

# GOVERNING BIODIVERSITY THROUGH COMMUNITY SEED BANKS: A COMMONS-BASED SOCIO-LEGAL ANALYSIS IN INDIA

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*India's traditional knowledge, especially the community-led management of seeds conservation, has been a significant factor of the agroecological resilience. The socio-environmental issues of recent times have accelerated the need for these knowledge systems to be safeguarded. Community seed banks not only keep the local varieties alive but also help and make the rural poor self-reliant. The current research looks into the case studies of West Bengal, Uttarakhand, and Odisha to understand the Indian socio-legal framework which includes the Biological Diversity Act, the Protection of Plant Varieties and Farmers' Rights Act, the Panchayats (Extension to Scheduled Areas) Act, and the Forest Rights Act. The study reveals that there are continuous legislative and institutional gaps and thus, it calls for the legal framework, its enforcement and gender-inclusive governance to be revamped.*

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## Introduction

Conserving biodiversity and traditional knowledge is pivotal for rural development in India. Community seed banks have become keystone institutions that integrate ecological sustainability, local livelihoods, and legal frameworks. Climate change threatens indigenous seed varieties and the knowledge systems that sustain agrarian communities, and thus the legal–community interface is increasingly important. While India has put in place strong legal frameworks, such as the Biological Diversity Act, 2002, the Protection of Plant Varieties and Farmers' Rights Act, 2001, The Panchayats (Extension to Scheduled Areas) Act, 1996, and the Forest Rights Act, 2006, the implementation of these Acts varies greatly across regions. This paper examines community seed systems in West Bengal, Uttarakhand, and Odisha, with a focus on Telangana, in order to understand socio-legal challenges and identify key reforms.

## Theoretical and Legal Frame-Work

A socio-legal approach is one that gives the most accurate theoretical basis for understanding the relations among rural populations, biodiversity law, and the safeguarding of traditional knowledge. In contrast to purely doctrinal analysis, a socio-legal study to a greater extent reveals the actual use of laws, the community's understanding of legal norms, and the role of cultural values and power struggles in determining governance results. This is of great importance especially within the context of community seed banks which are located between traditional knowledge systems, environmental management, and legal regulations.

**Analysis of Socio-Legal Aspects of Traditional Knowledge and Biodiversity:** The knowledge of seeds, agroecology, and farming practices is inherently community-based and transmitted through generations while being quite strong social ties. On the one hand, Gupta (2013) asserts that traditional knowledge is to be considered not only as an intellectual property asset but also from the perspectives of community identity, customary norms, and local governance.<sup>1</sup> Community seed banks are very important places for knowledge conservation, sharing, and revitalization<sup>2</sup>. However, the absence of legal recognition

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for many seed banks often puts the traditional knowledge at risk of being taken away and thus, at the same time, it makes it more difficult for the communities to claim their rights to benefit-sharing in the national or international settings<sup>3-4</sup>.

**Biological Diversity Act, 2002 (BDA):** The BDA establishes a legal structure centered around conservation, promoting sustainable use, and ensuring fair distribution of profits. The establishment of Biodiversity Management Committees (BMCs) is mandatory along with the compilation of People's Biodiversity Registers (PBRs) to document customary knowledge (Section 41). The Access and Benefit Sharing (ABS) framework has a strong legal foundation but its enforcement varies greatly from one state to another<sup>6</sup>. A significant number of community seed banks operate independently of BMCs which puts the community's right to traditional knowledge and genetic resources at risk<sup>5</sup>.

**Protection of Plant Varieties and Farmers' Rights Act, 2001 (PPV&FRA):** PPV&FRA has worldwide value in its formal acknowledgment of farmers as cultivators, conservators, and breeders. Paragraph 39 assures to the farmers their right to preserve, utilize, exchange, and sell seeds harvested from their own farms. In addition, the law specifies the steps for the registration of traditional varieties and acknowledges the role of communities in the conservation activities. Nevertheless, the difficulties of procedures and lack of institutional support hinder the rural communities from making good use of these resources<sup>7</sup>.

**PESA 1996 and the Forest Rights Act, 2006:** PESA and FRA provide Gram Sabhas in tribal areas with decentralized power, thereby allowing the communities to decide on the use of natural resources. The rules relating to the community seed banks are very much interlinked with these laws, emphasizing the collective management and the traditional knowledge systems. The situation is such that in Odisha, the interplay of PESA, FRA, and biodiversity regulations opens up a chance for the communities to take the lead in seed conservation<sup>8</sup>. Still, at times, poor implementation of laws and red tape limit the freedom of communities.

### **Case Studies**

**West Bengal: Community Seed Conservation in Bankura District:** One of the notable development in the domain of community-based seed conservation can be seen in the district of Bankura, West Bengal showcase the collaboration between farmers and local civil society organizations to restore traditional seed varieties. The

Amarkan Rural Socio-Environmental Society has protected more than 200 native rice types through informal community seed banks.<sup>3</sup> Climate change is making drought, irregular rainfall, and poor soil more common in semi-arid West Bengal.<sup>9</sup> The initiatives help keep native rice varieties that can survive these conditions.

The Bankura model's function in legal biodiversity governance frameworks demonstrates its socio-legal significance. The Biological Diversity Act authorizes the formation of People's Biodiversity Registers and Biodiversity Management Committees by classes; nonetheless, the Bankura farmers' networks have only infrequently been involved with them. Farmers are not very much engaged as they do not comprehend and the government only sometimes assists them.<sup>10</sup> In India, regulations frequently are not applied in practice. Bankura's unique feature is the integration of community-based ecological knowledge and consciousness into rural socioeconomic structures. Women who conserve and distribute seeds not only support their community through agriculture but also in other ways. Community seed banks are legally unrecognized, hence, they are vulnerable to biopiracy and also cannot be contracted in benefit-sharing agreements under Indian law. The Bankura case suggests that legislation and policies need to recognize informal seed-saving networks and ensure that local practices comply with biodiversity laws.

### **Uttarakhand: Navdanya and Farmers' Seed Sovereignty Movement**

Navdanya, which started in 1987, is a major Indian community seed network that conserves more than 700 traditional seed varieties and opens more than 150 community seed banks in North India.<sup>2</sup> Navdanya's biodiversity conservation places great importance on seed sovereignty, agri-ecology and the protection of indigenous knowledge from the corporate sector's exploitation. Navdanya's project is in complete alignment with the Protection of Plant Varieties and Farmers' Rights Act which grants farmers the right to preserve and sell seeds (Sec. 39). Navdanya made use of the PPV&FRA to combat proprietary seed markets and GMOs highlighting how community mobilization can protect legal rights. The programme trains the farmers in seed selection, storage and agro-biodiversity preservation thus filling a gap in the formal agricultural policy that emphasizes high-yielding varieties and commercial hybrids.<sup>8</sup> Navdanya illustrates the limitations of Indian law. Under the PPV&FRA, farmers have rights, however, the cumbersome administrative procedures, lack of knowledge regarding intellectual

property rights and inadequateness of institutional support hinder the registration of traditional varieties which in turn leads to the under-utilization of such varieties by the communities. Therefore, the Navdanya case represents the interaction between grassroots mobilization and the judicial process and at the same time highlights the strengths and weaknesses of the Indian biodiversity and seed governance frameworks.

### **Odisha: Tribal Seed Banks and Decentralised Governance**

Odisha has shown to be the perfect place where biodiversity conservation has been socio-legally framed. Community-managed seed banks in tribal districts such as Nayagarh, Kandhamal, and Kalahandi are a big help to the area's food system by saving millets, and pulses, and drought-resistant varieties.<sup>7</sup> These activities are mostly done by Gram Sabhas and are backed by NGOs and state biodiversity authorities. The Odisha model is unique in its use of both constitutional and legal measures. PESA empowers tribal Gram Sabhas in Scheduled Areas to decide the fate of land, forest, and biological resources, while the Forest Rights Act grants community rights over forest produce and ecosystems. Biodiversity Management Committees and People's Biodiversity Registers improve the documentation and governance of the local and ancestral knowledge, thus turning Odisha into a place where the law supports the people. The challenges of implementing such a framework are still there: the agreements on benefit-sharing are seldom made, and the community seed banks are hardly ever included in the state planning process.<sup>11</sup>

### **Conclusion**

The examples of West Bengal, Uttarakhand, and Odisha show that community seed banks can be

considered as socio-legal institutions, which play a significant role in conserving biodiversity, sustaining rural livelihoods, and preserving traditional knowledge. While the three places are different, these models still reflect a typical pattern across India where community-led systems replace state interventions, which are weak, thus, they become agents of food security and climate resilience. Nevertheless, there are still governance gaps - particularly the poorly implemented BMCs, PBRs, and ABS frameworks, the limited legal recognition, and the continuing presence of women's roles for which no one pays attention. India is at a very critical juncture right now. It is very important for ecological sustainability and long-term rural development that legal protections, institutional capacity, and gender-responsive frameworks be strengthened concurrently, along with the integration of statutory provisions with *customary*. □

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