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Crafting Market Opportunities through GIs: A Review on Spices of North-East India

Juri B Saikia[1], Ranjan K Bhagobaty[2] and Pritam Deb[1†]

[1] IPR Cell, Tezpur University, Tezpur — 784 028, India

[2]QEL, Spices Board, Kochi — 682 025, India

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The North-Eastern region of India is a biodiversity hotspot and home to many endemic and rare spices. The spices endemic to this region has vast scope in the national and international market owing to their uniqueness and organic quality. Geographical Indication (GI), a tag that recognises the unique intrinsic attributes of a product arising from specific geographical origin, is yet to be explored in its truest sense by the farmers of the region togain visibility and product differentiation in the market. Importance of GI tag is extremely high for the native farmers of the region to gain recognition in foreign markets.The paper discusses the scope of using GI as a tool for brand building by the spice sector of this region of India. It also examines a few instances where endemic spice varieties from the region have successfully undergone value addition and have been effectively marketed to create a promising presence both domestic and abroad.

Keywords: Geographical Indications, Spices, Northeast India, Assam

Spices have become indispensable to global culinary systems. The impeccable capacity of Indian spices in boosting the immune system while adding taste and flavour to the food finds mention in ancient scriptures. Modern studies have further reiterated the potential of spices in enhancing bioavailability of nutrients in food. Recently, therapeutic effectiveness of traditional concoctions against COVID-19 infection has again established the immune boosting properties of Indian spices.[1] Thus, habitual intake of spices has been regarded as one ofthe major reasons behind heightened immunityof Indian population against the infection during the first wave. Scientific studies have alsosupported thesynergistic effect of spices in enhancing activity of other drugs for controlling viral infections.[2]

North-Eastern (NE) part of India is a biodiversity hotspot and is home to many endemic and rare spices. Spices from NE region are organic by default and not by design like in other parts of India practicing organic farming. As synthetic pesticides and chemical fertilisers are not used in traditional farming system in the region, spices are free from harmful contaminants and have good export potential. Wide range of climatic variations and acidic soil conditions provide vast scope for growing different spice crops particularly chillies, turmeric, ginger, cardamom, black pepper, tree spices like clove, cinnamon etc. The outstanding quality and acceptability of NE spices for export make them valuable and thus open an array of opportunities to do further value addition through various processing and traditional treatments. Although the region grows huge quantity of superior organic spices, farmers generally don't get the deserved price during peak season.[3] This is happening inspite of the fact that Indian exports of organic spices have been witnessing promising growth over the years (Figs 1 (a & b)). In the fiercely competitive global market, special quality recognitions like Geographical Indications (GIs), will help the spice growers to establish these spices as Products of Excellence to secure higher returns.[5] India can actually take advantage of the growing global demand of organic agricultural products as basic principlesof traditional Indian farming like sustainability and preservation of environment resonate with concepts of modern organic farming. The paper looks into the opportunities in the spice sector of the region, especially Assam, and discusses variousapproaches adopted bya few enterprises to establish a good marketable outlook supported by GI tags and branding.

Indian Spice Scenario

Diversity and uniqueness of Indian spices are often reflected when the country is referred as the 'Land of

†Corresponding author: Email: pdeb@tezu.ernet.in

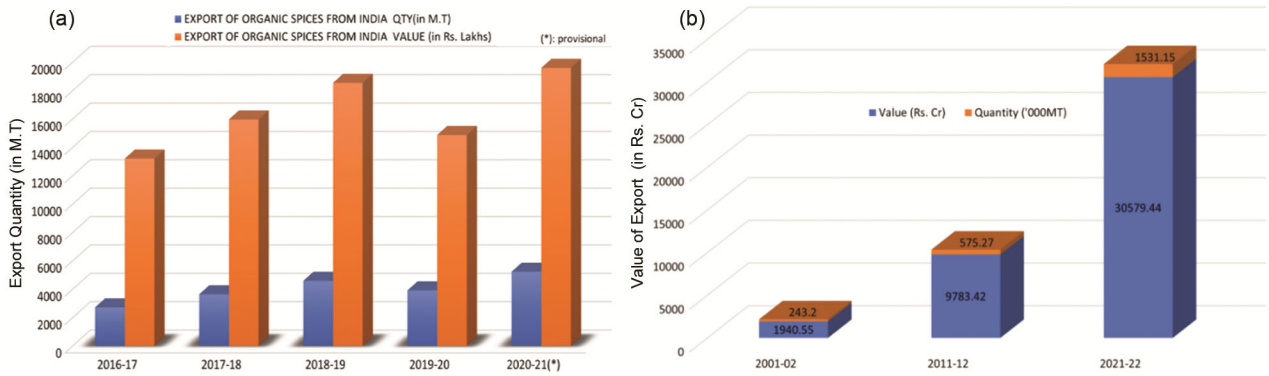

Fig. 1 — Trend of spice exports over the years

Spices'. It was one of the important items of ancient trade through sea route. Out of 109 globallyrecognized spices, more than 60 spice crops are grown in India whichhave extensiveusein beverages, pharmaceutical, bakery, liquors, cosmetic and perfumery industry.[1] A major share of spices produced in India is exported to more than 180 countries. During 2021-22, despite the continuance of COVID-19 pandemic, spices export from India continued its upward trend and has crossed the US $ 4.10 billion mark. The estimated export of spices during 2021-22 was 15,31,154 MT valued ₹ 30,576.44 crore (US $4,102.29 million) against 17,58,985 MT valued ₹ 30,973.32 crore (US $ 4,178.80 million) achieved during the previous financial year. An all-time record, in terms of both volume and value, was attained in the spices export during 2020-21.[6,7] A deeper look into the status of export and import of spices during 2018-19 shows that besides exporting a huge quantity of spices, India is also importing spices worth one-fourth of the earned value. Thus, there is a scopeforcalling up of both area and production under spice crops.[8]

India has been a major producer of spice in the world. Lately, exports from Indonesia, Malaysia, Vietnam, Madagascar and China are presenting stiff competition to dominance of Indian spices. To maintain its position, India has to consider increasing productivity and introducing spice crops to non-conventional areas.[3] Presently, Madhya Pradesh is the forerunnerin production of spices within the country. It mainly produces spices like chilli, turmeric, ginger, garlic, and seed spiceslike fenugreek, fennel seed and coriander seed. In the state of Madhya Pradesh, 7,24,777 hectares of land is under spice cultivation giving a production of 33,72,216 tons.[9]

Spices of Northeast

North-Eastern (NE) states comprise of Assam, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Tripura and Sikkim constituting nearly 8% of the total geographic area of the country. An annual production of 1,37,514 tonnes is received from 1,40,241 ha of land under spice cultivation. The region has diverse agro-climatic and geophysical features contributed by four physiographicunits: i) the Eastern Himalayan region, ii) the Eastern Mountain region, iii) the Meghalaya- Mikir Table l and and iv) the Brahmaputra valley. Due to suitable agro-climatic conditions, the NE states have immense potential for the development of spice crops.[8] Traditionally grown spice crops in the region includechillies, ginger, turmeric, and bay leaf. The commercial cultivation of black pepper, cumin, large cardamom, and saffron is also getting popular with the farmers. Numerous local cultivars of the spices exist in North-eastern region of India.[10] As part of the Central Act East policy, spice sector is given priority and various initiatives have been taken to optimize production of spices. In March 2001, the states of Assam and Sikkim has been declared as Agri Export Zones (AEZ) for ginger with a primary objective of boosting agricultural exports from India. This is believed to boost avenues for streamlining production and processing of ginger.[11] These AEZs are part of the 60 AEZs sanctioned by the central government for about 40 agricultural commodities and are spread across 20 states in the country.[12]

The Northeast region of India has very high chilli biodiversity. Among the NE states, in 2021 Assam topped in terms of chilli production,followed by Mizoram, Nagaland, Tripura, Arunachal Pradesh and Manipur (Fig. 2 (a)).[13] In addition to '*Bhut Jalakia*' or Naga King Chilli, the world-famous hot chilli, the

Table 1 — List of spices registered by the GI Registry of India with GI Tag [40]

S. No.	Name of the Spice	Application No	GI Certificate Date	GI registration valid upto	State
1	Assam Karbi Anglong Ginger	435	25-03-2015	28-08-2023	Assam
2	Khola Chilli	618	28-08-2019	05-08-2028	Goa
3	Harmali Chilli	642	14-09-2021	13-01-2029	Goa
4	Himachali Kala Jeera	432	04-03-2019	16-07-2023	Himachal Pradesh
5	Kashmiri Saffron	635	01-05-2020	02-12-2028	Kashmir
6	Edayur Chilli (EdayurMulaku)	662	14-09-2021	02-10-2029	Karnataka
7	Malabar Pepper	49	21.1.2008	12.2.2026	Kerala, Karnataka, Tamil Nadu
8	Alleppey Green Cardamon	72	28-03-2008	13-09-2026	Kerela
9	Coorg Green Cardamom	78	28-03-2008	26-12-2026	Karnataka
10	Guntur Sannam Chilli	143	28-05-2010	28-10-2028	Andhra Pradesh
11	Byadagi Chilli	129	27-01-2011	31-07-2028	Karnataka
12	Sindhudurg & Ratnagiri Kokum	474	31-03-2016	25-03-2024	Maharashtra
13	Waigaon Turmeric	471	03-06-2016	25-03-2024	Maharashtra
14	Bhiwapur Chilli	473	30-11-2016	25-03-2024	Maharashtra
15	Sangli Turmeric	496	07-11-2018	25-04-2024	Maharashtra
16	Mizo chilli	377	23-03-2015	26-01-2022	Mizoram
17	Hathei Chilli	592	14-09-2021	17-09-2027	Manipur
18	Mizo Ginger	630	14-09-2021	27-11-2028	Mizoram
19	Naga Mircha (chilli)	109	02-12-2008	21-08-2027	Nagaland
20	Kandhamal Haladi	610	01-04-2019	10-01-2028	Odisha
21	Sikkim Large Cardamom	376	23-03-2015	26-01-2022	Sikkim
22	Dalle Khursani	636	14-09-2021	09-12-2028	Sikkim
23	Erode Manjal (Erode Turmeric)	231	06-03-2019	03-04-2031	Tamil Nadu
24	Kodaikanal Malaipoondu(Garlic)	616	30-07-2019	31-05-2028	TamilNadu
25	Kanyakumari Cloves	675	14-09-2021	29-10-2029	TamilNadu
26	Uttarakhand Tejpat	520	31-05-2016	26-01-2025	Uttrakand

region is home to many indigenous varieties like: Mizo bird eye chilli, *Dalle Khursani*, *Dhan* or *Kan Jalakia*, *Mem Jalakia*, *Ahom Jalakia, Krishna Jalakia, Suryamukhi, BorBih, LataBih and Balijuri*.[14] Organically cultivated chilli cultivation has been found profitable for the region and can be considered by the farmers to boost income.[15]

Farmers in Northeast region rely on Ginger as their main cash crop to support their livelihood. Ginger is primarily grown inAssam, Meghalaya, Mizoram, Arunachal Pradesh and Sikkim. The region has good productivity and is very rich in terms of Ginger germplasm. Tribal farmer families still practice the traditional methods of cultivation in *Jhum* lands, *Buns*, *Zabo* lands, terraced lands and in plainsusing organic inputs and local resources. Some prominent local ginger cultivars include *Bholaada, Moran ada, Jatiaada, Keki, Bazar local, Naga shing, Thingpuri, ShingBhoi, ShingBhukir, Khasi local, Tura, Thinglaidum, Thingpuidum, Thingria, Jugijan, Vichii, Nagaland local, Bhaise, Gorubathane, Jorethange, Nangrey, and Majhauley*.[16] Several cultivated varieties of ginger grown in the region are named after the localities they are grown in. Assam is forerunner in production as compared to other states in the North East (Fig. 2 (b)).[17] Native varieties namely "Moran" and "Jorhat Local" of Assam have been reported to have very good rhizome yields. Dry ginger yield from these local cultivars has been found to be significantly morethan that of the exotic Rio de Janeiro cultivar. There are also several other ginger products which have market demand besides the raw and dried ginger like ginger powder, ginger oil and oleoresin. Gingers produced in NE region are said to have higher oil content (1.6-2.5% v1.5-2.0%) and higher oleoresin content (5.9-8.56% v5-8%) than ginger grown in rest of India.

Turmeric (Cucurma longa) grown in the north-eastern region as one of the important spice crops. Mizoram is the top producer of turmeric followed by Assam, Sikkim, Tripura, Manipur, Meghalaya, Arunachal Pradesh and Nagaland (Fig. 2 (c)).[17]

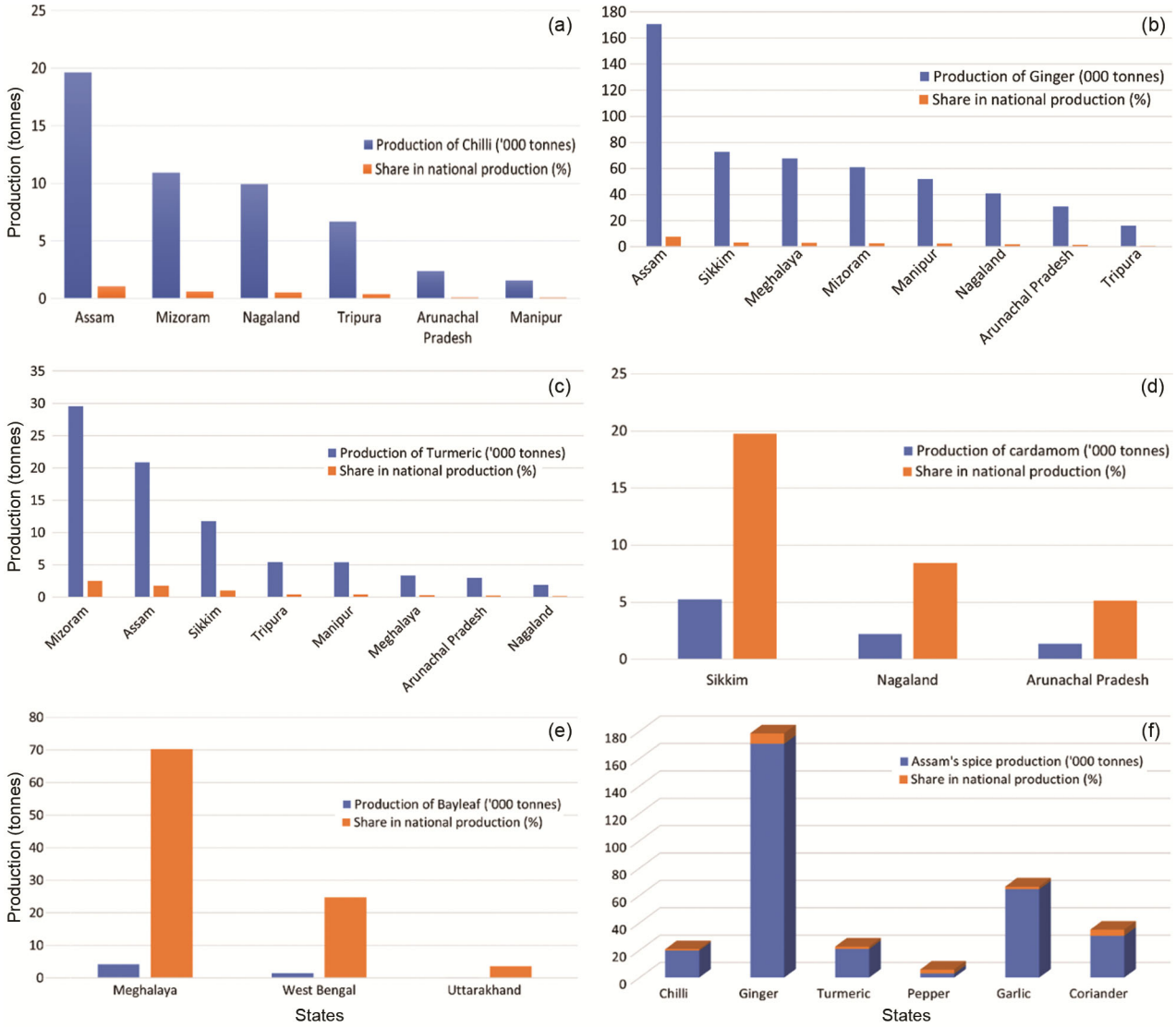

Fig. 2 — Production of major spices in Northeast region of India in the year 2021-22

Lakadong and Megha Turmeric-1 are the most popularly cultivated turmeric varieties that possesses higher curcumin content. Besides these, there are several local varieties foundin north-eastern region. One of the most important characteristics of the turmeric varieties produced in this region is the high oleoresin and curcumin content of the rhizome. The consumption in the local market is limited to raw and fresh forms. Rest of the production remains as marketable surplus. Thus, farmers can focus on producing various value-added products like turmerones (turmeric oil), oleoresin, and powder that have a common demand in developed countries.

The Large Cardamom (*Amomumsubulatum* Roxb.) grown as an important cash crop in Sikkim and in some parts of Arunachal Pradesh. Other cultivers like *A. delabatum* and *A. Aromaticum* are also grown besides the wild type known as 'Belak' in Arunachal Pradesh and has got very small sized seeds.[10] Like Ginger, Large Cardamom also belongs to the family Zingiberaceae. Ramsey, Ramla, Sawney, Varlangey, Seremna and Dzongu Golsey are the six popular cultivars of large cardamom that are grown in Sikkim. Two high yielding varieties namely ICRI Sikkim 1 and ICRI Sikkim 2 are also released by Indian Cardamom Research Institute, Regional Research Station, Tadong, Gangtok, Sikkim in the year 2004.[18] Although Large Cardamom is traditionally produced in Sikkim and North Bengal hill tracts, newer areas in other north-eastern states- Nagaland, Mizoram, Arunanchal Pradesh, Manipur, Meghalaya and Assam too have been brought under large cardamom

plantation due to initiatives taken by Spice Board India.[19] For the year 2021-22, production of cardamonis estimated to be highest in Sikkim (Fig. 2 (d)),[20] followed by Arunachal Pradesh and Nagaland.[17,21]

Bayleaf, commonly known as *Tejpata (vern. Hindi)*, is a medium sized evergreen tree found in India along the North-Western Himalayas, in Sikkim, Assam, Mizoram and Meghalaya. It is commercially cultivated in Meghalaya region especially, Gharo, Khasi, Jaintia & Nilgiri hills, while it grows naturally in Sikkim, Assam and Mizoram.[17] In 2021-22, Meghalaya recorded the highest production for Bayleaf as depicted in Fig. 2 (e).[17] The leaves of the *Tejpaat* (Vern. Assamese) tree are extensively used as a spice in the entire North India, besides North-Eastern states. It has emerged as a semi-domesticated tree that provides supplementary income to marginal farmers. The leaves are used as a condiment and spice but find major application in the pharmaceutical and ayurvedic medicine industry. Bay leaves are widely used in preparations of soups, stews, meat, seafood and vegetable dishes. In India, Tejpataare essentially used in preparation of many Indian dishes like Kheer, Pulao and Biryani and is a major ingredient in GaramMasala (traditional Indian ground spices powder mix). Besides its use as spice in food, Bay leaf oil and powder are important value-added products.

Opportunities in Spice Sector for Assam

With an annual production of nearly 3.1 lakh metric tonnes, Assam contributes a significant share in spice production for the country, specifically for Ginger, Turmeric, Pepper, Coriander, Mustard, Chilli and Garlic.[22] Among spices, Assam has maximum area under chilli cultivation, followed by ginger and turmeric. Black pepper introduced relatively recently and is also produced in limited extent. Ginger cultivation holds promise for Assam due to high productivity as depicted in Fig. 2 (f).[17] According to Spice Board of India, about 18000 hectares of land is used in Assam for ginger farming and it covers almost 15% share of total ginger production in India.[23]

The hot and humid climate of Assam, favours cultivation of various ginger species. Besides being a common condiment for various foods and beverages across the world, Ginger is traditionally used in India for treating a variety of human ailments like indigestion and nausea. Raw ginger is used for flavouring in tea, soups and pickles while candied or powdered form is used in sweets (crystallized ginger) and cakes. Ginger is a natural food ingredient with antioxidant and anti-carcinogenic properties.[24] Ginger is also known to have insecticidal properties. One such study on effect on mosquito larvicidal, repellence, and antimicrobial activity of essential oils isolated from three varieties of locally collected rhizomes of ginger from Assam, namely Aam, Bhola and Moran reveal that all the ginger species presented strong and broader spectrum of antimicrobial activity. Interestingly, essential oils from Moran (also pronounced or referred to as Maran) cultivar of Ginger showed very good potential for larvicidal, repellent and antimicrobial activity and holds promise for future drug research as GC-MS results confirmed the presence of many important natural active components.[25] Thus, ginger cultivation has a bright prospect beyond its scope as a mere spice or condiment. Moran cultivar of ginger, which is endemic to Assam, is also reported to show field tolerance to Ginger Rot.[26] Thus, this variety may be introduced in newer areas of the state for large scale commercial production.

Ginger can prevent blood clotting. So, its regular use can provide protection against stroke and heart attacks.[27] The high value and low volume products from ginger like oleoresin and ginger oil are hugely popular in western countries. Thus, varieties with low fibre, high dry matter yield and high oil and oleoresin content have great export potential in the international market.[28] In this regard, *Moran* ginger seems to have huge export potential but have been less commerciality explored in Assam. It has a rhizome much smaller in size with a characteristic strong aroma and has immense medicinal value. It is popularly known as ‘‘*Moran Aada’’* locally in Assam and is used as an excellent expectorant, carminative, diuretic, stimulant, and in many other homemade therapeutic measures.[29]

Ginger being one of the few spices suggested by the Ministry of AYUSH, Govt of India, for its proven efficacy in treatment and relief during COVID-19 pandemic. Since then, there have been focused efforts to further investigate and utilise its bioenhancer and therapeutic properties. It has been found that 6-gingerol, a phenol phytochemical, present in fresh Ginger has an anti-viral efficacy against SARS CoV-2.[1]

Due to all the inherent therapeutic and organoleptic properties discussed above, economic prospects for

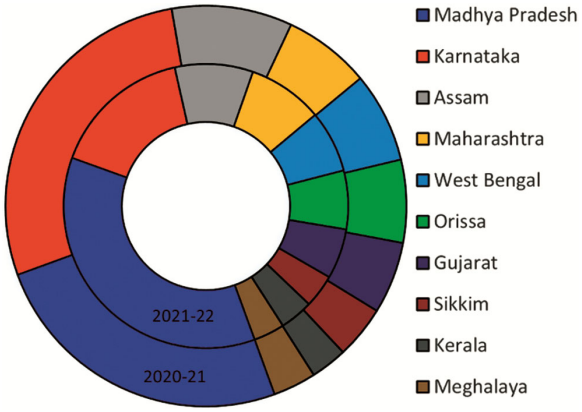

Fig. 3 —Total production of Ginger during 2020-21 and 2021-22 from the top ten producing states and their % share[30]

native species of ginger for Assam are immense. Assam contributes a promising share in national production of ginger as visible in Fig. 3.[17] However, to establish authenticity and superior quality, proper branding and certification will be required to harness maximum benefit and visibility in the market. More thrust may be required for removing marketing bottlenecks and developing superior value-added products from ginger that have better potential to get established in export markets. Thus, standardised quality control regimes, coupled with value-based pricing and brand promotion initiatives can synergize export of endemic and GI tagged spices from North-East India.

Bottlenecks for Spice Marketing

There are various bottlenecks that hinder smooth entry of Indian spices to the foreign market. An Indian farmer in rural areas has to face numerous challenges in the field at various stages of cultivation like-infestation by pests, microorganisms, and parasites, besides environmental adversities. Also, if the crop is harvested un-hygienically, without precaution or care, may cause introduction of impurities in the form of foreign matter, poisonous substances, microorganisms, and dirt causing loss of quality. It is important to ascertain that the spices or value-added products made from them conform to the quality standards required by the importing country. Inspite of choosing high yielding seeds, various shortcomings during cultivation and storage can render the spices unfit for export. This is the reason that though India's Spice export is ever increasing, there are instances where detentions have occurred due to Sanitary and Phyto-Sanitary (SPS) issues. Additionally, issue of low productivity creates huge hindrance in placing the Indian spices successfully in the world market. One of the major hindrances for the native farmers to cater to the exporters is inability to supply in bulk quantity. It is understood that unless production is increased to a required quantity, the farmers cannot export it to the international markets. Thus, the farmers will have to increase the quantity without compromising the quality of the products.

Asian countries are known for having very small domestic market for the spices they produce. So, farmers end up selling their produce at cost price during peak season. To make spice farming profitable, Indian farmers need to focus on producing low volume high value products and value chain improvements.[31] In Northeast India, there are hardly any government control on the spice markets with regards to marketing or maintenance of reasonable price to farmers. This limits the scope for the farmers to earn profitably during the surplus production. The markets are usually disorganized and limited to local traders. Only a handful of export houses are operating and exporting a very narrow range of agricultural, horticultural and manufactured products. Additionally, there are lack of organized aggregation centres for harvested crops which can serve as hubs for bulk procurements for exports. As far as exports are concerned, most farmers are ignorant about the advantages of maintaining uniformity and high quality of their products. Lack of adequate institutional and financial support for applying post-harvest processing to the spices and absence of vibrant private players to scale up exports have caused the farm produce to reach only to local markets.[3] Most of the exported spices are either processed, whole dried, or pre-ground dried etc. Thus, no diversification observed during value addition. Efficient and approved methods for post-harvest handling, processing, and storage should be adopted by the farmers to avoid deterioration of spices causing loss in therapeutic activity.[1]

One of the major reasons for declined productivity of ginger in the States of NER is rhizome diseases owing to the high rainfall conditions prevalent in the growing areas. Loss of crop causes considerable decline in the yield. Wilt and soft rotsalso contribute to the overall decline in the ginger cultivation. Effectively dealing with the rhizome diseases have become a huge challenge for the farmers associated with ginger cultivation.[16] In case of Chilli cultivation too, the farmers struggle with the problems ofstorage and lack of market information for

efficient and timely production of chilli on their farms. Poor transport facility to market also adds up to the miseries of the farmers. Similar situation prevails for almost all the popular spices cultivated from the region.To make spice cultivation more remunerative for the farmers in NE India, the farmers will have to find means of connecting themselves with updates on market situations. One way of doing the same may be through the e-mandion platforms like eNAM or National Agriculture Market (eNAM).[32] It is an online government trading portal which virtually connects the existing Agricultural Produce Marketing Committee or APMC. eNAM operates under the aegis of Ministry of Agriculture and Farmers' Welfare, Government of India.

It is evident that farmers of the region will have to choose the varieties wisely and adopt modern cultivation techniques together with the organic farming concepts to increase the productivity. Proper cold storage and transportationfacilities willfurther boost the marketability of the spices in national and international market.

Scope of Value Addition in Spices

Primarily, ginger rhizome is consumed as fresh (green) ginger in the domestic market, while, foreign markets have more demand for the dried ginger spice and preserved ginger in syrup or brine. Immature rhizomes are less fibrous and thus suitable for preparation of preserved ginger. Mature rhizome produces more pungent and aromatic spice upon drying. Production of dried ginger is more financially rewarding because it is used as substrate to extract ginger oleoresin, ginger oil and other extractives.[24]Also, due to limitations of domestic market, the surplus produce may not find suitable buyers who can absorb and handle large quantities. Thus, to avoid losses, a part of the production may be converted into high value and low volume products likeoleoresins and oils. The farmers can also consider blending the spices creatively with tea or coffee to make readymade herbal tea mixes or concoctions that can be consumed for preventing or managing infections. These preparations can make the spice mixes instantly available like dried turmeric powder to be taken with milk or shakes, turmeric infused tea, ginger infused tea or coffee etc. This will help in creation of the niche market beyond the essential oils and oleoresins.

Geographical Indications

A geographical indication of goods is an indication with words or sign or a combination of both that identifies an agricultural, natural, or manufactured commodity with respect to its geographical origin or place of manufacture.[33] The GItagged products have earned its market reputation as a result of the concerted efforts of nature and human beings through a process that has evolved over a considerable period of time. Thus, the link between the product and the place is intrinsic, rendering its exquisite quality and character. However, there are instances where products are sold with misleading information on quality and its origin. Though lot of regulations are in place to check such malpractices, a clear and visible GI logo or tagging helps significantly to reduce this information asymmetry.

Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement) is the first international agreement that where the term GI appears. Since adoption of TRIPS in 1994, GI has got the deserved attention from policymakers across the countries. Article 22.1 of the TRIPS Agreement defines geographical indications as "…indications which identify a good as originating in the territory of a member [of the World Trade Organization], 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".[34]

It is noteworthy to mention here that under the TRIPS Agreement, member countries cannot extend protection to a product under GI unless it is also protected in its own country. Granting of US patent on Basmati Rice to Rice Tec Inc. in 1997 made India realize the urgent need of such a law in the Indian soil. In absence of any domestic law, Indian government could not use the provisions of protection through TRIPS Agreement and resort to post grant opposition in the US Court of Law, which was a quite expensive procedure. To prevent recurrence of such incidences and to comply with underlying obligations from TRIPS Agreement, Indian lawmakers were compelled to expedite enactment of Geographical Indications of Goods (Registration & Protection) Act in 1999. India started giving protection for GI through *sui generis* legislation (of its own kind) from 15 September 2003.[35]

Unlike other forms of IPRs, GIs represent community ownership meant for protecting products of collective origin by generations from the geographical area to which they belong. These are meant for providing monitory benefits exclusively to the community and its members upon commercialization of the products. This is ensured by the fact that the

ownership (applicant) or the right to use the GI tag on goods (authorise user) cannot be assigned to anybody outside the geographically boundary of the place mentioned in the application.[36] The scope of protection with GI may range from agricultural, handicrafts, handloom, manufactured goods, food stuff, etc. As GI tagged products are considered superior, they tend to generate a premium brand price, and help in providing sustainable employment to the people associated with its production. Many of unique traditional goods are found in rural areas. Interestingly, intellectual property, trade, and socio-economic policy all intersect at the point where GIs are located in India. Thus, GI products can be a source of income for the returnedrural migrant labourers in the wake of Covid19 pandemic. It can provide local employment, protect the heritage and traditions of local community, and ultimately play a significant role in rural development and their self-sufficiency.[37] A product can gain an advantage over competitors in both local and international markets by gaining a GI. It also increases consumer trust in the authenticity and uniqueness of products and producers, enabling them to better differentiate their offerings. GIs have significant effects on local economic development in addition to having an upward effect on product pricing, which in turn permits conventional techniques of production to continue in the face of monopolistic competition. It has been established that GIs are essential for converting spatially embedded productions into local development, particularly when imperfect competition is present in the market.[38]

Additionally, GI products help in development of peripheral industries associated with the product like tourism and other tourism related industries. Thus, the Geographical indications may bring value to the entire region by promoting the region as a whole. Thus, a successful geographical indication may create a "regional brand".[39]

Branding the Spices with the GI Tags

A GI tags help in brand building of regional products. It ensures that consumers can easily identify the agricultural, natural or manufactured products with superior qualities without much difficulty. The assurance of purity and authenticity provided by GI tag helps reduce the information asymmetry in the market and helps the interested consumers buy products with confidence.Growers too can sell such products across the world as premium regional product.The provisions in the GI Act1991 prohibits selling of products with deceptive information about the place of origin. This helps in preventing bio-piracy, where the bio-resources are traded with misinformation for getting higher prices. Instances are present where Indian spices like pepper are imported first from India and re-exported as Malabar pepper. In yet another instance, Guatemala cardamom is found being sold as Indian cardamomin the global market.[40] With provisions of restricting the issuance of Authorised User status strictly to the people from the region hailing from the demarcated geographical boundary, it is believed GI Act 1999 would boost the rural economy and the people associated with it. Currently, there are 26 spices in India which have been granted GI status from the GI Registry at Chennai (Table 1). This will ensure correct information of geographical origin which is mandatory in packaging of these spices and spice products. These include spices like Malabar Pepper, Alleppey Green Cardamom, Mizo Chilli, Naga Mircha, Assam Karbi Anglong Ginger, Kandhmal Haldhi, Kashmir Saffron, Mizo Ginger etc.Out of the all the registered spices under GI registry, only 7 belongs to the NE region.[40] Thus, the NE region has remained largely noncompetitive in terms of identifying and marketing its unique horticultural products. Though a few NE based enterprises like Zizira, Farmers Creation Secrets of Brahmaputra etc., have tried to use the GI status for branding its product as premium and exploring domestic and international market, the major exporters largely operate from outside the region, selling the products under their brand name.One such major company is GiTAGGED.

Trademarks for Branding Regional Products

Branding influences the consumers' perception, often suggesting superior quality than unbranded ones. By attracting more consumers, branded items usually help the producers get higher return. The brands also help in creation of a strong customer base. Proper branding and visibility can be attained with suitable packaging to increase acceptability within the domestic and international consumers. In case of spices, 'Organic' labelling can add up to the face value of the packaged spices/spice products.Having an attractive and professional online presence is another alternative and effective way to connect to suitable buyers globally, who would be interested to pay premium price for authentic regional products. Thus, marketing the GI registered spices online can be a suitable option for the farmers to expand the market presence.

Fig. 4 — Spices with GI status sourced from various Indian states and sold under the trademark of the company Gi TAGGED[41]

However, prior assessment of delivery chain loopholesand building up the infrastructure for catering to probable bulk orders may help in maintaining timely delivery and building a dedicated clientele. Additionally, the local farmers can gatherexperience and market exposure by joining the site-visit programmes at the spice farms outside the state, organizedunder the aegis of Spice Board of India or attend the regional Buyer-Sellers Meets to learn nuances of latest post-harvest techniques with regards to the current trends and exportrequirements in spices. These visits can help the farmers in imbibing marketing skills needed for effectively projecting a brand to the consumers.

Some enterprises have been successful in marketing regional spices effectively and have used GI tags on packaging for attaining visibility in the market on online platforms, for example:

Geographical Indications Tagged World Premium Products Pvt Ltd (GiTAGGED)

GiTAGGED is an Indian manufacturer, distributor, and exporter of whole and ground spices under the brand name GiTAGGED. The company founded in the year 2016 and is based in Bangalore, Karnataka. It is India's first and perhaps the only company to exclusively sell GI tagged products from India. Besides other regional goods, the company specializes in selling the GI tagged spices, which are procured from their geographical region of production. The company attempts to provide the high-quality and authentic Indian spices by producing, procuring, and marketing authentic GI tagged spices (Fig. 4).[41]

The company profile informs that the company aims tohelp the farmers to get the better price for their produces. By providing the consumers worldwide with an access to Authentic GI tagged products of India at a competitive price with unblemished taste, quality, and uniqueness, the company creates a conducive environment for the regional products. The company claims that by procuring products curated from the company, that consumers can have the feeling of handpicking the products from the place of their origin, without traveling afar, as all the ingredients are sourcedwith a motto "From the Very Land to Your Hand".

ZIZIRA

With this tagline #makingfarmersfamous, Zizira was started in Meghalaya with the sole purpose of providing opportunities and opening markets for the farmers of Meghalaya to sell their produce. They promised authentic herbs and spices to the consumers by direct marketing through online platform. Their Unique Selling Point is stated to be the direct sourcing of raw materials from farmers andinhouse processing in most traditional way. Not only the company has been able to sell their regional products like Lakadong Turmeric and IngMikir Ginger, other value-added products like the turmeric blends and ginger infused tea and honey were also made available to the consumers who want to taste traditional combinations (Fig. 5).[42]

Farmers Creation

'Farmers Creation' is another company, founded in Guwahati, Assam, that is thriving on the principle of sourcing it right from the growers at the place of its origin. Besides, focussing on the organic quality of the spices that are famous for their inherent characteristics like high curcumin content of Lakadong turmeric, high pungency of Karbianlong ginger etc., it is coming up with innovative products like "turmeric spiced green tea" (Fig. 6).

These companies seem to fill the market gap through a strong brand presence that caters to the

Fig. 5 — Products from turmeric and ginger sold under the trademark of Zizira.[42]

consumer need for authentic regional products with assurance of quality. By having online presence and good supply chain mechanism, the companies are creating a dedicated clientele that is willing to give premium price for pure and unique products found only in a specific locality of this part of the world.

Secrets of Brahmaputra

Secrets of Brahmaputra is a brand that sells products in the field of food, spices, pickles, teas, Bamboo Products and home decor items that are sourced and manufactured in the North East of India. It is a brand owned by North East Farms Sales Endeavour Promotion (NEFSP), a social objective Start Up (Pvt. Ltd), and was created with an aim to upscale livelihoods of women and farmers of the North East of India through (i) direct procurement and marketing of traditional agro-based products, (ii) innovative product development and standards setting, and (iii) attractive eco-friendly packaging and logistics support across India and abroad as part of a citizens 'Act East' initiative. It is stated in their website that NEFSP's primary focus is to tap the unrealized market potential of distinctive agricultural, horticultural, minor forest and other products of Small Farmers, Self Help Groups, Farm Cooperatives, Farmers Producers Organizations (FPO)s, and local entrepreneurs of the North East Region who receive government support in many ways but lack brand value, acceptable standards, quality packaging, dependable logistics and targeted marketing tie-ups, with the necessary platform to showcase, add value and market their products. Most of these products are by default organic and packed in state-of-the-art Vacuum Packaging for extended shelf life by the NEFSP. In addition, the NEFSP also offers

Fig. 6 — Organic products sold by Farmers Creation[43]

Fig. 7 — Spice products sold by Secrets of Brahmaputra[44]

packaging services to farmers and farmers' units directly in their own name if they wish, for a nominal fee (Fig. 7).

There is a large body of literature on positive impact of GIs on competitiveness of agricultural producers that can be the basis for building a stronger brand based on GI for the spices from NE India. However, the visibility of the GI tag on the packaged product largely depends on the level of trust the producers have on the GI status. In one such study meant to understand familiarity and expectation from the producers of traditional agri-food product about the impact of Geographical Indications on the competitiveness of traditional agri-food productsin Crotia, it was found that the majority of producers (85%) expected that protection will increase consumer confidence in the safety of their product, increase product familiarity (78%) and protect product name from misuse and imitation (76%). According to results of this study, 60% of respondents expect that protection will increase sale and selling price and reduce black market.[45] In another case study on Boseong green tea in South Korea, it was seen that within only six years since the geographical indication was introduced in 1999, GIs has enhanced the image of the product, resulting in doubled production, increase of the green tea price by more than 90 percent and a triple increase in the number of tourists in the Boseong region.[46] Thus, more producers are expected from NE to get inspired by these results and use GI tags on their products and increase visibility in the market.

Few Lesser-known Spices from NE

The culinary heritageof the North-Eastern region of Indiacan boast of its uniqueness due to evolution from diverse ethnic and religious backgrounds. Most of the cuisine hinges on simplicity and clear taste of a dish,

besides using very less or no oil. Traditional cookingoften incorporates herbs and spices found in very few places around of the world. Some of the lesser-known spices of the region with distinctive flavour/ aroma have huge potential for future export markets. These include Garcinia or *Thekera* with different varieties like Borthekera, Kujithekera, and Rupohithekera (used souring agents in Assamese cuisine), AamAda or Mango Ginger, *Jongali Memedo* or *Maan Dhania* (*Eryngium foetidum* L.), besides many others known only to the indigenous communities. Use of various type of bamboo shoots and indigenous varieties of citrus fruits impart their delicious, unique, and subtle taste to the traditional cuisine of Assam. This includes Hog Plums, also known as *Omora Tenga*. The fruit is used as a souring agent in preparation of traditional fish curries called "*Omora diya masor tenga anja*". *Dillenia Indica*, or Assamese Elephant Apple, locally known as *Outenga* is *also* used for preparation of traditional curries. Acquiring GI status, effective market promotion and branding of such lesser-known indigenous spices too can contribute enormously for economic growth of the region.

Conclusion

Internationally, there are various instances where IPR tools have been helpful in establishing regional goods beyond local markets and attract premium pricing. Trademark and GI can be considered together for boosting marketability of the spices. The regional specificity and quality can be highlighted by the GI tags, while trademarks can be used for establishing connection of farmer groups or collectives with the consumers. Establishing effective agricultural brands is very important for farmers to get a competitive edge in 'buyer-driven' global markets. There are good number of examples where globally recognised brands are given high stature by the consumers in their respective product groups.

With environmental conditions favouring the growth and development of various spice crops in the North-Easternregion of the country, more emphasis can be given to increase productivity by incorporating various environment friendly interventions like mix cropping, using vermi-compost, reviving soil fertility using traditional agricultural practices using local resources etc. The organic nature of the produce should not be compromised as it has become the Unique Selling Point of the spices grown in the region. Various 'low volume high value' products can be designed which are easy to store and carry. The infrastructure related to interstate transportation of spices and cold storage can be improved. Modern warehouses can be made available near the airports with state-of-the-art facilities to store spices in good condition till they are sent to other countries. The packaging can be worked upon to make it efficient and attractive. Various information like GI tagged, Organic, 'Traditionally Made' etc. can be displayed on the packet for informing the interested consumers. Finally, a good online presence through effective web portals can enable the interested consumers to buy the products conveniently. Theseweb portals can also be used to educate the consumers about the uniqueness and endemic nature of the bio-resources. The benefits and medicinal properties can be highlighted to attract premium pricing.

Conservation practices to restore loss of indigenous spice varieties is another issue that needs focus if the region wishes to capitalize on possibilities in the international spice market. As north-eastern states are treasure house of germplasm of spices, proper initiatives for conservation of indigenous spice varieties of region are very important for preventing genetic erosion. Thus, branding, and appropriate labelling of value-added products can play a huge role in reducing losses and ensuring better return to the spice farmers of the region.

India's current share in the global organic food market is small and ample scope exists for making the country a major player in the emerging agricultural export market. Even the Indian domestic market is projected to grow manifolds by 2026, as a result of favourable government policies supporting organic farming, causing rise in land area under organic cultivation. Shifting preference of the consumers towards organic food due to health consciousness coupled with growing incidences of food adulteration are among the major factors fuelling the demand for organic food products in India and abroad. The farmers of the North Eastern region can take advantage of their traditional knowledge on farming and use it to move on from subsistence farming and concentrate on organic way of farming in more aggressive way. Thus, the native farmers can divert a major portion of their surplus produce towards value-addedor superior quality spice products. A good supply chain will make the spices from the region available to all the interested consumers across the world. A profitable spice crop can make farming remunerative and sustainable for future generations.

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