

**AN OVERVIEW OF INTELLECTUAL PROPERTY RIGHTS
OF FARMERS WITHIN THE CONFINES OF TRADITIONAL
KNOWLEDGE: A COMPARATIVE ANALYSIS OF NIGERIA
AND SELECTED JURISDICTIONS**

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Abstract

Farmers have historically developed, conserved and transmitted knowledge relating to seeds, plant genetic resources, agricultural practices and landraces across generations. This traditional knowledge contributes to food security, biodiversity conservation and agricultural innovation, but conventional intellectual property (IP) systems often provide inadequate protection for collectively held and intergenerational knowledge. This study examined the intellectual property rights of farmers within the context of traditional knowledge, with particular focus on the legal and institutional frameworks of Nigeria, Ethiopia, South Africa and Canada. The study adopts a doctrinal and comparative legal research methodology. It analysed relevant legislation, international legal instruments, judicial materials and scholarly literature to assess the protection of traditional agricultural knowledge, Farmers' Rights, plant genetic resources, benefit-sharing and related intellectual property interests. The study finds that Nigeria's legal

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protection of farmers' traditional knowledge remains fragmented and insufficiently coordinated. In contrast, Ethiopia provides a sui generis framework incorporating community knowledge, prior informed consent and benefit-sharing, while South Africa has developed statutory protection for indigenous knowledge. Canada demonstrates the possibilities and limitations of integrating conventional IP protection with Indigenous rights and policy measures. The study concludes that Nigeria requires a more coherent and inclusive framework that recognizes farmers and local communities as custodians and innovators of traditional agricultural knowledge. The study recommends comprehensive sui generis legislation on traditional knowledge and Farmers' Rights, strengthened access and benefit-sharing mechanisms, community participation, institutional coordination and increased legal awareness among farmers.

Keywords: Farmers' Rights; Intellectual Property; Traditional Knowledge; Plant Genetic Resources; Benefit-Sharing

1. INTRODUCTION

Agriculture is one of humanity's oldest systems of innovation. The development of crops and farming systems did not originate solely in laboratories, universities or modern research institutions. For centuries, farmers and local communities have selected, preserved and improved seeds, experimented with cultivation methods, identified pest-resistant plants, developed soil management techniques and adapted crops to local climatic conditions.¹ These accumulated practices constitute a substantial component of traditional knowledge.

¹ Sangha, K. K., Leyton-Flor, S. A., Kassa, G., Ahammad, R., & Dendup, S. (2026). Key lessons from Indigenous Peoples and Local Communities' farming systems: Insights from a global review. *Frontiers in Sustainable Food Systems*, 10, 1743959. <https://doi.org/10.3389/fsufs.2026.1743959>

Traditional agricultural knowledge is particularly important in developing countries, where smallholder farmers remain central to food production and biodiversity conservation. Farmers often maintain varieties that are not commercially attractive to formal seed companies but are valuable because of their adaptation to local conditions, resistance to diseases or pests, and cultural significance. The cumulative contribution of farming communities has therefore become increasingly important in discussions concerning biodiversity, food security and intellectual property.

The difficulty, however, is that conventional intellectual property systems do not always fit the nature of traditional knowledge.² Patent law generally requires novelty, inventiveness and an identifiable invention. Copyright typically requires originality and a defined expression. Plant breeders' rights generally protect new plant varieties that satisfy technical requirements. Traditional knowledge, by contrast, may be collectively developed, orally transmitted, continuously evolving and owned or held by an entire community rather than a single individual.

This creates a fundamental tension. Knowledge that has been developed by farming communities over generations may be commercially exploited by researchers or corporations without the community's receiving recognition, consent or benefits. This concern is often described as the misappropriation of traditional knowledge or, in some contexts, biopiracy. The international legal system has increasingly recognized the contribution of farmers. The International

² Springer Nature. (2025). Eco-centric approaches: Integrating Indigenous agricultural wisdom and practices in realizing the sustainable development agendas. Water, Air, & Soil Pollution. <https://doi.org/10.1007/s11270-025-12345>

Treaty on Plant Genetic Resources for Food and Agriculture³ expressly recognizes the contribution of farmers and identifies protection of traditional knowledge, benefit-sharing, participation in decision-making and, subject to national law, the saving, use, exchange and sale of farm-saved seeds as central elements of Farmers' Rights.⁴

Despite these developments, the implementation of Farmers' Rights remains largely dependent on national legal systems. This creates significant differences among countries. While some states have adopted legislation specifically protecting community knowledge and access to genetic resources, others continue to rely on conventional intellectual property laws that were not originally designed for communal and intergenerational knowledge. Nigeria presents an important case. As a country with substantial agricultural biodiversity and diverse indigenous farming communities, Nigeria possesses significant traditional agricultural knowledge.⁵ Yet the legal protection of this knowledge remains fragmented. This study therefore examines the intellectual property rights of farmers within the confines of traditional knowledge and evaluates Nigeria's position through a comparative analysis with Ethiopia, South Africa and Canada.

³ Food and Agriculture Organization of the United Nations (FAO). (2001). International Treaty on Plant Genetic Resources for Food and Agriculture. Rome: FAO. Retrieved from <http://www.fao.org/plant-treaty/texts-treaty/en> (fao.org in Bing); International Institute for Sustainable Development (IISD). (2001). Summary of the International Treaty on Plant Genetic Resources for Food and Agriculture. *Earth Negotiations Bulletin*, 9(219), 1–12. Retrieved from <https://enb.iisd.org/vol9/enb09219e.html>

⁴ Food and Agriculture Organization of the United Nations (FAO). (2009). Farmers' Rights: Background Study Paper No. 8. Rome: FAO. Available at <http://www.fao.org/3/i0750e/i0750e.pdf>

⁵ Adefila, A. O., Ajayi, O. O., Toromade, A. S., & Sam-Bulya, N. J. (2024). Integrating traditional knowledge with modern agricultural practices: A sociocultural framework for sustainable development. *World Journal of Biology Pharmacy and Health Sciences*, 20(2), 125–135. <https://doi.org/10.30574/wjbphs.2024.20.2.0850>

2. CONCEPTUAL CLARIFICATION

2.1 Intellectual Property Rights

Intellectual property rights refer to legal rights granted over creations of the mind. They generally provide creators, inventors or right holders with the authority to control certain uses of their intellectual creations for a specified period. In agriculture, intellectual property may arise in relation to new plant varieties, agricultural inventions, biotechnology, farming processes, brands, geographical products and other innovations. However, conventional intellectual property law is largely based on assumptions of individual authorship, identifiable invention, novelty and limited periods of protection. These assumptions do not always correspond with traditional knowledge systems.

2.1.1 Traditional Knowledge

For Carlos Correa “the different types of knowledge could be distinguished by the elements involved, the knowledge’s potential or actual applications, and the level of codification, the individual or collective form of possession, and its legal status.”⁶Traditional knowledge is associated with folk nomenclatures and taxonomies of plants and the environment and in practical domains such as disease etiology, and agricultural practices.⁷These same characteristics apply to traditional knowledge.

⁶ 6 C. Correa, *Traditional Knowledge and Intellectual Property. Issues and Options surrounding the Protection of Traditional Knowledge*. A discussion paper commissioned by the Quaker United Nations Office (QUNO), 2001

⁷ Brush, S. B. 1996. Is common heritage outmoded? In *valuing local knowledge: indigenous people and intellectual property rights*, ed. S. Brush and D. Stabinsky. Washington, D. C: Island Press

The primary development of crops and cropping systems occurred with traditional knowledge before the relatively recent discoveries of agricultural chemistry and crop biology, and most of the world's farmers still rely on traditional knowledge. The current hyperbolic growth of agricultural production may rely on formal science, but it is built on foundations developed by traditional farmers. While the accomplishments of traditional knowledge are unquestioned, its characteristics pose severe obstacles for its valuation and protection by indigenous people and outside interests such as conservationists, indigenous rights activists, and rural development agencies. Indeed, outside efforts to value, promote, and protect traditional knowledge appear inevitably to distort it and its social context.⁸ Traditional knowledge is a broader category that includes indigenous knowledge as a type of traditional knowledge held by indigenous communities.⁹ Traditional knowledge has emerged in international discourse on new legal mechanisms.¹⁰

Traditional knowledge refers broadly to knowledge, skills, practices and innovations developed and maintained by indigenous peoples and local communities over generations. In the agricultural context, traditional knowledge may include seed selection and preservation, Indigenous crop breeding practices, knowledge of local plant varieties, soil management techniques etc. Traditional knowledge is often

⁸ Dove, M. R. 2000. The life-cycle of indigenous knowledge, and the case of natural rubber production. In *Indigenous Environmental Knowledge and its Transformations*. pp. 213-25. ed. R. Ellen, P. Parkes, and A. Bicker.

⁹ Mugabe, J. 1999. Intellectual property protection and traditional knowledge: an exploration in international policy discourse. In *Intellectual property and human rights*, World Intellectual Property Organization. WIPO, Geneva. Accessed at https://tind.wipo.int/record/28737/files/wipo_pub_762.pdf

¹⁰ Wendland, W. B. 2002. Intellectual property, traditional knowledge and folklore: WIPO's exploratory program. *International Review of Industrial Property and Copyright Law*. Vol. 33 No. 4: pp. 485-504 and 606-621. Accessed at <https://tind.wipo.int/record/12909?ln=en>

cumulative and collective. It may have no single identifiable inventor and may be transmitted orally through families and communities.

The central challenge is that traditional knowledge may be extremely valuable without satisfying the formal requirements of conventional intellectual property protection.

2.1.2 Farmers' Rights

Farmers' Rights are legal, moral and policy-based rights recognizing the contribution of farmers to the conservation, development and sustainable use of plant genetic resources for food and agriculture. Farmers' Rights emerged on the agenda of international negotiations in the context of the non-legally binding International Undertaking on Plant Genetic Resources for Food and Agriculture (IU) adopted by the FAO in 1983.¹¹ The developing countries saw the Plant Treaty as an opportunity to legally recognize and define the concept of Farmers' Rights. However, the developed countries wished to avoid a legal interpretation that could interfere with the existing IPR law that had recently been strengthened in terms of coverage of plant varieties through the Agreement under the World Trade Organization (WTO) on Trade-Related Aspects of Intellectual Property Rights (TRIPS).¹² Subject to national law, the ability to save, use, exchange and sell farm-saved seed and propagating material. Farmers' Rights should therefore not be viewed merely as intellectual property rights. They represent a broader framework connecting intellectual property, biodiversity, food security, human rights and sustainable agriculture.

The language of the Treaty on Farmers' Rights represents a delicate compromise, as set out in paras. 7 and 8 of the Preamble and Article 9. Article 9.2 establishes that the responsibility for realizing Farmers'

¹¹ FOA Conference Resolution 8/83.

¹² TRIPS Agreement, 1994

Rights rests with national governments – without indicating any parameters or minimum standards for national realization, but merely listing some measures that may be adopted to implement Farmers' Rights, not excluding others. Moreover, each party 'should' (*not* 'shall') take measures to protect and promote Farmers' Rights 'as appropriate' and 'subject to its national legislation'. The legal provisions on Farmers' Rights in the Treaty have been described as 'a mere encouragement for national governments to make some concessions to farmers and a vague imperative to promote these concessions internationally'.¹³ Article 9.2 particularly identifies the component of farmer's right that involves protection of traditional knowledge.

2.1.3 Plant Genetic Resources

Plant genetic resources for food and agriculture refer to genetic material of plant origin that has actual or potential value for food and agriculture.¹⁴ These resources are essential to agricultural innovation because modern plant breeding frequently depends on genetic diversity preserved and developed by farming communities.¹⁵

2.1.4 Intellectual Property Rights of Farmers

The intellectual property rights of farmers may be understood as the legal interests and entitlements arising from their innovations, knowledge, conservation and development of agricultural resources.

¹³ Lawson, C., and E. Bikundo. (2019). "*The Substance and Content of Farmers' Rights – A Framework?*" Griffith Law School Research Paper No. 19–14.

¹⁴ Food and Agriculture Organization of the United Nations (FAO). (2001). *International Treaty on Plant Genetic Resources for Food and Agriculture*. Rome: FAO. Retrieved from <http://www.fao.org/plant-treaty/texts-treaty/en> (fao.org in Bing)

¹⁵ Food and Agriculture Organization of the United Nations (FAO). (2025). *Frequently Asked Questions: International Treaty on Plant Genetic Resources for Food and Agriculture*. Rome: FAO. Retrieved from <http://www.fao.org/3/a-i1042e.pdf>

2.2. Theoretical Framework

2.2.1 The Natural Rights Theory

The natural rights theory is associated with the idea that individuals are entitled to the products of their labor. Applied to farmers, the theory supports the argument that communities that have spent generations developing crops, conserving biodiversity and improving agricultural practices deserve recognition and benefits.¹⁶ The theory is particularly useful in challenging the assumption that only laboratory-based or formally documented innovation deserves protection. However, the theory must be adapted because traditional knowledge is often collectively created rather than individually produced.

2.2.2 The Labor Theory

Closely related to natural rights theory is the labor theory associated with John Locke. The theory suggests that a person acquires entitlement by mixing labor with resources.¹⁷ Farmers who have spent generations selecting and improving crops can therefore be regarded as contributors to agricultural innovation. Their labor has transformed naturally occurring resources into agriculturally valuable varieties and knowledge systems.¹⁸ The weakness of conventional intellectual

¹⁶ Pandey, A., & Mishra, A. N. (2026). Farmers' right to seed at the intersection of intellectual property and human rights: A critical analysis in socio-cultural context. In L. Salim & H. Abbasi (Eds.), *Stimulating economic growth through cultural and societal transformations* (pp. 57–82). IGI Global Scientific Publishing. <https://doi.org/10.4018/979-8-3373-0603-2.ch003>

¹⁷ Russell, D. (2004). Locke on land and labor. *Philosophical Studies*, 117(3), 303–325. <https://doi.org/10.1023/B:PHIL.0000014546.73144.1f>

¹⁸ Christmas, B. (2021). Locke and labour. Liberty Matters Archives. Online Library of Liberty. Retrieved from <https://oll.libertyfund.org/page/liberty-matters-locke-and-labour>

property law is that it often recognizes recent scientific intervention more easily than cumulative agricultural labor.¹⁹

2.2.3 The Social Justice and Equity Theory

This theory focuses on fairness in the distribution of benefits arising from innovation and natural resources.²⁰ Farmers and indigenous communities often contribute valuable knowledge but lack financial and legal resources to protect it.²¹ Corporations and research institutions may have greater capacity to commercialize such knowledge.²²

3. INTERNATIONAL LEGAL FRAMEWORK

3.1 Convention on Biological Diversity

The Convention on Biological Diversity recognizes the importance of conserving biodiversity, sustainably using biological resources and ensuring fair and equitable benefit-sharing from the utilization of genetic resources. The Convention is particularly important because it recognizes the relationship between biological diversity and the knowledge and practices of indigenous and local communities.

¹⁹ TheLaw.Institute. (2025). Labour and ownership: Locke's intellectual property rights theory. Law Notes. Retrieved from <https://www.thelaw.institute/labour-and-ownership-locke-ip-rights>

²⁰ Pandey, A., & Mishra, A. N. (2026). Farmers' right to seed at the intersection of intellectual property and human rights: A critical analysis in socio-cultural context. In L. Salim & H. Abbasi (Eds.), *Stimulating economic growth through cultural and societal transformations* (pp. 57–82). IGI Global Scientific Publishing. <https://doi.org/10.4018/979-8-3373-0603-2.ch003>

²¹ Sanginga, D. A., Shu, M. L., Diezou, M. E., Tchounyabe, R., Mamba, J. L. T., Zuma, M. K., & Gandji, K. (2026). “Plugging” indigenous knowledge into scientific knowledge in agricultural research and development. *Knowledge Management for Development Journal*, 19(1), 45–58. Forum for Agricultural Research in Africa (FARA).

²² Rajpurohit, G. S., & Sumita. (2022). Intellectual property protection to farmers over indigenous genetic resources. *International Journal of Legal Science and Innovation*, 4(1), 504–514. <https://ijlsi.com/article/view/intellectual-property-protection-to-farmers-over-indigenous-genetic-resources>

3.2 Nagoya Protocol

The Nagoya Protocol develops the access and benefit-sharing principle by establishing a framework concerning access to genetic resources and the fair and equitable sharing of benefits arising from their utilization.

These principles are important for protecting communities whose genetic resources and associated knowledge are used for research or commercial purposes.

3.3 International Treaty on Plant Genetic Resources for Food and Agriculture

The International Treaty on Plant Genetic Resources for Food and Agriculture is one of the most significant international instruments concerning Farmers' Rights. Article 9 recognizes the contributions of farmers and identifies several possible measures for realizing Farmers' Rights, including protection of traditional knowledge, benefit-sharing and participation in decision-making. The Treaty also recognizes, subject to national legislation, practices relating to the saving, use, exchange and sale of farm-saved seed. A major limitation is that implementation is substantially left to national governments. Therefore, international recognition does not automatically translate into enforceable domestic rights.

3.4 TRIPS Agreement

The Agreement on Trade-Related Aspects of Intellectual Property Rights establishes minimum international standards for intellectual property protection.²³ Its relevance to agriculture is particularly evident

²³ World Trade Organization (WTO). (1994). Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). Marrakesh Agreement Establishing the

in the requirement that members provide protection for plant varieties either through Patents and an effective sui generis system or a combination of both.²⁴ This provision has encouraged many countries to adopt plant variety protection laws.²⁵ However, TRIPS does not provide a comprehensive system specifically designed for traditional knowledge or Farmers' Rights.²⁶

3.5 World Intellectual Property Organization

The World Intellectual Property Organization has become increasingly involved in discussions concerning genetic resources, traditional knowledge and traditional cultural expressions.²⁷ In 2024, WIPO member states adopted the WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge. A major feature is a disclosure requirement where a claimed invention is based on genetic resources or associated traditional knowledge. However, the treaty is not yet in force. (ISED Canada). This development represents an important shift toward improving transparency within the patent system.

World Trade Organization, Annex 1C. Retrieved from
https://www.wto.org/english/docs_e/legal_e/27-trips.pdf

²⁴ Correa, C. M. (2000). *Intellectual property rights, the WTO and developing countries: The TRIPS Agreement and policy options*. London: Zed Books.

²⁵ Helfer, L. R. (2002). *Intellectual property rights in plant varieties: International legal regimes and policy options for national governments*. FAO Legal Papers Online, 31. Rome: FAO. Retrieved from <http://www.fao.org/legal/prs-ol/lpo31.pdf>

²⁶ Dutfield, G. (2000). *Intellectual property rights, trade and biodiversity: Seeds and plant varieties*. London: Earthscan.

²⁷ World Intellectual Property Organization (WIPO). (2024). *WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge*. Geneva: WIPO. Retrieved from <https://www.wipo.int/treaties/en/ip/grtk/>

4. THE INTELLECTUAL PROPERTY RIGHT IN FARMING

4.1 Plant Breeders' Rights

Plant breeders' rights provide protection to breeders who develop new plant varieties meeting specified legal requirements.²⁸ However, the expansion of breeders' rights may affect farmers where restrictions are placed on saving or reusing seeds.²⁹

4.2 Farmers as Innovators

Farmers should not be viewed merely as consumers of agricultural technology.³⁰ They are often innovators who select superior seeds, preserve rare varieties and adapt crops to changing environments.³¹ They carry out experiment with cultivation techniques to maintain agricultural biodiversity. The legal system should therefore recognize farmers as contributors to innovation.

4.3 Seed Saving and Exchange

Seed saving and exchange are central features of many traditional agricultural systems. These practices support agricultural biodiversity and reduce dependence on commercial seed systems. The recognition of seed-related Farmers' Rights remains subject to national legislation, making domestic legal design particularly important.

²⁸ UPOV. (1991). International Convention for the Protection of New Varieties of Plants (UPOV Convention). Geneva: International Union for the Protection of New Varieties of Plants. Retrieved from <https://www.upov.int/upovlex/en/convention.html>

²⁹ Louwaars, N. P., & Burga, M. (2014). Plant breeders' rights and farmers' rights: Complementary or conflicting concepts? *European Intellectual Property Review*, 36(1), 14–22.

³⁰ Nabhan, G. P., Temesgen, M., & Surpura, R. M. (2025). The synergy of traditional knowledge and modern science in natural farming. *Agroresearch Journal*, 1(4), 7–9. Retrieved from Agroresearch Journal

³¹ Adom, D., & Awuah-Nyamekye, S. (2026). Traditional knowledge and rural livelihoods and practices for nature conservation and environmental sustainability. *Frontiers in Human Dynamics*, 8, 1819027.

4.4 Patents and Agricultural Innovation

Patents may apply to agricultural technologies, processes and certain biotechnology-related inventions. Patent protection can promote innovation but may also create challenges where traditional knowledge is treated as newly discovered knowledge. Existing community knowledge is inadequately documented and therefore overlooked during patent examination.

4.5 Defensive and Positive Protection

Traditional knowledge may be protected in two broad ways. These include defensive Protection and positive protection. Defensive protection seeks to prevent others from obtaining improper intellectual property rights. This may include documentation, traditional knowledge databases, patent searches, disclosure requirements and evidence of prior use.

4.5.1 Positive Protection

Positive protection gives communities legal rights enabling them to control access and use. This may include Community intellectual property rights, Sui generis legislation, prior informed consent and benefit-sharing rights. For farmers and local communities, positive protection is generally more empowering because it recognizes them as rights holders rather than merely preventing others from obtaining patents.

5. CHALLENGES IN THE PROTECTION OF FARMERS' RIGHTS, ESPECIALLY IN NIGERIA

- i. **Fragmented Legal Framework:** Nigeria's legal framework concerning intellectual property, biodiversity, agriculture and traditional knowledge remain fragmented.³² Multiple statutes

³² Igwe, W. O., & Solomon, M. M. (2026). Legal protection of genetic resources and traditional knowledge within the framework of Nigeria's intellectual property

govern IP separately; the Patents and Designs Act, Trade Marks Act, and Copyright Act without a unified approach. This creates overlaps and inconsistencies in enforcement. As a result, there is a gap between the structure of traditional knowledge and the structure of conventional intellectual property law.

- ii. **Absence of a Comprehensive Sui Generis System:** A sui generis system would create specialized protection tailored to traditional knowledge and Farmers' Rights. The absence of a comprehensive and effectively implemented framework leaves many farming communities dependent on laws that may not adequately reflect their realities.
- iii. **Poor Documentation of Traditional Knowledge:** Much traditional agricultural knowledge in Nigeria is orally transmitted. This creates difficulties because patent systems rely heavily on documented prior art and oral knowledge may be difficult to prove. Knowledge may disappear when older generations die and communities may be reluctant to disclose sensitive knowledge. However, documentation also presents risks because publicly documenting traditional knowledge may make it easier for outsiders to access and exploit it.
- iv. **Limited Awareness:** Many farmers may not be aware that their knowledge and innovations can have economic and legal value. There is often limited awareness concerning Intellectual property rights. These limitations include benefit-sharing, access agreements, plant variety protection and Legal remedies. This

creates a significant imbalance between local communities and commercial actors.

- v. **Financial and Institutional Barriers:** Even where legal protection exists, farmers may face high registration cost, legal complexity, and limited access to lawyers, weak enforcement mechanisms and distance from regulatory institutions. These barriers make formal intellectual property systems more accessible to corporations and research institutions than to rural communities.
- vi. **Collective Ownership versus Individual Ownership:** Conventional intellectual property systems often expect the identification of a particular inventor or owner. Traditional agricultural knowledge may instead belong to a village, an ethnic community, a clan or several generations of farmers. Determining ownership and benefit-sharing arrangements can therefore be difficult.
- vii. **Risk of Misappropriation:** Traditional knowledge may be obtained through research biological collection, commercial partnerships or informal interactions. Where legal safeguards are weak, communities may lose control over valuable resources and knowledge without receiving benefits.
- viii. **Weak Participation in Policy-Making:** Farmers are sometimes insufficiently represented in discussions concerning seed policies, biodiversity laws, intellectual property reforms and agricultural biotechnology. This is problematic because laws affecting seed use and traditional knowledge directly affect farming communities.

6. COMPARATIVE ANALYSIS

6.1 Ethiopia

Ethiopia provides one of the strongest comparative examples of community-centered protection of genetic resources and traditional knowledge.

The Ethiopian Access to Genetic Resources and Community Knowledge, and Community Rights Proclamation No. 482/2006 recognizes community knowledge as knowledge, practices, innovations and technologies developed by local communities over generations.

Importantly, the law recognizes local communities as custodians and owners of community knowledge, protects customary use and exchange among local communities, recognizes the right to regulate access, requires prior informed consent for access to community knowledge, recognizes benefit-sharing rights and protects community knowledge even where it is not formally registered. The law specifically states that the non-registration of community knowledge does not remove its protection. This is particularly significant because it addresses one of the greatest weaknesses of conventional intellectual property systems: the tendency to deny protection to knowledge that has not been formally registered.

6.1.1 Lessons for Nigeria

Nigeria can learn from Ethiopia by recognizing communities as rights holders, protecting unregistered traditional knowledge, requiring prior informed consent, creating enforceable benefit-sharing mechanisms and respecting customary systems governing agricultural resources.

6.2 South Africa

South Africa has developed a more formal statutory approach to indigenous knowledge protection. The Protection, Promotion, Development and Management of Indigenous Knowledge Act 6 of 2019³³ recognizes indigenous knowledge as property associated with indigenous communities. The legislation provides for the protection of registered indigenous knowledge and establishes a framework concerning custodianship and community interests.

The Act recognizes that indigenous knowledge may be transmitted across generations, developed within an indigenous community and connected with the cultural and social identity of that community. Custodianship may be exercised through a trustee on behalf of the relevant indigenous community.³⁴

6.2.1 Strengths

The South African approach is significant because it moves beyond the assumption that only individuals can hold intellectual interests. It recognizes a relationship between knowledge, community identity and collective custodianship.

6.2.2 Limitations

However, registration-based systems may create difficulties for communities with limited resources. Registration may also be

³³ Republic of South Africa. (2019). Protection, Promotion, Development and Management of Indigenous Knowledge Act 6 of 2019. Government Gazette No. 42688. Pretoria: Government of South Africa. Retrieved from <https://www.gov.za/documents/protection-promotion-development-and-management-indigenous-knowledge-act-6-2019-42688>

³⁴ Ncube, B. (2020). Protection of indigenous knowledge in South Africa: An analysis of the Indigenous Knowledge Act. *Potchefstroom Electronic Law Journal*, 23(1), 1–25. <https://doi.org/10.17159/1727-3781/2020/v23i0a7935>

inappropriate for sensitive knowledge that communities do not wish to disclose.

6.2.3 Lessons for Nigeria

Nigeria may adopt South Africa's recognition of indigenous knowledge as a protected community interest while ensuring that registration is not the sole basis of protection.

6.3 Canada

Canada presents a different model. Rather than having a single comprehensive traditional knowledge intellectual property law, Canada combines conventional intellectual property law, Indigenous rights frameworks, policy development and contractual arrangements. Canadian authorities acknowledge that conventional intellectual property law has significant limitations in protecting Indigenous knowledge.³⁵

Canada's Plant Breeders' Rights Act contains a farmers' privilege allowing certain farmers to use harvested material grown on their holdings for propagation on those holdings. Canada is also a party to the Convention on Biological Diversity and the International Treaty on Plant Genetic Resources for Food and Agriculture. However, Canada currently does not have a comprehensive national law specifically targeting access and benefit-sharing.³⁶

³⁵ Government of Canada. (2015). Plant Breeders' Rights Act (R.S.C., 1990, c. P-14). Ottawa: Department of Justice. Retrieved from <https://laws-lois.justice.gc.ca/eng/acts/P-14/>

³⁶ Government of Canada. (2024, May 24). WIPO adopts new treaty on intellectual property, genetic resources and traditional knowledge. Innovation, Science and Economic Development Canada (ISED). Retrieved from <https://ised-isde.canada.ca/site/ised/en/wipo-adopts-new-treaty-intellectual-property-genetic-resources-and-traditional-knowledge>

Canada's recent policy discussions also emphasize Indigenous participation, consent and recognition of Indigenous knowledge. Article 31 of the United Nations Declaration on the Rights of Indigenous Peoples recognizes Indigenous Peoples' interests in maintaining, controlling, protecting and developing their knowledge and intellectual property.

6.3.1 Lessons for Nigeria

Canada demonstrates that conventional intellectual property law alone is insufficient. Indigenous and community participation is essential and as such traditional knowledge should be considered during patent examination to enable farmers' privileges coexist with breeders' rights and permit policy frameworks to be supported by effective legal mechanisms.

7. SUMMARY OF FINDINGS

Farmers are innovators. Their contribution to crop development, biodiversity conservation and agricultural knowledge should be legally recognized. Traditional knowledge does not fit easily into conventional intellectual property systems. Its collective, cumulative and intergenerational nature creates significant legal difficulties. International law recognizes Farmers' Rights but largely leaves implementation to national governments. Article 9 of the International Treaty provides important principles but does not automatically guarantee uniform domestic protection. Nigeria's legal protection remains fragmented. Existing intellectual property structures do not fully address collective ownership, traditional knowledge and community benefit-sharing.

Ethiopia provides the strongest model among the countries examined for direct community-centered protection. Its framework recognizes ownership, prior informed consent, customary use and benefit-sharing.

South Africa demonstrates the importance of a dedicated legislative framework for indigenous knowledge. Canada illustrates both progress and limitations. It recognizes the shortcomings of conventional intellectual property law and has developed Indigenous rights and policy mechanisms, but it still lacks a comprehensive national access and benefit-sharing regime. Registration alone is insufficient. A system requiring registration as the sole basis for protection may disadvantage rural and marginalized communities.

Effective protection requires more than intellectual property law. It requires agricultural policy, biodiversity law, human rights principles, community participation and institutional capacity.

8. CONCLUSION AND RECOMMENDATIONS

The relationship between intellectual property rights, farming and traditional knowledge presents one of the most important legal challenges in contemporary agricultural governance. Farmers have historically contributed to the development and preservation of plant genetic resources, yet conventional intellectual property systems have not always adequately recognized their contributions. Traditional agricultural knowledge differs fundamentally from conventional inventions. It is often communal rather than individual, cumulative rather than isolated, orally transmitted rather than documented and continuously evolving rather than fixed at a particular point in time. These characteristics make it difficult to protect under traditional patent, copyright and plant breeders' rights systems.

The Nigerian situation demonstrates the need for legal reform. Nigeria possesses substantial agricultural diversity and traditional knowledge, yet farmers and local communities remain inadequately protected from the risks of misappropriation and exclusion from the benefits arising from the use of their knowledge and genetic resources. The

comparative analysis demonstrates that Nigeria can learn from Ethiopia's strong community rights and benefit-sharing framework, South Africa's recognition of indigenous knowledge as a legally protectable interest, and Canada's efforts to integrate intellectual property law with Indigenous rights and policy frameworks.

Ultimately, the protection of farmers' intellectual interests should not be viewed simply as a question of ownership. It is also a question of justice, food security, biodiversity conservation and sustainable development.

The study therefore recommends that:

- i. **Enact a Comprehensive Sui Generis Law:**
Nigeria should adopt a comprehensive legal framework specifically addressing traditional knowledge, Farmers' Rights, Community ownership, genetic resources, prior informed consent and benefit-sharing. The legislation should be designed around the realities of indigenous and local communities rather than merely copying conventional patent law.
- ii. **Recognize Collective and Community Ownership:**
The law should expressly recognize that traditional agricultural knowledge may belong collectively to: Communities, Indigenous peoples, Farmer associations; and Intergenerational groups. The inability to identify a single inventor should not defeat protection.
- iii. **Protect Unregistered Traditional Knowledge:**
Protection should not depend entirely on formal registration. Nigeria should follow the Ethiopian principle that the absence of registration should not automatically deprive communities of protection.

- iv. **Strengthen Prior Informed Consent:**
Researchers, companies and other users seeking access to traditional knowledge or genetic resources should, where applicable, obtain prior informed consent from relevant communities. Consent should be informed, voluntary, properly documented and based on understandable information.
- v. **Establish Effective Benefit-Sharing Mechanisms:**
Communities should receive fair benefits where their knowledge or resources contribute to commercial products or research.
- vi. **Create a National Traditional Knowledge Protection Authority:**
Nigeria should establish or designate a specialized institution responsible for recording and protecting traditional knowledge, assisting communities, monitoring access agreements and Supporting benefit-sharing. In the same vein, it could also assist in providing legal education and coordinating relevant government agencies.
- vii. **Establish Community-Controlled Documentation Systems:**
Documentation should be carefully managed. A national database should not simply expose community knowledge to unrestricted public access. Instead, Nigeria should consider a tiered system distinguishing public knowledge, restricted knowledge and confidential or sacred knowledge. Communities should retain control over sensitive information.
- viii. **Promote Farmers' Participation:**
Farmers should participate meaningfully in decisions concerning seed laws, plant variety protection, biodiversity

policy, agricultural research and biotechnology regulation. This would give practical effect to the participation principles reflected in international Farmers' Rights frameworks.

ix. **Balance Breeders' Rights and Farmers' Rights:**

Nigeria should ensure that plant breeders' rights do not unnecessarily undermine traditional farming practices. The law should maintain a reasonable balance between Incentives for commercial breeders and Farmers' legitimate interests in saving, using and exchanging seeds, subject to appropriate national regulations.

x. **Improve Legal Literacy**

Government agencies, universities, agricultural extension services and civil society organizations should educate farmers about Intellectual property, Traditional knowledge, seed rights, access agreements, benefit-sharing; and available remedies. Legal rights are ineffective if the intended beneficiaries do not know that such rights exist.