical assistance programs, have subtly pushed the developing countries towards these laws. It is argued that such harmonization undermines the spirit of Article 8, clause (j) of the Convention on Biological Diversity. The Convention recognizes the practices of Indigenous and local communities and supports the protection of innovative knowledge. The rigid character of UPOV makes it particularly incompatible with the conventional agricultural systems in countries across South Asia, where seeds are communally developed, exchanged, and conserved outside the formal market channels, and the process is not driven solely by benefit, solely. While TRIPS ostensibly offers a space for sui generis legal innovations, its convergence towards norms under UPOV, which focus on breeders and other similar trade instruments. This has led to a growing conflict, especially in regions that are more reliant on informal seed systems, like South Asia.

Seed Sovereignty in SAARC Countries: Laws and Customs

Countries in South Asia exhibit a diverse approach in legal, institutional, and socio-political contexts in the context of regulating seed systems. A few countries have adopted progressive legal policies recognizing the contribution of farmers, while others strongly support the breeder-centric models. Sometimes in transnational situations, this difference also reflects in the form of conflicts between traditional agricultural practices and the modern IPR regime. A deep understanding of domestic legal frameworks dealing with seed sovereignty can bring some clarity about how the Sark nations balance their competing interests.

Hybrid Model in India

In India, the Protection of Plant Varieties and Farmers' Rights (PPVFR) Act, 2001, is a sui-generis legislation enacted under Article 27(3)(b) of the TRIPS Agreement. The PPVFR Act creates a nuanced balance between the rights of the plant breeders and farmers, unlike UPOV 1991, which, India thoughtfully decided not to join. Section 39 (1)(iv) of the Act recognizes the rights of farmers to use, sow, reproduce, resow, exchange, share, save, or sell the farm-saved seeds, provided they are not the branded seeds. Under section 2 (k) of the Act, the definition of plant varieties includes farmers' variety, acknowledging farmers as the breeders, and section 26 provides the mechanism for benefit sharing, which ensures equity in profit sharing and innovation.

In various cases the courts have upheld that the patent laws reinforce the principle that India may adopt a sui generis model to protect biodiversity and traditional knowledge. The same principle is reflected in the case of Pepsico India Holdings Pvt. Ltd. v. Kavitha Kuruganti and Others[2]. A significant precedent was created when the

[2] 2024 SCC OnLine Del 153

registration of Pepsico was revoked by the PPVFR Authority over the potato variety named 'FL-2027' on the grounds of non-compliance with section 39 of the Act and for violating the rights of the farmers. The Honourable Supreme Court in the case of Gene Campaign v Union of India,[3], while discussing the approval of genetically modified mustard, DMH-11, acknowledged that the public interest litigation truly raised some serious concerns over seed sovereignty, loss of biodiversity, and biopiracy. The alleged violation of the Biodiversity Act, 2002, and PPVFR Act, along with the procedural lapse in environmental clearance, triggered a nationwide debate on national conservation, bio-safety, corporate control over seeds, and the legal protection available to the traditional agricultural knowledge.

In the case of People's Union for Civil Liberties v. Union of India[4] The Supreme Court emphasized that the right to life guaranteed by Article 21 of the Constitution includes the right to food. Although not directly, the case proposes an important argument in support of seed sovereignty, which is a critical component of food sovereignty and security encompassed by Article 21 in the Right to Life.

Association of Biotechnology Led Enterprises (ABLE) v. Union of India[5], is another case where the High Court of Delhi dealt with a legal challenge brought by the biotech companies of India, including Monsanto, against the decision of the government to impose price control on BT cotton seeds. The petitioner alleged that the government regulation interfered with the contractual and intellectual property rights of the company. The case, although it is not a direct authority on seed sovereignty it definitely reflects the legal conflict between the corporate IPR holders and the public interest, ensuring affordable access to the seeds, which is the core idea of the seed sovereignty debate.

In another case, the Research Foundation for Science, Technology, and Natural Resource Policy v. Union of India[6]Famously known as the Blué lady Case, while dealing with environmental concerns related to the import of hazardous waste, the court stated that Articles 21 and 48 of the Constitution are significant in establishing the principles of Environmental Protection.

The same principle can be invoked in relation to the seed-related cases to establish a strong argument against the premature release of genetically modified organisms and in favour of protecting indigenous knowledge systems and biodiversity.

Although in India the state has created a progressive framework yet certain implementation gaps cannot be ignored. Bureaucratic hurdles, lack of awareness, and dominance of corporate interests can be quoted as a few factors that dilute the practical utility of the laws, specifically for the smallholder farmers.

[3] 2024 INSC 545
[4] AIR 2001 SC 1463
[5] 2016 SCC OnLine SC 1146
[6] (2005) 10 SCC 510

The UPOV-Inspired Model in Bangladesh

A heavy influence of UPOV 1991 reflects upon the Seed Act 2018 and the draft Plant Variety Protection Bill of Bangladesh, even though the country is not a member of UPOV. The law ostensibly provides the exclusive right to the Breeders but addresses the traditional seed practices of the farmers in a very ambiguous manner.

Section 23 (2) of the Seed Act grants farmers the right to reproduce and sell the seeds and simultaneously restricts any such activity for non-commercial purposes, creating a very chilling impact on the local seed markets. As the definition of commercial use is not available explicitly, the ambiguity around it creates legal uncertainty and further complicates the execution of the law. The civil organizations and farmers' rights activists are apprehensive that this legislation can further facilitate biopiracy, along with curtailing the seed exchange. It might also, in extreme situations, marginalize the farmers' seed system, particularly when a robust farmers' rights framework is missing.

Progressive Drafting of Laws in Nepal

The National Seed Policy, 1999 of Nepal, and its draft Plant Variety Protection Bill strongly reflect a recognition of the rights of the farmers, benefit sharing, and community-based innovation by the State. The bill attempts to incorporate an equity-based provision, similar to India's PPVFR model; however, due to the political instability and institutional inadequacy, the bill has not yet been enacted. Nepal remains reliant on an informal seed system and farmer-led innovations in the absence of any formal legal support or relevant State policies.

A Breeder-Centric, UPOV Aligned Model in Pakistan

In Pakistan, the Plant Breeders Rights Act 2016 is modelled on UPOV 1991 and accordingly emphasizes the exclusive right of breeders, while providing a very limited recognition of the farmers' traditional practices. There is no robust provision in the law for traditional knowledge, farmers' seed sovereignty, or benefit sharing. The Act criminalizes the unauthorized sale of seed and seed saving. However, the civil society groups like the Pakistan Kisan Mazdoor Tehreek support the centuries-old agricultural customs. The Act provides for the compulsory licensing provisions, but meaningful safeguards for the farmers are very ambiguously drafted and defined. The concerns over the potential TRIPS compliance violations cannot be ignored, particularly while dealing with the balance between the farmers' rights and the rights of the corporate breeders.

In other SAARC countries, except India, Pakistan, Bangladesh, and Nepal, a mix of legislative efforts can be seen with varying degrees of influence of UPOV or sui generis systems. They present a fragmented and less legally formalized environment for seed governance. In Sri Lanka, very little emphasis is laid upon formal plant variety protection legislation, and seed policy primarily remains centred on a distribution and certification system which is controlled entirely by the state.

Although the country has ratified the TRIPS agreement as a member of the WTO yet any dedicated sui generis law for plant variety protection has not yet been enacted, nor has the country acceded to UPOV, 1991. Hence, the legal framework in the country neither explicitly protects the rights of the farmers nor completely accommodates the proprietary claims of a breeder-centric system. In Sri Lanka, the regulatory approach heavily relies on the seed programs and import controls run by the government, and the informal seed exchange networks get very little recognition, although they predominantly operate in rural areas. However, a potential shift towards a more commercial seed regulation can be seen in the recent trade discussions and the reliance on external seed import signals by the country, and a prospect of alignment of domestic laws with international IP standards can be predicted.

Bhutan, on the other hand, has thoughtfully taken a biodiversity-oriented and agroecological stance, as the country has not yet adopted any plant variety protection legislation. Bhutan repeatedly cites concerns about the impact of intellectual property rights on the indigenous biodiversity and traditional farming system, along with the self-sufficiency of food in the country. The development philosophy of the country is deeply rooted in the concept of Gross National Happiness and supports conservation of the farmer-led seed system, agricultural practices, and community seed banks. Bhutan is a signatory to TRIPS and the Convention on Biological Diversity, yet it has resisted the pressure to enact any formal IP regime in the field of agriculture, seed conservation, and organic farming initiatives in the country. However, in the absence of an unambiguous legal framework, vulnerabilities, particularly in the context of international seed trade and bio prospecting, cannot be ignored, increasing the risk of exploitation of traditional resources of the country.

Limited fertile land and increased dependency on food imports present a different kind of challenge in the Maldives. There are no formal plant variety protection laws or any comprehensive seed policy in the country, and the agricultural activities are also limited to a very small number of islands, with subsistence and high-value horticulture crop orientation driven largely by tourism. This makes the agriculture in the country dependent upon hybrid and genetically modified seeds, which are typically governed by the standards of import rather than the national policies related to breeding or seed saving. Hence, the farmers often are left with very limited autonomy over the seed production, and the traditional seed systems are also minimal, due to the given ecological constraints. Legally, the Maldives remain silent and peripheral on the idea of seed sovereignty and plant variety protection; however, the climatic resilience and food security may eventually push it towards more structured agricultural legislation in the future.

Regional Coherence or Fragmentation: A Comparative Legal Analysis

The national legal frameworks across the SAARC nations exhibit a pattern of fragmentation and asymmetry when compared. India stands out with the PPVFR Act

based on the sui generis principle that formally recognizes both the farmer's right and the Breeders' rights and tries to integrate a benefit-sharing mechanism, while allowing the registration of traditional varieties. Although implementational challenges cannot be ignored, the model still offers a potential benchmark for legislative initiatives in the region. In contrast to India, Pakistan has adopted a more breeder-centric approach, aligned with the mandate of UPOV 1991, and offers a strong proprietary protection to them while barely safeguarding the farmers.

Bangladesh does not formally align with UPOV and its Seed Act, 2018, along with the proposed PVP legislation, reflects a clear drift towards corporatised seed systems. However, this has triggered significant resistance from the civil society groups and the farmers at large. Despite a policy-level acknowledgement of the rights of farmers, Nepal lacks a fundamental legal regime due to a lack of political inertia, while Sri Lanka remains dependent on the seed system controlled by the state without any formal intellectual property laws. The agroecological commitment of Bhutan and its rejection of intellectual property-led agricultural reforms reflect a normative alternative in the region that prioritizes biodiversity and customary rights over the benefit-driven, market-oriented innovation. The Maldives highlights the peripheral engagement of small island states in intellectual property-based agricultural governance with minimal legislative presence in the domain.

This legal diversity limits the possibility of the establishment of a coherent regional framework for plant variety protection and rights of the farmers within SAARC, while compliance with TRIPS is a shared obligation. The ways to adopt it vary widely from the sui generis expectation of India to the half-hearted implementation of UPOV by Pakistan and the ecological exceptionalism in Bhutan. The variations are a revelation of contrasting visions of the countries on agricultural development, food sovereignty, and community empowerment, with varying institutional development and legal capacity.

Recommendations

A legal continuum is reflected in the sui-generis model of UPOV-aligned breeder-centric regime demonstrated in South Asian countries. Some of the policy and legal recommendations specifically for the SAARC countries, addressing the diverse seed governance landscape in the region to strengthen the seed sovereignty, farmers' rights, and biodiversity conservation, are given below:

A. Instead of adopting a one-size-fits-all UPOV-based regime, a context-specific sui generis legal framework should be adopted. There should be a region-wide legal recognition of the rights of the farmers across all the jurisdictions in the SAARC countries. This must include: the right to save, use, exchange, and sell farm-saved seeds. A mechanism for approving the entitlement of farmers as breeders to register their seed varieties, while creating a traditional knowledge system associated with seed conservation, can also be an effective strategy. The draft

PVP Bill of Nepal and Agroecological Practices of Bhutan demonstrate such alignments but require a more codified legal recognition.

B. SAARC countries demonstrate a transboundary genetic resource pool and shared agrobiodiversity in the region. Therefore, the countries must harmonise their laws on the Convention on Biological Diversity and grant access and benefits sharing under it, with a transparent disbursement of benefits to the communities.

C. SAARC countries must strengthen and establish authorities for farmers' rights and ensure representation of small-holders and indigenous communities in the process of decision-making. There must be a dedicated allocation of funds to support the registration of farmers' varieties and provide them with an appropriate grievance redressal. Also, the countries must create awareness among the farmers regarding their legal.

D. Biopiracy is the biggest threat, and hence, SAARC states must maintain a national and regional system of registry of traditional varieties and associated knowledge, along with an early warning system. Collaboration with WIPO, FAO, and the CBD Secretariat to derive community protocols and digital Sequence information governance can go a long way.

E. Regional cooperation can be promoted using the SAARC platform to facilitate the exchange of best practices on seed governance, while creating a regional Seed Sovereignty Task Force, and by developing a Cross-Border Seed Conservation Program. The countries may also transition their strategies according to their agroecological conditions, aligning with Bhutan's idea of Gross National Happiness (GNH) that can serve as a best practice model for the region.

The countries can also recognise seed sovereignty as an integral component of the right to food, livelihood, and culture, which can be achieved by making it part of the constitutional provisions.

Conclusion

Principles of Seed sovereignty in the SAARC region stand at a point of dilemma, while some countries have taken progressive steps, others undermine the farmers' autonomy through restrictive breeder-centric laws, and hence, a context-sensitive, inclusive, and biodiversity-friendly legal framework must be developed and executed in the region. Seed sovereignty is not about the future of agricultural practices, but it is also about the culture, livelihoods, and food security of millions. The regional corporation in South Asian countries, if rooted in shared ecological and cultural heritage, can prove an important instrument in achieving a just and sustainable seed system in the region.

References

Adhikari, K. 2021. Intellectual Property Rights in Agriculture Legal Mechanism to Protect Farmers' Rights in Nepal. Springer, Singapore.

Anderson, R. (2008). Governing Agro-Biodiversity: Plant Genetics and Developing Countries. Ashgate Publishing, Hampshire.

Banjade, M.R., Rijal, D., and Ransom, E. (2017). Strengthening seed systems: The role of community seed banks in South Asia. p. 87–101. In Proc. International Symposium on Agrobiodiversity for Food Security, 3rd. 19–21 Feb. 2017. Bioversity International, New Delhi, India.

Bhattarai, A. M. (2010). Protection Of Himalayan Biodiversity: International Environmental Law and a Regional Legal Framework, Martinus Nijhoff Publishers, Leiden.

Chidi, O. (2006). Local Knowledge as Trapped Knowledge Intellectual Property Culture Power and Politics, 147-172, P. Drahos and S. Frankel. Indigenous Peoples Innovation: Intellectual Property Pathways to Develop, ANU Press, Canberra.

Gene Campaign. (2003). Patent bias: Biopiracy and the patenting of traditional knowledge. Gene Campaign, New Delhi.

International Rice Research Institute (IRRI). (2017). Seeds without borders: Regional seed policy harmonization in South and Southeast Asia. IRRI, Los Baños, Philippines.

SAWTEE. (2019). Farmers Write Farmers Right and Protection of Traditional Knowledge in Nepal, Policy Brief. SAWTEE, Kathmandu, Nepal.

Shiva, V. (1988). Staying Alive: Women, Ecology and Development, Zed Books, London.