

# Khewra Pink Rock Salt as a registered Geographical Indication of Pakistan

Muhammad Waheed<sup>1\*</sup>, Hammad Majeed<sup>2</sup>, Syeda Shehwar Zahra<sup>3</sup>

<sup>1</sup> Department of Botany, Government Islamia Graduate College, Civil Lines, Lahore 54000, Pakistan

<sup>2</sup> Department of Chemistry, University of Management and Technology, Sialkot 51310, Pakistan; hammad.majeed@skt.umt.edu.pk

<sup>3</sup> Victorian Institute of Technology Sydney 2000, Australia; shehwarzahra05@gmail.com

\* Correspondence: waheed.mouhammad@gmail.com (M.W.); Tel.: +923456610958

**Abstract:** Khewra Pink Rock Salt also known as Himalayan Pink Salt, extracted from the Khewra Salt Mines, in Pakistan is appreciated due to its pink color, rich mineral content, culinary usage and associated health benefits. The problem arose when it was highlighted that it is being sold in global markets as a product of India. It was quite concerning for local communities and regions which are hub of its production since centuries. Pakistan is already bearing the brunt of not claiming many geographical indications timely. After the implementation of Geographical Indications Act of Pakistan in 2020, it's now tagged as a GI of Pakistan. Current study explores the origin of salt, its economic potential, health benefits, and the increasing market demand. Registration of this Pink Salt as a GI of Pakistan is also discussed, that will safeguard its authenticity a Pakistani product. Suitable branding, sustainable mining practices, and value-added products are necessary to meet the increasing demand for high-quality pink salt and to ensure the long-term success of the Himalayan pink salt industry.

**Keywords:** Khewra pink rock salt; Himalayan pink salt; geographical indication; GI act, IPO Pakistan

## 1. Introduction

Khewra Pink Rock Salt, commonly known as Himalayan Pink Salt, is one of the purest salts available, and is famous for its striking pink hue and health benefits. This natural mineral salt (Figure 1) is primarily sourced from the Khewra Salt Mines in Pakistan, one of the oldest and largest salt mines in the world. It is estimated that this salt crystallized almost 600 million years ago (Hughes et al. 2019). After Poland, Pakistan has the largest salt mining reserves. Billions of tones of salt are present in Pakistan's 300-kilometer-long salt reserves, which stretch from Khewra to Kohat. The salt's distinctive color comes from trace minerals such as iron, magnesium, and potassium (Table 1), which contribute to its unique flavor and nutritional profile (Khan 2023). Over the years, this pink salt has become a popular alternative to regular table salt in culinary practices and holistic health circles. It is better than regular table salt since it has more than 92 trace minerals and elements that are essential to human health. In its natural state, pink salt has a high iron content, as shown by its pink color; darker salt has a higher iron content. It is celebrated not only for its aesthetic potential, but also due to health benefits, versatile usage in cooking, and cosmetic applications (Asim 2024).

**Citation:** Muhammad Waheed, Hammad Majeed, Syeda Shehwar Zahra. 2023. Khewra Pink Rock Salt as a registered Geographical Indication of Pakistan. *Trends in Intellectual Property Research* 2,1-5. <https://doi.org/10.69971/tipr.1.2.2023.12>



**Copyright:** © 2023 by the authors. This article is licensed under a Creative Commons Attribution 4.0 International License. To view a copy of this license, visit <http://creativecommons.org/licenses/by/4.0>.



**Figure 1.** Natural Khewra salt with a pink hue.

**Table 1.** Composition of Shan Virgin Himalayan (Khewra) pink salt packed by Shan foods<sup>1</sup>.

Sodium Chloride (NaCl)	99.2% min
Calcium (Ca)	0.06% max
Magnesium Chloride (MgCl <sub>2</sub> )	0.05% max
Sulphate (SO <sub>4</sub> )	0.29% max
Moisture	0.20% max
Insoluble Matter	0.20% max
Other Trace Elements (Iron, Manganese, Potassium, Copper)	less than 100 PPM

Himalayan pink salt was used to export from Pakistan as raw stone with an average selling price of \$40 per ton, mainly to India (Hadid and Sattar 2019). India used to process and resell it with a massive markup but without recognition of the original Pakistani source. As a result, Pakistan barely benefited from this pink gold salt, with the annual revenue generated from \$26 to \$50 million (Hadid and Sattar 2019). India exported it at \$300 per ton to various European countries, Korea, US, UAE, Canada, Somalia, and Spain, using its own packaging and product name (Abby and Steve 2021). Similarly, several foreign companies have a major share in the global market and a few of them used to sell this pink salt on Amazon for \$26.40 per 400 grams, which is almost equal to Rs. 8,000 per kilogram, mainly due to the absence of a GI tag (Banoori 2021, Crescenzi et al. 2021, Gain 2023). However, following a strong social media campaign, Pakistan banned the export of pink salt to India and initiated the process of Geographical Indication (GI) registration (Hadid and Sattar 2019).

Geographical Indications (GIs) help to protect the identity and quality of products linked to specific geographical regions. GIs help to maintain cultural heritage and traditional knowledge of their specific regions. By legally protecting the name of a product from a specific geographical region, GIs ensure that only producers from that area can use the name of a specific product, thereby preserving the reputation and authenticity of the region (Varnekar and Chutia 2024). GIs favor rural economic development by valorizing local production. These tags often result in enhanced prices for the product, increased demands, and better market access for tagged goods. They represent a quality safeguard system for consumers, who can trust GI labelled products having specific qualities or enjoy a reputation due to their place of origin (Wander et al. 2020). These products are traditionally made in a way that is inherently more sustainable and environmentally friendly. Finally, GIs are important in international trade, especially in countries where consumers are willing to pay a premium price for products with specific geographical origins. They also protect consumers from counterfeit products (Giovannucci et al. 2009).

Geographical Indications (GIs), a form of intellectual property, to help identify the goods as originating from a specific place, where their quality, reputation, or characteristic of the goods is essentially attributable to that specific geographical region (Crescenzi et al. 2021). The practice of linking products with their place of origin dates back to ancient times, e. g., Attic wine in Greece and Roquefort cheese in France. Modern legal framework for GIs was formed in the 19<sup>th</sup> and 20<sup>th</sup> centuries, following the pioneer "Appellation d'Origine Contrôlée" system in France (1905). Chianti wines in Italy and Port wines in Portugal were among the first to get a formal GI status (Meloni and Swinnen 2018). International recognition came with the TRIPS Agreement of 1994 under the WTO, which required member countries to protect GIs. Today, GIs are important tools in global trade for the conservation of cultural heritage and for the promotion of rural development (Vittori 2010). An essential aspect of Himalayan Pink Salt's identity and authenticity is its Geographical Indication (GI) status (Anjum et al. 2022, Reporter 2021). Geographical Indications (GIs) of Pakistan, e.g., Basmati rice, and Multani pottery have already been recognized. The 2020 Geographical Indications (Registration and Protection) Act of Pakistan provides a legal mechanism to ensure the authenticity of such products and market value augmentation. Pakistan aspires to prevent misuse, help in rural development, and increase the position in world trade by tagging GI to products from specific regions (Shafi et al. 2024).

This study will explore the origins, composition, health claims, and GI tagging of Khewra Pink Rock Salt.

## 2. Methods

The researchers adopted a descriptive-analytical methodology, due to nature of study, to collect information and facts from original and documented sources. They described and analyzed legal texts in a systematic and legal manner to reach logical understandings that helped them to frame the research problem.

## 3. Results and Discussion

Pakistan ranks 20<sup>th</sup> among the top salt-exporting countries irrespective of the world's largest salt manufacturer. This was due to unauthorized regional trade and no Geographical Indication (GI) for Himalayan Pink Salt. The salt is facing substantial competition from other salt-manufacturing areas and nations. The prominent competitors include salt producers in the Andes, like Bolivian Salt Flats, and from other various regions, globally. The existence of counterfeit or fake products increases the competitive landscape, questioning genuine Himalayan Pink Salt producers (Gain 2023, Nazir et al. 2021, Sood and Sharma 2024). Himalayan Pink Salt is primarily obtained from the Khewra Salt Mines, located within the Salt Range in Pakistan. The Salt Range, a geologically

<sup>1</sup> Available online: <https://www.shanfoods.com/product/salt/himalayan-pink-salt/> (accessed on 31 July 2024).

significant area, is believed to have formed during the Miocene epoch. This ancient formation is renowned for its abundant mineral deposits. It has a historical lineage that traces back to ancient times, mostly its discovery attributed to the era of Alexander the Great. It's the rich history, and unique geographical location of this mine highlighted Himalayan Pink Salt as both a cultural and economic treasure (Hassan et al. 2018, Reporter 2021, Tahir and Alaamer 2008).

Himalayan Pink Salt has a rich natural mineral profile including essential trace elements such as calcium, iron, magnesium, potassium as compared to regular table salt, which is heavily processed and deprived of most minerals. These trace minerals in the salt supports various bodily functions, including electrolyte balance, bone health, and overall hydration (Salvo et al. 2023, Hassan et al. 2018, Khan 2023). Himalayan Pink Salt's natural form provides a more comprehensive approach to increase mineral intake. Himalayan Pink Salt is less processed, which supports health-conscious dietary habits (Reporter 2021). In the culinary world, it is used as a finishing salt or in gourmet dishes to enhance taste and presentation. In the wellness industry, it is utilized in products such as salt lamps, bath salts, and inhalers. These applications are based on the belief that Himalayan Pink Salt can aid in relaxation, detoxification, and overall well-being (Asim 2024). The global Himalayan Pink Salt market is valued at several billion dollars, while a steady growth is projected due to increasing consumer interest in natural products. Export figures implies that pink salt is contributing significantly to the economy because Pakistan is the primary source of this salt (Asim 2024). The Himalayan Pink Salt market can further grow and reach its full potential globally by reducing these threats to exploit growth opportunities (Khan 2023).

Khewra Pink Salt has faced substantial challenges, mostly due to its exploitation and misrepresentation on the international arena. One of the most critical issues involves the export of this salt from Pakistan to India at extremely low prices, as low as 2.98 rupees per Kg in 2016 (Tayyab 2019). This offer was only for India to repackage and market it as a premium Indian product under the "Himalayan" brand. This has allowed India to profit enormously, selling the salt at prices as high as 20 Euros per kilogram in Western markets, while Pakistan earns only a fraction of the potential revenue. There have been reports of Pakistani Himalayan Pink Salt being repackaged and sold by countries like Israel and France, raising questions about how the salt reaches these nations, especially given Pakistan's lack of diplomatic relations with Israel (Karim 2021). This ongoing exploitation and the lack of proper branding and packaging within Pakistan have led to significant economic losses, prompting Pakistan to register Himalayan Pink Salt as a Geographical Indication (GI) product to protect its identity and market value. The disputes surrounding the ownership, branding, and pricing of pink salt underscore the need for stronger regulations and international protections to ensure that the true origin of this valuable natural resource is recognized and that the economic benefits are distributed (Abbas 2021, Hadid and Sattar 2019, Karim 2021).



**Figure 2.** Himalayan Pink Salt Packing in Israel (Karim 2021).

In March 2020, the Parliament of Pakistan passed the Geographical Indications (Registration and Protection) Act for the registration and protection of Geographical Indications within the country in the public interest. The Geographical Indications Registry under this act is established under the Intellectual Property Organization (IPO) Pakistan. Government of Pakistan will retain ownership of all GIs, allowing relevant bodies or organizations to register products as GIs. The Act also permits the registration of foreign GIs, provided they are protected in their country of origin, and mandates strict criteria, including the submission of a book of specifications and the involvement of a designated certification body (Daudpota 2020, Nazir et al. 2021).

The Act outlines a process for registering GIs, granting perpetual protection from the date of application once accepted. Individuals or groups interested in using a registered GI must become authorized users, subject to the registrant's approval. These registrations of authorized users are valid for 10 years and can be renewed. The Act provides both civil and criminal remedies for GI infringements, with all related actions governed by the Intellectual Property Tribunal. This comprehensive legal framework ensures robust protection for Pakistan's geographical indications and their authorized users in defending their rights (Daudpota 2020). Intellectual Property Organization (IPO) has notified Pink Rock Salt on 27<sup>th</sup> April, 2021<sup>2</sup> and registered Khewra Pink Rock Salt as GIs on 18<sup>th</sup> July 2022<sup>3</sup> with Pakistan Mineral Development Corporation (PMDC) as registrant and certification body under section 11(2) of the Geographical Indications (Registration & Protection) Act, 2020. The Book of Specification maintained by IPO contains details of salt which can be tagged as GI. The role of IPO is critical in maintaining the integrity of GI status and making sure that

<sup>2</sup> Available online: [https://ipo.gov.pk/gi\\_notifiedGIs](https://ipo.gov.pk/gi_notifiedGIs) (accessed on 31 July 2024)

<sup>3</sup> Available online: [https://ipo.gov.pk/gi\\_registeredGIsPK](https://ipo.gov.pk/gi_registeredGIsPK) (accessed on 31 July 2024).

only legitimate products are getting benefit from this identification (Khan 2023, Mukhtar et al. 2019, Murtiza et al. 2018). The GI status will protect Himalayan Pink Salt against imitation and exploitation (Swamy 2021). According to Salt Manufacturers Association of Pakistan (SMAP), almost fifty companies have applied for the pink salt GI tag, which is being considered by the Pakistan Minerals Development Corporation (PMDC) (Khan 2023, Reporter 2021).

After GI tag, manufacturers can justify premium pricing and appeal to consumers who value authenticity. This will also help in positioning Himalayan Pink Salt as a premium product in various markets and thus enhancing its brand image around the globe (Das 2009, Swamy 2021). The international recognition of the GI status will open new export opportunities, bringing extra economic benefits for the producers. GI will protect the cultural legacy associated with Himalayan Pink Salt (Sood and Sharma 2024).

#### 4. Challenges and Future Prospects

Khewra Pink Salt is facing various challenges, primarily due to competition and market dynamics. One significant issue is the presence of counterfeit products that dilute the brand's authenticity and reputation. Additionally, the lack of awareness and recognition of the Geographical Indication (GI) status can impede the marketability of genuine products. The competition from other salt-producing regions, such as the Andes, further complicates the landscape, as these areas often promote unique mineral profiles and production methods. To overcome these challenges, the industry must focus on enhancing branding strategies, increasing consumer awareness, and ensuring strict adherence to quality standards. Prospects appear promising, particularly with the GI registration, which can enhance market access and allow producers to command premium prices. By leveraging sustainable practices and innovation, the Himalayan Pink Salt industry can capitalize on the growing global demand for natural and health-oriented products, ensuring long-term viability and economic benefits for local communities (Wizarat 2023). Pakistan recently banned the export of raw pink Khewra salt. The decision is based to boost revenue by exporting value-added products rather than raw salt. (Anonymous 2024, Hussain 2024).

#### 5. Conclusions

Currently, Pakistan earns \$70 million from pink salt exports, though it has the potential to earn \$12 billion annually. This low export figure is primarily due to the absence of a comprehensive policy framework and insufficient facilities for processing, packaging, and global distribution. Pakistan is at 20th place among salt-exporting countries, irrespective that it ranked 2nd among salt producers. This situation is mainly due to illegal regional trade and the absence of a Geographical Indication (GI) tag. The GI status will only help to protect its authenticity and enhance its global reputation. The successful implementation of GI protections will increase consumer confidence and elevate Khewra Pink Salt as a well-reputed brand, ultimately contributing to rural development and sustainable economic growth in the Khewra region.

#### References

- Abbas, Ghulam. 2021. After GI tag for Basmati, Pakistan set to register pink salt as local product. Available online: <https://profit.pakistantoday.com.pk/2021/02/18/after-gi-tag-for-basmati-pakistan-set-to-register-pink-salt-as-local-product/#:~:text=February%2018%2C%202021-,After%20GI%20tag%20for%20Basmati%2C%20Pakistan%20set%20to,pink%20salt%20as%20local%20product&text=ISLAMABAD%3A%20After%20the%20registration%20of,the%20same%20as%20Himalayan%20salt> (accessed on 31 July 2024).
- Abby, Narishkin, Steve Cameron. 2021. How 800 million pounds of Himalayan salt are mined each year. Available online: <https://www.businessinsider.com/how-800-million-pounds-of-himalayan-salt-are-mined-yearly-2021-2> (accessed on 31 July 2024).
- Anjum, Muhammad Iftikhar, Rehman Shakeel Ur, Kakakhel Muhammad Basim, Siddique Muhammad Tariq, Mahmood Muhammad Masood, Wazir-ud-Din M, Hayat Sikander, Ahmad Khalil. 2022. Thermoluminescence study of Pink Himalayan salt from Khewra mines, Pakistan. *Journal of Luminescence* 252: 119329. <https://doi.org/10.1016/j.jlumin.2022.119329>.
- Anonymous. 2024. CM bans export of raw pink salt. Available online: <https://www.dawn.com/news/amp/1858997> (accessed on 20 September 2024).
- Asim, Muhammad. 2024. Pink Himalayan Salt: history, composition, uses, and health benefits. Customcy. Available online: <https://customcy.com/blog/pink-himalayan-salt/> (accessed on 31 July 2024).
- Banoori, Waqas. 2021. Pakistan can earn millions of dollars through Himalayan Pink Salt. Available online: [https://thenationalfrontier.com/2021/03/23/pakistan-can-earn-millions-of-dollars-through-himalayan-pink-salt/?\\_im-zgcTNFiT=4525423007749826689](https://thenationalfrontier.com/2021/03/23/pakistan-can-earn-millions-of-dollars-through-himalayan-pink-salt/?_im-zgcTNFiT=4525423007749826689) (accessed on 31 July 2024).
- Crescenzi, Riccardo, Fabrizio de Filippis, Mara Giua, and Cristina Vaquero-Piñeiro. 2021. Geographical indications and local development: the strength of territorial embeddedness. *Regional Studies* 56: 381-393. <https://doi.org/10.1080/00343404.2021.1946499>.
- Das, Kasturi. 2009. Socioeconomic implications of protecting geographical indications in India. Centre for WTO Studies. Available online: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1587352](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1587352) (accessed on 31 July 2024).
- Daudpota, Faisal. 2020. Geographical indications law of Pakistan – an overview. *Law & Society: Private Law - Intellectual Property eJournal* <http://dx.doi.org/10.2139/ssrn.3609010>.
- Di Salvo, Eleonora, Tardugno Roberta, Nava Vincenzo, Naccari Clara, Virga Antonio, Salvo Andrea, Corbo Filomena, Lisa Clodoveo Maria, Cicero Nicola. 2023. Gourmet table salts: the mineral composition showdown. *Toxics* 11:705. <https://doi.org/10.3390/toxics11080705>.
- Gain, Mkt. 2023. Pink Salt Market: Challenges, Opportunities, and Growth Drivers and Major Market Players forecasted for period from 2023 - 2030. Available online: <https://www.linkedin.com/pulse/pink-salt-market-challenges-opportunities-growth-drivers-major-qezhe/> (accessed on 31 July 2024).
- Giovannucci, Daniele, Josling Timothy E, Kerr William A, O'connor Bernard, Yeung May T. 2009. Guide to geographical indications: linking products and their origins (summary). Available online: <https://mpr.ub.uni-muenchen.de/27955/> (accessed on 31 July 2024).
- Hadid, Diaa, Sattar Abdul. 2019. Pakistan wants you to know: most pink Himalayan salt doesn't come from India. Available online: <https://www.npr.org/sections/thesalt/2019/10/03/763960436/pakistan-wants-you-to-know-most-pink-himalayan-salt-doesnt-come-from-india> (accessed on 31 July 2024).

- Hassan, Abrar Ul, Mohy Udd Din Ayesha, Ali Sakhawat. 2018. Chemical characterisation of Himalayan rock salt. *Pakistan Journal of Scientific and Industrial Research, Series A. Physical Sciences* 60: 67-71. <https://inis.iaea.org/search/searchsinglerecord.aspx?recordsFor=SingleRecord&RN=48086184>.
- Hughes, Nigel C, Myrow Paul M, Ghazi Shahid, McKenzie N Ryan, Stockli Daniel F, DiPietro Joseph A. 2019. Cambrian geology of the Salt range of Pakistan: linking the Himalayan margin to the Indian craton. *GSA Bulletin* 131: 1095-114. <https://doi.org/10.1130/B35092.1>.
- Hussain, Bilal. 2024. SMAP raises concerns over proposed ban on raw pink salt exports. Available online: <https://www.brecorder.com/news/40322895/fed-cuts-rates-by-half-a-percentage-point-cites-greater-confidence-about-inflation> (accessed on 31 July 2024).
- Karim, Arif. 2021. Pakistani salt being sold in Jewish state of Israel. Available online: <https://www.siasat.pk/threads/pakistani-salt-being-sold-in-jewish-state-of-israel.790724/> (accessed on 31 July 2024).
- Khan, Azeem Ahmed. Pakistan to soon get GI tag for world-famous Pink Salt. Available online: <https://www.inp.net.pk/news-detail/inp-wealthpk/pakistan-to-soon-get-gi-tag-for-world-famous-pink-salt> (accessed on 31 July 2024).
- Meloni, Giulia, Swinnen Johan. 2018. Trade and terroir: The political economy of the world's first geographical indications. *Food policy* 81: 1-20. <https://doi.org/10.1016/j.foodpol.2018.10.003>.
- Mukhtar, Sohaib, Zainol Zinatul Ashiqin, Jusoh Sufian. 2019. Administrative procedure of trademark enforcement in Pakistan: a comparative analysis with Malaysia and USA. *Economics, Law and Policy* 2:113-128. <http://dx.doi.org/10.22158/elp.v2n1p113>.
- Murtiza, Ghulam, Abad Qamar, Amir Shahzad Muhammad. 2018. Intellectual property organization of Pakistan (IPO-Pakistan): an analysis of its performance from 2014-2017. *Pakistan Languages and Humanities Review* 2: 36-46. [http://doi.org/10.47205/plhr.2018\(2-II\)2.4](http://doi.org/10.47205/plhr.2018(2-II)2.4).
- Nazir, Raheela, Hua Xin, Kamal Ahmad. 2021. Pakistan gearing up to trademark Himalayan pink salt to boost exports. Available online: [http://www.xinhuanet.com/english/2021-03/05/c\\_139786477.htm#:~:text=In%20an%20effort%20to%20curb,the%20Geographical%20Indications%20\(GI\)](http://www.xinhuanet.com/english/2021-03/05/c_139786477.htm#:~:text=In%20an%20effort%20to%20curb,the%20Geographical%20Indications%20(GI)) (accessed on 31 July 2024).
- Reporter, Staff. 2021. GI of Himalayan pink salt to be registered. Available online: [https://www.dawn.com/news/1608188#:~:text=ISLAMABAD%3A%20The%20Ministry%20of%20Commerce,as%20Geographical%20Indications%20\(GI\)](https://www.dawn.com/news/1608188#:~:text=ISLAMABAD%3A%20The%20Ministry%20of%20Commerce,as%20Geographical%20Indications%20(GI)) (accessed on 31 July 2024).
- Shafi, Mohsin, Muhammad Ashraf Fauzi, Zoya, Mohd Hanafiah Ahmad, and Xiaoting Song. 2024. Geographical indications (GIs) protection in Pakistan: assessing the role of new legislation in sustainable development. *Asian Journal of Technology Innovation* 17:1-32. <https://doi.org/10.1080/19761597.2024.2353361>.
- Sood, Ekta, Sharma Yogita. 2024. Geographical indicators as tools of economic development. *Indian Journal of Public Administration* 3:107-121. <https://doi.org/10.1177/00195561241248137>.
- Swamy, Raju Narayana. 2021. Trans border IPRs -a GI based approach. *Indian Journal of Public Administration* 67: 256-264. <https://doi.org/10.1177/00195561211030720>.
- Tahir, Syed Nasir Ali, Alaamer Abdulaziz S. 2008. Determination of natural radioactivity in rock salt and radiation doses due to its ingestion. *Journal of Radiological Protection* 28: 233 - 236. <https://doi.org/10.1088/0952-4746/28/2/n01>.
- Tayyab, Aimen. 2019. Pakistan's pink salt. *Daily Times*. Available online: <https://dailytimes.com.pk/415535/pakistans-pink-salt/> (accessed on 31 July 2024).
- Varnekar, Sunil Sudhakar, Chutia Upankar. 2024. The impact of geographical indication in the international trade. *Educational Administration: Theory and Practices* 30:13863-13869. <https://doi.org/10.53555/kuvey.v30i5.6081>.
- Vittori, Massimo. 2010. The international debate on geographical indications (GIs): the point of view of the global coalition of GI producers—oriGIn. *The Journal of World Intellectual Property* 13: 304-314. <https://doi.org/10.1111/j.1747-1796.2009.00373.x>.
- Wander, Alcido Elenor, Neves Godoi Cintia, Alves da Costa Filho Bento, Ladvoat Marcelo. 2020. Geographic indications (GI): linking history and tradition with competitive business. *Brazilian Journal of Development* 6: 24601-24618. <http://dx.doi.org/10.34117/bjdv6n5-059>.
- Wizarat, Talat Ayesha. 2023. *Belt and Road Initiative: Emerging World Order*. Partridge Publishing; Singapore.