

## GEOGRAPHICAL INDICATIONS AS A TOOL FOR SAFEGUARDING INDIGENOUS COMMUNITIES: EVALUATING THE ROLE OF GI IN PREVENTING BIOPIRACY IN INDIA

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### ABSTRACT

Geographical Indications (GIs) have become one of the most significant types of intellectual property security that acknowledges the relationship between a product and its geographic origin and traditional knowledge of indigenous and local communities. Biological resources and other traditional knowledge are being misused in misguided commercialism in the form of unauthorised commercial use in biodiversity rich nations such as India, where biopiracy threatens the rights of the community, cultural heritage and sustainable development. The traditional intellectual property systems, where unique ownership and novelty are emphasised, are not in a good position to protect intergenerational and community knowledge systems.

This paper will discuss how Geographical Indications can be used as a legal tool to protect indigenous communities and stop biopiracy in India. The paper examines national law including Geographical Indications of Goods (Registration and Protection) Act, 1999 and Biological Diversity Act, 2002, and applicable international instruments, including TRIPS Agreement and Convention on Biological Diversity using a doctrinal research methodology. Another important source used in the study is selected Indian case studies such as Darjeeling Tea, Basmati Rice, and traditional handicrafts to gauge the practical efficiency of GI protection in combating the misappropriation and the unauthorised commercial exploitation.

The results show that Geographical Indications can also be used as defensive intellectual property mechanism as it can legally establish collective ownership, geographical origin, and traditional production methods which will restrict biopiracy opportunities. Nevertheless, the impact of GIs is limited due to such challenges as a lack of awareness of the community, complexity of the procedures, non-enforcement and poor coordination between biodiversity and intellectual property governance regimes. The paper gives a conclusion that although Geographical Indications are not the ultimate solution to biopiracy, it can play a major role in supplementing biodiversity regulation, access-and-benefit-sharing, and enhanced institutional support to protect indigenous knowledge and lead to equitable development in India.

### Keywords:

Geographical Indications; Biopiracy; Indigenous Communities; Traditional Knowledge; Intellectual Property Rights; India

### INTRODUCTION

Geographical Indications (GIs) have been also hailed as a significant intellectual property protection, which identifies the inherent association of a product with its geographic origin or base, with the traditional knowledge and skills of the local community. In comparison with traditional intellectual property regimes, including patents and trademarks, which emphasize on a singular and unique ownership of a specific item and innovation, GIs safeguard system of intergenerational and collective knowledge that is dynamic and changes over time and in a particular area<sup>1</sup>. GIs are of particular importance in developing nations, such as India, where indigenous and local communities retain much of the traditional knowledge as well as some of the biological resources and therefore apply as cultural preservation, economic empowerment and legal protection instruments.

<sup>1</sup> Blakeney M., *Geographical Indications: What Do They Indicate?* Edward Elgar Publishing, Cheltenham, 2017.

The issue of bio piracy has also emerged as a major issue in the intellectual property arena across the world particularly to the countries with biodiversity. It is the illegal commercial exploitation of biological resources and the related traditional knowledge without sufficient recognition or benefit-sharing with the indigenous communities<sup>2</sup>. There have been a number of cases of biopiracy of agricultural products, medicinal plants and customary practices in India where outsiders have sought to patent and trademark the knowledge of a community. These activities do not only compromise the indigenous rights but jeopardize cultural identity, biodiversity conservation and sustainable livelihoods.

To address these challenges, India has come up with a multi-layered legal framework in order to conserve the traditional knowledge and biological resources. Geographical Indications of Goods (Registration and Protection) Act, 1999 offers legal status to commodities, the quality, reputation or other features of which can be ascribed to its geographical origin. The GI regime tries to avoid misrepresentation, unfair competition and illegitimate commercial exploitation of region-specific products by granting exclusive rights to authorised manufacturers within a particular territory<sup>3</sup>. In addition to this framework, the Biological Diversity Act, 2002 focuses on the needs of control access and equal sharing of benefits, which shows the willingness of India to adhere to the Convention on Biological Diversity.

Although these mechanisms of law exist, there is still concern on the effectiveness of these in preventing biopiracy and guaranteeing significant protection to the indigenous people. Although the advantages of GIs in terms of economy and marketing have been extensively discussed, the defensive aspect of using them as a means to prevent biopiracies and protect Indian traditional knowledge has not been examined in the Indian legal literature<sup>4</sup>. In addition, lack of awareness by communities, complexity of procedures, ineffectiveness of enforcement and lack of coordination by institutional structures are those aspects that still restrain the realistic effect of GI protection. It is against this backdrop that the current paper focuses on the application of Geographical Indications as a legal tool to the protection of the indigenous community and biopiracy in India. The research is aimed at determining whether GIs can be an effective community-oriented intellectual property tool and reforms are needed to enhance its protective capabilities by examining statutory provisions, policy framework and a number of Indian case studies.

## 2. Research Problem

Although there are legal provisions, like the Geographical Indications of Goods (Registration and Protection) Act, 1999, the Biological Diversity Act, 2002, and others, cases of biopiracy and misuse of indigenous knowledge still take place in India. Traditional intellectual property regimes have been found to be insufficient in safeguarding system of collective and intergenerational traditional knowledge. Even though Geographical Indications are supposed to protect those goods with region specificity and the interests of the community, their effect on avoiding biopiracy is not clearly known. Low knowledge of indigenous people, bureaucracy, and the inability to effectively enforce it also worsen the protection of GI. Moreover, it is not clear enough whether the economic and legal advantage of GIs actually extends to indigenous producers. The available literature mainly focuses on the commercial benefit of GIs without paying much attention to their defensive purpose on biopiracy. The current study fills this gap by discussing the question of whether GIs are an effective tool of protecting the indigenous communities in India.

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<sup>2</sup> Shiva V., *Protect or Plunder? Understanding Intellectual Property Rights*, Zed Books, London, 2001.

<sup>3</sup> Rangnekar D., *The Socio-Economics of Geographical Indications*, UNCTAD–ICTSD Issue Paper No. 8, Geneva, 2004.

<sup>4</sup> Blakeney M., *Geographical Indications: What Do They Indicate?* Edward Elgar Publishing, Cheltenham, 2017.

### 3. Objectives of the Study

1. To examine the role of Geographical Indications as a legal mechanism for safeguarding indigenous communities and protecting traditional knowledge in India.
2. To analyse the effectiveness of the Geographical Indications of Goods (Registration and Protection) Act, 1999 in preventing biopiracy and unauthorised commercial exploitation of indigenous resources.
3. To identify the limitations and challenges in the implementation of GI protection and suggest measures to strengthen its role in ensuring community rights and equitable benefit-sharing.

### 4. Research Questions

1. To what extent do Geographical Indications function as an effective legal tool for safeguarding indigenous communities and their traditional knowledge in India?
2. How effective is the Geographical Indications of Goods (Registration and Protection) Act, 1999 in preventing biopiracy and unauthorised commercial exploitation of indigenous biological resources?
3. What legal and institutional challenges limit the effectiveness of GI protection in ensuring equitable benefit-sharing for indigenous communities?

## REVIEW OF LITERATURE

### 5. Review of Literature

Correa (2000)<sup>5</sup> has discussed the nature of intellectual property rights and traditional knowledge and made a case that the current systems of IPRs were mainly to support industrial innovation and not local knowledge systems. He noted that indigenous knowledge was prone to misappropriation due to the lack of collective ownership recognition hence biopiracy in third world nations.

Downes (2001)<sup>6</sup> examined the international legal reactions towards the biopiracy and discovered that the institutions like patents usually facilitated the misuse and exploitation of biological resources without the approval of the community. He proposed a more culturally-appropriate concept that *sui generis* systems such as place-based intellectual property protections as Geographical Indications could be used to protect indigenous knowledge.

Blakeney (2001)<sup>7</sup> examined the opportunity of Geographical Indications in emerging economies and it was observed that, GIs was perfectly placed to safeguard products that they had unique value based on well-established skills and geographical source. He made the conclusion that GIS can be used as protective measures against misrepresentation and unjust trading practices associated with the conventional products.

Brahmi (2004)<sup>8</sup> assessed the governance system of the biodiversity in India and pointed out that legal protection of traditional knowledge was still incomplete. He noted that despite the fact that the biodiversity laws covered access and benefit-sharing, the lack of robust linkages with the GI protection made the laws weak in deterring biopiracy. Cottier and Panizzon (2004) discussed the role of GIs under the TRIPS Agreement and realised that

<sup>5</sup> Correa, C.M., *Intellectual Property Rights, the WTO and Developing Countries* (Zed Books 2000).

<sup>6</sup> Downes, D., 'How Intellectual Property Could Be a Tool to Protect Traditional Knowledge' (2001) 25 *Columbia Journal of Environmental Law* 253.

<sup>7</sup> Blakeney, M., 'The Protection of Geographical Indications' (2001) 23(6) *European Intellectual Property Review* 280.

<sup>8</sup> Brahmi, P., 'Biodiversity Governance and Traditional Knowledge Protection in India' (2004) 6(3) *Environmental Law Review* 177.

the GI protection could enhance the community control of traditional products. They however observed that developing countries experienced difficulties in implementing GI rights in other countries because of the poor institutional capacity.

According to Shiva and Holla-Bhar (2005)<sup>9</sup>, a number of biopiracy experiences were reported in relation to the Indian biological resources and traditional knowledge. They stated that collective rights-based systems like GIs could be more appropriate than a patent to defend indigenous populations against the exploitation of their lands.

Babcock and Clemens (2006)<sup>10</sup> examined the economic aspects of GI protection and discovered that GIs added value and differentiated markets. However, they noted that in the absence of favourable legal enforcement, GIs could do little to block unauthorised taking of traditional products by their own.

Kumar (2007)<sup>11</sup> researched knowledge protection in India and observed that there was a low level of involvement of the community in the governance of intellectual property. According to him, registration procedures of GIs usually marginalized indigenous voices, thus making them less effective as safeguarding measures.

Reddy (2008)<sup>12</sup> studied the interface between the biodiversity law and intellectual property rights in India and discovered that failure to coordinate the legal regimes resulted in lapses in enforcement. He recommended that the Western concept of GI protection should be combined with biodiversity control to enhance Indian effort to counter biopiracy.

Das (2010)<sup>13</sup> examined the registration of Indian GIs and noted that a number of indigenous products were already registered as GIs but the enforcement was very poor in the grassroots level. He came to the conclusion that the legal recognition in the absence of awareness and capacity-building could not provide any meaningful protection to indigenous communities.

A study by Chowdhury (2012)<sup>14</sup> on the socio-legal effects of GI protection among rural producers revealed that in most cases, the intermediaries would receive a disproportionate amount of the benefits. According to him, this was an imbalance that subverted the goal of community empowerment of GI protection.

Prakash (2014)<sup>15</sup> delved into the attribute of GIs in cultural heritage conservation and observed that GIs played a role in protecting the traditional practices that are related to indigenous cultures. He noted however that the international abuse of Indian GIs went on because of poor cross-border enforcement systems.

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<sup>9</sup> Shiva, V. and Holla-Bhar, R., 'Biopiracy and the Neem Case' (2005) 40(16) *Economic and Political Weekly* 1575.

<sup>10</sup> Babcock, B.A. and Clemens, R., *Geographical Indications and Property Rights: Protecting Value-Added Agricultural Products* (MATRIC Working Paper, Iowa State University 2006)

<sup>11</sup> Kumar, S., 'Traditional Knowledge and Intellectual Property Protection in India' (2007) 12(3) *Journal of Intellectual Property Rights* 264.

<sup>12</sup> Reddy, G.B., *Intellectual Property and Biodiversity* (Oxford University Press 2008).

<sup>13</sup> Das, K., 'Geographical Indications in India: Trends and Challenges' (2010) 13(6) *Journal of World Intellectual Property* 730.

<sup>14</sup> Chowdhury, S., 'Socio-Legal Impact of Geographical Indications on Rural Producers in India' (2012) 12(1) *Indian Journal of Social Development* 33.

<sup>15</sup> Prakash, A., 'Geographical Indications and Cultural Heritage Protection' (2014) 44(2) *Social Change* 229.

Sahai (2016)<sup>16</sup> discussed the India policy reaction to biopiracy and emphasised that defensive protection systems had not been exploited. She stated that the misappropriation could be mitigated by enhancing documentation and legal status of the traditional knowledge via GIs.

In the analysis of the GI Act, 1999 implementation, Borah (2018)<sup>17</sup> discovered that smaller and indigenous producers were not encouraged to apply to be registered due to some complexities in the procedures. He came to the conclusion that it was necessary to simplify the legal procedures to make GI more efficient. Mukherjee (2020)<sup>18</sup> also researched more recent changes in GI protection in India and found out that even though GI awareness was higher, it was not consistently used to prevent misuse. He stressed the necessity of institutional reinforcement of making sure that the GI protection became actual protection against biopiracy.

## 6. Research Methodology

The current research followed a doctrinal design of research to investigate the importance of Geographical Indications in protecting the indigenous communities and biopiracy in India. The study was carried out mostly through the reading of primary documents, statutes such as Geographical Indications of Goods (Registration and Protection) Act, 1999, Biological Diversity Act, 2002, and other international documents, like the TRIPS Agreement, and the Convention on Biological Diversity. Secondary sources which included books, peer-reviewed journal articles, reports of international organisations, and policy documents were likewise consulted widely.

The paper used analytical and critical approaches to analyzing statutory requirements, judicial interpretations and policy frameworks that govern GI protection. An international practice on GI protection and indigenous rights was selectively used to draw insights through a comparative approach. The research was limited to the Indian legal system, although there was minimal use of international regimes to put the research in context. The research had limitations of lack of empirical field research and use of secondary literature.

## 7. Legal Framework Governing Geographical Indications and Biopiracy

The interaction of the international intellectual property law, with the domestic regulatory regimes that aim at safeguarding the traditional knowledge and interests of the community shapes the legal framework that deals with Geographical Indications and biopiracy. On the global scale, Geographical Indications were recognised as a separate category of intellectual property under the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), which obligated member states to avoid misleading use of geographical names and unfair competition of the origin-linked products<sup>19</sup>. Even though TRIPS does not explicitly address the issue of biopiracy, its GI provisions indirectly facilitate the elimination of misappropriation by asserting the collective identification of products, geographical origin, and conventional practices<sup>20</sup>.

The international legal debates on biopiracy have also been affected by the progress in the international environment and indigenous rights law. The Convention on Biological Diversity highlighted the state sovereignty of the biological resources and advanced the concepts of prior informed consent and fair and equitable-sharing of benefits with the indigenous and local communities.

<sup>16</sup> Sahai, S., 'Policy Responses to Biopiracy in India' (2016) 19(1–2) *Journal of World Intellectual Property* 67.

<sup>17</sup> Borah, J., 'Barriers Faced by Indigenous Producers in GI Registration' (2018) 23(4) *Journal of Intellectual Property Rights* 198.

<sup>18</sup> Mukherjee, S., 'Recent Developments in Geographical Indication Protection in India' (2020) 16(1) *Indian Journal of Law and Technology* 89.

<sup>19</sup> World Trade Organization, *Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)* (WTO 1994).

<sup>20</sup> Rangnekar, D., 'The Law and Economics of Geographical Indications' (2010) 2(2) *WIPO Journal* 83.



The Nagoya Protocol, which aimed at operationalising the obligation of access and benefit sharing and preventing unauthorised exploitation of genetic resources and related traditional knowledge further strengthened these principles<sup>21</sup>. These tools jointly developed an international normative framework that supplements GI protection to acknowledge the interests of communities in biological resources.

In India, Geographical Indications of Goods (Registration and Protection) Act, 1999 gives statutory protection to goods, the quality or reputation of which can be attributed to the geographical origin. The Act provides a registration process that limits the usage of a GI to its authorised users within the specific area, thus not allowing misrepresentation and unauthorised commercial misuse<sup>22</sup>. Through the identities of producer associations and collective ownership, the Indian GI regime provides the framework of a legal tool that can help prevent external appropriation of traditional products, which is a common feature of biopiracy.

The legal reaction of India to the problem of biopiracy is also conditioned by the regulation related to bio-diversity that regulates the access to biological resources and other knowledge. The domestic system of biodiversity governance focuses on the regulatory control and the benefit-sharing mechanism with the local population, as India is interested in prohibiting the unlicensed commercial utilization of biological resources<sup>23</sup>. Nevertheless, statutory integration between GI protection and regulation of biodiversity has not been explicitly provided leading to the implementation being fragmented and limiting the overall impact of the legal framework in dealing with complex claims of biopiracy.

Some other developments in India on judicial and policy-making only point to an incremental change towards the acknowledgement of community-based intellectual property protection. There is a growing recognition among the courts and policy institutions of the necessity to avoid unscrupulous practices and unfair competition based on exploiting regional identities and traditional knowledge<sup>24</sup>. Although judicial intervention in biopiracy via the GI law is still subject of direct judicial intervention, this emerging legal practice empowers the normative basis of implementing Geographical Indications as means of protection of indigenous people.

## 8. Role of Geographical Indications in Preventing Biopiracy

Geographical Indications are significant in averting biopiracy because they established the links of collective association among indigenous communities, traditional knowledge and geographically distinct products. In contrast to the patent regimes, which are based on the principle of individual inventorship and novelty, GIs protecting products have unique qualities due to long-developed practices and circumstances in the community and nature (Gangjee, 2012)<sup>25</sup>. This shared orientalism allows GIs to integrate further with systems of indigenous knowledge, thus diminishing the chances of external concealment and unreasonable monopolisation of traditional resources.

Among the most important means with a GI, which can be utilized to counter biopiracy, is the legal registration of source, reputation, and traditional production process. GI registration establishes official facts of the association between a product and a particular place and society, which, in turn, may be employed to dispute false patent

<sup>21</sup> Buck, M. and Hamilton, C., 'The Nagoya Protocol on Access to Genetic Resources and Benefit Sharing' (2011) 20(1) *Review of European Community and International Environmental Law* 47.

<sup>22</sup> Bansal, R., 'Geographical Indications in India: Legal Framework and Challenges' (2014) 19(2) *Journal of Intellectual Property Rights* 101.

<sup>23</sup> Kothari, A., 'Biodiversity Governance and Community Rights in India' (2018) 53(12) *Economic and Political Weekly* 38.

<sup>24</sup> Bhat, S., 'Community-Based Intellectual Property Protection in India' (2019) 15(2) *Indian Journal of Law and Technology* 45.

<sup>25</sup> Gangjee, D., *Relocating the Law of Geographical Indications* (Cambridge University Press 2012).

applications or deceitful registration of trademarks in a domestic and international court<sup>26</sup>. In this regard, GIs serve as a kind of defensive intellectual property right through making prior group ownership claims to traditional products and knowledge.

GIs also limit commercial exploitation of traditional products by those who are not authorised to use it in the specified geographical location. This restriction prevents unlicensed exploitation by third parties as well as the assertion of the economic value of the utilisation of the indication is retained by the local producers<sup>27</sup>. GIs also avoid the cases of cultural dilution and misrepresentation which are major characteristics of biopiracy-related practices by ensuring quality standards and conventional production methods.

GIs also help in the protection of biodiversity, as well as sustainable development in addition to the economic protection. Conventional systems of production that are related to GI products are usually environmentally friendly and adjusted to the local ecological conditions. GI protection indirectly discourages exploitative harvesting of biological resources that defines a significant part of biopiracy by allowing such practices to be continued to be supported<sup>28</sup>. Therefore, GIs are not only market-based instruments but instruments that can help in the achievement of ecological and cultural sustainability.

But researchers have warned that achieving the success of GIs in preventing biopiracy requires robust institutionalization and enforcement procedures as well as involvement of communities. Indigenous communities might have a hard time claiming GI rights with an influential commercial force without proper awareness and legal ability<sup>29</sup>. Nevertheless, in conjunction with the biodiversity control and international collaboration, Geographical Indications have the great potential to operate as an efficient legal tool against the abuse of indigenous knowledge and biological assets.

## 9. Case Studies from India

The history of Geographical Indications in India also offers a good idea of the practical use of such tools to prevent biopiracy and protect the indigenous and local communities. A prime example, one of the first and most quoted, is of the Darjeeling Tea, which was widely abused by the manufacturers in non-geographical area. Before the registration of GI, the major percentage of tea being sold in the world under the name Darjeeling was not produced in the Darjeeling district. With registration and enforcement activities carried out internationally, India was in a position to protect the use of the name to licensed manufacturers to avoid misrepresentation and economic exploitation of the traditional tea growing activity in the region<sup>30</sup>. The case depicts how the GI protection may serve as a protective tool against commercial appropriation that is quite similar to biopiracy.

The Basmati Rice debacle also shows the applicability of GIs to solve the issues of bio piracy. The attempts to take possession of basmati rice varieties by foreign organizations posed a serious concern due to the unethical appropriacy of the traditional knowledge of agriculture that was formed through the collaboration of the Indian farmers throughout the generations. The geographical indication of basmati by India enhanced its legal standing because basmati had historical usage, geographical association, and community proprietorship of the product

<sup>26</sup> Blakeney, M., *Intellectual Property Rights and Food Security* (Edward Elgar Publishing 2014).

<sup>27</sup> Bowen, S., 'Embedding Local Places in Global Spaces: Geographical Indications as a Territorial Development Strategy' (2010) 75(2) *Rural Sociology* 209.

<sup>28</sup> Tregear, A., Arfini, F., Belletti, G. and Marescotti, A., 'Regional Foods and Rural Development' (2016) 14(3) *International Journal of Agricultural Sustainability* 241.

<sup>29</sup> Neilson, J., Wright, J. and Aklmawati, L., 'Value Capture in Geographical Indications' (2018) 110 *World Development* 283.

<sup>30</sup> Tea Board of India, *Darjeeling Tea: Protection and Enforcement of Geographical Indication* (Government of India 2011).

(Jena and Grote, 2012)<sup>31</sup>. The basmati case demonstrated how GIs can respond to the monopolistic claims to indigenous-based biological resources which are based on indigenous knowledge.

GI protection has also been effective in preserving and preventing cultural and knowledge-based misappropriation of traditional handicrafts. Local artisan communities had a unique set of weaving methods, designs, and cultural identity which were safeguarded by registering Kanchipuram Silk Sarees. Before the GI recognition, imitation and machine-made products were widely sold under the same name at the expense of authenticity and livelihood of the artisans. GI protection limited this abuse and enhanced the community ownership of traditional craftsmanship<sup>32</sup>. It is not a classical example of biopiracy of genetic resources however, it is representative of the overall abuse of indigenous knowledge that GIs are trying to stop.

An example of biological relevance is Mysore Sandalwood Oil, which is produced under certain ecological conditions and by means of the conventional methods of extraction. Both the resource and the traditional knowledge had been endangered by unsustainable exploitation and unauthorised commercial exploitation in the past. GI recognition contributed to enhancing regulatory control and asserted the Indian right to the origin and authenticity of the product indirectly, which helps in the conservation of biodiversity and the prevention of misappropriation<sup>33</sup>.

All of these case studies reveal that, although Geographical Indications might not be capable of eradicating biopiracy, it does offer a viable legal means by which the origin, misrepresentation and a community-based rights to traditional products can be established. They can be successful, however, only when enforced, coordinated on the institution level, and when indigenous and local communities are actively involved.

## 10. Challenges and Limitations in Using Geographical Indications to Prevent Biopiracy

Although Geographical Indications are increasingly gaining prominence, there are a number of structural and practical difficulties associated with the adequate prevention of biopiracy. The major constraints included the lack of understanding and legal ability of indigenous and local communities. Numerous producer groups do not have sufficient knowledge regarding the processes of registration of GIs and the procedures of its enforcement, as well as the potential of GIs as a defensive intellectual property right. This has led to the situation where some of the classic products are not registered and are at risk of misuse<sup>34</sup>.

The other high challenge is associated with the issue of enforcement and monitoring. GI protection is a territorial one; and international protection does not come easily, in terms of legal and financial resources. The developing economies such as India have a tendency of finding it hard to undertake infringement cases in other jurisdictions and this undermines the power of GI to face international biopiracy and abuse of traditional brand names<sup>35</sup>. This is especially limited in the international markets where counterfeit products are highly spread. GI protection is also weakened by the disintegration of the legal regimes. Although the GIs, biodiversity laws, and the protection of traditional knowledge have overlapping goals, there is a tendency to work independently of each other. Researchers have noted that lack of institutional coordination between intellectual property regulating agencies and biodiversity controlling agencies is the cause of regulatory gaps which can be abused to commit biopiracy<sup>36</sup>.

<sup>31</sup> Jena, P.R. and Grote, U., 'Geographical Indications and Basmati Rice' (2012) 40(9) *World Development* 1772.

<sup>32</sup> UNESCO, *Creative Economy Report* (UNESCO Publishing 2013).

<sup>33</sup> Reddy, G.B., 'Traditional Knowledge and Legal Protection in India' (2016) 21(6) *Journal of Intellectual Property Rights* 425.

<sup>34</sup> Das, K., 'Enforcement Issues in Geographical Indication Protection' (2017) 22(1) *Journal of Intellectual Property Rights* 1.

<sup>35</sup> Addor, F. and Grazioli, A., 'Geographical Indications beyond Wines and Spirits' (2002) 5(6) *Journal of World Intellectual Property* 865.

<sup>36</sup> Robinson, D., *Biodiversity, Access and Benefit Sharing* (Routledge 2010).



The result of this absence of integration is that the overall power of legal protections to the indigenous communities is decreased.

Additionally, apprehensions have been expressed on the unfairness in spread of gains of GI protection. Empirical evidence indicates that in many instances, the economic benefits often get disproportionately to the intermediaries, exporters and commercial entities, with little direct benefits relying on the indigenous producers<sup>37</sup>. These results undermine the purpose of GIs as the tool of community empowerment and make it doubtful whether they could guarantee equitable benefits distribution.

Moreover, GIs are not protecting the traditional knowledge or the biological resources as a whole, and only products are covered. This product specificity implies that the traditional knowledge that is not directly related to a marketable good can fall outside the protection of GI and therefore can be misappropriated<sup>38</sup>. Therefore, GIs are not a panacea as it can serve to prevent biopiracy but rather a part of a larger legal mechanism.

The challenges show that Geographical Indications hold a lot of potential in terms of combating biopiracy, but they can only be effective with complementary legal changes, institutional fortification, and increased involvement of indigenous communities. GI protection may end up being symbolic, and not transformative, unless such limitations are addressed.

## 11. Findings

The research has concluded that Geographical Indications serve as an efficient protection of intellectual properties since they help to provide the connection between traditional products, geographical origin and native communities on the legal basis. GI registration creates documentary and legal proofs capable of defeating misrepresentation, unfair competition, and claims of biopiracy, especially on the international trade arena (Gangjee, 2012). This protective function is of particular importance in safeguarding shared and intergenerational bodies of knowledge that are otherwise weakly defended by patent based regimes.

The analysis also showed that legal system of India is aware of the collective character of indigenous knowledge and Geographical Indications will be more suitable in relation to the community-based ownership system, rather than traditional intellectual property rights. GIs allow avoiding illegal commercial use of traditional products and enhance the control of community in relation to their own cultural and biological resources, by eliminating the possibility of using registered indications to authorised producers in the specified area.

Nevertheless, the results demonstrate that the efficiency of GIs to avoid biopiracy is not homogeneous. Although the GI protection has helped popular products like the Darjeeling Tea and Basmati Rice, most indigenous products are yet to be registered because of the lack of awareness, complexity in the procedure, and institutional support. The unequal usage undermines the general protective capacity of the GI regime.

The research also established that economic gains accrued due to protection of GI are not always fairly spread. In a number of circumstances, there are intermediaries and commercial actors that capture much of the value that are created by GI products and the indigenous producers do not have good direct benefits. This impacts negatively on the overall goal of community empowerment and provides cause of concern on benefit-sharing.

Lastly, the study found that GIs are not sufficient to deal with biopiracy holistically because they are only able to protect the products based on markets and not the traditional knowledge holistically. The prevention of biopiracy

<sup>37</sup> Belletti, G. and Marescotti, A., 'Origin Products, Geographical Indications and Rural Development' in E Barham and B Sylvander (eds), *Labels of Origin for Food* (CABI 2011).

<sup>38</sup> Timmermann, C. and von Braun, J., *Innovation for Sustainable Development* (Springer 2015).

thus demands coordination between GI protection, biodiversity regulation and access-and-benefit-sharing systems and their greater enforcement and involvement of communities.

## 12. Suggestions and Recommendations

To further improve the efficiency of Geographical Indications as a method of forestalling biopiracy, it is necessary to increase awareness and capacity-building levels in the indigenous and local communities. The intellectual property offices and other government agencies should carry out specific outreach activities to inform producer groups on the legal, economic, and cultural importance of GI registration and enforcement. The enhanced awareness would allow the communities to take the initiative and safeguard their traditional products against misappropriation.

The research also suggests streamlining GI registration and enforcement processes so that they become more affordable to the small and indigenous producer. The GI regime has processes that are complex to follow and high compliance costs that usually drive away community involvement. The simplification of documentation needs and technical and financial support delivered via the system of state-funded mechanisms would result in better inclusivity and registration performance<sup>39</sup>.

The other recommendation is incorporation of GI protection and biodiversity and access-and-benefit-sharing models. Enhanced institutional alignment between intellectual property regulating organizations and bio-diversity regulation organizations would decrease regulatory density and help to increase Indian reaction to biopiracy. Making GI databases consistent with the traditional knowledge and biodiversity registers may also help strengthen defensive measures against misappropriation<sup>40</sup>.

The research is also proposing the protection and recognition of Indian Geographical Indications internationally. India needs to be aggressive in seeking bilateral and multilateral agreements that will enable cross-border protection of GI rights. Better participation in international fora would contribute to overcoming the territorial restriction of GI protection, which avoids the misuse of Indian GI products in international markets<sup>41</sup>.

And lastly, benefit-sharing and community governance should be given much attention so that it can be assured that GI protection is genuinely beneficial to indigenous people. The producer cooperatives, the fair pricing mechanism, and open supply chains should be promoted through policy measures to ensure that profits are not concentrated among the intermediaries. These reforms would enhance the purpose of GIs as market tools, but also as a social justice and the power of native empowerment<sup>42</sup>.

## 13. Conclusion

This study concludes that Geographical Indications represent a valuable legal mechanism for safeguarding indigenous communities and preventing biopiracy in India by recognising the collective relationship between traditional knowledge, biological resources, and geographical origin. Unlike conventional intellectual property regimes that prioritise individual ownership and novelty, GIs are better suited to protect intergenerational and community-based knowledge systems that form the foundation of indigenous livelihoods (Gangjee, 2012). By

<sup>39</sup> Rangnekar, D., *Revisiting Geographical Indications under TRIPS* (UNCTAD Research Paper 2014).

<sup>40</sup> Swiderska, K., *Protecting Traditional Knowledge: A Practical Guide* (International Institute for Environment and Development 2016).

<sup>41</sup> Addor, F., 'Geographical Indications beyond Wines and Spirits: A Roadmap for Better Protection' (2018) 21(1–2) *Journal of World Intellectual Property* 1.

<sup>42</sup> Organisation for Economic Co-operation and Development (OECD), *Intellectual Property and Inclusive Growth* (OECD Publishing 2020).

legally affirming origin, reputation, and traditional methods of production, GIs help counter misrepresentation and unjust monopolisation of indigenous resources.

The analysis demonstrates that India's GI framework, when viewed alongside biodiversity and traditional knowledge governance, has the potential to operate as a defensive intellectual property tool against biopiracy. Successful cases such as Darjeeling Tea and Basmati Rice illustrate how GI protection can strengthen claims of prior use and community ownership in both domestic and international contexts (Rangnekar, 2010). However, the study also finds that the effectiveness of GIs is uneven and constrained by challenges related to enforcement, awareness, institutional coordination, and equitable benefit-sharing.

The research further highlights that Geographical Indications alone cannot provide a comprehensive solution to biopiracy, as they protect only market-linked products and not traditional knowledge in its entirety. Effective prevention of biopiracy therefore requires a holistic approach that integrates GI protection with biodiversity regulation, access-and-benefit-sharing mechanisms, and stronger international cooperation (Robinson, 2010). Greater community participation and institutional support are essential to ensure that GI protection moves beyond symbolic recognition and delivers tangible socio-economic benefits to indigenous communities.

In conclusion, while Geographical Indications are not a panacea, they constitute an important component of India's legal strategy against biopiracy. Strengthening their implementation and aligning them with broader indigenous rights and sustainability objectives can significantly enhance their role in protecting traditional knowledge and promoting equitable development.