

# PROTECTION OF INDIGENOUS KNOWLEDGE OF SELECT ORGANIC RAW SPICES OF NORTH EAST INDIA THROUGH GEOGRAPHICAL INDICATION-A REVIEW

**JAYITA BARUAH**

Research Scholar, Department of Business Administration, Assam University, Silchar, Assam.  
E-mail: jayitabaruah11@gmail.com

**NILANJANA CHAKRABARTY**

Assistant Professor, Department of Business Administration, Assam University, Silchar, Assam.  
E-mail: nilanjanachakrabarty.aus@gmail.com

## Abstract

Indigenous knowledge is an inherited knowledge gained by communities of farmers and local origins. Northeast India blessed with such inherited traditional knowledge and being rich biodiversity hotspot adds value to the specific cultivated spices of this region which needs to be preserved. Geographical Indication act as an instrument and a potential mechanism to sustain it, bridge the gap and educate the future generations for efficient use of the traditional knowledge. The study is conducted in four states of Northeast India namely, Assam, Nagaland, Meghalaya and Sikkim. The data are being analyzed with the use of Nvivo software.

**Keywords:** Traditional Knowledge, Geographical Indication, NE Region.

## INTRODUCTION

Agriculture is the backbone and people in India are the largest land users in the world. Around 55% of the population relies on agricultural cultivation and related activities for their livelihood. Smallholder and marginal growers account for 86 % of all farmers in India whereas only 47 % of the total area sown to crops. The major development goals of the country includes the economic viability of agriculture, social and economic equity for growers, food security and nutrition for all, ensuring quantity and quality food at affordable prices. So with the motive of protecting the Indigenous Knowledge system of Northeast India organic growers growing GI tag spices, the paper tries to undergo the sentiments of the organic growers towards preserving the age-old traditional knowledge and practices of Northeast region of India and observe the feasibility of geographical indications in protecting the traditional knowledge system.

## Conceptual Framework

### Organic Spices

Organic raw spices are the spices that are grown naturally or by default without the use of chemicals additives, pesticides and fertilizers and so are better in taste than conventional spices. It is not processed to different forms such as to powdered, granular, dried, and so on. Hence it is a holistic way of production management system and today has almost become the backbone

of food that promotes and enhances agro-ecosystem health, biodiversity, biological cycles, soil biological activity along with growth of the economy and overall leading to sustainability of the planet. To ensure complete food safety, organic spices use a combination of the most cutting edge technologies, both by destroying all pathogens, and at the same time avoiding all forms of hazardous pesticides, fungicides and radiation. This protects and allows the growers, businesses, customers to provide customers food products that meet even the most demanding expectations.

Northeast region of India has always been a continued key player in the spice trade by being one of the primary origins for spices in the global market. It also gives equal importance to the domestic market as they are the largest consumer of its home-grown spices.

The Sustainable Spices Initiative India (SSI-I) powered by IDH the Sustainable Trade Initiative is an industry-led, voluntary, multi-stakeholder platform established for non-profit organization with a mission to make 25% of Indian spices sustainable by 2025. The core focus of SSI-I is for food safety and security, good health and well-being of the grower community, consumers, management of natural resources with proactive farming systems.

### **Traditional Knowledge**

Traditional Knowledge refers to the bunch of knowledge embedded in the cultural traditions of a community or that has not been mentioned as a classification under the TRIPs Agreement. The knowledge of communities have been refined and passed on from generation to generation. It includes the know-how, practices, innovations, skills in the field of agriculture, along with technical, medicinal and biodiversity knowledge. In the past few decades, the world attention has turned towards the preservation, protection and promotion of the traditional knowledge by utilizing the services of the intellectual property laws that already exist.

In the ancient era, knowledge was regarded as a symbol of honor and respect. But nowadays with the evolving concept of a knowledge-based economy, knowledge is no longer treated only as a sign of societal position. Rather it is used as a property of economic gain. The destiny of a nation is dependent not only on innovation and invention but also on the age-old traditional knowledge and practices which are treasured through long century observations, experiments, and researches of the indigenous communities in its virgin state or sometimes added value to the prevailing knowledge can be a valuable asset for them.

In developing countries like India with special reference to Northeast region where people are mostly dependent on nature, traditional knowledge plays an important role in healing ailment, food production, and other means of their livelihood. Indigenous knowledge of local communities represents the social and united ethos of a country. The absolute broad nature of the existing TK has been partially illustrated in the prevailing laws and legislations. Some jurisdiction has successfully incorporated protective laws for the fading TK while some other communities are losing their valuable knowledge at faster rate due to inadequate measures. However, a sui generis system where India is a signatory, TK has been proposed which owes greatly to the Nagoya Protocol.

Sui generis system refers to something unusual and absolute to a specific jurisdiction. It came into force to achieve certain protection for TK within the IPR domain.

On incorporating TK in IPR, two concepts evolved-

- i) Adjusting the existing laws of IPR and making necessary changes to accommodate TK and its derivatives, and
- ii) To build inclusive legislation to promote and protect TK within IPR.

Some of the recent legislation that came up to protect TK in India is “The Biological Diversity Act, 2001”, an Act of the Parliament of India for preservation of biological diversity in India, provides a mechanism for the equitable sharing of benefits arising out of the use of traditional biological resources and knowledge. The “Protection of Plant Varieties and Farmer's Rights Act 2001” provides for the establishment of an effective system for protection of plant varieties, the rights of farmers and plant breeders and to encourage the development of new varieties of plants. The act duly recognizes and protects the farmers’ rights in respect of their contribution made in conserving, improving and making available plant genetic resources for the development of new plant varieties.

Traditional Knowledge deserves recognition and protection as an economic asset as they have great monetary and potential value of developing countries. The protection of traditional knowledge in IPR is sought in two forms; defensive protection and positive protection. The Defensive protection prevents the grant of intellectual property rights protection on traditional knowledge-based innovations and creations to any party other than the custodian of such traditional knowledge. Various defensive mechanisms evolved to safeguard the traditional knowledge from being patented are documentation of traditional knowledge, disclosure of origin, prior informed consent, etc. Positive protection of traditional knowledge on the other hand grants the traditional knowledge holder rights to promote and protect traditional knowledge and to take action against and to seek remedies for misappropriation of traditional knowledge. Positive measures of protecting traditional knowledge include; application of existing IPR mechanism, designing Sui generis regime within existing IPR, and designing a stand-alone Sui generis system.

### **Geographical Indication**

Geographical Indication has evolved as a potential mechanism to protect traditional knowledge. Geographical Indications usually are “not new” contributions to the society; rather they are the custodian of age-old knowledge and attendant cultural values. Contrary to other forms of IPR, the most fascinating attribute of Geographical Indication is that the exclusive right is vested on the entire community living and cultivating in that region from where the geographically indicated produce being originated. In case of Geographical Indication, it is impossible to identify an individual right holder because that knowledge has already been shared and is now in the public domain. This relative impersonality of right does not make Geographical Indication a weak form of IPR because similar to other forms of IPRs, Geographical Indication also confers to its legitimate users the “exclusive right to use this

distinctive designation, which grants it additional economic value. Moreover, Geographical indications have significant potentiality as a tool to protect traditional knowledge and cultural expression because they are not transferable from one owner to another owner and are not subject to unconditional control by a private owner. It can be maintained as long as the collective tradition is maintained. Geographical Indication however does not protect the specific knowledge and technology as such, but prevent the misuse of TK.

A number of cases relating to traditional knowledge have attracted international attention. As a result, the issue of traditional knowledge has been brought to the fore of the general debate surrounding intellectual property which involves what is often referred to as “biopiracy”. Though the vast majority of the knowledge is old that has been carried down through the generations, it is continually refined and new knowledge developed, rather as the modern scientific process.

### **Geographical Indications in protecting Traditional Knowledge**

Geographical Indications have a wide application under Intellectual Property Laws. The TRIPS Agreement defines Geographical Indications as “indicators which identify a good as originating in the territory of a member nation, or a region or locality in that territory, where a given quality, reputation or other characteristic of the good is essentially attributable to its geographical origin.”

Geographical indications are particularly suitable for the protection of traditional knowledge with the intension to reward members of an established community or group adhering to traditional practices belonging to the culture of that community or group. Unlike Intellectual Property Rights, Geographical Indications does not pertain to innovations. Even though most of the systems of intellectual property protection are individualized, some intellectual property rights, such as trademarks and geographical indications are based on the concept of collective rights. Intellectual properties like copyright and patent are devised to reward investments in innovation while geographical indications reward producers who invest in developing and building the reputation of a product. Geographical Indications generates economic rewards and monetary gains for producers who employ traditional methods in the region or area where the produce has been traditionally cultivated. Communities work upon collective traditions and a collective decision-making process and this makes Geographical Indications a very suitable form of Intellectual Property. They are not transferable at any cost from one owner to another but are recognized until the collective tradition that is maintained by that community. Geographical Indications have to be periodically renewed which in turn help in ensuring that the quality of the produce is maintained. Improvised promotion and exploitation of the concept of geographical indications would make it possible to afford better protection for the economic and cultural interests of the communities and groups with traditional knowledge. This can enhance the competing against large companies or industries. The usage of Geographical indication as a tool to protect traditional knowledge has some limitations that prohibit it from being used as extensive tool to protect traditional knowledge.

Firstly, geographical indications can be used to protect only certain kinds of traditional knowledge such as all intangible forms like methods of medical treatment, techniques for dyeing cloth, folk music, and dances cannot be protected. However, if these traditional knowledge results in a medicine or dye or recorded version of songs and dances, that is obtained in a tangible form, then geographical indication can be applied.

Secondly, geographical indications act as a tool to protect the underlying knowledge of the community from only where it originated.

Thirdly, geographical indication protection can be used as a tool only where the knowledge is associated with a defined geographical area and not with scattered knowledge.

Fourthly, geographical indication signifies that if the original source of the produce is not important to the consumer, the protection of such produce is immaterial. Therefore, it becomes an obligation that the produce must possess and enjoy a good commercial reputation to use geographical indication as a tool of protection.

Lastly, the effectiveness of the protection for traditional knowledge of communities and groups may further require the setting up of many more specific safeguards to meet the complete demand of protection that is required to protect traditional knowledge.

## LITERATURE REVIEW

Bisht I.S., Rana J.C., Yadav R. and Ahlawat S. P. (2020) stated that using a qualitative participant observation approach investigated on four distinct traditional Indian production landscapes to gauge on (i) the farming communities' response to institutional policies, programs and agricultural biodiversity-related activities in Indian traditional cultivation and (ii) opportunities and challenges for sustainable development among smallholder traditional Indian farming systems. The results of this observation indicates that the top-down decision-making regime is the least effective towards achieving sustainable development in traditional Indian farming landscapes and that growers' experiential knowledge on participatory biodiversity management, maintenance and use for sustainable development are of critical importance to India's agriculture and economy.

Datta H.S., Sharma G. and Bora S. S. (2020) stated that many other states of India registered with GIs have quickly grabbed the opportunity whereas Northeast India, inspite of such rich biodiversity have not been able to take advantage of GI tag. So, if the growers become aware of the GI tag, it will pave the way for better branding and marketing of these produce both in domestic and international market, besides protecting local crops and facilitating better return to legitimate rural producers. Thus, it is pertinent that a streamlined strategy should be adopted for tapping the untapped potential of the registered GI products, because unless that is done, the previous, ongoing as well as future registrations will not be able to achieve sustainability.

Kishore K. (2018) discussed that GI tag is an exclusive community rights which is recognized by location, climate and human know-how in distinguishing the products and making it unique. It act as a tool in protecting the culture and traditional knowledge inculcated with them. So, the

efforts has been made by the public and quasi-public institutions to legally protect the GI tag of the specific community and exploit the market potentiality of the origin products under TRIPs agreement.

Lavania R. (2020) highlighted on the protection of traditional Knowledge because there is a vast global market for it that helps in preserving the consent, equity and compensatory issues that need to be taken care of. So, through the analysis, the researcher identified certain parameters like aim of the legislation, rights granted, term and nature of protection and manner in which the legislation protects traditional Knowledge. It showed that protection is available to only a limited and assorted variety of Traditional Knowledge, i.e., GIs, plant varieties and certain types of biodiversity. While the Legislations in India provide protection to most forms of Traditional Knowledge, an overwhelming majority of Traditional Knowledge still remains unprotected.

Sinjela M. and Ramcharan R. (2005) in their article pointed out the issues that are related to protection of rights of indigenous people under international laws. They highlight the importance of traditional knowledge and its various contributions to development of new products. According to them “traditional knowledge or indigenous knowledge are part of the cultural and economic wealth of countries and hence must be protected”. They discussed mainly the role of indigenous knowledge and the need to provide protection to the knowledge holders. However, the article lacks on providing suggestions on how protection can be provided to the rights of indigenous communities.

Wani, S.A. *et al.* (2017) discussed that although Green revolution has paved the way for developing countries in self-sufficiency of food but sustaining production against the limited natural resource base demands has shifted steadily from “resource degrading” chemical agriculture to “resource protective” organic agriculture i.e., going back to the arms of nature and take up organic farming to restore the loss. In Northeast region, the rain fed areas have significant barriers like yield reduction, soil fertility enhancement, etc. that makes it practically impossible for complete adoption of pure organic farming. So an adoption of Integrated Green Revolution Farming can be possible to a large extent, where the basic trends of green revolution are retained with greater efficiency and closer compatibility to the environment.

Yes Bank and IDH (2018) said that the seven sisters of NE region of India is blessed with immense opportunity, resources and unexplored potential when it comes to agriculture paving the Gateway to the South East Asian countries and China making the North-East a prospective hub of international trade and commerce. However, it is realized that this potential has not been exploited suitably which is evident by numerous factors such as low contribution to national Gross Domestic Product, high unemployment, meager exports and overall underutilization of monetary and natural resources.

Bhattacharya S. (2014) mentions the various issues of bioprospecting and biopiracy in India. According to him “there must be balance and proper regulation to see that the resources are not misused and the people get the benefits. While depositing genetic resources to gene bank or while claiming patents, the requirement of mentioning the name of the individuals or

communities concerned together with the origin of the resources. So, formation of tribunals to decide the matter between indigenous communities and patent claimers is necessary.

Tynsong H., Dkhar M., Tiwari B.K.( 2020) reviewed the literature relating to Traditional knowledge system which refers to the knowledge, innovations and practices of indigenous and tribal people of North East India. Though the region is very rich in TK, some of these are at par or even superior to the resource management practices evolved under the ambit of modern knowledge. A substantial chunk of TK of tribal communities of North East India has been documented, but still huge treasures of such knowledge remains unreported and hence are on the verge of being lost.

## METHODOLOGY

Primary data was collected from the local community through building a close rapport with them in the following steps: a) Interviews were conducted through questionnaire from the organic growers of the specific spices of selected places of Northeast region (c) Group discussions were held with some knowledgeable growers in the presence of other villagers (d) Discussions were also held with the officials of agriculture departments and some growers on the challenges they face in selling their produce.

Secondary data was also considered to make the study more relevant. Here the data collected is analyzed with the help of Nvivo software.

## ANALYSIS

An analysis is done on the sentiments of the Organic spices growers to observe their inclination towards the old-age traditional method of cultivation using Nvivo software. The data were collected through interviews of the growers of the specific spices of the selected Northeast states of India i.e. from Assam, Meghalaya, Nagaland and Sikkim.

**Table 1: Auto code sentiments results of the Organic growers using Nvivo**

	<b>A : Positive</b>	<b>B : Very positive</b>	<b>C : Moderately positive</b>	<b>D : Negative</b>	<b>E : Moderately negative</b>	<b>F : Very negative</b>
<b>Sentiments of Organic spice growers'</b>	2	0	2	1	1	0
	4	1	3	2	2	0
	4	2	2	0	0	0
	3	1	2	3	2	1
	6	2	4	2	1	1
	5	1	4	1	1	0
	3	1	2	3	2	1
	3	1	2	2	2	0

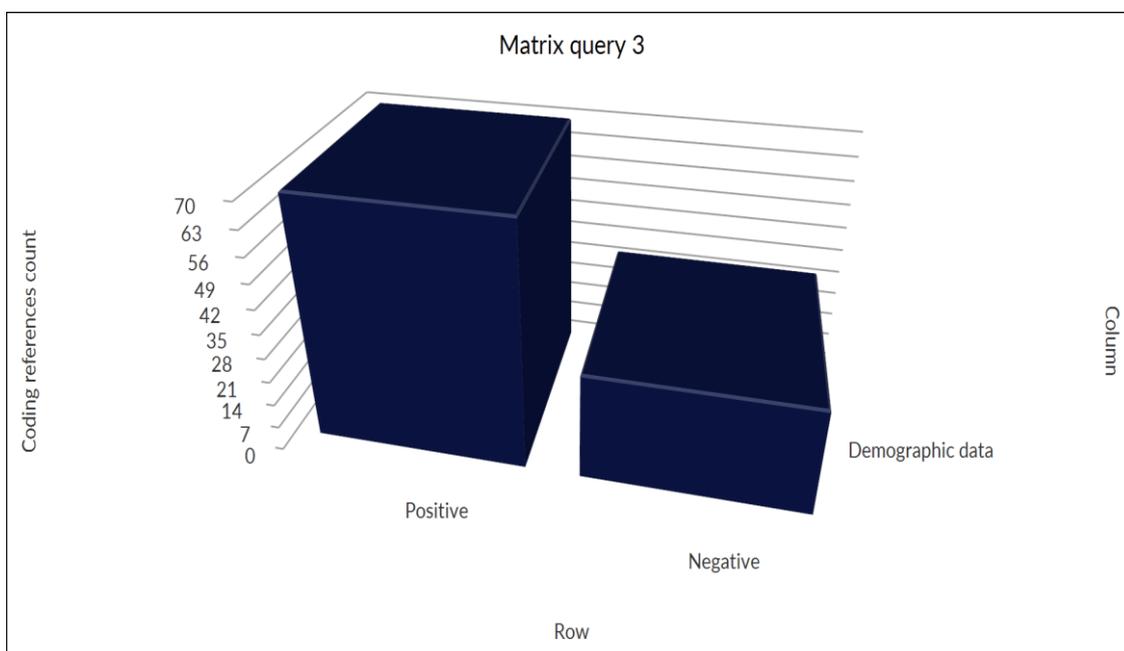
The analysis shows that in Northeastern region of India, the maximum number of growers are inclined towards cultivating organic spices which have been practiced since long back i.e. they follow traditional knowledge in their cultivation practices. It means majority growers have positive sentiments towards organic spices cultivation rather than utilizing chemical fertilizers in their cultivation field which are hazardous to life.

**Table: 2 Matrix query result of demographic data of the growers using Nvivo**

1 : Demographic data	<b>A : Positive</b>	<b>B : Negative</b>
	70	31

According to Matrix query result of demographic data of the growers using Nvivo, the analysis revealed that 70% of respondents of the indigenous communities in most of the cases are inclined towards organic spices cultivation being loaded with lots of marketing prospects and medicinal properties which ultimately leads to sustainable development, rather than use of hazardous chemicals for more profitable outcome. And the rest 31% of respondents have been seen to have negative sentiments, as they see that using chemical fertilizers in their produce can gain more profit.

**Fig 1: Matrix query of the sentiments drawn from the respondents**



**Table 3: Auto code themes results of the various factors for cultivating Organic spices of respondents (growers')**

	<b>A : aid</b>	<b>B : cost</b>	<b>C : cultivation</b>	<b>D : demand</b>	<b>E : fertility</b>	<b>F : great demand</b>	<b>G : increases income level</b>	<b>H : market</b>	<b>I : natural fertility</b>
<b>Factors for cultivating Organic spices</b>	1	1	1	2	3	1	1	5	1
	1	1	1	2	5	1	1	0	1
	1	0	3	2	3	1	2	0	1
	1	1	1	1	3	1	1	0	1
	1	1	1	2	4	1	1	4	1
	1	0	3	2	3	1	2	0	1

## FINDINGS

- 1) Indigenous communities are seated in areas that are biologically rich and diverse with abundant natural resources. Hence they possess knowledge of many undiscovered biological compounds of plants that can cure various maladies. Pharmaceutical companies as well as many other industries have realized the great value of such knowledge. The international health care industries which are constantly working on new technologies to assess the chemical makeup of plants have realized that by incorporating the traditional knowledge of indigenous people, their research can be more efficient and less expensive.
- 2) Thus demand for the medicinal plants are increasing constantly because they are non-narcotic, have no side effect and they are easily available at a cheap rate. Therefore, traditional knowledge of indigenous people boosts great economic value to the growers due to the beneficial uses in various purposes. But still a few growers due to lack of awareness, they see traditional knowledge only as an identity of their community and not as a pathway for social and economic development.
- 3) Since no property right is assigned to the knowledge holder, such knowledge is often stolen by some unauthorized parties without due recognition and benefit-sharing and get the patent on invention using such indigenous knowledge. Hence, the original growers are faces the misrepresentation of such valuable assets due to existence of such dishonest commercial operators. The machine-made cheap quality produce which look alike are now competing with the authentic produce, thus posing a threat to the cultural integrity of a community. These growing concerns for protecting traditional knowledge as intellectual property has raised a practical question regarding the adequacy of the current IPR system to protect traditional knowledge.
- 4) Growers' sense of responsibility for meeting the basic everyday food needs, while ensuring equal opportunities for future generations, arises from a sense of spiritual connectedness with other people, consumers, society and with other living and non-living things of the earth. Growers and consumers who collaborate to create sustainable food systems do so because it is the morally and ethically "right thing to do". The future of agriculture and of humanity depends on growers and consumers guided by a spiritual sense of rightness and goodness.
- 5) Organic agriculture and local food systems in all Indian agro ecology are deeply rooted in spirituality and sustainability principles. For a sustainable agricultural development, efforts are now underway to find ecologically sound, economically viable and technologically improved methods of agricultural farming. Organic food is attracting the interests in view of food quality and safety, better health and the concerns of environmental sustainability.

## RECOMMENDATIONS

- In terms of protecting the smallholder traditional farming, promoting organic farming in traditional method, linking organic farm produce to localized marketing interventions viz., Community Supported Agriculture, Midday school Meal Scheme and value chain development of local food resources are being recommended. These interventions can result in the creation of enough jobs for the rural youths at the community level and provide year-round employment.
- Under the sui generis systems, the Biological Diversity Act, 2002, the Protection of Plant Varieties and Farmers' Rights Act, 2001 came up in India to protect the TK system. But, despite, these national legislations acts in place, traditional farming communities have limited awareness about these developments and implementation of these acts is a big concern. So, there arises the need of a new knowledge base which is being strongly felt for transition towards more sustainable agriculture.
- Growers greatly value local experiential knowledge as they see it as having practical and local relevance. But, the potential of growers' experiential knowledge, however, is not being optimally used. So, a better strategy to integrate various forms of knowledge is needed.
- Conservation is especially important in the case of disappearing, specially adapted varieties, calling for renewed efforts to support farmers as custodians of biodiversity and genetic resources. We need policies that engage native communities, as key partners, in climate change research and adaptation plans. Such collaboration between holders of indigenous knowledge and mainstream scientific research will result in coproduced knowledge relevant to implementing effective adaptation action on the ground. An increasing number of native communities and indigenous peoples (particularly in developed countries) are moving towards the creation of formal adaptation plans. However, adaptation planning and research is not evenly distributed across all regions.
- Native farming communities in all Indian agroecologies are especially vulnerable to weather uncertainties and climate change. Whatever community level climate change adaptation plans are in operation are mainly rooted in Western scientific knowledge and the traditional farmer innovations have been largely ignored. As farmers have been adapting to the effects of climate change on a daily basis, incorporating indigenous knowledge into Western science-based climate change adaptation plans is an untapped opportunity that the policymakers can easily integrate into climate change adaptation plans and legislate accordingly.

## CONCLUSION

Reclaiming agriculture's spiritual roots through organic farming and locally grown food emerged as key, including the need for designing and implementing a more sovereign food system. Protection of indigenous knowledge has been a continuous subject of intense debate in the intellectual property rights. The crisis in advancement in biodiversity has created in increase recognition of value and utility of traditional knowledge in order to solve complex problems.

So, this paper tried to analyze the feasibility of geographical indications in protecting traditional knowledge. It is argued that through geographical indications, the protection for traditional knowledge is only indirect, and not sufficient enough. Thus, in conclusion it can be said that for limited situations, geographical indications are useful and adequate, but a sui generis system should be created to ensure the full protection of traditional knowledge.

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