Review Article

Geographical Indication of Fruit Crops in India and its Protection Abroad

Abstract –

This paper explores the importance of Geographical Indications (GIs) as important tools to protect traditional products and knowledge unique to specific geographical regions, emphasizing India's role in this global framework. Using both qualitative and quantitative research methodologies, we have analyzed the development, benefits, and challenges of the GI system in India, drawing from historical data, legal documentation, and recent GI registrations. Our findings highlight the critical impact of GIs on cultural preservation, rural development, legal frameworks, and marketing strategies. Furthermore, the study examines India's commitments under international agreements like TRIPS and the consequent domestic legislative actions. Highlighting recent GI registrations, particularly in the fruit sector, we have elucidated the various benefits of GIs to consumers, producers, and geographic regions alike. The paper is concluded by advocating for the strengthening and continuous evolution of the GI system to further harness its potential for cultural and economic enrichment

Keywords- GI, Geographical Indication, Fruit crop, India

1. INTRODUCTION-

The uniqueness of particular product is attributed to particular region due to its geography. The product is connected to that particular region and that region identified by that product and becomes famous, this is GI in general terms(Mohammed and Kamble 2022, Saha and Bharti 2006) for example Gir Kesar mango. A geographical indication is a sign used on products that have a specific geographical origin and possess qualities or a reputation that are due to that origin eg. - Darjeeling tea, Coorg Orange, etc. Article 22 Paragraph 1 of TRIPS defines Geographical Indication as "indications which identify a good as originating in the territory of a Member, 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." Agricultural products typically have qualities that derive from their place. A GI not only emphasizes the production aspects but can also spotlight qualities attributed to human skills and traditions E.g. Mysore Silk, Madhubani Painting. GIs reinforce traditional knowledge and play a crucial role in rural development, promoting cultural and economic values. They can also enhance business clusters and strengthen rural supply chains. GI can keepsan eye over quality, traceability and food safety of the products (Raghavendra *et al*. 2022). However, the use of GI also presents a number of challenges. Producers and marketers of geographical indications must collectively address production methods, quality control, and distribution strategies.To successfully transform these products into commercially successful ventures under the GI portfolio, a combination of social, business, and scientific precision is essential. It's vital that a fair portion of the revenue generated reaches the native producers, bestowing upon them the pride and recognition of owning intellectual property (Soam and Hussain 2011).

Purpose: The main intent of this research is to explore the intricate world of GIs in India, assessing their socio-economic and cultural implications, and to contextualize India's stance on GIs within a broader, global framework.

Objectives:

2. To understand the historical development and significance of GIs in India.
3. To evaluate the socio-economic benefits associated with GIs, with a focus on rural development and community upliftment.
4. To highlight challenges faced by GIs in terms of legal recognition, enforcement, and global market penetration.
5. To review recent GI registrations, particularly in the fruit sector, and deduce their impact on stakeholders - producers, consumers, and the regions they represent.
6. To understand India's commitment to international GI agreements and their domestic implications.

Hypothesis:

1. GIs play a critical role in preserving cultural heritage and boosting rural economies in India.
2. Effective legal frameworks and strategic marketing can enhance the economic potential of GIs.
3. Recent GI registrations in India, especially in the fruit sector, have had a positive socio-economic impact on producers and regions.
4. India's alignment with international GI agreements positively influences its domestic GI recognition and enforcement efforts.

1.1 GI CERTIFICATION – BENEFITS TO THE INDIAN SOCIETY

1.1.1. Preserve traditional knowledge and cultural: Geographical indication facilitates the preservation of local knowledge and culture. These products are frequently the outcome of traditional heritage since they are manufactured from natural resources and have characteristics derived from their geographical origin. For instance, perfumers in Kannauj, a small town in Uttar Pradesh, create unique scents by collecting fresh rainwater on dry soil. Many people in this area make their living through the art of perfumery, which has been developed by families in the town for many centuries. (Anon. 2021).

1.1.2. Factor of rural development: The majority of GI-tagged products come from rural areas or small cities. GIs are helpful in rural development when used properly because local producers typically have the right to utilize them and the value they produce provides a living for the community. Bananas are typically sold for Rs. 50 per kg, but after acquiring a GI tag, ChengalikodanNendran banana from Kerala is sold for Rs.75.

1.1.3. Tools in marketing strategies: Geographical indications support the international marketing of authentic goods; for instance, the number of destinations for Darjeeling tea increased from 35 in 2004 to 45 in 2019.

1.1.4. Boost Tourism: Tourists visiting nearby towns may want to explore the GI area. Telangana is creating packages in with the tourism department for visiting Warangal. Cochin and Goa airports display and market GI goods. For example Darjeeling Tea Estates (Anon. 2021)

1.1.5. Facilitates Sound Legal & Institutional system: GI certification helps in eliminating unfair competition and free-riding because it channelises correct information to consumers through official

logos and public campaigns.GI gives power of law to the produce so that it could be legally protected within country and abroad.

1.1.6. Maintaining Biodiversity: Geographical indications (GIs) play a significant role in safeguarding the unique relationship between products and their origins. Beyond mere legal protection, GIs contribute to maintaining biodiversity and genetic resources (Bérard & Marchenay, 2006).

2. INTERNATIONAL FRAME WORK FOR PROTECTION OF GEOGRAPHICAL INDICATION

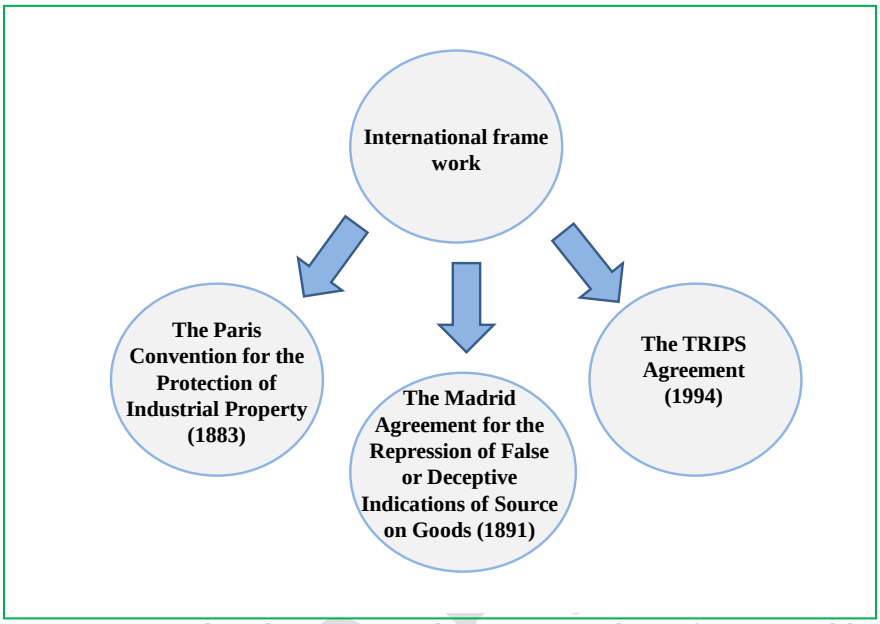

Fig 1 :**International Frame Work For Protection Of Geographical Indication**
(Rizo *et al*. 2021)

1.1 Paris convention forthe protection of industrial property (1883)- It is aWIPO agreement. The Paris Convention was the inaugural global treaty addressing indications of geographical origin. Article 1(2) acknowledges "indications of source" and "appellations of origin" as industrial property subjects. This Convention mandates that goods with false source indications should either be confiscated upon entry or face the legal consequences in the importing country.The Paris Convention also requires its members to ensure effective protection against unfair competition.

1.2 The Madrid Agreement for the Repression of False or Deceptive Indications of Source on Goods (1891): Managed by WIPO, this system mainly safeguards trademarks in several countries, such as the USA, where GIs are viewed as trademarks. The registration lasts for a decade, and around 128 countries are part of this agreement.

1.3 The TRIPS Agreement (1994): The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) is an international legal agreement between all the members of World Trade Organization (WTO). It was result of Uruguay Round Negotiations (1986-1994) which took place for about 8 years. It is the most comprehensive international trade agreement till date on intellectual property. In TRIPS, enforced from 1 January 1995, GI six forms of intellectual property as follows:

1.3.1 Patents

1.3.2 Trademarks
1.3.3 Industrial designs
1.3.4 Layout Design of Semiconductor Integrated Circuit
1.3.5 Geographic indications
1.3.6 Copyright

Agreement is applicable to all WTO Members which include 125 of the world. (Part II, Section 3).Every member country has an obligation to give recognition and legal protection to GIs in their territory, As per Article 22 (2) of TRIPS (Mishra 2020, Srivastava, 2004)

2. SYSTEM FOR PROTECTION OF GI (Rizo *et al*. 2021, Marie-Vivien and Biénabe, 2017,Mazzocchi and Sali, 2012)

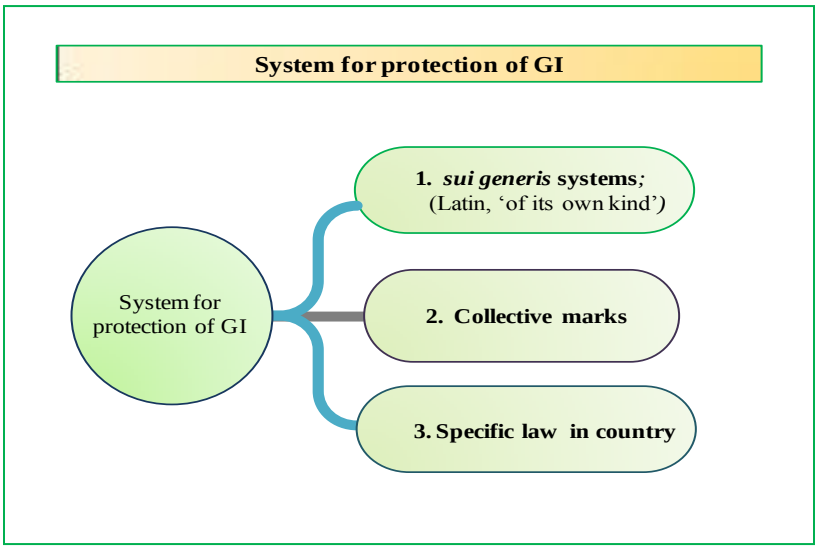

Fig 2 :**System For Protection Of GI**

2.1*sui generis*Systems of Protection:It is a system that is developed and implemented exclusively by a country with government intervention. Examples of countries and unions which follow this system are India, Switzerland, EU and the African Intellectual Property Organization (OAPI),

2.2Collective marks and certification marks (trademark law): Some countries protect geographical indications under trademark law, more specifically through collective marks or certification marks. Private or public entity can be the holder of this mark. It could also be called as a private GI. This is the case, for example, in Australia, Canada, China and the United States of America.Holder Acts as a responsible authority that the mark is used according to established standards.E.g. Idaho potatoes grown in State of Idaho in USA, Pure for a dark tea from Yunnan, China

Fig 3. **Collective marks**

2.3 Laws focusing on business practices: Laws targeting business practices, like those against unfair competition, consumer protection, or product labeling, can indirectly safeguard geographical indications by prohibiting unauthorized use. India utilized this approach before adopting the GI system (Rizo *et al*. 2021)

3. PROTECTING GEOGRAPHICAL INDICATIONS ABROAD

Intellectual property rights are governed by the "territoriality principle."In other jurisdictions, the geographical indication would face the risks usually associated with lack of protection. In order to protect a geographical indication abroad, there may be a requirement to first protect the geographical indication in the country of origin.

3.1 Geographical indications protected abroad by following ways(Rizo *et al*. 2021)-

3.1.1Bilateral agreements: Bilateral agreement includes the mutual agreement between two countries. This includesMemorandumof Understanding (MoU). Bilateral trade agreements now routinely include standardized rules for areas such as investment and intellectual property, but only a select group of larger firms significantly influence technological progress and knowledge sharing. Amid concerns of unemployment and inequality from global supply chains, there's a push for governments to shift from solely prioritizing trade efficiency to also addressing labor and distributional consequences (Puślecki, 2022).

3.1.2Direct protection: One can apply directly to the specific trademark office for a certification mark registration, for example, in countries like India, Australia, China, or the USA. Nations such as Italy, France, and Germany have registered their products as GI in India.

3.1.3Lisbon Agreement: The Lisbon Agreement, also termed The International System for Appellation of Origin and Geographical Indication, was set up to streamline the protection of appellations of origin globally. This system allows for a single "international registration" to extend protection in one member country to all other member territories. This method facilitates the protection of appellations of origin and GI in 57 nations.

3.1.4 Madrid system: Administered by WIPO, is primarily a system for protection and registration of trademarks in multiple countries. It can also be used in member countries, like USA, which treat GI as a species of trademark. An international registration has an initial validity of 10 years, with the possibility of indefinite 10-year renewals. This registration safeguards trademarks across approximately 128 countries.

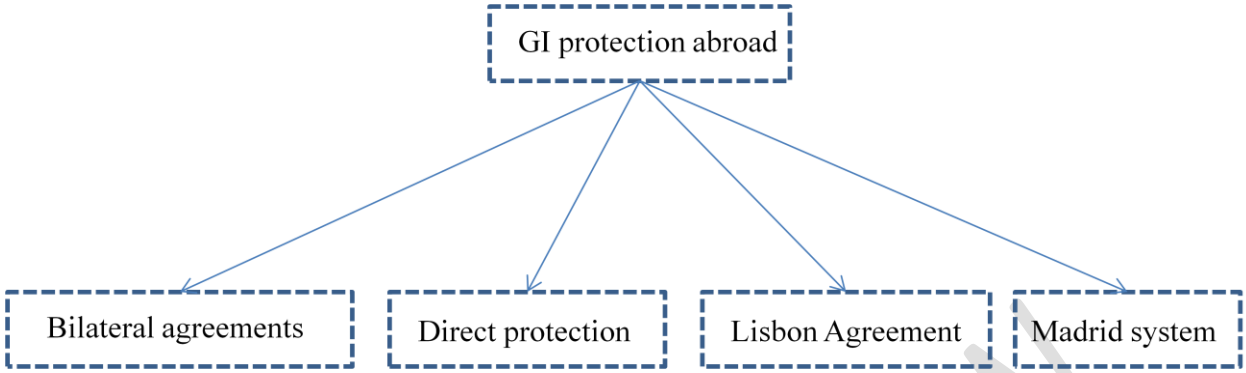

chart 1 : Ways of Geographical indications protected abroad

4. GEOGRAPHICAL INDICATION SYSTEM IN INDIA

Before adapting a well defined GI system GIs were commonly protected as certification marks in India under the Trade and Merchandise Marks Act, 1958.Prior to 15 September 2003, there was no specific law for GI protection in India. Misuse of GI was prevented by one of the following three ways (Gogoi 2022, Jajpura *et al.* 2017, Kasturi 2009, Kandan 1998):

a) Under Consumer Protection Law
b) Through passing off action in court
c) Through Certification Trademark

As a WTO member, India had to establish a GI protection system in line with TRIPS. Additionally, two major events in the 1990s prompted India to create a unique GI law in 1999 (Nair, 2011). First, the 1990s' market liberalization required the protection of India's domestic products and rich traditional knowledge under a specific law. Second, in 1997, the US patent office granted an American agricultural company, RiceTec, a patent for a new Basmati rice variant, posing a direct threat to the intellectual property of our indigenous product.

India introduced the 'Geographical Indication of Goods (Registration and Protection) Act, 1999' and its subsequent 'Rules, 2002'. They came into effect on 15 September 2003. Unlike TRIPS, which has distinct provisions for wines and spirits, the Indian Act doesn't favor any particular product class. GI System is administered by the Controller General of Patents, Designs and Trademarks who is the Registrar of Geographical Indications, Ministry of Commerce and Industry, Govt. of India. Dr. Unnat P. Pandit is present Controller General. GI Registry headquarter in India is located in Chennai. Darjeeling tea was the first GI to be registered in India in 2004-05.Registration of GI is renewable every 10 years.The GI application process starts with an association or guild of producers or manufactures or people engaged in the production-sell chain of the produce agreeing for filing an application. The local association is considered to be the best applicant. In case of number of such associations, to avoid conflict of interest, it is better to include. It takes charge of about ₹ 5000/- for a new registration.

Fig4. logo and motto of GI in India

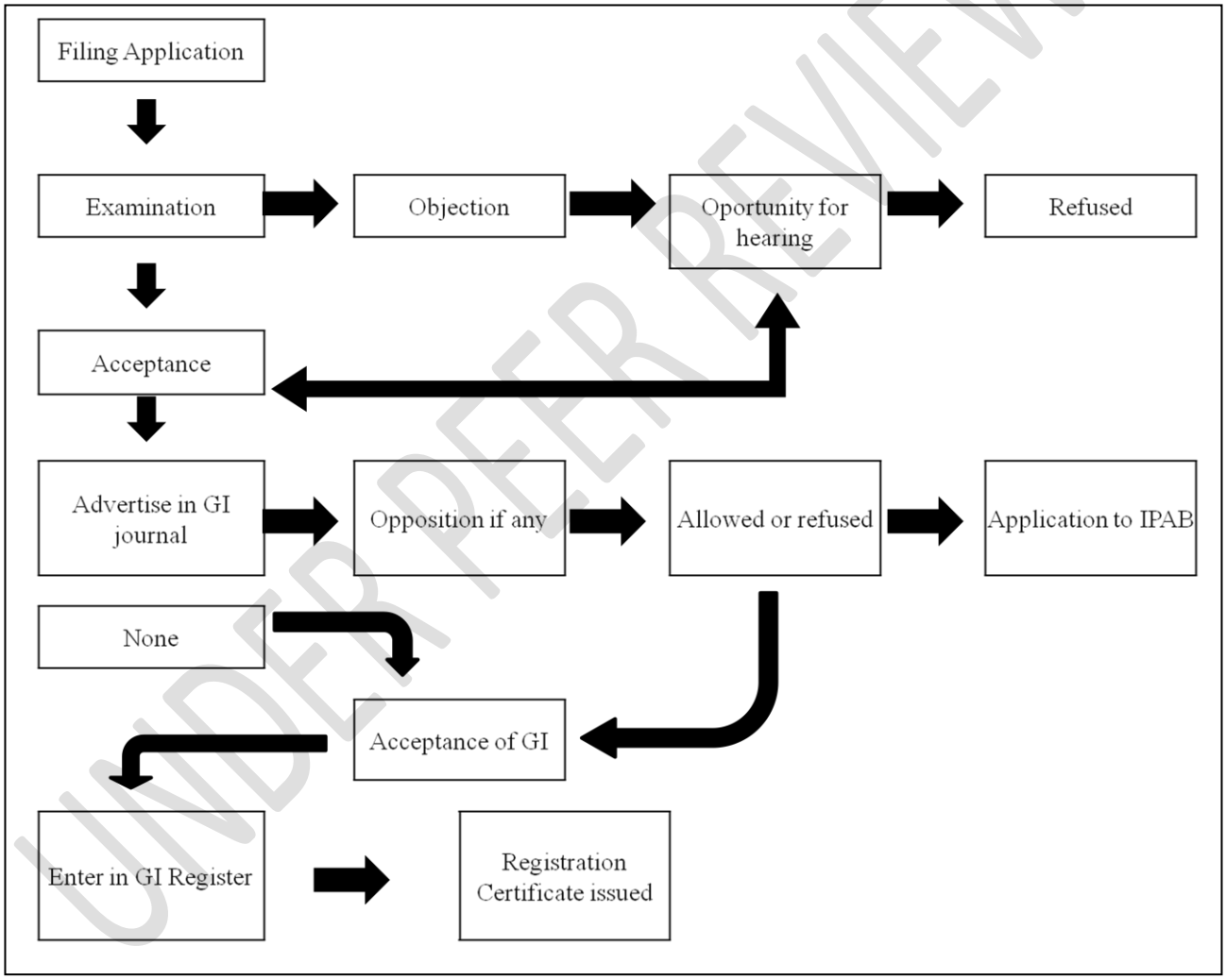

Fig 5. Registration process flowchart source- www.ipindia.gov.in

5. OVER VIEW OF GEOGRAPHICAL INDICATION SYSTEM IN INDIA

5.1Classification of GI according to Category

Total of **478**GI have been registered till march of 2024.GI are provided under five categories this include

Table 1 : No of GI and category

Sr No.	Category	No. of GI
1	Agricultural Products	152
2	Food stuff	26
3	Handcraft	255
4	Manufactured	42
5	Natural	3

source- www.ipindia.gov.in

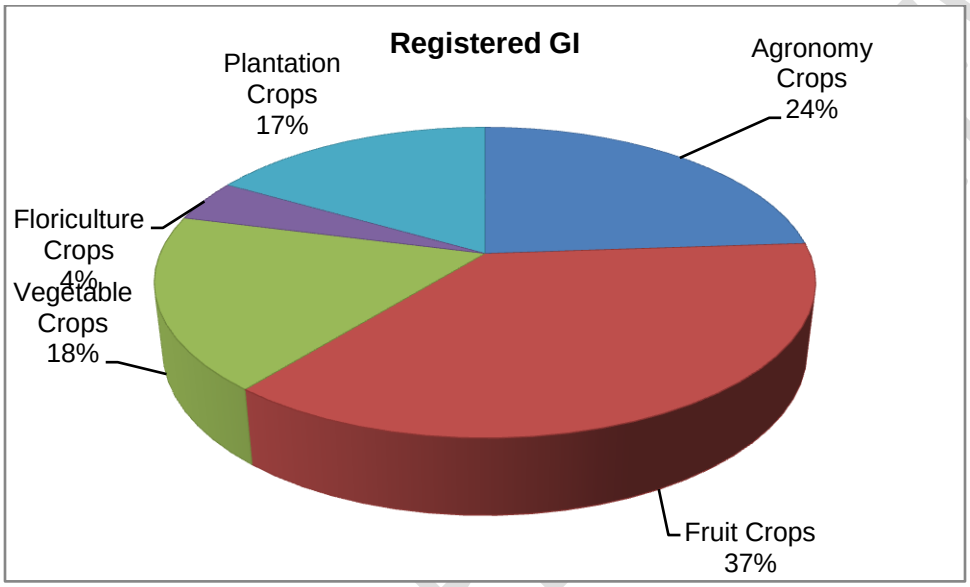

Fig 6: The graphical representation of Registered GI

State wise data reveals that Karnataka stands first in terms of total registered GI with total of 57 registered GI. And Italy is leading country with 16registrations among foreign registration in India.

5.2 State wise registered GI:

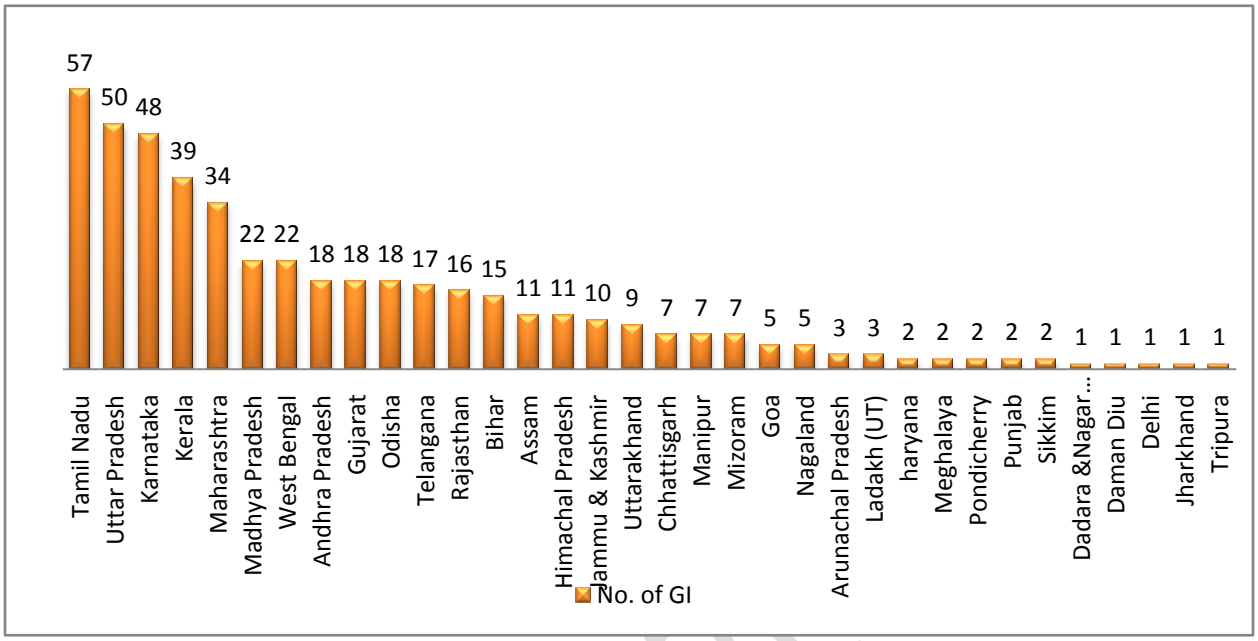

Fig 7 : State wise registered GI source- www.ipindia.gov.in

5.3 International GI registered in India:

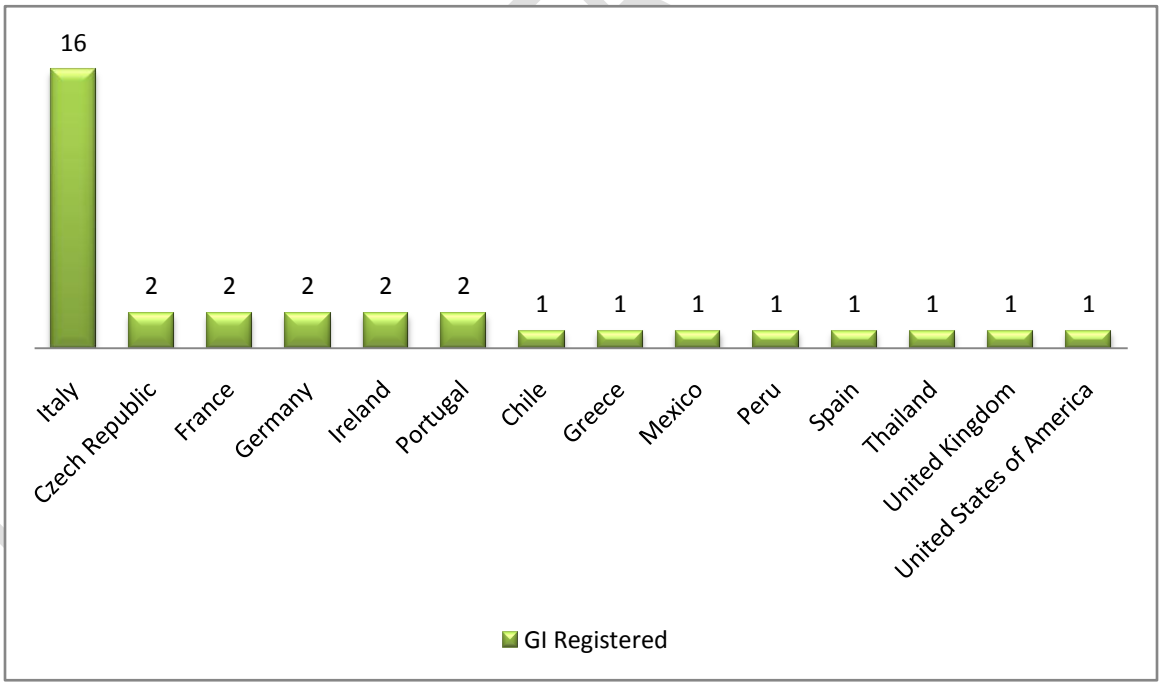

Fig 8 :International GI registered in India source- www.ipindia.gov.in

With in agriculture there are total 152 registrations. Which can be divided into different categories i.e. agronomy crops, fruit crops, vegetable crops, floriculture crops, plantation crops and spice crop. Fruit crops are leading agriculture product that have maximum GI registered which is about 32 % (Kishore 2018).

5.4 GI in Agriculture Products.

Table 2: GI in Agriculture Products

S. No	Crops	GI Registered
1	Agronomy Crops	33
2	Fruit Crops	51
3	Vegetable Crops	25
4	Floriculture Crops	6
5	Plantation Crops	23
6	Spices	14

source- www.ipindia.gov.in

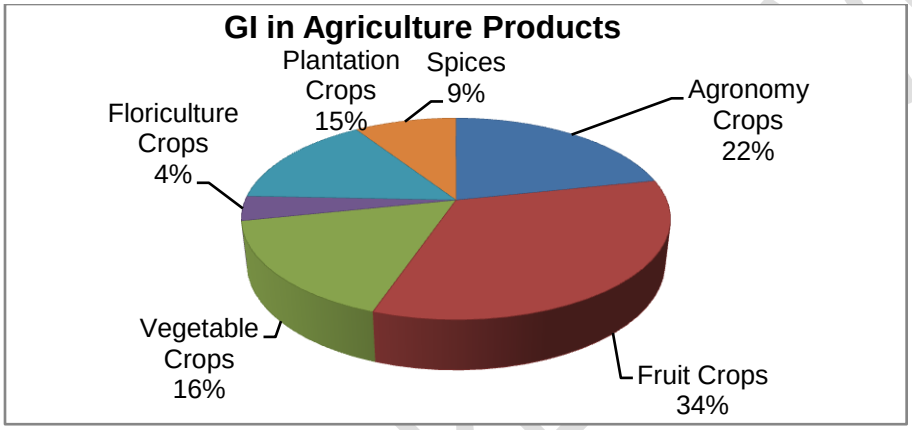

Fig 9 :**GI in Agriculture Products**

5.5 GI in Fruits

There are total of 51 fruit crop registered among fruits mango has maximum registration which are 12 in number. Within country Maharashtra is leading states with total of 13 registrations in different crops.

Table 3 : fruit crop registered with details

S. No	Application No.	Geographical Indications	State	Year of registration
1	33	Coorg Orange	Karnataka	2005-2006
2	35	Nanjanagud Banana	Karnataka	2006-2007
3	50	Allahabad Surkha Guava	Uttar Pradesh	2007-2008
4	111	Malda Laxman Bhog Mango	West Bengal	2008-2009
5	112	Malda Khirsapati (Himsagar) Mango	West Bengal	2008-2009
6	113	Malda Fazli Mango	West Bengal	2008-2009
7	124	Virupakshi Hill Banana	Tamil Nadu	2008-2009

8	126	Sirumalai Hill Banana	Tamil Nadu	2009-2010
9	125	Mango MalihabadiDusseheri	Uttar Pradesh	2009-2010
10	130 & 141	Vazhakulam Pineapple	Kerala	2009-2010
11	131	Devanahalli Pomello	Karnataka	2009-2010
12	132	Appemidi Mango	Karnataka	2009-2010
13	133	Kamalapur Red Banana	Karnataka	2009-2010
14	154	Mahabaleshwar Strawberry	Maharashtra	2010-2011
15	165	Nashik Grapes	Maharashtra	2010-2011
16	185	Gir Kesar Mango	Gujarat	2011-2012
17	211	Bangalore Blue Grapes	Karnataka	2012-2013
18	385	Nagpur Orange	India(Maharashtra & Madhya Pradesh)	2013-2014
19	375	Arunachal Orange	Arunachal Pradesh	2014-2015
20	436	Tripura Queen Pineapple	Tripura	2014-2015
21	479	ChengalikodanNendran Banana	Kerala	2014-2015
22	438	Tezpur Litchi	Assam	2014-2015
23	465	Khasi Mandarin	Meghalaya	2014-2015
24	466	Kachai Lemon	Manipur	2014-2015
25	437	Memong Narang	Meghalaya	2015-2016
26	474	Sindhudurg & Ratnagiri Kokum	Maharashtra	2015-2016
27	490	Sangli Raisins	Maharashtra	2016-2017
28	494	Beed Custard Apple	Maharashtra	2016-2017
29	495	Jalna Sweet Orange	Maharashtra	2016-2017
30	500	Purandar Fig	Maharashtra	2016-2017
31	502	Solapur Pomegranate	Maharashtra	2016-2017
32	493	Dahanu Gholvad Chikoo	Maharashtra	2016-2017
33	498	Jalgaon Banana	Maharashtra	2016-2017
34	499	Marathwada Kesar Mango	Maharashtra	2016-2017
35	241	Banaganapalle Mangoes	India (Telangana & Andhra Pradesh)	2017-2018
36	551	BhagalpuriZardalu	Bihar	2017-2018
37	139	Alphonso	Maharashtra	2018-2019
38	552	Shahi Litchi of Bihar	Bihar	2018-2019
39	609	Kaji Nemu	Assam	2019-2020
40	660	Kuttiattoor Mango (Kuttiattoor Manga)	Kerala	2021-2022
41	680	Myndoli Banana	Goa	2021-2022
42	206	Rataul Mango	Uttar Pradesh	2021-2022
43	590	Tamenglong Orange	Manipur	2021-2022
44	696	Mithila Makhana	Bihar	2022-2023
45	729	Ladakh Raktsey Karpo	Ladakh (UT)	2022-2023

46	707	Rewa Sunderja Mango	Madhya Pradesh	2022-2023
47	668	PratapgarhAonla	Uttar Pradesh	2022-2023
48	716	Banaras Langda Aam (Mango)	Uttar Pradesh	2022-2023
49	734	CumbumPanneerThratchai (Grape)	Tamil Nadu	2022-2023
50	745	Indi Limbe	Karnataka	2022-2023
51	843	Kari Ishad Mango	Karnataka	2022-2023

Source- www.ipindia.gov.in

5.6Table 4 :Crop wise Registered GI in Fruits

Sr. no.	Fruit	Count
1	Mango	14
2	Banana	8
3	Orange	5
4	Grape	4
5	Acid Lime	2
6	Litchi	2
7	Mandarin	2
8	Pineapple	2
9	Aonla	1
10	Apricot	1
11	Custard Apple	1
12	Fig	1
13	Guava	1
14	Kokum	1
15	Lemon	1
16	Makhana	1
18	Pomegranate	1
19	Pummelo	1
20	Sapota	1
21	Strawberry	1

source- www.ipindia.gov.in

5.7 Table 5 : State wise Registered GI In Fruits

Sr. No.	State	No. Of GI
1	Maharashtra	13
2	Karnataka	8
3	Uttar Pradesh	5
4	Bihar	3
5	Kerala	3
6	Tamil Nadu	3
7	West Bengal	3
8	Assam	2
9	Madhya Pradesh	2
10	Manipur	2
11	Meghalaya	2
12	Andhra Pradesh	1
13	Arunachal Pradesh	1
14	Goa	1
15	Gujarat	1
16	Ladakh (UT)	1
17	Telangana	1
18	Tripura	1

source- www.ipindia.gov.in

6. RECENTLY REGISTERED GI IN FRUITS

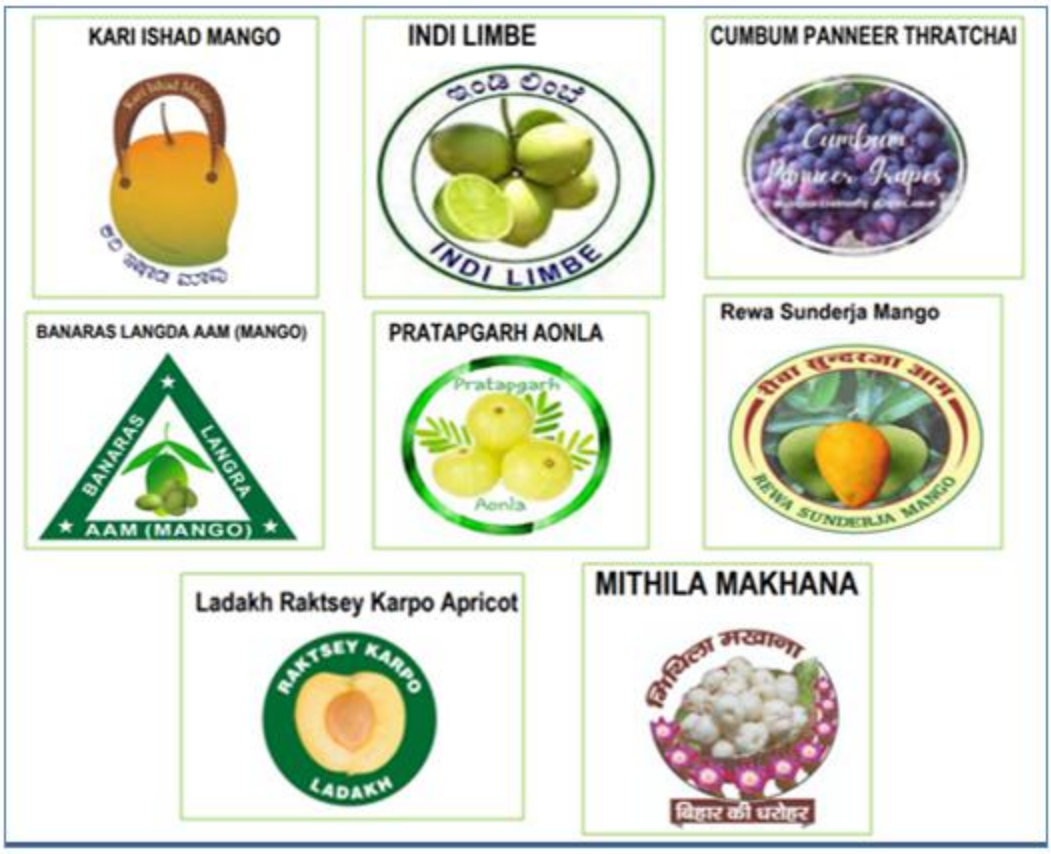

Fig. 10 :Registered logo of GI in Fruits Source- www.ipindia.gov.in

6.1 Kari Ishad Mango- The Kari Ishad mango, primarily cultivated in Ankola, Karwara, and parts of Kumta in the Uttara Kannada district, stands out for its exceptional aroma, taste, pulp quantity, and size. Often pronounced locally as 'Kari Ishada', this mango, renowned for its sweetness, is favored for table consumption. It transitions from green when immature to yellow and orange upon ripening. Noted for its short shelf life, it's especially sought-after for pulp-rich recipes like 'Rasayana'. The fruit is large with an oblique to oval shape, typically bearing one fruit per panicle. With a thin, orange-yellow-green skin, its sweet pulp is its hallmark. A fully mature tree can yield up to 2000 fruits in a season.

6.2 Indi Lime- Acid lime grown in the Indi, Sindagi, and Vijayapura regions of Vijayapura district is distinct due to its adaptation to the local ecological conditions. These unique edaphic and climatic conditions, coupled with specific cultivation practices, give the lime its distinguishing features like high juice content, pronounced acidity, thin skin, and a distinct flavor. Recognizing its uniqueness, the Indian government awarded the "One District and One Crop" (ODOP) designation for Indi limbe to the Vijayapura District. This lime variety is popular in South Asian countries, often used to garnish salads and dishes. Its processed forms, like cordials and squashes, are also prevalent and make popular summer drinks.

6.3 CumbumPanneerThratchai (Grape)-The Cumbum valley in the Theni district of Tamil Nadu is known as Grapes city of South India which is known for cultivating the Muscat grapes, known locally as Panner Thratchai. The Muscat variety is also popularly known as the Paneer Thratchai,

on account of its quick growth and early maturity. The agro climate and the soil condition of the Cumbum region is very conducive for the cultivation of the Muscat variety. A unique factor is that in this Cumbum valley the Panneer grapes are available and harvested all through the year as against only during January and April in the rest of India. The grapes grown are suitable for making wine, spirit, jams, canned grape juice and raisins. Since these grapes are produced in two seasons in a year, their yield and returns are exceptionally high. Additionally, the Muscat variety is gaining popularity because of its nutritive value, high total soluble solids, thin skin, and desirable taste.

6.4 Banaras Langda Aam (Mango)- Banaras Langra is the prominent variety of mango and one of the most superior varieties and known for its awesome taste and flavour with thin skin.Natural product size is medium, light green at development. It is extremely solid in character with lovely flavor famous in the world and known for its sweetness, richness and unique flavor.It is an important cultivar of North India. It began as a seedling in Banaras. Tree is exceptionally overwhelming and spreading. Langra maintains its green color after it gets ripe.It is harvested during the 2nd week of July. Geographical area of demarcation for this is Varanasi, Mirzapur Chandauli, Sonebhadra, Ghazipur and Ballia. Major part of Banaras Langda Aam cultivation is existing under Banaras Division of Uttar Pradesh.

6.5 PatapgarhAonla-PatapgarhAonla is a famous horticulture product of Uttar Pradesh femous for its nutritional as well as medicinal properties. It has a very good reputation, uniqueness, historical origin and geographical existence in Pratapgarh, Rai Bareilly, Jaunpur, Varanasi and Sultanpur.Pratapgarh has recognized the biggest aonla cluster in the country for production of aonla and making many types of product. Predominantly three Variety of Aonla are grown in Pratapgarh region and which are Banarasi, Chakaiya and Hathijhool (Francis). PratapgarhAonla is also an export oriented product. Hugue number of human skills are directly involved in the cultivation and production process in the geographical area of this product.

6.6 Rewa Sunderja Mango- Sunderja Mango is known for its sweetness, unique aroma, taste and beautiful look. It is a local variety of Kymore plateau finding its origin at Govindgarh of Rewa district of Madhya Pradesh. The unique yellow color with radish shoulder of ripe mango attractive size aroma attracts mango lover and mango growers.The name "Sunderja" has been derived from “Sunder” mean beautiful because of the appearance of the mango. The mango fruit is whites green at ripe stage is bright Golden color, average length of fruit 12.2 cm width 7.93 cm, Peel % 14.03, stone (%) 12.37, pulp (%) 72.52 and a major quality is TSS 22.23 ^{o}B. This variety matures in last week of May. It pay highly benefit of mango growers. This variery has been awarded First prize All India mango show 2007 organized by CISH,Lucknow.

6.7 Raktsey Karpo Apricot-Raktsey Karpo is unique to Ladakh region. Raktsey Karpo fruits are known for their sweetness,attractive colour and unique flavour.It has significantly higher TSS (28.1±3.8ºBrix) than cultivars with brown seed coats. High TSS content is due to high altitude environmental conditions of Ladakh. Altitude showed linear relationship with fruit TSS content. Raktsey Karpo contains significantly higher sorbitol (53.6±26.5 mg/g DW) content than fruits with brown stone. Sorbitol is a sugar alcohol that is used as a sweetening agent in various food products such as sugar-free sweets and chewing gum. It has 60% of the sweetness of sucrose, with one-third fewer calories. It does not contribute towards dental caries and suggested to be helpful to people with diabetes.Raktsey Karpo fruit seeds have white seed stones. In the local dialect Raktsey means ‘seed stone’ while Karpo means ‘white’. It is unique to Ladakh region. The white seed stone phenotype is an easily distinguishing feature to differentiate Raktsey Karpo from

all other apricots. It is associated with a sweet kernel and brightly colored fruit with high total soluble solids (TSS). It is most preferred by the consumers for fresh consumption.

6.8 Mithila Makhana - “Makhana” is one of the choicest aquatic cash fruit crop of Mithila region of Bihar."Mithila Makhana (Euryale ferox)" is a most popular, ceremonial and unique product of Bihar. Bihar is the only state in country and India is the first country in the world to popularize Makhana as a commercial aquatic horticultural fruit crop. Makhana is recommended for treatment of diseases regarding respiratory, circulatory, digestive, excretory and reproductive systems. Fresh seeds has 55.16-60.0% available carbohydrate, 9.00-25.73% protein, 12.80-15.45% moisture, 4.68-5.25% fibre, 1.08% ash and 0.1-0.52% fat. The seeds were found to contain amylose 20.22%, P 65.41 mg/100 g, K 36 mg/100 g, Na 47.32 mg/100g, Fe 0.96 mg/100g, Mn 0.92 mg/100g, Cu 0.26 mg 100 g and Zn 0.83 mg/100 g. Production of fresh seeds (Guri) has been estimated to be 2.0 to 3.5 t/ha and pop recovery of 35 to 55 per cent as compared to other genotypes. Harvesting and processing (roasting and popping) of Makhana seed to popped lava by traditional method is a unique and indigenous techniques of fishermen community of Mithilanchal region of Bihar.

Fig 11 Images of Fruits GI Registered.

7. GI PRODUCTS AND INDIAN EXPORTS (Anon. 2021)

7.1 Mangoes- In May 2021, India sent 2.5 MT of GI-tagged Banganapalli and Survarnarekha mangoes from Andhra Pradesh to South Korea. This trade emerged from a virtual meeting set up by APEDA, the Indian embassy in Seoul, and ICCK. The shipment was the first from IKSEZ, a part of IFFCO. Come June 2021, India also began shipping 'Jardalu' mangoes from Bihar to the UK. In the fiscal year 2020, India's mango exports, hitting places like the UAE, UK, US, Oman, and Qatar, were valued at about ₹454 cr.

7.2 Kaji Nemu-Lemons from Assam used in drinks, pickles and curries, received its GI tag in 2020.Exported to London in July 2021 and is now available in different supermarkets.Between December 2020 and January 2021, a massive consignment of Kazi Nemu (weighing about 6 MT) was also exported to the European markets.

7.3 Jalgaon Bananas- In June 2021, 22 tonnes of GI-certified bananas from Tandalwadi village in Maharashtra's Jalgaon district were shipped to Dubai, UAE.As of July FY21, the country has exported 1.91 lakh tonnes of bananas worth Rs. 619 crore (US$ 83.10 million).

8. CONCLUSION

Over the time Geographical indication system has become more efficient and convenient to every stakeholder in the supply chain. It have played important role in producing values for Indian products in international market. Thus besides raising standards of society GI is expected to protect traditional knowledge culture and authenticity of the product more efficiently. There's a pressing need for standards that cater to the specific requirements of local products. While the safety and quality of the products shouldn't be compromised.

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