
Intellectual Property Rights in Trade: Implications for Indian Agriculture

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ABSTRACT

This study investigates the influence of Intellectual Property Rights (IPRs) in trade on India's agricultural sector. As trade globalizes and IPRs gain prominence, Indian agriculture encounters various challenges and prospects. The enforcement of global IPR norms, required by the World Trade Organization's Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), has reshaped agricultural practices within the country. The implementation of patents, trademarks, and copyrights under the WTO agreements has revolutionized access and utilization of agricultural goods and technologies in India. This research analyzes how these legal structures impact the development and use of seed technologies, farm equipment, and agricultural chemicals, thereby affecting productivity and sustainability in Indian agriculture. By evaluating policy shifts and responses from the agricultural community, the paper highlights the wider consequences of IPRs on food security, trade competitiveness, and rural livelihoods in India. The study concludes with policy suggestions designed to maximize the advantages of IPRs while

mitigating their negative impacts on vulnerable agricultural sectors.

Introduction

The globalization of trade has necessitated stringent adherence to Intellectual Property Rights, reshaping various sectors, including agriculture. In India, a country where a substantial portion of the population depends on agriculture for livelihood, the implications of implementing IPRs are profound and multifaceted. This paper outlines the context of IPRs in global trade, their introduction into Indian agriculture, and the associated benefits and challenges.

Agriculture is not only the backbone of India's economy but also the sustenance of its rural population. With nearly 60% of its population dependent on agriculture for livelihood, the sector's importance in India's socio-economic framework cannot be overstated. As the global landscape shifts towards more structured and regulated trade practices, Intellectual Property Rights (IPRs) have emerged as a crucial element in the mosaic of international commerce. The World Trade Organization's (WTO) Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) necessitates its member countries, including India, to comply with stringent IPR standards. This integration of IPRs into agriculture, particularly through advancements in biotechnology, seed production, and chemical inputs, has profound implications for agricultural practices, innovation, and socio-economic structures within the country.

This paper explores the impact of IPRs on the agricultural sector in India, focusing on the effects of global trade policies and the adoption of IPRs on local farming practices, farmer livelihoods, and the agricultural economy at large. The introduction of IPRs in agriculture promises innovation and growth through the development of genetically modified organisms (GMOs), hybrid seeds, and new agricultural chemicals. However, it also poses significant challenges, especially for smallholder and marginal farmers who may struggle to access or afford these patented technologies. Furthermore, the enforcement of IPRs can constrain traditional farming practices and has potential ramifications on seed sovereignty and food security.

The objectives of this study are to analyze how IPRs influence agricultural productivity, examine their socio-economic impact on different types of farmers, and assess the balance between fostering innovation and protecting traditional practices and farmer rights. By delving into these aspects, the paper aims to provide a comprehensive understanding of the role of IPRs in shaping the future of Indian agriculture in the context of global trade, ultimately offering insights into policy measures that could mitigate adverse impacts while promoting sustainable agricultural advancement. Through this

exploration, the paper seeks to contribute to the ongoing debate on the optimal integration of IPRs into developing countries' agricultural sectors, offering evidence-based recommendations for policymakers, stakeholders, and the academic community.

Literature Review

Existing literature presents a variety of viewpoints on the impact of intellectual property rights (IPRs) on agriculture both worldwide and in India. Research frequently highlights the greater accessibility of genetically modified crops and sophisticated agricultural technologies as beneficial effects of robust IPR systems. **Pray and Naseem (2007)** underscored that the strengthening of patent laws across the world and in India has driven agricultural innovation, especially in developing new crop varieties. Similarly, **Wright (2005)** posited that intellectual property protection is crucial for fostering investments in agricultural biotechnology, which is vital to meet escalating food demands. **Gupta (2011)** explored the difficulties that small-scale farmers encounter due to the dominance of large firms that hold seed patents. This perspective is echoed by **Bijukumar (2015)**, who observed that strict intellectual property rights may limit the availability of proprietary seeds, negatively impacting the livelihoods of smallholder farmers. **Shiva (2001)** criticized intellectual property rights for their role in diminishing genetic diversity, arguing that they prioritize commercially viable crops over those that are diverse and region-specific. **Louwaars et al. (2009)** offered a contrasting view, suggesting that effectively managed intellectual property rights could support the conservation and sustainable utilization of plant genetic resources. **Kolady and Lesser (2006)** examined how intellectual property rights influence technology transfer within India's agricultural sector. Their findings suggest that enhanced IPRs attract greater foreign direct investments and result in technological spillovers that have the potential to advantage agriculture. Nonetheless, the degree to which these advantages reach the grassroots level is still subject to debate. **George (2013)** explored the effects of the Trade-Related Aspects of Intellectual Property Rights (TRIPS) agreement on agricultural trade, focusing on its impact on developing nations like India. The need to align with TRIPS has driven modifications in national policies, presenting both opportunities and challenges for the agricultural sector. **Dhar (2014)** stressed the importance of formulating policies that reconcile intellectual property rights with the ability of farmers to save, use, and exchange proprietary seeds. Such policies are vital for preserving biodiversity and protecting the rights of indigenous communities. **Singh (2018)** recommend that India customize its IPR strategies to more effectively meet its agricultural goals and adapt to socio-economic conditions. They call for a refined approach that addresses the unique requirements of India's agricultural context. **Mancini (2006)**

discuss the growing dominance of multinational corporations in controlling agricultural resources, attributed to IPRs. This dominance impacts seed production and pricing, with profound effects on food security and agricultural practices within India. **Smale et al. (2009)** delve into the economic repercussions of IPRs on agriculture, investigating how intellectual property influences productivity and economic expansion in this sector. Their research helps elucidate the broader economic consequences of IPRs on agriculture.

Objective of Research

The primary objective of this study is to examine the implications of Intellectual Property Rights (IPRs) in trade on the agricultural sector in India.

Research Methodology

This research employs a mixed-methods framework, blending qualitative and quantitative methodologies to thoroughly explore the effects of Intellectual Property Rights (IPRs) on Indian agriculture. The study utilizes secondary data sourced from diverse outlets including government agricultural reports, trade and IPR statistics from the World Trade Organization (WTO), and data from international bodies such as the Food and Agriculture Organization (FAO) and the World Intellectual Property Organization (WIPO). The analysis of this secondary data involves both statistical techniques and qualitative content analysis. Quantitative data are summarized and presented using descriptive statistics, which include frequencies, percentages, and trends. Qualitatively, data from reports and publications are examined thematically to unearth recurring themes, patterns, and insights about the influence of IPRs on Indian agriculture. This comprehensive analysis aims to deepen the understanding of the economic consequences of IPRs on various stakeholders within the agricultural sector.

Result and Discussion

After the Uruguay Round of the Agreement on Agriculture, the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) mandated most countries to adhere to specific minimum standards for intellectual property protection. These intellectual property rights (IPRs) are crucial for the future development of agriculture, particularly in a developing country like India.

Intellectual property rights are generally defined as legal protections conferred on original creative or inventive ideas. These protections typically allow holders to prevent others from commercially exploiting their creations or inventions without authorization. The purpose of establishing a legal framework for IPRs is to communicate to society that there will be rewards for creativity and

innovation. While this system is not the sole method for encouraging and rewarding creative and inventive efforts, nor is it necessarily the most sufficient, it plays an undeniable role in any reward system aimed at fostering such activities.

INDIAN PATENT ACT 1970

The Indian Patent Act was crafted to balance the interests of both the inventor and the consumer. Patent holders were restricted from creating an absolute monopoly on their patented products, whether through importation or domestic production and sales at excessively high prices. The patent system allowed for a limited monopoly, placing greater emphasis on the national interest rather than the private interests of the patentee. Additionally, the duration of a process patent was limited to five years from the date the patent was granted or seven years from the filing date of the patent application, whichever is shorter.

PATENTS ACCORDING TO WTO PROVISION

India, as a founding member of the World Trade Organization (WTO), is bound by the Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement, which took effect on January 1, 1995. As a developing nation, India was granted a transition period until January 1, 2000, to comply with most TRIPS provisions.

Under the original Patent Act, improvements in plant and animal varieties were not eligible for patents in India. However, the TRIPS Agreement expanded patent eligibility to include plant varieties, stipulating that improvements in plant varieties must be protectable either by patents, an effective sui generis system, or a combination of both. This led to the push for adopting the International Convention for the Protection of New Varieties of Plants (UPOV Convention), established in 1961. The UPOV Convention, which is widely recognized as an effective sui generis system, grants Plant Breeders' Rights (PBRs) to breeders of new plant varieties, enabling them to prevent others from selling their varieties without permission.

Under the UPOV system, PBR certificates are issued to breeders of new plant varieties that are distinct, uniform, and stable. The convention also restricts the development of new varieties from those already protected, which are considered derivatives. The UPOV Convention primarily serves the interests of commercial plant breeders and is seen as a way to dominate agriculture in less developed countries.

The 1991 revision of the UPOV Convention introduced significant changes. Previously, farmers could propagate protected plant varieties on their own holdings without paying royalties. Researchers also enjoyed the freedom to use improved varieties for their work. However, these freedoms were curtailed, requiring both farmers and researchers to pay royalties to the original breeders. This shift has imposed severe financial burdens on developing countries, significantly increasing input costs for agriculture and potentially stifling research and development. Farmers, in particular, face a challenging situation where they must contend with high input costs and intense international competition.

The adoption of such a plant breeders' rights system in India has led to increased monopolization within the seed industry, driving up seed prices—a critical component in agriculture. While proponents argue that higher seed prices are offset by the increased productivity of new varieties, the benefits to farmers are still debated. Dr. Mangala Rai (1992) pointed out that substantial yield improvements of 20-25% could be achieved simply by replacing old seed varieties with new ones already available, as demonstrated by significant potential increases in crops like pulses and oilseeds. The data he presents illustrates the yield potential of new oilseed varieties compared to the national average, challenging the justification for increased seed prices due to proprietary plant breeding.

Table 1: Potential of newly evolved oilseed varieties/hybrids

CROP/VARIETY	YIELD Q/HA	YIELD Q/HA	YIELD Q/HA
	AVERAGE	HIGHEST	NATIONAL AVERAGE
Groundnut			
ICGS-11	27	52.7	8.2
Girnar	20.4	37.7	
Yellow Sarson			
YSB 19-17 C	10.4	15.3	7.2
Indian mustard RHS 19	13.4	21.8	

Source: Mangla Rai (1992)

Although Plant Breeders' Rights (PBR) could potentially speed up the release of new crop varieties by private enterprises, perhaps outpacing public efforts, this does not inherently offer advantages to our nation. In Indian agriculture, the principal issue is not a lack of variety, but the slow adoption of existing varieties. PBR could substantially impede the spread of new varieties by preventing smaller seed

companies from reproducing and selling seeds protected by intellectual property rights. More critically, it would also restrict farmers from growing and distributing these seeds to others, a practice integral to the widespread adoption of new, high-yielding varieties across the country.

Dependence on multinational corporations, which possess monopolistic control over the seed industry, to advance the distribution of new varieties is problematic. These entities are less effective than a decentralized network of small seed companies backed by strong scientific support. Unfortunately, PBR tends to support a framework dominated by these large corporations, potentially stifling smaller, local operations.

The Dunkel Draft further complicates matters by proposing patents for microorganisms, such as rhizobia and blue-green algae, which are essential as biofertilizers. This change, combined with reduced subsidies for chemical fertilizers, forces farmers to rely on expensive, patented alternatives, increasing their vulnerability to exploitation by multinational corporations.

Moreover, the Dunkel Draft reverses the traditional burden of proof in patent infringement cases. Instead of requiring the plaintiff to prove the guilt of the defendant, it demands that the accused prove their innocence. This contradicts the core legal principle of being ‘innocent until proven guilty,’ potentially subjecting farmers to expensive legal defenses against major corporations.

Historically, the duration of patent protection varied, as recognized by the Paris Convention, which allows individual countries to decide their own terms. However, the Dunkel Draft imposes a uniform 20-year patent term across all member countries, a significant increase from the durations previously established under Indian Patent Law. This policy allows for the extension of patents with minor modifications to the products, thereby enabling prolonged monopolies.

Lastly, Article 31 of the Draft discusses compulsory licensing, intended to be a fair mechanism. Yet, it lacks clarity in defining what "reasonable commercial terms" and a "reasonable period of time" mean for such licensing. Additionally, the definition of ‘compulsory licensing’ has been altered; previously, it required the domestic production of the patented product, but now, simply importing the product suffices, avoiding the need for a compulsory license. This vague and expansive interpretation can dilute the effectiveness of the provision designed to check monopolistic practices.

Conclusion

Agriculture is the backbone of India's economy, essential for the livelihood of its rural population. With nearly 60% of the population dependent on agriculture, its role in the country's socio-economic structure is significant. As global trade becomes more structured and regulated, Intellectual Property Rights (IPRs) have emerged as a key element in international commerce. While agricultural negotiations typically embrace free trade principles, IPR negotiations are different, requiring government intervention to establish monopolistic rights and potentially introduce new regulatory measures. In the agricultural sector, IPRs are especially important for multinational corporations (MNCs), possibly even more than in other industries. IPRs enable MNCs to extract profits from farmers by controlling critical inputs like seeds, despite the farmers owning the land.

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