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GI registered crops of northeast India:

Needs and focus

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Geographical Indication (GI) is an essential option for protecting the intellectual property rights of commercially important agricultural crops originated from specific geographical area and associated traditional knowledge in making the commodities distinguished based on their unique characteristics. During last two decades, various institutions and state agencies have taken proactive role in protecting the signature crops through GI registration. As per Sec 2 (f) of GI Act 1999, total 420 commodities have been GI tagged from April 2004 to March 2022 by the Office of the Controller General of Patents, Designs and Trademark, Department of Promotion of Industry and Internal Trade, Ministry of Commerce and Industry, Government of India. Of these, 128 commodities (30.47% of total GI registrations) come under agricultural crop category.

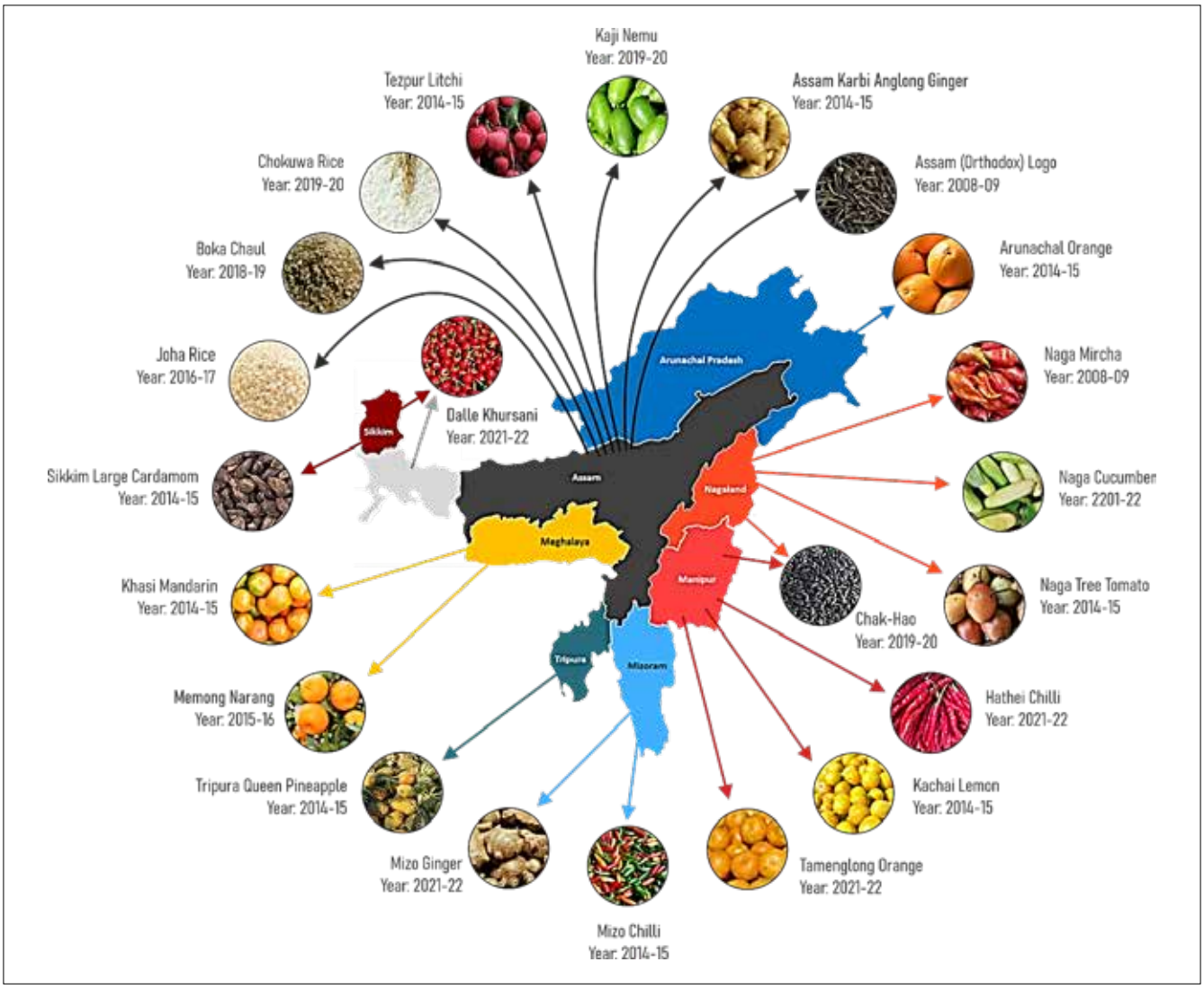
Keywords: Geographical indication, Patents, Trademark

THE north eastern region of India is a rich reservoir of indigenous agri-horticultural crops and many of the crops have immense commercial potential. However, the region, despite of its rich biodiversity, has not been able to take full advantage of GI tagging and shares only 17.18% of the total GI tagged crops. All total 22 specialty crops of NE India namely, 4 cereals (Chak-Hao, Chokuwa Rice, Boka Chaul and Joha Rice); 9 fruits (Arunachal Orange, Kachai Lemon, Kaji Nemu, Khasi Mandarin, Memong Narang, Naga Tree Tomato, Tamenglong Orange, Tezpur Litchi and Tripura Queen Pineapple); 7 spices (Assam Karbi Anglong Ginger, Dalle Khursani, Hathei Chilli, Mizo Chilli, Mizo Ginger, Naga Mircha and Sikkim Large Cardamom); 1 tea (Assam Orthodox) and 1 vegetable (Naga Cucumber) have been GI registered. Among these, 7 crops belong to Assam, 3 crops each belong to Manipur and Nagaland, 2 crops each belong to Meghalaya and Mizoram and 1 crop each belong to Arunachal Pradesh, Sikkim and Tripura. In addition, GI registration of Chak-hao is shared by Manipur and Nagaland and and Dalle Khursani is shared by Sikkim and West Bengal, respectively.

In addition, GI application for different crops of various north eastern states like Bebo Large Cardamom from Arunachal Pradesh; Gol Nemu and Bhimkol Banana from Assam; Yongchak and Manipur Black Cherry from Manipur; Lakadong Turmeric and Soh-Shang from Meghalaya; Rangkuai Mango from Mizoram; Sikkim Orange, Sikkim Orchids, Sikkim Temi Tea and Hee Goan Seremna Cardamom from Sikkim and Jampui Orange from Tripura, etc. are under examination.

All the 22 GI registered crops are unique gift of nature to this region. But only registration of these crops per se will not fulfil the objectives of the GI act, unless it is backed by sound enforcement mechanism. Here, the responsibility of ICAR Research Complex for NEH Region for Research and Development activities on GI crops cannot be undermined. Though most of the crops are presently being commercially exploited, but without adequate technology back-up, these crops may become vulnerable to various stresses in the future and eventually either lose their commercial value or lost over the time due to genetic erosion. Since many years, our institute has been working on some of these crops. However, it is the need of the hour to formulate a meaningful programme on GI tagged crops by converging multifaceted and multidisciplinary research activities.

First important aspect is standardization of location specific package of practices (including organic production package) for the GI tagged crops for maximizing the productivity through a seamless blending of traditional wisdom and modern scientific knowledge. Though package of practices for some crops have already been developed, considering the market potential and export opportunities, dedicated effort should be made on development of organic production packages of these crops with specific focus



GI crops of north eastern region of India

on nutrient management, plant protection and post-harvest management. The location specific rejuvenation packages for declining mandarin orange and large cardamom need to be refined and disseminated to the stakeholders.

These crops are indigenous to north-eastern ecology, well adapted to the local agro climate and contribute significantly to the ethnic food basket. Hence, these crops can be considered as suitable candidate for natural farming. Moreover, there is a great scope for discovery of new genes linked to unique traits including tolerance/ resistance to various biotic and abiotic stresses which has been sporadically studied. Hence, identification and validation of the geo-linked genes and traits of GI tagged crops as well as other potential genetic resources should be undertaken. Despite the geographical restriction, there is still ample scope for evolving better varieties of GI registered crops and our institute has already started working in this direction.

Climate change is a reality having potential to derail the food production system and our GI registered crops are not the exceptions. Therefore, the impact of climate change on the GI tagged crops should be studied and mitigation strategies must be devised. Besides, the potential of perennial GI crops in reducing the carbon and water footprint needs to be worked out. Resource mapping using cutting-edge technology like GIS, remote sensing, nanotechnology and digital tools, etc. can also be attempted in GI crop research.

As GI tagged crops possess unique traits and many of the traits are linked to nutritional and health beneficial properties, there is a great scope for undertaking research on nutri-genomics and metabolomics using conventional, molecular and chromatographic approaches. Bioprospecting is another important research arena which can increase commercial value of the GI tagged crops by many folds. This must be followed by development of innovative processed products and functional foods to meet the industry needs and changing consumer preference. Like possibility of identifying novel genes, there is also an ample scope for discovery of novel bioactive compounds in these crops which will in turn contribute towards new drug discovery and healthy living. With all these information, a knowledge portal should be developed for GI crops of NER.

GI is not only an effective tool for rewarding the market potential of the protected commodities but also

the traditional knowledge associated with them. Hence, the unique cultural aspects of custodian communities associated with the GI crops needs to be documented and highlighted. Besides, the determinants influencing the value chain of GI crops needs to be analysed and crop-wise marketing strategy should be formulated with specific focus on end-to-end customized supply chain management considering the registered proprietors, authorized users, collective rights, inclusive and representative rural-industry organization, governance mechanisms, market-hierarchy axis, quality signals, monitoring of production process, and use of digital platform for holistic improvement in income effect through expanding reach in national and international markets. Along with research, streamlined outreach activities on GI tagged crops are equally important. The social and economic significance of GI registered crops in the region has not been fully realized by the farmers, where our extension functionaries can play an instrumental role in awareness creation. Field gene bank may also be established at KVK farms for *in situ* conservation of the GI crops. Besides, a dedicated initiative should be undertaken for production of quality seed, agronomical practices and planting material of GI crops. Moreover, research institutes and universities must play a pivotal role in promotion of GI crops and GI crop based innovative products through commercialization and agripreneurship development under origin-labelled brand identity.

SUMMARY

GI crops have a significant potential to facilitate rural development in northeast India. Thus, a technology-led collective action is needed to derive benefits from still untapped commercial potential of GI tagged crops in premium niche markets. Then only legitimate rural producers will realize better monetary return which will not only foster the economic prosperity at local level but will also ensure sustainability for future GI registrations from the north eastern region of India.

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