



# Exporting Fresh Ginger from Thailand - A Startup Business Proposal

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## ABSTRACT

Ginger is a signature spice in Asian cuisines with its distinct aroma and unique biting tinge. Ginger-extract is also used in herbal medicines and cosmetic products across the world. During pandemic, the demand of ginger grew higher due to its medicinal characteristics but the sourcing from China and India was hampered due to high Covid-19 cases. Though not as large as India and China, Thailand is also one of the major producers of ginger. China is the leading exporter of fresh ginger due to its volume, reliable preservation and smart marketing strategies offering the most competitive bargain. The study undertakes a qualitative inquiry to explore feasibility of exporting Thai ginger to Iran which imports about 3000 tons of fresh ginger annually from China and India. The study uses primary data obtained from Key Informants' interviews, and physical visits to markets in Thailand and Iran. It suggests that qualitatively Thai ginger possesses superior aroma, quality of fiber and taste than Chinese and Indian ginger. The study proposes that affluent Irani customers, expectantly shall prefer quality over price. It recommends that following the right product-handling process, improved packaging and increased product-life-cycle by applying some treatment, the product could remain fresh for longer duration. The efficient packaging by having the ginger loaded on pallet, permeating air circulation inside container, shall help reduce ginger-sweating thus enhance shelf-life and maintain moisture level and temperature to reduce mold-formation. Attractive packaging could allure the customers easily and smart advertisement of high-quality ginger could convince customers of future markets like UAE, Iraq and other Arab countries.

**Keywords:** Thai Ginger, Fresh Ginger, Ginger packaging, Ginger Export, Ginger Manufacturing Process, Iran Market

## INTRODUCTION

Ginger is an inseparable part of South-Asian cuisine due to its savory taste, and extensive usage by the cosmetics and pharmaceutical manufacturers (Abubacker, 2009). The part of ginger plant that is useful is its underground rhizome. Ginger has a well-documented account of both culinary and therapeutic use in the world, particularly in Chinese, Indian and Japanese medicinal laboratories. Interestingly, out of total estimated global production of 4-5 million tons of ginger, India and China combinedly produce more than 3.5 million tons. China, with an annual production of 1-1.5 million tons of ginger holds the status of the world's leading exporter for many years (Abubacker, 2009). Due to lockdowns and disruptions in the global

supply chain, many agricultural exports have been obstructed during the outbreak of the novel Covid-19 virus but ginger exports particularly have seen a surge of demand. In India alone, ginger export in early 2020 attained a 14.4 percent growth over its 2019 volume with a total value of \$93.29 million (Ayipei, 2020). This has happened due to the medicinal characteristics of ginger which was considered by many ayurvedic professionals as one of the cures for respiratory distresses. As a result, its demand was on the rise in many parts of the world even though the efficacy of ginger in this medicinal usage had no specific scientific evidence (Ayipei, 2020). Since it is widely believed that the novel coronavirus outbreak may have started from Wuhan-China, reportedly from the wild fresh food and seafood wet market in China (Ayipei, 2020), importing Chinese ginger became a buyer's dilemma in many established markets. The sourcing of ginger from China and India thus, was seriously hampered due to high Covid-19 cases in those countries (Ayipei, 2020) which had created a scenario where finding an alternative source of ginger became very evident.

Though not as large as India and China, Thailand is one of the major producers of ginger. Chinese ginger holds about two-third of the global ginger export due to its volume, reliable preservation and smart marketing strategies offering the most competitive bargain. It is assumed that some markets are willing to pay more to get higher grade ginger for their customers. This qualitative study explores the feasibility of exporting Thai ginger to an established market for Chinese ginger – Iran. Before Covid-19 pandemic, Iran used to import about 3000 tons of fresh ginger annually, mainly from China and India. The study collected primary data by interviewing some key personnel from the ministry and industry and by visiting in person some logistic nodes of ginger industry to study markets in Thailand and Iran. The study proposes that Irani market shall attract affluent customers who are willing pay higher for a high-end product like Thai ginger. The study thereafter puts forward recommendations as regards improved preservation, logistics transportation and temperature control measures to extend the shelf life of this delicate product and markets could also open to other Arab destinations. The important point for ginger farming in Thailand shall remain engrained in the maintenance of its quality (Waiyawuththanaporn, Tirastittam & Tirastittam, 2018; p 3574). The principal question asked throughout the study was, “How can the Thai ginger be profitably exported to the Irani market?” The answers shall identify the opportunities, vulnerabilities and necessary steps to be taken at various nodes in the overall exportation chain and process to consider Thai ginger a viable commodity for export to Iran.

## DEMAND OF GINGER AS A CONSUMER PRODUCT

In Indian ayurvedic medicine, ginger has long been used as an anti-inflammatory herb (Abubacker, 2009). Botanically termed as *Zingiber Officinale*, that comes of its Greek origin – zingiberis. To many Asians, Ginger is the most popular spice in the world. The English named it ginger though it originated from Sanskrit word ‘Sringavera’ or the ‘horn-root.’ Ginger was found useful by these two ancient civilizations from the olden times but Europe came to know of it much later (by the 11th century) . Inherent health benefits engrained in herbs like ginger, turmeric and garlic are well-recognized. These plants and herbs serve as dietary supplements for boosting the immune systems and help improve defense against inflammatory diseases. Many people in the world believe that drinking water with honey, lime, ginger and garlic is a cure to common cold, flu, and fever. Health benefits of ginger as a traditional remedy to combat the Covid-19 was also popular in Asia and Africa (Ayipei, 2020).

Out of total production of 4-5 million tons of ginger, India, produces annually about 1.5-2

million tons but constitutes only 6 percent of the global export due to its high domestic consumption (Ayipei, 2020). China has an annual production of 1-1.5 million tons but holds about 57 percent of global exports. Apart from fresh ginger, the overall demand of dried ginger to the pharmaceuticals and cosmetics industries value about USD 442 million. Due to Covid-19 restrictions and a domestic flood, the biggest worldwide exporter China's global exports of ginger decreased in the 2020 by 15-20 percent compared to 2018/2019 export because of the floods that affected ginger production (Jang, 2020). This decline resulted in a significant rise in its price in countries such as Vietnam, Bangladesh, and Pakistan. China also had experienced disruption of international supply chain during the severe acute respiratory syndrome (SARS) epidemic, but the effect of Covid-19 pandemic was much larger and more severe. The temporary closure of international trade and lockdowns caused a global shortage of ginger in 2020 onward. This demand was enhanced as ginger is acknowledged as an indigenous medicinal beverage that augments one's immunity against diseases (Jang, 2020). For example, following the proliferation of Covid-19 pandemic in Africa, numerous videos on social media were seen that advocated that warm water with garlic, ginger, lemon in it can be used to cure someone who is infected with Covid-19 (Observers, 2020). Currently, the ginger supply chain has been stabilized and the prices have fallen to previous standards but the economic export of ginger in the global market was affected because China and India also became worse affected countries by Covid-19 (Ayipey, 2020). In 2021, total ginger trade amounted to US\$1.39 billion. Due to various reasons, between 2020 and 2021 the exports of ginger decreased by -5.57 percent, from US\$1.47 billion to US\$1.39 billion (Ginger, 2022). It is therefore, worth researching on the prospects of ginger export from new sources and novel ideas and seeking its export viability to established markets of China as a sensible and timely alternative.

## METHODOLOGY

This descriptive research with exploratory approach was conducted to examine the viability and identifying the factors for and against the proposed theme of exporting fresh ginger from Thailand to another country, here to Iran. The researcher utilized a thorough background study on the product itself, including its related literature mentioning handling, preservation and exportation throughout the various nodes of the supply chain. Thereafter some important personalities in the concerned ministries and agricultural university had been asked open-ended questions for their invaluable inputs, opinions and recommendations.

3.1 Population and Sample. The population for this research includes the internal and external stakeholders of ginger production and exportation, and retailing, both in the home and destination country. Some farmers, intermediaries and storage personnel have also been questioned for tapping from their tacit knowledge. The questions in the interview were developed by study of related research question and literature review then created the draft questions duly vetted by the academic adviser. The interview questions included both general information and specifics related to the research question. The obtained primary data was then processed to derive related information and interpreted to form necessary inferences on the research question.

3.2 Data Collection Process about Thai Ginger. To educate others about Thai fresh ginger, it is necessary to collect and organize relevant data points about ginger, such as its weight, size, color, flavor, aroma, and any other characteristics that are of interest. The researcher is not an expert on collection and analysis of agricultural data. So, the relevant data was collected from experts at the Ministry of Agriculture.

3.3 Raw Data Collection for Analysis. Through personal visits and interviews the researcher collected primary data from the growers and farmers in the northern provinces, experts from academic domain in the university and legal and other data from the representatives of concerned ministries of the Thai government. It sought to find the vulnerabilities of the process involved in preparing, storing and the exportation of a perishable product like fresh ginger.

## RESULTS AND FINDINGS

The result includes the sifted information from all the data collected through individual study, personal visits and key informants' interviews of external stakeholders both in Thailand and Iran. Some of it is informative, some are guidance-oriented some are potential to be used to draw conclusions and recommendations.

4.1 Quality of Thai Ginger. In 2018, the volume of Thailand's vegetable exports stood at 126,069 tons with a value of about \$117.1 million (Waiyawuththanaporn, Tirastittam & Tirastittam, 2018). In the post-Covid scenario, some avenues have opened up for high-grade agricultural products like Thai ginger. According to Waiyawuththanaporn, Tirastittam and Tirastittam (2018), exporting Thailand's ginger to Japan excels over its competitors on the following factors: quality, price, equipment and supply standard, custom process and distribution pattern with a score of 4.86 upon 5.0 which is at a 'Good' significant level. It was identified that the quality of Thai ginger is higher and is characterized by superior aroma, high-grade fiber and taste compared to Chinese and Indian ginger (from interviews of staff from Ministry of Agriculture Thailand).

4.2 Processing Thai Ginger for Export. Like any other fresh vegetable, ginger is also a perishable product so it requires a careful and delicate handling process during logistics functions like storage and transportation. The farmers, the intermediaries, the exporters, the importers and the retailers need to learn about the intricacy involvement in the special handling of a short-lived product like ginger.

4.2.1 Steps in Preparing Ginger for Export. Some important steps to prepare ginger harvest are to prepare the best ginger ready to export (suggested by Agriculture Expert):

- a. Wash. The ginger needs to be washed with high water pressure so all the muds, dust and the small stones will be removed from the surface of the ginger.
- b. Trim. After washing the ginger with high water pressure, all the ginger are brought to a place for trimming and sorting. At this point the workers will sort the gingers according to size and cut the damaged and ungrown parts. And they will be keeping the ginger ready for the next steps.
- c. Chlorine. After gingers are washed and trimmed, these are passed through chlorine water for about one or two minutes for cleansing.
- d. Anti-Mold. In this process some chemical treatment is added, as anti-mold treatment. Need to keep the ginger into this liquid for about 2 minutes.
- e. Dry. In this process, the producers need to make sure after all the treatment and

trimming of the gingers, to close up all the cutting area and prevent chemical seepage and bacterial infections and pests. Thereafter the ginger is made dry by using large fans while the gingers are placed on the tables made by a porous surface. It takes about 6 to 7 days to dry up.

f. Packing. In the packing process, ginger needs to be packed in the carton or plastic boxes, most commonly in 10 kg packets with net weight additional 250g into every box, since the ginger will lose some weight while in preservation and it must weigh 10 kg as net weight at the time of arrival to the country of destination.

g. Preservation in cold storage. After the ginger is fully treated and packed, it is preserved in the cold storage in specific temperature, before loading into container, (e.g., the ginger needs to stocked at 12°C to 14°C).

h. Loading into container. After keeping the ginger in cold storage for a few days, it is transported by container trucks to the shipping destinations.

4.3 Export Documentation and Quarantine Requirements. In addition to the process of loading into containers from cold storage, the export process involves some documentation depending on the country of destination. For example, exporting ginger from Thailand to Iran, the following documents need to be prepared with some quarantine conditions as below:

- a. Bill of Lading.
- b. Certificate of Origin.
- c. Phytosanitary Certificate.
- d. Commercial Invoice.
- e. Packing List.
- f. Fumigation certificate.
- g. Health certificate.

4.3.1 Pre-Export Quarantine Requirement. The quarantine department of Iran have their own conditions as supplementary information as below:

a. Quarantine conditions for importing fresh ginger rhizome (*Zingiber officinale*) Ginger Fresh Rhizome) from Thailand for edible use must have a valid phytosanitary certificate from the Ministry of Agriculture of Thailand and certify that the cargo is free from the following damaging factors: a) *Ostrinia furnacalis*, b) *Achatina fulica*, c) *Radopholus similis*.

b. The aforementioned is mandatory, otherwise due to the lack of documents, the clearance of the goods will be refused.

c. The damage caused by this systematic delay shall be borne by the importer.

d. Disinfection of the shipment in Thailand with methyl bromide gas in the amount of 32 grams per cubic meter for 3 hours at a temperature above 21 degrees Celsius under NAP conditions and entering its specifications in the Treatment section of the relevant plant health certificate.

e. The shipment must be free from soil, plant remains, weed seeds, live insects and signs of diseases.

f. The cargo must be cleared at the border of entry and customs. If the cargo is found to

be contaminated during inspection, the cargo will be disinfected at the expense of the owner of the goods, and otherwise, the cargo will be returned or it will be destroyed.

g. If quarantine contamination is observed, the goods will be returned or destroyed according to international regulations.

h. In case the shipment is exported through a third country, a copy of the plant health certificate of the country of origin must be submitted, which has all the conditions are announced and sealed with the quarantine seal of the re-exporting country along with the original re-export phytosanitary certificate to be provided to plant quarantine officers stationed at the border of entry and clearing customs.

i. The notification of the declared conditions is issued according to the provisions of Article 11 of the Plant Protection Law and in relation to plant quarantine issues, and the importer is obliged to comply with other laws and regulations related to import.

4.3.2 Product Life of Fresh Ginger. Fresh Ginger under 15 degrees Celsius could retain its original condition for about 4 to 6 weeks and likely to be dehydrated thereafter. The author attaches here some pictures of fresh ginger that had been exported to the USA from Thailand in the beginning of February 2022 and kept as sample of the processed ginger inside cold storage until the picture was captured by the end of May 2022 which was almost 4 months in cold storage but retained its excellent look and quality:



Picture 1: Ginger after preserving in Cold Storage (source – author)



Picture 2: Unhealthy Ginger after 3 month's storage in room temperature (source - author)



Picture 3: Unhealthy Ginger due to more water-content initially (source - author)

It shows that the gingers may look beautiful and healthy in the beginning but in fact they have more water inside from the beginning that is one of the signs of an unhealthy ginger. An unhealthy ginger also has black spots from inside which the inspectors are able recognize easily while checking the goods before approving for the Phytosanitary certificate and Health certificate (para 4.3). These two documents are the most important documents for exporting agricultural products to another country.

4.3.3 Evidence from Primary Data. In the following paragraph, it will be seen that the same healthy ginger after keeping in the cold storage for a duration of 3 months with the approximate temperature of  $+12^{\circ}\text{C}$ . By following the pictures below and going through the interpretations, evidence will demonstrate for others to understand that the gingers that stays in perfect temperature will stay much fresher and will have less growing on them and will stay more hydrated as a result they will look more attractive, beautiful and stay longer. According to the researcher's research and experience, as he was checking the ginger farms and companies, they have two types of ginger with different conditions and prices. One, the muddy gingers that have been harvested and kept inside the black plastic bag and staying outside, and another, in black polythene bag but keeping inside the cold storage. Those kept in cold storage have double value and cost compared to the one which stays outside cold storage in the temperature between  $25\text{-}40^{\circ}\text{C}$ .



Picture 4: Fresh Ginger kept in Cold Storage



Picture 5: Ginger shows growth and lasts shorter

As a result, the one kept in the cold storage will remain healthier since once the growth happens on ginger the quality will be decreased. Since the growing will make roots inside the ginger and the benefits of ginger will be gone, so the best way to stop growing processing of ginger is to keep them in cold storage. However, keeping in cold storage will incur electricity bills and packaging costs will make it a bit expensive, but will ensure good quality and higher shelf life.



Picture 6: Ginger inside Cold Storage



Picture 7: Ginger outside Cold Storage

**4.4 Data About Iran Market.** Iran has more than 87.92 million population<sup>1</sup> that shows a great market for a product like high-quality Thai ginger. Ginger is widely popular in Iran and every year it imports more than 3,000 tons<sup>2</sup> of fresh ginger specially from China and India. Every 40 ft container of fresh ginger holds approximately between 19 to 22 tons of ginger, subject to the packaging and loading on pallet or without pallet. Iran approximately imports 136 to 157 containers of ginger from China, which is a reasonably large amount. The following data is helpful to find out how to influence this market. First, to replace Chinese ginger, the exporter has to provide very high quality of Thai ginger to Iran that remains healthy in terms of ginger quality, packaging quality and at a reasonable price. So once the product is of acceptable quality and available in the marketplace, the customers will be able to physically see the difference in quality, packaging, and at a reasonable price. Thus, the product is likely to become popular in Iran market. Second, the potential importers and marketers must be reached out through an inclusive approach involving email or calling, and an appropriate advertisement campaign can introduce this new product and possibly convince them to choose it.

**4.5 Pilot Effort to Export Thai Ginger.** Pilot exportation was done using research data about fresh ginger from the Department of Agriculture (DOA) Thailand at Kasetsart University in Bangkok. Those are summarized below:

- a. **Sourcing and Quality.** According to DOA officers, most of the ginger exporters in Thailand are based in Phetchabun province. The researcher(s) visited those businessmen in-person in Phetchabun, and learnt that the exporters make purchase of fresh ginger from only handful of farms that are approved by DOA Thailand. The chosen ginger must be healthy and free from any disease and have minimum water-content inside. Otherwise, the ginger will have a low shelf life. The researcher found that gingers must follow certain treatment process to ensure a higher shelf life, and devise smart packaging and efficient loading into container that could prevent or avoid any damage on the ginger from the origin point until the destination market.
- b. **Pricing Strategy.** A potential exporter must be fully conversant with the global ginger market in the pre-and-post Covid scenario while strategizing a business to export fresh ginger from Thailand. While exporting Thai fresh ginger to New Zealand, the Netherlands, the USA or other European countries, the prices remain high compared to Chinese or Indian sources. Normally an Iranian buyer has high expectations from the products as fresh and it must look beautiful like European grades but with Middle Eastern price. If the number of intermediaries can be minimized, the price can come down to a reasonable level. If the exportation can be done by

<sup>1</sup> According to 2021 records.

<sup>2</sup> Iran Website of ISNA NEWS, 2022.



own company and not by established ginger exporters company, the value chain may cost less for a startup venture. Through ground study and personal interview by the researcher, it was found that if the product is collected directly from growers or farmers, it may be possible to keep the price lower compared to the Chinese ginger available in the Iran market. If the customers are well-informed of the high quality of Thai ginger with its price equivalent to Chinese ginger, it may be a viable offer in the market with added value to Iranian retailer buyers.

- c. **Piloting the Export.** Researcher had made an endeavor to export small quantity of Thai ginger in container as pilot venture, and found many discrepancies in terms of quality, preservation techniques, shelf life, and packaging anomalies during storage and transportation. In spite of this, due to direct procurement from growers, the first shipment was expected to make significant profits for the researcher. But the ginger got degraded due to non-conforming packaging, the quality was degraded rapidly and got rotten earlier than expected life. This venture incurred losses for the seller, but taught some invaluable lessons. The second attempt was made following the guidelines from experts and improved packaging, it showed that the quality of ginger was good after transportation. Unfortunately, the quality of ginger failed quickly due to lack of vent circulation in the container and due to improper loading of the carton of gingers on pallets. The boxes also did not have any holes for air circulation, and the container was loaded fully without keeping any space for air to circulate. Heartily, the Irani buyers showed high appreciation for Thai ginger for its inherent quality, aroma and looks. These trials perfected the understanding and experiential knowledge of the researcher to pursue further with a refined approach.

## DISCUSSION AND CONCLUSION

Ginger has always been a highly-demanded commodity with its culinary, ayurvedic and medicinal characteristics in many parts of the world. The unexpected impact of the Coronavirus has had a detrimental effect on the international trading of ginger, particularly in the first quarter of 2020. Demand of ginger surged due to its usage as one of the ingredients of traditional medicines to cure respiratory and other illnesses. It also inspired many nations to consume higher quantity of ginger during the lockdowns. Although its usage has no significant pharmaceutical proof as a cure for the Coronavirus, the uncertainties in the minds of people made it a people-friendly alternative to other medications. The study took off from this agenda that the pandemic has caused interruptions in the traditional supply chain of ginger and there is a need to seek alternative sources of this high-demand commodity - fresh ginger.

Thailand with its vast arable lands suitable for cultivation of ginger, remains a solid alternative source. Thailand is one of the suitable countries with great farmlands with its good topsoil and the tropical weather, making ginger as a high-yield produce. Above all, the highlands in the mountain area and the north of Thailand are perfect for growing vegetables, fruits and beans, such as Ginger, Tamarind, and coffee. The most ginger comes from the north of Thailand. The best gingers that are exported come from Thailand's Petchaboon. This beautiful province has enough water due to frequent raining with perfect atmosphere that makes the ginger have higher quality over Chinese ginger. The experts also endorsed that these variants of Thai ginger are qualitatively superior to Chinese or Indian ginger, provided it is transported with minimum distortion of its original quality.

As seen from the results and discussions, the most important factor for a successful exportation venture of Thai ginger to Iran will lie in the quality, appropriate treatment, preservation and storage, quality of packaging during storage and transportation, and shipping those in right kind of containers with porous surface, having vents to maintain right temperature and ensure adequate air circulation to extend the life of the fresh ginger. Another very important aspect is to minimize waste and reduce the number of intermediaries enroute so that the price of Thai ginger remains more competitive in the foreign market (Iran) compared to the established suppliers from China or India. The uncertainty involved in the successful marketing of a new product has to be reduced by excellent awareness campaign, smart

advertising and attractive packaging that will encourage the potential sellers and retailers in Iran and their customers in the end. Piloting the export of fresh Thai ginger to Iran using traditional approach following the Covid-19 era, had its unforeseen and inherent problems and shortfalls. These ventures have been taken as learning opportunities and necessary amendments and improvisations have been applied to minimize the systemic imperfections. This would also enable cost saving and make the product available to Iran market in an attractive and healthy condition. The major key to success lies in retaining the high quality of Thai ginger until sold to Irani market with additional measures before, during and after the export process. There is also a need to maintain quality control for all future shipments so that the trust once built, is never waned in the minds of the customers.

The study did not include typical financial analysis involving profit-loss, cost-benefit or breakeven analysis for obvious reasons of confidentiality of the startup venture. It is however, recommended that beside quality, the price of ginger must be considered as the most important keys to success of this business. Price has to remain very competitive and efforts must be generated to minimize costs at nodes in the value chain so that the customers are able to be understand and remain satisfied about a reasonable bargain for a new product. Given its success, the similar propositions may also be relevant for exporting vegetables and other fresh supplies to Iran and other markets of the Arab world where the affluent customers are ready to seek quality over price.

As the researcher mentioned earlier those ginger farms that approved by the DOA Thailand is relevant to consider for preparing for the export grades specially if talking about Iran's Market, which is a very sensitive market and the imported products such as ginger must be in a great position otherwise the seller in the fruits and vegetable markets will refuse the imported variety of ginger. If there are degradations enroute to shipment of Thai ginger to Iran, the investors may lose interest to put their money on risk due to uncertainty of product life cycle that is why quality control remain a big issue throughout the process. From the researcher's experience, after marketing first two consignments, the customers seemed to have understood that the Thai ginger in indeed of high quality and if the conditions are well maintained, its export could also make a successful startup business in Iran fresh vegetable market. The vulnerability issues may be summarized as under:

- 1) Container refrigerator may not work properly causing the ginger to be damaged and get mold easily.
- 2) Some of the chosen ginger may have disease from the beginning if not sourced from authorized growers who are approved by DOA Thailand (for cheaper price from some random farms).
- 3) Not follow the recommended treatment process, like not adding chlorine and anti-molding process, the workers might trim some gingers after dry process, which is highly not recommended. The ginger's cutting part must become dry, to prevent from bacteria or any other impurities.
- 4) Inappropriate packaging, the carton boxes should have some holes for air circulation and vent. The boxes must be loaded in containers with sufficient space for air circulation.

These are the most import aspects that need to be considered for any future supply to Iran's market. If once the product reaches successfully, thereafter Thai ginger will cement its demand in that market and its customers and compete against China and India. Having reached safely to Iran, the product must be stored in appropriate temperature and conditions only to be distributed to retailers securely to reach its consumers.

Though a bit complex, importing fresh ginger from Thailand can be a profitable opportunity for those who are able to navigate the regulatory and logistical requirements. Overall, exporting Thai fresh ginger requires careful planning and execution to ensure that the product meets the quality and safety standards of the destination country and is successfully marketed and sold. No matter how good a business plan is, the uncertainty of demand and the unforeseen challenges remains engrained in every stage and every node of its logistics supply chain. The proposed business venture of piloting ginger export from



Thailand to Iran is an academic exercise that has shown high potential to sustain as a viable business. Provided the startups are quick learners, if they approach to a business problem with a flexible mind, the chances of success will be higher. They shall be able to customize their proposals to respond to the diverse challenges and imperfections that shall appear in various stages of the effort. If the business is found viable, hopefully it shall be shared with some business entities in order to be further utilized for other commodities.

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Footnotes:

1. In Indian Ayurvedic Medicine, ginger is a remedy for inflammations. It was also exported to Roman empire about 2000 years ago (Abubacker, 2009; Ayipei, 2020). Japanese always eat ginger as pickle (gari – mixed with vinegar and sugar) with their traditional food – sushi. Ginger serves as an antidote to possible fish poisoning in Japan (Waiyawuththanaporn, Tirastittam & Tirastittam, 2018).
2. Abubacker, 2009.
3. Areddy (2020) stated that in early 2000s, the severe acute respiratory syndrome (SARS) did upset the traditional supply chains and logistics, but to a much smaller scale compared to Covid-19 pandemic of 2020.
4. Waiyawuththanaporn, Tirastittam and Tirastittam (2018), p 3576.
5. According to 2021 records.
6. Iran Website of ISNA NEWS, 2022.