Department of Agricultural Marketing & Coorperatives
JICA Bhutan Office

Study conducted by

INSTITUTE FOR
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Market Survey Report
on
Bhutanese Agricultural Products
(India and Bangladesh)

March 2023

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ACRONYMS

AIT : Advance Income Tax
APEDA : Agricultural and Processed Food Products Export Development Authority
ASEAN : Association of Southeast Asia Nations
BAFRA : Bhutan Agricultural and Food Regulatory Authority
BFSA : Bangladesh Food Safety Authority
BIMSTEC : Bay of Bengal Initiative for Multi-Sectorial Technical and Economic Cooperation
BSTI : Bangladesh Standards and Testing Institution
BTS : Bhutan Trade Statistic
CD : Customs Duty
CIF : Cost inclusive of Freight
CSI : Cottage and Small-Scale Industries
DRC : Department of Revenue and Customs
Dzongkhags: Districts
FAO : Food and Agriculture Organization
FASSI : Food Safety and Standards Authority of India (FASSAI)
FCBL : Food Corporation of Bhutan Ltd.
FMCL : Farm Machinery Corporation Ltd.
GDP : Gross Domestic Product
ICR : Import Certificate Registration
ISO : International Organization for Standardization
JICA : Japan International Cooperation Agency
LC : Letter of Credit
MOF : Ministry of Finance
MT : Metric Ton
RNR : Renewable Natural Resources
SAFTA : South Asia Free Trade Area
SAARC : South Asian Association for Regional Cooperation
SHLP : School and Hospital Linking Programme
SOE : State Owned Enterprise
STCBL : State Trading Corporation of Bhutan
VAT : Value added tax
WTO : World Trade Organization
Mandis : Wholesale Markets

Chapter 1 - Background

1.1 Introduction

The Royal Government of Bhutan considers the export of agricultural products as one of its marketing strategies (RNR Marketing Strategies 2021), and targets high-value added agricultural products for high end customers living in neighboring countries. Although it is alleged that there is market potential and demand for agricultural products and demand for agricultural products in the export markets, particularly in neighboring ASEAN countries like Singapore, Malaysia, and Thailand, no confirmed studies and focused assessment or survey has been done. Much is what has been learned through informal communications, desk top research by government officials, or by observing the higher prices reflected in the shelves of super markets when officials visit markets abroad.

Thus, the RGoB had approached JICA to undertake a study on the above markets and countries and validate for once and all whether there is a market for Bhutanese products in the selected ASEAN countries and Japan and also in India and Bangladesh in SAARC. The commodities selected are Potato (Seed Potato), Cereals, Ginger, Turmeric, Fruits, Lemongrass, Asparagus, and Nuts (Arecanut). If not more commodities, minimum of six including potato has to be targeted for the study.

The study was undertaken by JICA under two phases. Phase one was the study of Singapore, Thailand, Malaysia and Japan markets for Bhutanese products by a foreign consultant based in Singapore. Phase two was awarded to a local firm, “Institute for Learning Solutions” in Thimphu to undertake the marketing study of eight commodities in New Delhi, Kolkata and Dhaka. The ToR is annexed as annexure 1.

In this study relating to the markets in New Delhi, Kolkata and Dhaka, the actual situation of supply chain, potential agricultural products, and potential partner companies are clarifying through visiting markets and relevant stakeholders in listed SAARC countries. The itinerary and people met are annexed as annexure 2. The legal framework, laws, SROs, certification needs of the listed potential products of the potential markets are also discussed and presented.

Economics analysis in terms of total volume and values of imports, price and cost-returns analysis are done to study whether our products have market in Delhi, Kolkata and Dhaka. An economic analysis of apples is done to see whether it will be a viable activity to store and distribute in the country.

The final chapter is the “Bhutanese RNR Product Exporting Plan”. The Plan will list all the potential crops to destination markets with activities and schedule. It will also collate the findings from the study/survey of Singapore, Malaysia, Thailand and Japan.

1.2 Introduction to India and Bangladesh Markets

India and Bangladesh are two of the most populous countries in the world, with a combined population of over 1.6 billion people. As a result, they have significant demand for food and agricultural products, making them attractive markets for Bhutanese agricultural products.
In India, agriculture is a major sector of the economy, employing over half of the country's workforce. The country has a diverse range of agro-climatic zones, which enables it to produce a wide range of crops, including cereals, fruits, vegetables, and spices. India is also a major producer and consumer of dairy products, making it an attractive destination for Bhutanese dairy products.

Bangladesh, on the other hand, is a densely populated country with limited arable land. As a result, it heavily relies on imports to meet its food and agricultural needs. The country has a significant demand for rice, vegetables, and fruits, making it a potential market for Bhutanese agricultural products.

Additionally, both India and Bangladesh have implemented various initiatives and policies to promote agricultural trade and investment, which presents an opportunity for Bhutanese exporters to tap into these markets. For instance, India has implemented a National Agricultural Market (NAM) to create a unified national market for agricultural commodities, which aims to reduce market fragmentation and improve market efficiency. Bangladesh has also established various export processing zones to promote exports and attract foreign investment.

In recent years, the demand for organic and natural products has been increasing in India and Bangladesh, which provides an opportunity for Bhutanese exporters who specialize in these products. Bhutan has a strong tradition of organic farming and is known for its high-quality and chemical-free agricultural products, which can appeal to consumers in these markets.

To successfully enter these markets and benefit from the free trade agreement with India and referential trade agreement with Bangladesh, Bhutanese exporters need to understand the regulatory and legal requirements of India and Bangladesh. They also need to have a good understanding of the market dynamics and competition, as well as the preferences and needs of the target consumers. Building relationships with potential buyers and distributors can also be helpful in navigating the market and establishing a foothold.

In conclusion, India and Bangladesh present significant opportunities for Bhutanese agricultural exports. With their large and growing populations, diverse food demands, and government initiatives to promote agricultural trade and investment, these markets are attractive destinations for Bhutanese agricultural products. However, exporters need to be aware of the regulatory requirements and market dynamics to succeed in these markets.

Chapter 2 - Legal Frame work, Statuary Regulatory and Certification requirements.

2.1 India

Under the umbrella of the Food Safety and Standards Act, 2006 India has a comprehensive legal framework for the import of all food items, which is governed by various central and state-level regulatory bodies such as the Food Safety and Standards Authority of India (FSSAI), the Agricultural and Processed Food Products Export Development Authority (APEDA), and the Ministry of Commerce and Industry. Key agencies are:

i) FASSI (standards)
ii) APEDA (export standards)
iii) Customs (Taxes)
iv) Department of Plant Protection, Quarantine & Storage (Certification for Plants)
v) Department of Animal Husbandry & Dairying (Certification for Animal Origin and products)
vi) Labeling Requirements
vii) Food Products Standard and Additives' Regulations, 2011 (Ministry of Health and Family Welfare)
viii) Food Safety and Standards Regulation (Organic Foods) Regulations 2017

As the study is relating to export of our fresh agricultural products, this study has concentrated on three key rules and certification systems:

- Standards,
- Phytosanitary Regulations and
- Customs' Duty.

Nevertheless, one has to be aware of all the agencies that are associated with food standards, quarantine and regulatory aspects as any lapses will result in additional costs to the importer.

2.1.1 FASSI Licensing

All imported food items, must be certified by the FSSAI. Importers must obtain a FSSAI import license and adhere to the FSSAI's food safety standards.

2.1.2 Phytosanitary Regulations:

Most products must meet the phytosanitary regulations set by the Ministry of Agriculture and Farmers Welfare and the Plant Quarantine (Regulation of Import into India) Order, 2003. These regulations aim to prevent the introduction of pests and diseases into India through the import of plants and plant products. India has plant quarantine regulations in place to protect its

agricultural and horticultural crops from the introduction and spread of pests and diseases from other countries. The import of plant materials is subject to specific quarantine regulations. The following phytosanitary requirements must be met:

- A phytosanitary certificate must be issued by the National Plant Protection Organization (NPPO) of Bhutan. This certificate confirms that the plant materials are free from pests and diseases, and have been inspected and found to comply with the relevant phytosanitary requirements.
- The phytosanitary certificate must be issued in English and should contain specific information such as the botanical name of the plant, the quantity and type of material being imported, the country of origin, the port of entry, and the name and address of the exporter.
- The plant materials must be accompanied by a fumigation certificate, if required, stating that they have been treated with an approved fumigant to control pests.
- The plant materials must be free from soil, roots, and other organic matter that may carry pests and diseases.
- The plant materials must be packed in a manner that prevents the introduction and spread of pests and diseases.
- The plant materials must be imported through designated ports of entry only.

2.1.3 FASSI Food Standards for Selected Commodities

I. Tumeric (Haldi)

1. **Turmeric (Haldi)** whole means the primary or secondary rhizomes commercially called bulbs or fingers of Curcuma Longa L. The rhizomes shall be cured by soaking them in boiling water and then drying them to avoid regeneration. The rhizome be in natural state or machine polished. The product shall have characteristic odor and flavor and shall be free from mustiness or other foreign flavors. It shall be free from mold, living and dead insects, insect fragments, rodent contamination. The product shall be free from Lead Chromate added starch and any other extraneous coloring matter.

It shall conform to the following standards: —

(i) Extraneous matter	Not more than 1.0 percent by weight
(ii) Defective Rhizomes	Not more than 5.0 percent by weight
(iii) Moisture	Not more than 12.0 percent by weight

(iv) Insect damaged matter	Not more than 1.0 percent by weight Negative
(v) Test for lead chromate	Negative

Explanation: - Defective rhizomes consist of shriveled fingers and or bulbs internally damaged, hollow or porous rhizomes scorched by boiling and other types of damaged rhizomes.

1. **Turmeric (Haldi) powder** means the powder obtained by grinding dried rhizomes or bulbous roots of Curcuma Longa L. The powder shall have characteristic odor and flavor and shall be free from mustiness or other foreign odor. It shall be free from mold, living and dead insects, insect fragments, rodent contamination. The powder shall be free from any added coloring matter including Lead Chromate and morphologically extraneous matter including foreign starch.

It shall conform to the following standards: —

(i) Moisture	Not more than 10.0 percent by weight
(ii) Total ash on dry basis	Not more than 9.0 percent by weight
(iii) Ash insoluble in dil. HCl on dry basis	Not more than 1.5 percent by weight
(iv) Coloring power expressed as	Not less than 2.0 percent weight curcuminoid content on dry basis
(v) Total Starch	Not more than 60.0 percent by weight
(vi) Test for lead chromate	Negative

II. Ginger

1. **Ginger (Sonth, Adrak)** whole means the dried rhizome of Zingiber officinale Roscoe in pieces irregular in shape and size, pale brown in color with peel not entirely removed and washed and dried in sun. It may be bleached with lime. It shall have characteristic taste and flavor free from musty odor or rancid or bitter taste. It shall be free from mold, living and dead insects, insect fragments, and rodent contamination. The product shall be free from added coloring matter.

It shall conform to the following standards: —

(i) Extraneous matter	Not more than 1.0 percent by weight

(ii) Moisture Not more than 12.0 percent by weight

(iii) Total ash on dry basis

(a) Unbleached Not more than 8.0 percent by weight

(b) Bleached Not more than 12.0 percent by weight

(iv) Calcium as Calcium oxide on dry basis

(a) Unbleached Not more than 1.1 percent by weight

(b) Bleached Not more than 2.5 percent by weight

(v) Volatile oil content on dry basis Not less than 1.5 percent by v/w

(vi) Insect damaged matter Not more than 1.0 percent by weight

2. Ginger (Sonth, Adrak) Powder means the powder obtained by grinding rhizome of Zingiber officinale Roscoe. It shall have characteristic taste and flavor free from musty odor or rancid or bitter taste. It shall be free from mold, living and dead insects, insect fragments, and rodent contamination. The powder shall be free from added coloring matter.

It shall conform to the following standards: —

(i) Moisture Not more than 12.0 percent by weight

(ii) Total ash on dry basis

(a) Unbleached Not more than 8.0 percent by weight

(b) Bleached Not more than 12.0 percent by weight

(iii) Calcium as Calcium oxide on dry basis

(a) Unbleached Not more than 1.1 percent by weight

(b) Bleached Not more than 2.5 percent by weight

(iv) Volatile oil content on dry basis Not less than 1.5 percent by v/w

(v) Water soluble ash on dry basis Not less than 1.7 percent by weight

(vi) Acid insoluble ash on dry basis	Not more than 1.0 percent by weight
(vii) Alcohol (90% v/w) soluble extract on dry basis	Not less than 5.1 percent by weight
(viii) Cold water-soluble extract on	Not less than 11.4 percent by weight dry basis

III. Cardamom

1. Cardamom (Chhoti Elaichi) Whole means the dried capsules of nearly ripe fruits of Elettaria cardamomum L. Maton Var. Minuscula Burkill. The capsules may be light green to brown or pale cream to white when bleached with sulphur dioxide. It shall have characteristic flavor free from any foreign odor, mustiness or rancidity. It shall be free from mold, living and dead insects, insect fragments, rodent contamination. Thrip marks alone should not lead to the conclusion that the capsules have been infested with insects. The product shall be free from added coloring matter and other harmful substances.

It shall conform to the following standards:

(i) Extraneous matter	Not more than 1.0 percent by weight
(ii) Empty and malformed capsules by count	Not more than 3.0 percent by count
(iii) Immature and shriveled capsules	Not more than 3.0 percent by weight
(iv) Moisture	Not more than 13.0 percent by weight
(v) Total ash on dry basis	Not more than 9.5 percent by weight
(vi) Volatile oil content on dry basis	Not less than 3.5 percent by v/w
(vii) Insect damaged matter	Not more than 1.0 percent by weight

2. Cardamom (Chhoti Elaichi) seeds means the decorticated seeds separated from the dried capsules of nearly ripe fruits of Elettaria Cardamomum L. Maton var miniscula Burkill. The seeds shall have characteristic flavor free from foreign odor, mustiness or rancidity. It shall be free from mold, living and dead insects, insect fragments, rodent contamination. The product shall be free from added coloring matter and any other harmful substances.

It shall conform to the following standards: —

(i) Extraneous matter	Not more than 2.0 percent by weight
(ii) Light seeds	Not more than 3.0 percent by weight
(iii) Moisture	Not more than 13.0 percent by weight
(iv) Total ash on dry basis	Not more than 9.5 percent by weight
(v) Volatile oil content on dry basis	Not less than 3.5 percent by v/w
(vi) Insect damaged matter	Not more than 1.0 percent by weight

Explanation: - Light seeds mean seeds that are brown or red in color and broken immature and shriveled seeds.

3. Cardamom (Chhoti Elaichi) powder means the powder obtained by grinding dried seeds of Elettaria Cardamomum L. Maton var miniscula Burkill without addition of any other substance. It may be in the form of small pieces of seeds or in finely ground form. It shall have characteristic flavor free from foreign odor, mustiness or rancidity. It shall be free from mold, living and dead insects, insect fragments, rodent contamination. The powder shall be free from added coloring matter and other harmful substances.

It shall conform to the following standards: —

(i) Moisture	Not more than 11.0 percent by weight
(ii) Total ash on dry basis	Not more than 8.0 percent by weight
(iii) Ash insoluble in dilute HCl on dry basis.	Not more than 3.0 percent by weight
(iv) Volatile oil content on dry basis	Not less than 3.0 percent by v/w.

4. Large Cardamom (Badi Elaichi) whole means the dried nearly ripe fruit (capsule) of Amomum subulatum Roxb. The capsule shall have characteristic flavor free from foreign odor, mustiness and rancidity. It shall be free from mold, living and dead insects, insect fragments, rodent contamination. The product shall be free from added coloring matter and any harmful substance.

It shall conform to the following standards: —

(i) Extraneous matter	Not more than 1.0 percent by weight
(ii) Empty and malformed capsules by count	Not more than 2.0 percent by count
(iii) Immature and shriveled capsules	Not more than 2.0 percent by weight
(iv) Moisture	Not more than 12.0 percent by weight
(v) Ash insoluble in dilute HCl on dry basis.	Not more than 2.0 percent by weight
(vi) Total ash on dry basis	Not more than 8.0 percent by weight
(vii) Volatile oil content of seeds on dry basis	Not less than 1.0 percent by v/w.
(viii) Insect damaged matter	Not more than 1.0 percent by weight

5. Large Cardamom (Badi Elaichi) seeds means the seeds obtained by decortication of capsules of Amomum subulatum Roxb. It shall have characteristic flavor free from foreign odor, mustiness and rancidity. It shall be free from mold, living and dead insects, insect fragments, rodent contamination. The product shall be free from added coloring matter and other harmful substances.

It shall conform to the following standards: —

(i) Extraneous matter	Not more than 2.0 percent by weight
(ii) Light seeds / Brown / Red seeds	Not more than 3.0 percent by weight
(iii) Moisture	Not more than 12.0 percent by weight
(iv) Total ash on dry basis	Not more than 8.0 percent by weight
(v) Ash insoluble in dilute HCl on dry basis.	Not more than 2.0 percent by weight
(vi) Volatile oil content on dry basis	Not less than 1.0 percent by v/w
(vii) Insect damaged matter	Not more than 1.0 percent by weight.

6. Large Cardamom (Badi Elaichi) powder means the powder obtained by grinding seeds of Amomum subulatum Roxb, without the addition of any other substance. It may be in the form of small pieces of seeds or in finely ground form. The powder shall have characteristic flavor free from off flavor, mustiness and rancidity. It shall be free from

mold, living and dead insects, insect fragments, rodent contamination. The powder shall be free from added coloring matter and any harmful substance.

It shall conform to the following standards: —

(i) Moisture	Not more than 11.0 percent by weight
(ii) Total ash on dry basis	Not more than 8.0 percent by weight
(iii) Ash insoluble in dilute HCl on dry basis.	Not more than 2.0 percent by weight
(iv) Volatile oil content on dry basis	Not less than 1.0 percent by weight

IV. Wheat

Wheat shall be the dried mature grains of Triticum aestivum Linn. or Triticum vulgare vill, triticum drum Desf., triticum sphaerococcum perc., Triticum dicoccum schubl., Triticum Compactum Host. It shall be sweet, clean and wholesome.

It shall also conform to the following standards namely: —

(i) Moisture—	Not more than 14 per cent by weight (Obtained by heating the pulverized grains at 130oC-133oC for two hours).
(ii) Foreign matter — (Extraneous matter)	Not more than 1 per cent. by weight of which not more than 0.25 per cent. By weight shall be mineral matter and not more than 0.10 per cent. by weight shall be impurities of animal origin.
(iii) Other edible grains	Not more than 6 per cent by weight.
(iv) Damaged grainsù	Not more than 6.0 per cent by weight including kernel bunt affected grains and

	got affected grains. The limit of kernel bunt affected grains and ergot affected grains shall not exceed 3.0 per cent and 0.05 percent by weight, respectively.
(v) Weevilled grains—	Not more than 10 per cent by count.
(vi) Uric acid—	Not more than 100 mg. per kg.
(vii) Aflatoxin	Not more than 30 micrograms per kg
(viii) Deoxynivalenol (DON)	Not more than 1000 micrograms per kg

Provided that the total of foreign matter, other edible grains and damaged grains shall not exceed 12 per cent by weight.

2.1.4 Fruit and Vegetable Products

I. Fruit

1. Thermally Processed Fruits (Canned/Bottled/Flexible packaged/Aseptically packed) means the products obtained from sound, matured, dehydrated, fresh or frozen, peeled or un-peeled, previously packed, whole, halves or cut pieces of fruits packed with any suitable packing medium and processed by heat, in an appropriate manner, before or after being sealed in a container, so as to prevent spoilage. It may contain water, fruit juice, dry or liquid nutritive sweeteners, spices and condiments and any other ingredients suitable to the product. The packing medium along with its strength shall be declared on the label.

2. The product may contain food additives permitted in these Regulations and Appendices. The product shall conform to the microbiological requirements given in Appendix B. Drained weight of fruits shall be not less than the weight given below: -

(i) Liquid pack Not less than 50.0 percent of net weight of the contents

(ii) Solid Pack Not less than 70.0 percent of net weight of the contents

3. The container shall be well filled with the product and shall occupy not less than 90.0 percent of the water capacity of the container, when packed in the rigid containers. The water capacity

of the container is the volume of distilled water at 20oC which the sealed container is capable of holding when completely filled.

II. Vegetable

1. Thermally Processed Vegetables (Canned, Bottled/Flexible pack / Aseptically Packed) means the product obtained from fresh, dehydrated or frozen vegetables either singly or in combination with other vegetables, peeled or un-peeled, with or without the addition of water, common salt and nutritive sweeteners, spices and condiments or any other ingredients suitable to the product, packed with any suitable packing medium appropriate to the product processed by heat, in an appropriate manner, before or after being sealed in a container so as to prevent spoilage. The packing medium along with its strength shall be declared on the label. The product may be prepared in any suitable style appropriate to the product. The product may contain food additives permitted in these Regulations and Appendices. The product shall conform to the microbiological requirements given in Appendix B. The name of the vegetables used in the product and prepared in any style shall be declared on the label along with the range of percentage of each vegetable used in the product. Drained weight of vegetables shall be not less than the weight given below: —

(i) Liquid Pack

(a) Mushroom	50.0 percent of net weight of contents
(b) Green beans, carrots, peas, sweet corn/ baby corn	50.0 percent of net weight of contents
(c) Mushroom Packed in sauce	25.0 percent of net weight of contents
(d) Other Vegetables	50.0 percent of net weight of contents

(ii) Solid Pack 70.0percentofnetweightofcontents

2. The container shall be well filled with the product and shall occupy not less than 90.0 percent of the water capacity of the container, when packed in the rigid containers. The water capacity of the container is the volume of distilled water at 20oC which the sealed container is capable of holding when completely filled.

III. Thermally Processed Curried Vegetables / Ready to Eat Vegetables

1. Thermally Processed Curried Vegetables / Ready to Eat Vegetables means the product prepared from fresh, dehydrated or frozen or previously processed vegetables, legumes, cereals or pulses, whether whole or cut into pieces. The vegetable(s), either singly or in combination, may be prepared in any suitable style applicable for the respective vegetable in normal culinary preparation. It may contain salt, nutritive sweeteners, spices and condiments, edible vegetable oils and fats, milk fat and any other ingredients suitable to the product and processed by heat, in an appropriate manner, before or after being- in a container, so as to prevent spoilage.

2. The product may contain food additives permitted in these Regulations and Appendices. The product shall conform to the microbiological requirements given in Appendix B.

3. The container shall be well filled with the product and shall occupy not less than 90.0 percent of the water capacity of the container, when packed in the rigid containers. The water capacity of the container is the volume of distilled water at 20oC which the sealed container is capable of holding when completely filled.

IV. Fruit/Vegetable, Cereal Flakes:

1. Fruit/Vegetable, Cereal Flakes means the product prepared by blending fruit(s) Pulp/Puree of sound ripe fruit(s) / vegetables of any suitable variety, fresh, frozen or previously preserved, starch, cereals & nutritive sweeteners, other ingredients appropriate to the product with or without salt & dehydrated in the form of flakes.

2. The product may contain food additives permitted in these regulations including Appendix A. The product shall conform to the microbiological requirements given in Appendix B. The product shall comply with the following requirements: —

(i) Moisture (m/m)	Not more than 6.0 percent
(ii) Acid insoluble Ash (m/m)	Not more than 0.5 percent
(iii) Starch(m/m)	Not more than 25.0 percent

2.1.5 Tea

1. TEA means tea other than Kangra tea obtained by acceptable processes, exclusively from the leaves, buds and tender stems of plant of the Camellia sinensis (L) O. Kuntze. It may be in the form of black or oolong tea. The product shall have characteristic flavor free from any off odor, taint and mustiness. It shall be free from living insects, molds, dead insects, insect fragments and rodent contamination visible to the naked eye (corrected if necessary for abnormal vision). The product shall be free from extraneous matter, added coloring matter and harmful substances:

Provided that the tea may contain "natural flavors" and "natural flavoring substances" which are flavor preparations and single substance respectively, acceptable for human consumption, obtained exclusively by physical processes from materials of plants origin either in their natural state or after processing for human consumption in packaged tea only. Tea containing added flavor shall bear proper label declaration as provided in regulation 2.4.5 (23) of Food Safety and Standards (Packaging and Labeling) Regulations, 2011. Tea used in the manufacture of flavored tea shall conform to the standards of tea. The flavored tea manufacturers shall register themselves with the Tea Board before marketing flavored tea. Pectinase enzyme can be added up to a level of 0.2% during manufacture as processing aid. The product shall conform to the following requirement in which all the figures given are expressed on the basis of the material oven-dried at 103±2° C.

(a) Total Ash (m/m)	Not less than 4.0 percent and not more than 8.0 percent
(b) Water Soluble Ash	Not less than 45.0 percent of total ash
(c) Alkalinity of water-soluble ash	Not less than 1.0 percent and not more than 3.0 expressed as KOH (m/m) percent
(d) Acid-insoluble ash (m/m) (e)	Not more than 1.0 percent Water extract (m/m)
(f) Crude Fibre (m/m)	Not less than 32.0 percent Not more than 16.5 percent

2. KANGRA TEA means tea derived exclusively from the leaves, buds and tender stems of plants of the Camellia sinensis or Camellia tea grown in Kangra and Mandi valleys of Himachal Pradesh. It shall conform to the following specifications namely;

(a) Total ash determined on tea dried to constant	4.5 to 9.0 percent by weight at $100^{O}C$
(b) Total ash soluble in boiling distilled water	Not less than 34 percent of total ash
(c) Ash in soluble in dilute hydro-chloric acid	Not more than1.2 percent by weight on dry basis.
(d) Extract obtained by boiling dried tea	Not less than 23 percent

	(Dried to constant weight at 100^{O}C) with 100 parts of distilled water for one hour under reflux
(e) Alkalinity of soluble ash	Not less than 1.0 percent and not more than 2.2 percent expressed as K2O on dry basis
(f) Crude fiber determined on tea dried to constant weight at 100^{O}C	Not more than18.5percent

It shall not contain any added coloring matter It may also contain 0.2 per cent Pectinase enzyme

Provided that tea may contain Natural Flavors and Natural Flavoring Substances which are flavor preparations and single substance respectively, acceptable for human consumption, obtained exclusively by physical process from materials of plant origin either in their raw state or after processing for human consumption:

Provided further that such tea containing added flavor shall bear proper label declaration as provided in regulation 2.4.5 (23) of Food Safety and Standards (Packaging and Labeling) Regulations, 2011.

Provided also that tea used in the manufacture of flavored tea shall conform to the standards of tea.

Provided that if tea is sold or offered for sale without any indication as to whether it is Kangra tea or not, the standards or quality of tea prescribed in item regulation 2.10.1 (1) shall apply.

Provided also that Flavored tea manufacturers shall register themselves with the Tea Board before marketing Flavored tea;

3. GREEN TEA means the product derived solely and exclusively, and produced by acceptable processes, notably enzyme, inactivation, rolling or comminution and drying, from the leaves, buds and tender stems of varieties of the species Camellia sinensis (L) O. Kuntze, known to be suitable for making tea for consumption as a beverage. The product shall have characteristic flavor free from any off odor, taint and mustiness. It shall be free from living or dead insects, molds, insect fragments and rodent contamination visible to the naked eye (corrected if necessary for abnormal vision). The product shall be free from extraneous matter, added coloring matter and harmful substances;

Provided that the tea may contain "natural flavors" and "natural flavoring substances" which are flavor preparations and single substance respectively, acceptable for human consumption, obtained exclusively by physical processes from material of plants origin either in their natural state or after processing for human consumption in packaged tea only. Tea containing added flavor shall bear proper label declaration as provided in regulation 2.4.5 (23) of Food Safety and Standards (Packaging and Labeling) Regulations, 2011. Tea used in the manufacture of flavored tea shall conform to the standards of tea. The flavored tea manufacturers shall register themselves with the Tea Board before marketing flavored tea. The product shall conform to the following requirements in which all the figures given are expressed on the basis of the material oven-dried at 103±2° C.

Parameter	*Limits*
(a) Total Ash (m/m)	Not less than 4.0 percent and not more than 8.0 percent
(b) Water-soluble ash	Not less than 45.0 percent of total ash.
(c) Alkalinity of water – soluble expressed as KOH (m/m)	Not less than 1.0 percent of total ash and notAsh more than 3.0 percent
(d) Acid-insoluble ash (m/m)	Not more than 1.0 percent
(e) Water-extract (m/m)	Not less than 32.0 percent
(f) Crude fibre (m/m)	Not more than 16.5 percent
(g) Total catechins (m/m)	Not less than 9.0 percent and not more than 19.0 percent

2.1.6 Specific Phytosanitary Requirements relating to the selected commodities

I. Asparagus:

- Pesticide Residue: Imported asparagus must not contain any pesticide residues that exceed the maximum levels set by FSSAI.
- Microbiological Contamination: The asparagus must not contain any harmful bacteria or other microorganisms that could cause foodborne illnesses.
- Heavy Metals: The asparagus must not contain excessive levels of heavy metals, such as lead, cadmium, or mercury.

- Packaging and Labeling: The packaging must be clean and free from any contaminants that could affect the quality of the asparagus during transportation. The label must provide clear information about the country of origin, date of production and expiry, and any other relevant information.
- Size and Shape: The asparagus should be of uniform size and shape, and free from any defects or damage.
- Moisture content: The asparagus should have a moisture content of less than 92%.
- Foreign Matter: The asparagus must be free from any foreign matter such as sand, soil, stones, or other extraneous matter.

II. Buckwheat:

- Pesticide Residue: Imported buckwheat must not contain any pesticide residues that exceed the maximum levels set by FSSAI.
- Microbiological Contamination: The buckwheat must not contain any harmful bacteria or other microorganisms that could cause foodborne illnesses.
- Heavy Metals: The buckwheat must not contain excessive levels of heavy metals, such as lead, cadmium, or mercury.
- Packaging and Labeling: The packaging must be clean and free from any contaminants that could affect the quality of the buckwheat during transportation. The label must provide clear information about the country of origin, date of production and expiry, and any other relevant information.
- Size and Shape: The buckwheat should be of uniform size and shape, and free from any defects or damage.
- Moisture content: The buckwheat should have a moisture content of less than 14%.
- Foreign Matter: The buckwheat must be free from any foreign matter such as sand, soil, stones, or other extraneous matter.

III. Potato:

- Pesticide Residue: Imported potatoes must not contain any pesticide residues that exceed the maximum levels set by FSSAI.
- Microbiological Contamination: The potatoes must not contain any harmful bacteria or other microorganisms that could cause foodborne illnesses.
- Heavy Metals: The potatoes must not contain excessive levels of heavy metals, such as lead, cadmium, or mercury.
- Packaging and Labellin g: The packaging must be clean and free from any contaminants that could affect the quality of the potatoes during transportation. The

label must provide clear information about the country of origin, date of production and expiry, and any other relevant information.

- Size and Shape: The potatoes should be of uniform size and shape, and free from any defects or damage.
- Moisture content: The potatoes should have a moisture content of less than 78%.
- Maturity: The potatoes should be mature and not sprouted.

IV. Quinoa:

- Pesticide Residue: Imported quinoa must not contain any pesticide residues that exceed the maximum levels set by FSSAI.
- Microbiological Contamination: The quinoa must not contain any harmful bacteria or other microorganisms that could cause foodborne illnesses.
- Heavy Metals: The quinoa must not contain excessive levels of heavy metals, such as lead, cadmium, or mercury.
- Packaging and Labelling: The packaging must be clean and free from any contaminants that could affect the quality of the quinoa during transportation. The label must provide clear information about the country of origin, date of production and expiry, and any other relevant information.
- Size and Shape: The quinoa should be of uniform size and shape, and free from any defects or damage.
- Moisture content: The quinoa should have a moisture content of less than 14%.
- Foreign Matter: The quinoa must be free from any foreign matter such as sand, soil, stones, or other extraneous matter.

V. Strawberry:

- Pesticide Residue: Imported strawberries must not contain any pesticide residues that exceed the maximum levels set by FSSAI.
- Microbiological Contamination: The strawberries must not contain any harmful bacteria or other microorganisms that could cause foodborne illnesses.
- Heavy Metals: The strawberries must not contain excessive levels of heavy metals, such as lead, cadmium, or mercury.
- Packaging and Labelling: The packaging must be clean and free from any contaminants that could affect the quality of the strawberries during transportation. The label must provide clear information about the country of origin, date of production and expiry, and any other relevant information.
- Size and Shape: The strawberries should be of uniform size and shape, and free from any defects or damage.

- Moisture content: The strawberries should have a moisture content of less than 92%.
- Foreign Matter: The strawberries must be free from any foreign matter such as sand, soil, stones, or other extraneous matter.

VI. Orange:

- Pesticide Residue: Imported oranges must not contain any pesticide residues that exceed the maximum levels set by FSSAI.
- Microbiological Contamination: The oranges must not contain any harmful bacteria or other microorganisms that could cause foodborne illnesses.
- Heavy Metals: The oranges must not contain excessive levels of heavy metals, such as lead, cadmium, or mercury.
- Packaging and Labelling: The packaging must be clean and free from any contaminants that could affect the quality of the oranges during transportation. The label must provide clear information about the country of origin, date of production and expiry, and any other relevant information.
- Size and Shape: The oranges should be of uniform size and shape, and free from any defects or damage.
- Moisture content: The oranges should have a moisture content of less than 87%.
- Foreign Matter: The oranges must be free from any foreign matter such as sand, soil, stones, or other extraneous matter.

VII. Apple:

- Pesticide Residue: Imported apples must not contain any pesticide residues that exceed the maximum levels set by FSSAI.
- Microbiological Contamination: The apples must not contain any harmful bacteria or other microorganisms that could cause foodborne illnesses.
- Heavy Metals: The apples must not contain excessive levels of heavy metals, such as lead, cadmium, or mercury.
- Packaging and Labelling: The packaging must be clean and free from any contaminants that could affect the quality of the apples during transportation. The label must provide clear information about the country of origin, date of production and expiry, and any other relevant information.
- Size and Shape: The apples should be of uniform size and shape, and free from any defects or damage.
- Moisture content: The apples should have a moisture content of less than 85%.
- Foreign Matter: The apples must be free from any foreign matter such as sand, soil, stones, or other extraneous matter.

VIII. Cardamom:

- Pesticide Residue: Imported cardamom must not contain any pesticide residues that exceed the maximum levels set by FSSAI.
- Microbiological Contamination: The cardamom must not contain any harmful bacteria or other microorganisms that could cause foodborne illnesses.
- Heavy Metals: The cardamom must not contain excessive levels of heavy metals, such as lead, cadmium, or mercury.
- Packaging and Labelling: The packaging must be clean and free from any contaminants that could affect the quality of the cardamom during transportation. The label must provide clear information about the country of origin, date of production and expiry, and any other relevant information.
- Size and Shape: The cardamom should be of uniform size and shape, and free from any defects or damage.
- Moisture content: The cardamom should have a moisture content of less than 13%.
- Foreign Matter: The cardamom must be free from any foreign matter such as sand, soil, stones, or other extraneous matter.

IX. Turmeric:

- Pesticide Residue: Imported turmeric must not contain any pesticide residues that exceed the maximum levels set by FSSAI.
- Microbiological Contamination: The turmeric must not contain any harmful bacteria or other microorganisms that could cause foodborne illnesses.
- Heavy Metals: The turmeric must not contain excessive levels of heavy metals, such as lead, cadmium, or mercury.
- Packaging and Labeling: The packaging must be clean and free from any contaminants that could affect the quality of the turmeric during transportation. The label must provide clear information about the country of origin, date of production and expiry, and any other relevant information.
- Size and Shape: The turmeric should be of uniform size and shape, and free from any defects or damage.
- Moisture content: The turmeric should have a moisture content of less than 10%.
- Foreign Matter: The turmeric must be free from any foreign matter such as sand, soil, stones, or other extraneous matter.

X. Betel nut (Arecanut):

- Pesticide Residue: Imported betel nuts must not contain any pesticide residues that exceed the maximum levels set by FSSAI.
- Microbiological Contamination: The betel nuts must not contain any harmful bacteria or other microorganisms that could cause foodborne illnesses.
- Heavy Metals: The betel nuts must not contain excessive levels of heavy metals, such as lead, cadmium, or mercury.
- Packaging and Labeling: The packaging must be clean and free from any contaminants that could affect the quality of the betel nuts during transportation. The label must provide clear information about the country of origin, date of production and expiry, and any other relevant information.
- Moisture content: The betel nuts should have a moisture content of less than 12%.
- Foreign Matter: The betel nuts must be free from any foreign matter such as sand, soil, stones, or other extraneous matter.

XI. Lemongrass:

- Pesticide Residue: Imported lemongrass must not contain any pesticide residues that exceed the maximum levels set by FSSAI.
- Microbiological Contamination: The lemongrass must not contain any harmful bacteria or other microorganisms that could cause foodborne illnesses.
- Heavy Metals: The lemongrass must not contain excessive levels of heavy metals, such as lead, cadmium, or mercury.
- Packaging and Labeling: The packaging must be clean and free from any contaminants that could affect the quality of the lemongrass during transportation. The label must provide clear information about the country of origin, date of production and expiry, and any other relevant information.
- Size and Shape: The lemongrass should be of uniform size and shape, and free from any defects or damage.
- Moisture content: The lemongrass should have a moisture content of less than 13%.
- Foreign Matter: The lemongrass must be free from any foreign matter such as sand, soil, stones, or other extraneous matter.

2.1.7 Import Duty and Tax

Most food products are subject to import duty and taxes, which are set by the Indian government from time to time based on Customs Tariff Act 1975. Importers must pay the applicable duties and taxes to clear their shipment. However, because of the Free Trade Agreement, Bhutanese products are not subject to Customs' Duty.

The schedules for the selected products are reflected in the table below.

Table 1: Customs Duty

Tariff Item	Description of Goods	Unit	Rate of Duty	
			Standard	Preferential Areas
0805	Citrus, Fresh or Dried			
	Oranges	Kg	40%	30%
	Mandarins	Kg	30%	-
0808	Apples	Kg	75%	40%
0802 80	Arecanut			
0802 80 10	Whole	Kg	100%	90%
0802 80 20	Split	Kg	100%	90%
0810	Strawberries	Kg	30%	20%
0810 50 00	Kiwi Fruits	Kg	30%	20%
1008 10	Buckwheat	Kg	Free	Free
1008 50 00	Quinoa	Kg	Free	Free
0908	Cardamom (All sizes)	Kg	70%	62.5%
0910	Turmeric	Kg	30%	-
0910	Ginger	Kg	30%	30%
1211 90 99	Lemon Grass	Kg	30%	-
2003	Mushroom	Kg	30%	-
2005 20 00	Potato	Kg	30%	-
2005 60 00	Asparagus	Kg	30%	-

2.2 Bangladesh

Bangladesh is yet to develop a unified Food Safety Administration System; however, under the umbrella of the Food Safety Act 2013 a number of regulatory standards have been notified both by BFSA and Bangladesh Standards and Testing Institution (BSTI). More are being framed. The standards are essentially based on Codex or ISO.

2.2.1 Food Standards

The Standards Catalogue of BSTI January 23 lists 638 numbers of existing Bangladesh standards (BDS) relating to Food Products Division. Some 229 products are brought under mandatory certification system of which 88 items are related to Agricultural and Food Products.

2.2.2 Phytosanitary Regulations

Based on Plant Quarantine Act, 2011, Bangladesh also has Phytosanitary regulation relating to import of all food items.

2.2.3 Customs Duty and other taxes

Table 2 : Custom Duties and other taxes of Bangladesh for Selected Commodities

HSCODE	DESCRIPTION	CD	SD	VAT	AIT	RD	AT	TI
09103010	Turmeric (Curcuma), Wrapped/Canned up to 2.5 kg	10	0	15	5	0	5	37.00
09103090	Turmeric (Curcuma), Nes	5	0	0	5	0	0	10.00
09101110	Ginger: Neither crushed or ground Wrapped/canned up to 2.5 Kg	10	0	15	5	0	5	37.00
09101190	Ginger: Neither crushed or ground EXCL. Wrapped/canned up to 2.5 Kg	5	0	0	5	0	0	10.00
09101210	Ginger: Crushed or ground Wrapped/canned up to 2.5 Kg	25	0	15	5	3	5	58.60
09101290	Ginger: Crushed or ground EXCL. Wrapped/canned up to 2.5 Kg	25	0	0	5	3	0	33.00
09083110	Cardamoms: Neither crushed or ground. Wrapped/canned up to 2.5 Kg	25	20	15	5	3	5	9.32
09083190	Cardamoms: Neither crushed or ground. EXCL. Wrapped/canned up to 2.5 Kg	25	20	0	5	3	0	8.60
09083210	Cardamoms: Crushed or ground. Wrapped/canned up to 2.5 Kg	25	20	15	5	3	5	9.32
09083290	Cardamoms: Crushed or ground. EXCL. Wrapped/canned up to 2.5 Kg	25	20	0	5	3	0	8.60
10081010	Buckwheat, Wrapped/Canned up to 2.5 kg	10	0	15	5	0	5	37.00
10081090	Buckwheat, Nes	10	0	0	5	0	0	15.00

09021000	Green Tea, Whether or Not Flavored, In Immediate Packings <=3 Kg	25	20	15	5	3	5	9.32
09022000	Green Tea, Whether or Not Flavored, Nes	25	20	15	5	3	5	9.32
09023000	Black Tea Fermented/Partly Fermented, Flavored or Not, In Packings Of <=3kg	25	20	15	5	3	5	9.32
09024000	Black Tea Fermented/Partly Fermented, Flavored or Not, In Packings Of >3kg	25	20	15	5	3	5	9.32
08081010	Apples, Fresh, Wrapped/Canned Up to 2.5kg	25	20	15	5	20	5	113.80
08081090	Apples, Fresh, Nes	25	20	15	5	20	5	113.80
08133010	Dried Apples, Wrapped/Canned Up to 2.5KG	25	0	15	5	20	5	9.00
08133090	Dried Apples, NES	25	0	0	5	20	0	0.00
08051010	Oranges Fresh or Dried, Wrapped/Canned Up to 2.5kg	25	20	15	5	20	5	113.80
08051090	Oranges, Fresh or Dried, Nes	25	20	15	5	20	5	113.80
08101010	Strawberries, Fresh, Wrapped/Canned Up to 2.5kg	25	20	15	5	20	5	113.80
08101090	Strawberries, Fresh, NES	25	20	15	5	20	5	113.80
11051000	Potato Flour, Meal and Powder.	25	0	15	5	3	5	58.60
11052000	Potato Flakes, Granules and Pellets	25	0	15	5	3	5	58.60
11081300	Potato Starch	15	0	15	5	10	5	55.00
20052000	Potatoes, Preserved Other Than by Vinegar or Acetic Acid, Not Frozen	25	45	15	5	3	5	127.72
07101010	Potatoes Cooked Uncooked by Steaming or Boiling Frozen, Wrapped/Canned up to 2.5 kg	25	0	15	5	3	5	58.60
07101090	Potatoes Cooked/Uncooked by Steaming or Boiling Frozen, Nes	25	0	0	5	3	0	33.00
10085010	Quinoa (Chenopodium quinoa) Wrapped/canned up to 2.5 Kg	10	0	15	5	0	5	37.00

10085090	Other quinoa (Chenopodium quinoa), EXCL. Wrapped/canned up to 2.5 Kg	10	0	0	5	0	0	15.00
07092010	Asparagus, Fresh or Chilled, Wrapped/Canned up to 2.5 kg	25	20	15	5	3	5	89.32
07092090	Asparagus, Fresh or Chilled, Nes	25	20	0	5	3	0	58.60
20056000	Asparagus, Preserved Other Than by Vinegar or Acetic Acid, Not Frozen	25	0	15	5	3	5	58.60
08028010	Areca nuts wrapped/canned up to 2.5 Kg	25	30	15	5	3	5	104.68
08028090	Other Areca nuts, EXCL. Wrapped/canned up to 2.5 Kg	25	30	15	5	3	5	104.68

As can be deduced from above table, customs duty is not only the taxes that the importer pays. In Bangladesh, there are other taxes that are paid like Supplementary Duty, VAT, AIT, RD and AT. Even if Customs Duty are exempted, other taxes will apply.

Under the bilateral preferential trade agreement, exemptions are granted to the following commodities that has been selected for this study:

- Seed Potato,
- Oranges
- Apples
- Cardamom
- Ginger

2.2.4 Phytosanitary regulation of selected commodities

I. Ginger (Zingiber officinale)

Use: Bulbs for consumption
Country of Origin: Any Country
Requirement of Additional declaration: Freedom from (a) Soft rot (Pythium species*)
Special Conditions of Import: Freedom from Soil

II. Citrus species (Orange & etc)

Use: Fresh fruits for consumption
Country of Origin: Any Country
Requirement of Additional declaration:

Free from:
(a) Aspidiotusnerii (Aucuba scale)
(b) Bactrocera aquilonis Bactrocera jarvisi Bactrocera neohumeralis Bactroceratryoni (Queensland fruit fly)
(c) Ceratitis capitata (Mediterranean fruit fly)
(d) Epiphyas postvittana (Light brown apple moth)
(e) (Guignardia citricarpa (citrus blackspot)
(f) Pseudococcuscalceol ariae (Scarletmealy bug)
(g) Unaspiscitri (citrus snow scale)

Special Conditions of Import:
(a) Pest-free area status for Bactrocera aquilonis, B. jarvisi, B. neohumeralis, B.tryoni (Queensland fruit fly) and Ceratitis capitata (Mediterranean fruit fly), Pestfreearea status for Bactrocera tsuneonis (Japanese or ange fly) as per international standards.

(b) Pre-shipment cold treatment at 0oC or below for 10days; 0.55oC or below for11days; 1.1oCorbe low for12 days plus in-transit refrigeration against Mediterranean fruit fly at 0oC or below for13days;0.55oC or belowfor 14 days; 1.1oC or below for 18 days plus in-transit refrigeration against Queensland fruit fly

III. Apples (Malus sylvestris)

Use: i) Fresh fruits for consumption
Country of Origin: Any Country
Requirement of Additional declaration:
Free from:
(a) Queensland fruit fly (Bactroceratryoni)
(b) Mediterranean fruit fly (Ceratitis capitata)
(c) Codling moth (Cydia pomonella)
(d) Light brown apple moth (Epiphyas postvittana)
(e) Scarlet ealybug (Pseudococcus calceolariae)
(f) Fire blight (Erwinia amylovora)

Special Conditions of Import:
(a) Pest freestatus for Bactrocera tryoni (Queensland fruitfly) and Ceratitis capitata (Mediterranean fruitfly), Ceratitis rosa (Natal fruit fly) asper inter- national standards or

(b) Pre-shipment cold treatmentat 0oCoor below for 10days at 0.55 C or below for11days at 1.1oC or below for 12 days plus in-transit refrigeration against o Mediterranean fruit fly at 0 C or below for13days at 0.55oC or below for14 days; 1.1oC or below for 18 days plus in- transit refrigeration against Queensland fruit fly.

IV. Betel Nut (Areca Nut)

Use: i) For consumption
Country of Origin: Any Country
Special Conditions of Import: Phytosanitary Certificate.

V. Strawberry (Fragaria species)

Use: For consumption
Country of Origin: Any Country
Requirement of Additional declaration:
Free from:
(a) Frankliniella occidentalis (western flower thrips)
(b) Peridromasaucia (pearly underwing moth)
(c) Aphisforbesi (aphids)
Special Conditions of Import: Not applicable.

VI. Potato (Solanum tuberosum)

Use: Seed potato for Sowing / Potato for Consumption
Country of Origin: Any Country
Requirement of Additional declaration:
Free from:
a) Black wart (Synchytrium endobioticum),
b)) Goldencyst nematode (Globoderarosto- chiensis)
c) Pale cyst nematode (Globodera pallid)
d) Colorado potato beetle (Leptinotarsadecemli- neate)
e) Potato Virus–X (PVX)
(f) Potato ring spot (Clavibactor michiganensis sub sp. sepedonicus)
(g) Potato latent virus
(h) Potato spindle tuber viroid
(i) Potato black ring spot virus
(j) Tuber nematode (Ditylenchus destructor)

(k) Weed seed (Parthenium hysterophorus)

Special Conditions of Import:

(i) Potatoes shall not be imported into Bangladesh by any means from any country, where the following serious pests, namely, Black wart (Synchytrium Endobioticum), Golden Nematode (Globodera rostochiensis), Pale cyst nematode (Globodera pallid)Colorado potato beetle (Leptinotarsa decemlineata), have either been prevalent or reported to have occurred unless they are accompanied by Phytosanitary Certificate from the country of origin declaring that the crop from which the consignment is derived was not grown in the vicinity of unhealthy potato crops and was inspected by a duly authorized official of phytopathological service of the country of origin and found free from all injurious insects pests and diseases and that["no case of occurrence of the insect" and diseases mentioned above was recorded within production site during the past twelve months of potato crop grown

(ii) In order to guard against the importation of the pests and diseases the following precautions -

- as far as possible, import of seed potatoes resistant to wart disease shall be permitted;
- the importation of seed potatoes shall be permitted from those countries where the aforesaid pests and diseases are not present;
- seed consignments should be free from shoots, leaves, roots and soil sticking to tubers and rotten tubers;
- import of potato seeds should be restricted only to certified seed and
- import of shoots, roots, leaves and green parts of potato shall not be imported

VII. Buckwheat (Triticum species.)

Use: Grain for Consumption

Country of Origin: Any Country

Requirement of Additional declaration:

Free from:

(a) Granary weevil (Sitophilus granarius)

(b) Canary grass (Phalaris minor)

(c) Grain beetle (Oryzaephilus surinamensis)

(d) Bunt of wheat (Tillitia species.)

(e) Ergot (Claviceps purpurea)

Special Conditions of Import:
Fumigation with appropriate fumigant at recommended dose before shipment or on board of shipment.

VIII. Asparagus (Asparagus officinalis)

Use: Vegetables for Consumption
Country of Origin: Any Country
Requirement of Additional declaration: Not Applicable
Special Conditions of Import: Phytosanitary Certificate.

IX. Turmeric (Curcuma longa)

Use: Bulbs for Consumption
Country of Origin: Any Country
Requirement of Additional declaration: Not Applicable
Special Conditions of Import: Freedom from soil.

2.3 WTO, Regional Blocks, bilateral and preferential agreements etc.

In addition to the rules and regulations in the targeted markets, we have to also understand the agreements and arrangement drawn up through BIMSTEC, SAFTA and bilateral agreements to maximize our benefits. The state of the nation's development may not benefit us since we will be graduating to a developing country status; however, we have to constantly seek any opportunities to benefit from these multilateral trade agreements.

The Bilateral Trade Agreement with India and Bangladesh is seen as a corner stone to strengthen economic ties for mutual benefit and growth. There is genuine feeling to help and facilitate Bhutan's export drive based on model of reciprocity and mutual gains. Mutual recognition and agreements are the basis of all trade; even though codex standards are recognized as the minimum standards to be followed by all member countries.

2.4 Issues and Challenges

This market research survey has looked at the legal framework of the importing country, it's sanitary, statutory, regulatory and certification requirements with regard to the 12 commodities; namely, Asparagus, Potato/ (seed), Buckwheat, Quinoa, Strawberries, Apples, Oranges, Cardamom, Turmeric, Arecanut, Lemongrass, Ginger. The following are the key issues and challenges that have been identified:

2.4.1 Compliance to the rules

In any trade or business, compliance with laws and regulations is crucial for maintaining a smooth and legal operation. This is especially true for the trade of agricultural commodities, where rules and regulations may vary from country to country, and failure to comply with them can have severe consequences.

In the context of the study, the bureaucrats and importers have emphasized the importance of compliance with laws and regulations governing the trade of agricultural commodities. This includes compliance with regulations related to product quality, packaging, labeling, import permits, customs clearance, and other related requirements.

Failure to adhere to these regulations can result in the seizure of goods by authorities, which can lead to significant financial losses for the importers. In addition to financial losses, non-compliance can also damage the reputation of the exporters and jeopardize their ability to conduct future trade in the market.

Therefore, it is essential to ensure strict adherence to the rules and regulations governing the trade of agricultural commodities. This includes conducting due diligence to understand the rules and regulations applicable to the specific product and market, ensuring that the product meets the required quality and packaging standards, obtaining necessary import permits and clearances, and maintaining accurate documentation.

By complying with regulations, exporters and importers can avoid legal and financial risks and ensure a sustainable and profitable trade. Furthermore, compliance with regulations can also enhance the reputation of the exporters and promote their long-term business interests in the market.

2.4.2 Non-Tariff Barriers

Non-tariff barriers (NTBs) are any measures other than tariffs that governments use to restrict imports or promote exports. Examples of NTBs include quotas, import licenses, technical barriers to trade, sanitary and phytosanitary measures, and other regulations that make it more difficult or expensive to trade.

In the context of the market mentioned, actors (i.e., businesses, traders, and governments) have recognized the existence of non-tariff barriers that can hinder trade. These barriers can include things like complicated regulations and paperwork, inefficient customs procedures, and inadequate infrastructure.

To promote efficient trading, there is a need to address these non-tariff barriers. One example of this is by widening roads and establishing designated lanes to facilitate faster movement of goods. By doing so, businesses can reduce transportation costs and improve delivery times, which can ultimately benefit all stakeholders involved in the trading activities.

Addressing non-tariff barriers can also help to promote fair competition and reduce the risk of corruption and rent-seeking behaviors. When regulations and procedures are clear and transparent, businesses are more likely to comply with them, and there is less room for corrupt officials or intermediaries to exploit the system.

2.4.3 Development of Infrastructure at the boarder

Infrastructure development at the border, such as storage facilities, can enhance trade between neighboring countries. This development can promote more efficient and streamlined trade processes that can benefit all concerned parties. Construction of dry ports and orange export depots will enhance export of our products.

2.4.4 Single Agency

The legal issues, rule and regulations are complex. While agency to agency (customs to customs) language is understood, the export business may not be understood in totality by any single agency. Thus, there may be a need for Bhutan to set-up a single agency like APEDA in India to address all issues related to agriculture food export. Such an agency could also initiate development of food standards which will not only benefit exports but also local consumers as Bhutan is a net food importing country.

In summary, to address the challenges and issues in this market, there is a need to comply with regulations, address non-tariff barriers, develop infrastructure at the border, and work closely with licensed importers. By doing so, all stakeholders can benefit from a more efficient and streamlined trading process.

Chapter 3 - Import and Distribution Systems in India and Bangladesh

The food and vegetable marketing system in Delhi, Kolkata and Dhaka is complex and diverse, with a mix of traditional and modern channels. The traditional marketing channels involving farmers selling their produce through local mandis (wholesale markets), which are regulated by Governments are managed by commission agents who facilitate transactions between farmers and traders/retailers. Mandis are still operational in all the above market areas. There are also a variety of informal channels such as street vendors, hawkers, and mobile markets. In parallel, modern retail channels such as supermarkets and online buying and delivery, offering greater convenience and quality to consumers is developing.

Typically, the procedure for import activities involves ensuring licensing and compliance before the shipping of goods, arranging for transport and warehousing after the unloading of goods, and getting customs clearance as well as paying taxes before the release of goods. The import process is the same in both countries though different terminologies may be used. For example, India uses Import Declaration Form (IDF) whereas Bangladesh use Import Registration Certificate (IRC).

3.1 Documentations required by Importer

1. Import License/VAT Number
2. Import Declaration Forms (IDF)/IRC
3. LC
4. Import Declaration
5. Certificate of Origin
6. Bill of Entry/ Bill of Lading or Airway bill
7. Commercial Invoice
8. Packaging List
9. Terminal Handling Receipts
10. Cargo release order

3.2 Fruit and Vegetables Import and Distribution System

In India, it is essential to partner with a locally licensed importer to import goods into the country. This requirement creates an opportunity to build a long-term business relationship with a trustworthy partner who has knowledge of the local regulations and requirements. By working with a knowledgeable importer, we can stay informed of any existing or new requirements for the markets in which we wish to do business. Officials confirm that even small business owners

operated by other nationals will require an Indian license, making partnership the recommended path forward.

In Bangladesh, the Royal Bhutanese Embassy is aware of the bottlenecks in importing agricultural products and is taking steps to address them. The embassy is working towards establishing the STCBL Dhaka office as an importing agency for Bhutanese agricultural products, which will streamline the import process and make it easier for foreign businesses to access the Bangladeshi market. The Bangladesh Investment Development Authority (BIDA) is also involved in this effort, and the matter is at an advanced stage.

It is recommended that businesses explore partnerships with locally licensed importers in India to navigate the complex regulatory environment. In Bangladesh, businesses can leverage the efforts of the Royal Bhutanese Embassy and BIDA to simplify the import process and access the market more easily. By building relationships with trusted partners and leveraging the support of government agencies, businesses can overcome the challenges and maximize the opportunities in these markets.

3.3 Wholesale “Mandi” Market System

Azadpur market in Delhi is the largest wholesale market in the region for fruits and vegetables. Local and global sourcing is done via air and sea transport, with high-value and perishable items like asparagus being airlifted, while fruits with longer shelf life are imported by sea. In Delhi, sea imports are channeled through Mumbai, and Mandi importers use various shipping companies, including "SOUKA airways" based in Bombay, as well as DHL, FEDEX, and Cargo. Mandi is a marketplace where farmers sell their produce to buyers through auction.

Picture 1: Azadpur Market, New Delhi

Picture 2 - Seldha Vegetables Retail/Wholesale Market Kol *Picture 3 - Machua Fruit Retail/Wholesale market, Kol*

Both in Delhi and Kolkata, wholesalers charge a commission of 5-7.50%. In Kolkata, Seldha is the Vegetable Mandi, and Machua Bazaar is the Fruits Mandi. Wholesalers supply to local markets, including supermarkets and hotels, with their own terms and conditions, similar to those of producers and farmers. Often, credit is extended to known and related farmers. Regarding supermarkets, some claim that no goods are returned as the transaction is closed on sale and delivery. Others claim that goods are taken on credit, and 80% are returned as rejects by the end of the day when supermarkets cannot sell them.

Picture 4 - Karun Bazaar, Dhaka. *Picture 5 - Syam Market, Dhaka* *Picture 6 - Badamtoli Dhaka*

3.4 Supermarkets

Except for the Food Hall prices in Delhi and the Spencer prices in the Pacific Mall, the prices in the supermarkets are low and very competitive with online and retail markets.

Picture 7 - Food Hall Delhi, Connaught Place

Picture 8 - SPAR, Pacific Mall, Delhi

Picture 9- Modern Bazaar, Karol Bagh Mall

Picture 10 - Spencer, Quest Mall, Kolkata

Picture 11 - Reliance: New Town Kolkata

Reliance policy is to source their products from Local farmers only. They have entered into contract with farmers and will import only if products are not available locally. As can be seen in the above display the prices are very competitive.

3.5 Metro Cash and Carry, Kolkata

Metro Cash and Carry operates on a membership-only basis, and non-members are not permitted to enter. It was informed that the imported products are centrally procured by the headquarters located in Bengaluru. Metro Cash and Carry has 39 branches throughout India.

Picture 12 - AMANA BigBazaar, Dhaka

Picture 13 - Unimart, Gulshan1, Dhaka

3.6 Online

Relevant target markets offer a variety of online options for purchasing fresh fruits and vegetables at highly competitive prices. Customers can access a list of options and prices closest to their location. Following are the compiled list of reliable links -

Delhi: Fruits and Vegetable on line
Blinkit - Order Fruits Online - Fruits Delivered In Minutes

Kolkata: F&V on line
Buy Fresh Vegetables Online - Price ₹10 Per 100 g Near Me

Dhaka : F&V on line
Order groceries from Abdullah Vegetables Store - Gulshan 1 in...

3.7 Organic

As per regulations in India, organic products must be certified before they can be marketed and sold as organic. While there are numerous processed or semi-processed organic products available, those from Sikkim have gained market recognition as being organic.

Supermarkets like Spencer and specialty retailers like Fab India have dedicated organic sections to cater to the growing demand for organic products. In addition, there are several retail outlets in Delhi that offer semi-processed or processed agricultural products, such as the CSI market.

Picture 14 - Fab India: City Walk Mall, Kolkata

Picture 15 – INA, Delhi

3.8 Retail outlet markets

There are retail outlets and retailers selling on "Thalas" in the market, and the cut or percentage charged varies from location to location. For instance, in affluent areas, retailers charge a markup of 50% on products, whereas in downtrodden areas, the markup is only 10%. The distance from the wholesale market is also a factor that influences the pricing.

3.9 High End Hotels and Gourmets

The Manager along with the procurement manager an d the chef met with the consulting team. During the meeting, they revealed that they had previously received supplies of Asparagus five years ago, but declined to provide any information on why the supply had stopped.
The Taj Bengal team emphasized their requirement for "Door Delivery" and performa as a a consolidated supplier. They also informed the consulting team that all products must be fresh, and any rejects would be returned to the supplier. They further explained that if the consulting team wanted to supply their products, they would need to participate in the bidding process when a tender is floated. The bid would not be for asparagus only, but for all the listed items needed by the Taj Bengal. They informed the consulting team that they will procure Asparagus at the prevailing supermarket rate of Rs 750/kg. The Chef also mentioned that Whole White Asparagus fetches Rs. 1250-1550/kg.

The consulting team was informed that Lemon grass and Asparagus are in demand throughout the year, but there is a high demand for Asparagus during Marwari weddings in Nov-Jan. The Taj Bengal team expressed interest in procuring strawberries, but they require samples. Although they have an interest in other products, they currently source from Mandis, and informed that Bhutan may not be price competitive.

3.10 Findings and Conclusions

3.10.1 Awareness of Bhutanese

Bhutan, a small Himalayan kingdom, has been gaining recognition for its high-quality agricultural products in recent years. Its unique geographical location and favorable climate have made it possible to produce a variety of fruits, vegetables, and other crops that are highly sought after by neighboring countries, such as India and Bangladesh.

Bhutanese agricultural products have gained recognition for their organic and chemical-free production methods, which have made them popular among health-conscious consumers in the

region. Some of the most popular Bhutanese agricultural products include oranges, pineapples, apples, and cardamom.

The Druk brand, which is owned by the Bhutan Agro Industries Limited (BAIL), has become a household name in India and Bangladesh. The brand is known for its high-quality food products, including juices, jams, pickles, and sauces. Druk products are exported to these countries, where they are highly valued for their taste and quality.

In addition to Druk products, Bhutanese fruits and vegetables are also highly sought after by traders in Kolkata and Dhaka. These traders are knowledgeable about Bhutanese agricultural products and often source them directly from Bhutanese farmers. Some of the most popular Bhutanese fruits and vegetables and spices in these markets include oranges, pineapples, and cardamom.

However, in Delhi, the awareness of Bhutanese agricultural products seems to be relatively low, particularly among fruit and vegetable vendors. Commission agents in Delhi suggest that Bhutanese apples may not be able to compete with Himachal apples due to the distance involved. This lack of awareness may be due to a lack of marketing efforts by Bhutanese farmers and exporters.

Despite this, the demand for Bhutanese agricultural products in India and Bangladesh is expected to continue to grow in the coming years. The Bhutanese government has identified agriculture as a priority sector and has been taking steps to promote the sector, including by providing subsidies and other incentives to farmers.

3.10.2 Quality

Wholesalers are businesses that purchase goods in bulk from manufacturers or producers and sell them to retailers or other businesses. In any market, wholesalers consider quality to be a crucial factor in their operations. This means that they place great importance on the quality of the products they purchase, store, and sell.

One of the ways wholesalers emphasize quality is by displaying products that are fresh and properly graded. For example, in a fruit and vegetable market, wholesalers will ensure that the produce is picked and transported in a way that maintains its freshness. They will also grade the products by size and color, ensuring that customers receive consistent quality products that meet their needs and preferences.

Proper grading also ensures that customers are getting what they pay for. For instance, if a customer pays for large-sized tomatoes, the wholesalers will ensure that the tomatoes they receive are of the size they paid for. This helps to build trust between the wholesalers and their customers, which is important for building long-term relationships.

Emphasizing quality in the display of products is important for wholesalers as it helps them to differentiate themselves from their competitors and attract more customers. It also ensures that they maintain a good reputation and are able to meet the needs and expectations of their customers.

In all the markets visited, the products were of the highest quality and displayed attractively and conveniently for shoppers to find.

3.10.3 Price

Pricing is a significant consideration for both wholesalers and consumers. Wholesalers must be competitive with their pricing in order to attract customers and make sales. Consumers, on the other hand, are very price sensitive and often opt for products that are sold in retail and open markets because they are typically priced lower than those in supermarkets.

Retail and open markets are often less expensive than supermarkets because they have lower overhead costs. They don't have to pay for fancy displays, advertising, or large store space, which can drive up the cost of goods sold. As a result, they are able to offer products at a lower price point, which is attractive to consumers who are looking to save money.
In addition to price, consumers are also drawn to retail and open markets because of the variety of products available. These markets often sell products that are unique and not commonly found in supermarkets, which adds to their appeal.

For wholesalers, pricing is a balancing act. They need to offer competitive prices in order to attract customers and make sales, but they also need to ensure that they are making a profit. They may achieve this by negotiating with their suppliers for better prices or by buying in bulk, which can help to lower their overall costs.

Pricing is a significant consideration in the market, and wholesalers and consumers alike are very price sensitive. Retail and open markets are often able to offer lower prices because they have lower overhead costs, which makes them attractive to consumers who are looking to save money. Wholesalers must be competitive with their pricing in order to attract customers, but they also need to ensure that they are making a profit.

As can be seen from the prices of the displayed products in various supermarkets and retail outlets, the prices of commodities were very competitive. Table 8 also reflects that winter vegetables prices are low in all the markets studied. Thus, it is not profitable to provide winter vegetables to these markets.

3.10.4 Labeling

In the markets visited, the labeling of products is typically done to provide important information to consumers such as the date of packing, weight, and price. These labels help consumers make informed decisions about the products they are purchasing, ensuring that they are getting products that meet their needs and preferences.

The date of packing is an important piece of information provided on labels. It tells consumers when the product was packaged, which can help them determine the freshness of the product. For example, in the case of fresh produce, knowing the date of packing can help consumers decide whether or not to purchase the product based on its freshness.

The weight of a product is another important piece of information provided on labels. It tells consumers how much of the product they are purchasing, which is important for determining the value of the product. For example, if a consumer is purchasing meat or seafood, knowing the weight of the product can help them determine how much they need to purchase for their needs.

Finally, the price of a product is another important piece of information provided on labels. It tells consumers how much the product costs, which is important for making purchasing decisions. Consumers can use the price information to compare products and determine which ones offer the best value for their money.

Overall, the labeling of products in the markets visited was done to provide important information to consumers about the products they are purchasing. This helps consumers make informed decisions about the products they buy, ensuring that they get products that meet their needs and preferences. The information provided on labels, such as the date of packing, weight, and price, is important for determining the freshness and value of products especially of highly perishable products like strawberries.

3.10.5 Presentation

Presentation is an important aspect of selling products. Supermarkets and even street hawkers make an effort to display their products in an organized and attractive manner to attract customers and make sales.
Supermarkets, in particular, are known for their organized and well-presented displays. Products are often arranged in a way that is visually appealing and easy to navigate for customers. For example, in the produce section, fruits and vegetables are often arranged by color or type, making it easy for customers to find what they are looking for.

Street hawkers, on the other hand, often have limited space to display their products, but they still make an effort to present them in an attractive way. They may use baskets, crates, or other containers to display their products, arranging them in a way that is visually appealing and easy for customers to access.

The presentation of products is important for several reasons. First, it helps to attract customers and make sales. A well-presented product is more likely to catch the attention of a customer than one that is poorly presented. Second, it helps to create a positive impression of the product and the seller. If a customer sees that a seller takes pride in the presentation of their products, they are more likely to view the product and the seller in a positive light.

3.10.6 Branding and story telling

Branding and storytelling play an important role in promoting semi-processed and organic agricultural products. Branding and storytelling helps to differentiate their products from others in the market and to create a unique selling proposition.

Certification is important for organic products, as it provides assurance to consumers that the product has been produced using organic methods. However, an interesting story about the product's origin and production can also help it stand out and create a stronger emotional connection with consumers.
For example, the Sikkim asparagus is often presented as organic in Spencer, Kolkata. This helps to differentiate it from other asparagus products in the market and create a unique selling proposition. By emphasizing the organic nature of the product and its origin in Sikkim, the brand is able to create a story around the product that resonates with consumers and helps it stand out from competitors.
Branding and storytelling can also be used to promote semi-processed agricultural products. By emphasizing the quality and unique nature of these products, brands can differentiate

themselves from competitors and create a strong emotional connection with consumers. For example, the CSI brand may emphasize the use of traditional methods or unique ingredients in their semi-processed products, which can help to create a story around the product and make it more attractive to consumers.

Chapter 4 - Production, Import and Export price data of the commodities that Bhutan is interested to export and potential crop for redistribution in Bhutan

4.1 Analysis of production and distribution of potential Bhutanese agricultural products within Bhutan

Bhutan’s unique topography, climate, and soil conditions that make it an ideal place to grow a variety of crops. The country's agricultural sector is a vital part of its economy, accounting for around 16% of the country's GDP and employing around 60% of its population. However, the production and distribution of potential Bhutanese agricultural products face several challenges.

The production of Bhutanese agricultural products such as asparagus, buckwheat, potato, quinoa, strawberry, orange, apple, cardamom, turmeric, betel nut (Arecanut), lemongrass, and ginger is primarily carried out by small-scale farmers who use traditional farming methods. The production of these crops varies depending on several factors, such as climate change, pests and diseases, access to water and other resources, and the availability of modern agricultural inputs and technologies.
In terms of the quality/quantity of potential Bhutanese Agricultural Products, there is significant potential for growth. Bhutan's agricultural products are generally of high quality, due in part to the country's focus on organic and sustainable farming practices. However, the quantity of some agricultural products can be limited by factors such as weather and pests. For example, potato production in Bhutan was affected by a late blight epidemic in 2018, which caused significant yield losses. Some of the other limiting factors include the lack of access to modern agricultural inputs and technologies, limited access to credit, and the high cost of production. For instance, asparagus is a high-value crop that requires intensive labor and high-quality inputs, while buckwheat is a low-input crop that is well-suited for Bhutan's high-altitude regions. Similarly, cardamom and ginger are traditional cash crops that have been grown in Bhutan for centuries.

The distribution of potential Bhutanese agricultural products within Bhutan is mainly carried out through a network of local markets. However, the transportation and distribution of agricultural products in Bhutan is characterized by high transportation and distribution costs, which can make it difficult for farmers to access markets. The lack of proper storage facilities also means that many agricultural products spoil before they reach the market, leading to significant losses for farmers. Also, the cost of agricultural inputs, such as seeds and fertilizers, can be high for small-scale farmers in Bhutan, who often rely on traditional farming methods. According to the Agriculture and Food Security Policy, 2020, the cost of asparagus seeds can range from Nu. 200 to Nu. 500 (USD 2.6 to USD 6.5) per kilogram, while the cost of fertilizers can range from Nu. 600 to Nu. 1,500 (USD 7.8 to USD 19.5) per bag. The cost of labor is another significant production cost for farmers in Bhutan. The minimum wage for agricultural workers in Bhutan is Nu. 125

(USD 1.6) per hour. The transportation and distribution of agricultural products in Bhutan are also affected by the country's rugged terrain and inadequate infrastructure. Many of Bhutan's rural areas are difficult to access, making it challenging to transport products from the farm to the market. The lack of adequate transportation infrastructure also means that farmers have limited access to markets beyond their local areas. The country has only one major highway, the East-West Highway, which connects the western and eastern regions of the country.

In terms of the domestic needs of potential Bhutanese agricultural products, the country is largely self-sufficient in terms of food production. However, there are still significant gaps in the availability of certain crops. For instance, Bhutan imports a large amount of rice and wheat, while the production of asparagus, quinoa, and strawberries is still relatively low.

The production and distribution of potential Bhutanese agricultural products face several costs, including production costs, transportation costs, and distribution costs. The production costs of potential Bhutanese agricultural products are largely dependent on the inputs used, including seeds, fertilizers, and labor. The cost of transporting products from the farm to the market can be high, particularly in rural areas where transportation infrastructure is inadequate. This can make it difficult for farmers to access markets, limiting their ability to sell their products and earn a livelihood. Additionally, the lack of proper storage facilities means that farmers may lose significant portions of their harvest to spoilage before they reach the market.

In conclusion, the production and distribution of potential Bhutanese agricultural products in Bhutan face several challenges, including the lack of access to modern agricultural inputs and technologies, limited access to credit, and high production, transportation, and distribution costs. Addressing these challenges will require significant investments in agriculture, transportation, and infrastructure to support the growth and development of Bhutan's agricultural sector.

Table 3 - Production information from DoA, MoAL

Production in MT	**2017**	**2018**	**2019**	**2020**	**2021**
Apple	8,039.00	3,684.00	4,321.40	4,056.08	2,323.81
Orange	28,017.00	26,527.00	27,529.49	25,660.80	15,966.39
Betel nut	9,342.00	11,681.00	16,106.87	17,445.68	21,376.00
Cardamom		1,542.00	1,413.20	2,174.85	1,609.08

	2,245.00				
Ginger	7,859.00	4,260.00	6,209.18	8,890.06	7,153.00
Potato	57,223.00	44,278.00	43,560.27	45,500.33	38,572.70
Asparagus	79	160	79.06	126.62	177.73
Buckwheat	3480	1991	2350.43	2700.67	1855.32
Quinoa			82.62	102.08	37.06

Table 4 - Import information from BT, DRC, MoF

Commodity	2017		2018		2019		2020		2021	
	Vol (MT)	Val (M Nu.)	Vol (MT)	Val (M Nu.)	Vol (MT)	Val (M Nu.)	Vol (MT)	Val (M Nu.)	Vol (MT)	Val (M Nu.)
Apple	185.58	19.28	73.58	7.02	167.01	14.21	265.12	33.71	629.79	104.44
Orange	86.84	5.34	86.06	5.26	112.07	6.37	103.69	7.83	103.82	12.53
Betel nut	27.72	2.92	206.29	19.85	188.70	14.51	285.13	44.29	1,000.35	205.26
Cardamom	3.40	2.18	3.59	2.31	0.42	0.62	3.20	5.82	18.17	6.60
Ginger	1.17	0.34	0.86	0.05	3.16	0.18	3.68	0.34	2.65	0.31
Potato	5,281.93	51.12	4,697.66	63.33	4,910.02	59.77	4,568.78	98.48	6,831.47	132.57
Asparagus	-	-	-	-	-	-	0.003	0.001	0.06	0.003
Strawberries			0.15	0.12			0.007	0.005		
Buckwheat	10.40	0.25	1.17	0.04	12.10	0.29	24.380	0.400	7.94	0.16
Quinoa	0.16	0.19	2.16	0.36	0.48	0.43	0.267	0.087	0.73	0.21

Looking at the production data from the above table, the production of the selected crops is decreasing over the last five years. Except for Arecanut, where production has increased very significantly from 9,342 MT to over 21,000 MT in 2021, production of apples, oranges, cardamom, ginger, potato and buckwheat has decreased. However, with the million-fruit tree plantation, production is bound to increase.

Table 5 - Export information from BTS, DRC, MoF

Export	2017		2018		2019		2020		2021	
	Vol (MT)	Val (M Nu.)	Vol (MT)	Val (M Nu.)	Vol (MT)	Val (M Nu.)	Vol (MT)	Val (M Nu.)	Vol (MT)	Val (M Nu.)
Apple	2,659.21	69.18	1,293.04	33.83	2,922.11	81.81	262.70	6.80	837.45	21.01
Orange	16,141.59	478.36	11,086.86	354.84	15,110.57	530.05	8,168.53	295.53	12,533.28	448.83
Betel nut	5,804.09	107.55	6,555.93	122.22	5,192.36	115.40	6,370.51	138.52	6,201.41	182.50
Cardamom	1,713.25	2,031.10	1,698.03	929.41	2,451.08	1,227.61	1,970.68	1,011.56	3,430.68	1,713.25
Ginger	3,946.95	70.40	3,368.59	75.11	2,317.75	92.13	3,033.36	95.76	4,716.45	91.71
Potato	24,068.27	459.15	24,983.40	511.06	26,075.52	521.07	20,137.15	534.36	27,104.93	500.70
Asparagus	0.001	0.088	0.002	0.039			0.01	0.00	0.01	0.00
Buckwheat					41.25	1.52			10.08	0.37
Quinoa									0.50	0.00

Upon analyzing the import and export data in the tables above, it is evident that for all selected commodities except apples, the volume of exports is greater than imports. Therefore, there will always be a surplus that needs to be exported for oranges, arecanut, cardamom, ginger, and potato. However, marketing these export-bound commodities locally would be challenging as they are produced throughout Bhutan simultaneously.

Apples, on the other hand, can be targeted for redistribution within the Bhutanese market as they are primarily produced in Paro and Thimphu. In 2021, the export and import quantities were 837 MT and 630 MT, respectively. Nevertheless, certain interventions are necessary, such as providing credit for storage and redistribution, prioritizing the use of cold storage facilities established by the government through FCBL, and regulating the import of non-Indian apples. An analysis of the cost and returns of storing and re-distributing apples is presented below –

As mentioned earlier, apples appear to be the only crop that Bhutan can store and redistribute all over Bhutan. However, the cold storage facilities are limited and there is no storage capacity to cold store all the apples it produces. Thus, this study proposes that such an activity be pursued in phased manner. It should not compete with existing marketing practice of cold storing and releasing into the markets in Paro and Thimphu but rather the apples be cold stored in Wangdue, Lingmithang and Sarpang only. As storage capacity increases, volume can be correspondingly increased. Presently, there is a 100 MT capacity cold storage facility in

Lingmithang under NPHC and 300 MT capacity each in Wangdue and Sarpang owned by FCBL. These facilities are proposed to be used.

Given that farm gate price is around Nu. 30/kg, the business could be profitable as can be seen from tables below. Even if the apples are retailed at Nu. 100/kg, there is still a profit of around Nu. 11 million minus company expenses. If the apples are retailed at Nu. 150/kg the expected profit is around 31 million minus company expenses. The expected profit is still high even considering the establishment and other expenses that an entity will have to bear. Given, that the initial investment cost is substantial for individual, it is proposed that an SOE venture into this business of storing and redistributing the apples in the domestic markets.

Table 6 - Storing and Redistributing 500 MT Apples. Retail price Nu 100

	Particulars	Nu.
I.	**Net Returns**	**40,000,000**
	Quantity (20% rejects)	10,000,000
	Retail Price (Nu.100/Kg)	50,000,000
II.	**Cost:**	
	Material Costs	**17,450,000**
	Commodity Quantity (500 MT)	
	Farm Gate Price (30 /kg)	
	Cost of commodity (500 x 30 x 1000 kg)	15,000,000
	Packaging Costs (25,000 boxes x 90)	2,250,000
	Other packaging materials (Lumpsum)	200,000
	Labour Costs	**2,500,000**
	Sorting/grading/packaging/Loading cost at source Unloading/Loading at and from Cold Storage (Nu 100 per box)	2,500,000
	Transportation Costs (Orchard to Storage Facilities)	**1,275,400**
	Thimphu to Wangdue (67 km x 200 MT x 14)	187600
	Thimphu to Sarpang (209 km x 200 MT x 14)	585200
	Thimphu to Lingmithang (359 km x 100 MT x 14)	502600
	Storage Costs	**5,850,000**
	1 month (Nu 3 per day x 30 days x 25,000 boxes)	2,250,000
	2 month (Nu 3 per day x 30 days x 20,000 boxes)	1,800,000
	3 month (Nu 3 per day x 30 days x 10,000 boxes)	900,000
	4 month (Nu 3 per day x 30 days x 10,000 boxes)	900,000
	Transportation cost, Cold Stores to market	**527,400**

	Lingmithang to : (100 MT)	
	Lhuentse (76 km x 25 MT x 14)	26,600
	Monggar (24 km x 25 MT x 14)	8,400
	Trashigang (92 km x 25 MT x 14)	32,200
	Trashi Yangtse (127 km x 25 MT x 14)	44,450
	Sarpang to : (200 MT)	
	Local towns (100 km x 100 MT x 12)	120,000
	Zhemgang (122 km x 50 MT x 14)	85,400
	Tshirang (66 km x 50 MT x 14)	46,200
	Wangdi to: (200 MT)	
	Gasa (75 km x 25 MT x 14)	26,250
	Punakha (50 km x 75 MT x 14)	52,500
	Trongsa (122 km x 50 MT x 14)	85,400
	Local Wangdue (50 MT)	
	Weight Loss (10%)	**1,500,000**
	Total Costs	**29,102,800**
	Gross Revenue (Net Returns - Total Cost**)**	**10,897,200**
	Net Revenue (Gross Revenue - Company expenses/taxes/etc**)**	

Table 7 - Storing and Redistributing 500 MT Apples. Retail Price Nu 150

	Particulars	Nu.
I.	**Net Returns**	**60,000,000**
	Quantity (20% rejects)	15,000,000
	Retail Price (Nu.150/Kg)	75,000,000
II.	**Cost:**	
	Material Costs	**17,450,000**
	Commodity Quantity (1000 MT)	
	Farm Gate Price (30 /kg)	
	Cost of commodity (500 x 30 x 1000 kg)	15,000,000
	Packaging Costs (25,000 boxes x 90)	2,250,000
	Other packaging materials (Lumpsum)	200,000
	Labour Costs	**2,500,000**
	Sorting/grading/packaging/Loading cost at source Unloading/Loading at and from Cold Storage (Nu 100 Per box)	2,500,000
	Transportation Costs (Orchard to Storage Facilities)	**1,275,400**
	Thimphu to Wangdue (67 km x 200 MT x 14)	187600
	Thimphu to Sarpang (209 km x 200 MT x 14)	585200
	Thimphu to Lingmithang (359 km x 100 MT x 14)	502600
	Storage Costs	**5,850,000**
	1 month (Nu 3 per day x 30 days x 25,000 boxes)	2,250,000
	2 month (Nu 3 per day x 30 days x 20,000 boxes)	1,800,000
	3 month (Nu 3 per day x 30 days x 10,000 boxes)	900,000
	4 month (Nu 3 per day x 30 days x 10,000 boxes)	900,000
	Transportation cost, Cold Stores to market	**527,400**
	Lingmithang to : (100 MT)	
	Lhuentse (76 km x 25 MT x 14)	26,600
	Monggar (24 km x 25 MT x 14)	8,400
	Trashigang (92 km x 25 MT x 14)	32,200
	Trashi Yangtse (127 km x 25 MT x 14)	44,450
	Sarpang to: (200 MT)	

	Local towns (100 km x 100 MT x 12)	120,000
	Zhemgang (122 km x 50 MT x 14)	85,400
	Tshirang (66 km x 50 MT x 14)	46,200
	Wangdi to: (200 MT)	
	Gasa (75 km x 25 MT x 14)	26,250
	Punakha (50 km x 75 MT x 14)	52,500
	Trongsa (122 km x 50 MT x 14)	85,400
	Local Wangdue (50 MT)	
	Weight Loss (10%)	**1,500,000**
	Total Costs	**29,102,800**
	Gross Revenue (Net Returns - Total Cost**)**	**30,897,200**
	Net Revenue (Gross Revenue - Company expenses/taxes/etc**)**	

Chapter 5 - Product Import and Price Trend in India and Bangladesh of commodities shortlisted for this study

This chapter looks at the import of selected products in the two targeted market countries. Based on the value and volume imported, an analysis of the market opportunities are studied for each selected commodity.

5.1 Import of Selected Commodities into India Over 5 Years from Major Importing Countries

5.1.1 Ginger

In 2021, India imported 10,972.8 MT of Ginger, indicating a significant opportunity for Bhutan to export to India. However, there is currently no official data on imports from Bhutan. The average import price from the main supplier, Nepal, is approximately USD 0.44. To remain competitive in the market and maintain a share, it is crucial to meet market requirements and maintain quality while remaining price competitive. Based on the price trend, it appears that Bhutan is a price taker.

Country	Nepal		Nigeria		UAE		China		Myanmar	
Year	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)
2017	0.37	13968.73	1.62	3169.35	1.68	90.09	2.42	164.34	1.24	64.4
2018	0.45	6716	1.06	11740.38	1.20	1006.88	1.75	321.06	1.01	162.7
2019	0.41	9450.25	1.25	10013.05	1.36	679.91	1.20	703.2	1.08	934.91
2020	0.52	7266.58	1.69	6339.03	1.60	1120.34	1.63	170.06	1.46	883.66
2021	0.43	5743.94	2.35	3476.48	2.45	940.76	4.33	64.04	2.47	261.04

Source → FAO, BTS, DRC, MoF
Annual Import of 2021 → 10,972.8 MT
Export from Bhutan in 2021 → 4,716.45 MT

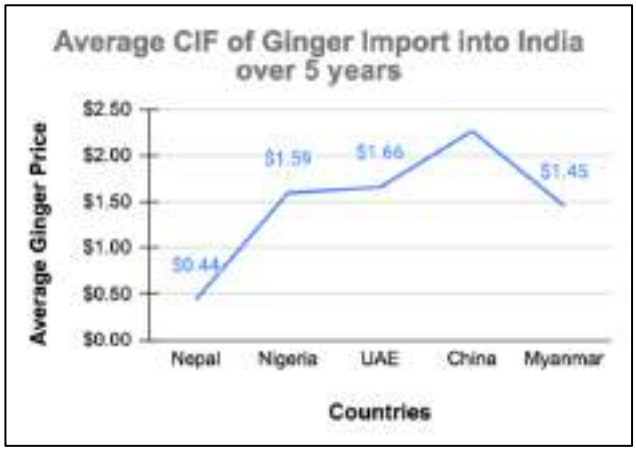

Figure 1 - Average CIF of Ginger imported into India over 5 years

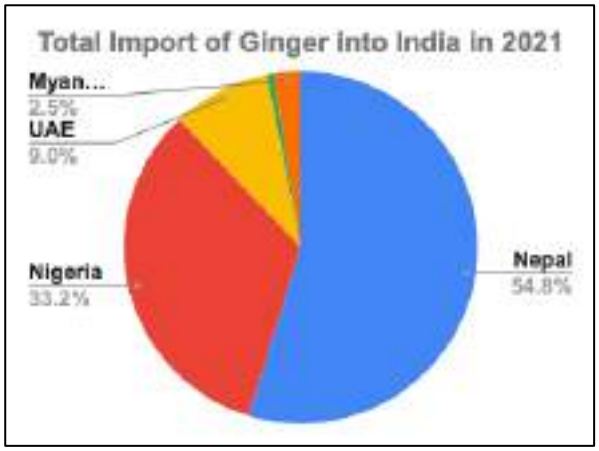

Figure 2 - Total Import of Ginger into India in 2021

According to BTS, DRC, and MoF records, our export quantity is 4,716.45 MT. Considering India's official import of 10,972.8 MT in 2021, we can deduce that we are a significant supplier to India. If we assume that all our exports went to India, then our export volume accounts for almost 43% of India's total ginger imports. However, if we add our informal exports to the total import quantity to the Indian market, the total import would be 15,689.25 MT, and our market share would be 30%.

5.1.2 Cardamom

Country	Nepal		Bhutan		Guatemala		UAE		Sri Lanka	
Year	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)
2017	9.48	4469.05	6.94	496.54	9.58	700.97			8.62	485.24
2018	8.25	4321.08	8.87	65.62	10.88	410.42			8.55	29.21
2019	7.29	3543.61	7.29	608.54	12.12	274.06	9.05	1215.10		
2020	6.92	6810.92	6.94	390.41	26.61	298.18	16.50	231.72	53.22	0.05
2021	7.16	6669.77	7.00	1086.82	21.07	204.00	29.99	1.12	5.00	0.50

Source → FAO, BTS, DRC, MoF

Annual Import of 2021 → 7,997.5 MT

Export from Bhutan in 2021 → 3,430.68 MT

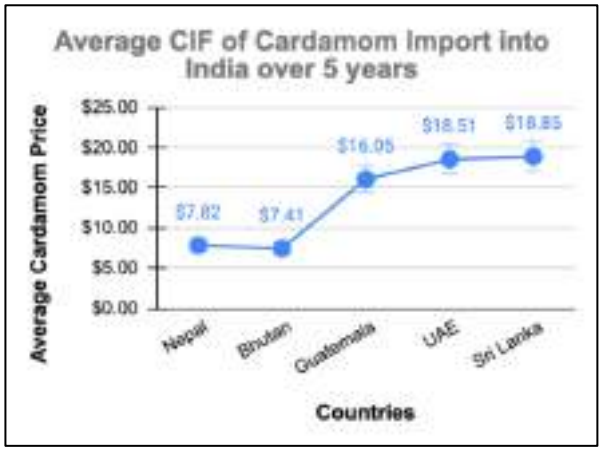

Figure 3 - Average CIF of Cardamom imported into India over 5 years

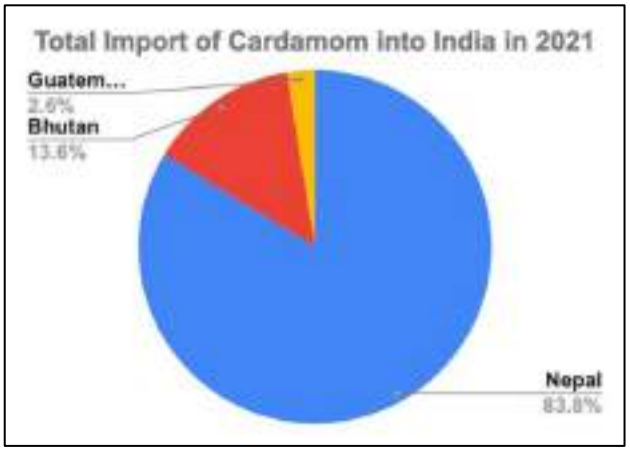

Figure 4 - Total Import of Cardamom into India in 2021

In 2021, Bhutan exported 1,086.82 MT out of the total 7,997.5 MT, accounting for approximately 14% of the market share. However, it's worth noting that we received the lowest price among the major suppliers.

5.1.3 Orange

Country	Egypt		South Africa		Australia		UAE		Turkiye	
Year	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)
2017	0.54	32204.28	0.82	11555.75	0.74	4803.42			0.66	273.32
2018	0.53	72029.28	0.80	8956.95	0.82	1314.33	0.75	194.74	0.48	722.01
2019	0.51	53241.52	0.77	10020.67	0.75	6588.23	0.53	964.15		
2020	0.60	26654.94	0.80	10954.84	0.76	3105.75	0.64	423.31	0.74	171.98
2021	0.56	126332	0.71	19810.8	0.73	3016.77	0.51	3109.24	0.57	42.36

Source → FAO, BTS, DRC, MoF
Annual Import Data in 2021 → 153,296.13 MT
Export from Bhutan in 2021 → 12,533.28 MT

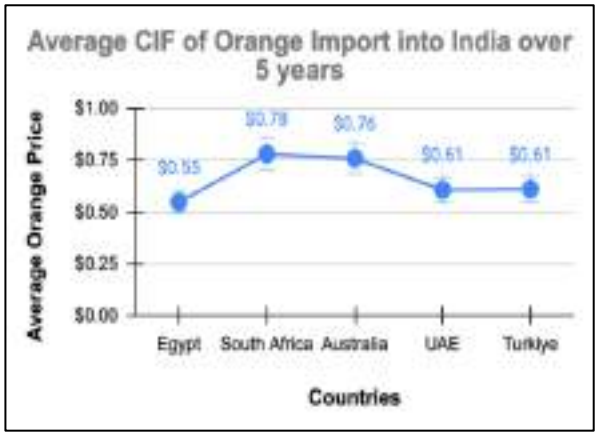

Figure 5 - Average CIF of Orange imported into India over 5 years

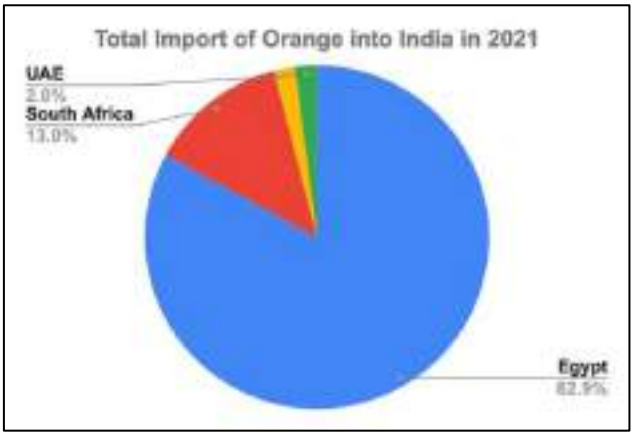

Figure 6 - Total Import of Orange into India in 2021

As it is widely recognized, all orange exports are directed to Bangladesh. Nevertheless, the data presented here demonstrates that there is a substantial market for oranges in India, which imports over 153,000 MT per year. A market survey conducted in Delhi and Kolkata indicated that all varieties of oranges are available in these markets.

5.1.4 Apple

Country	USA		Italy		Chile		New Zealand		Afghanistan	
Year	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)
2017	1.04	92574.49	1.02	21195.94	1.02	23953.96	0.19	11859	1.17	2092.49
2018	1.10	147163.93	1.10	4381.65	1.04	54740.81	1.25	26466.63	1.03	5468.31
2019	1.10	53428.12	1.01	52112.88	1.03	41770.48	1.16	18456.63	0.96	62.45
2020	1.00	40656.88	0.99	27502.31	1.07	20025.35	1.12	23080.08	0.89	10810.49
2021	1.17	21385	1.01	44822.5	1.07	55674.1	1.32	30897.6	1.76	23084.8

Source → FAO, BTS, DRC, MoF
Annual Import of 2021 → 436,194.04 Tones
Export from Bhutan in 2021 → 837.45 MT

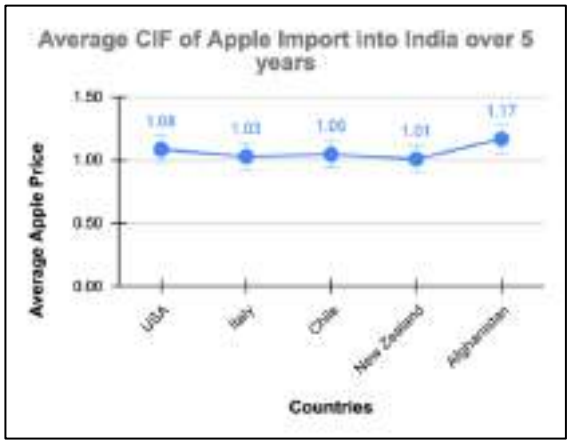

Figure 7 - Average CIF of Apple imported into India over 5 years

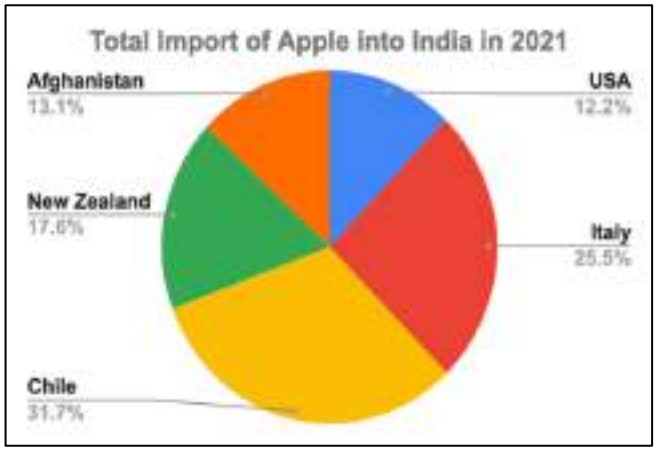

Figure 8 - Total Import of Apple into India in 2021

Out of all agricultural commodities, apples appear to be the only product with the potential to be distributed in the domestic market instead of being exported entirely during the season. The export and import volumes are relatively balanced, and the average export price is around 1 USD (Nu 84), indicating the possibility of making profits since imported apples are sold at around Nu 250-300/kg in various Bhutanese markets. Therefore, if certain measures are taken, such as providing credit, cold storage facilities, and temporary restrictions on the import of apples from other countries, there is a good chance that this activity may succeed.

5.1.5 Areca Nut

Country	Sri Lanka		Indonesia		Myanmar		Viet Nam	
Year	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)
2017	3.78	12870.3	1.03	35	2.74	580		
2018	3.85	10784.02	2.63	5828			2.59	32
2019	3.78	6193.55	2.02	7321.64			2.10	98
2020	3.72	13931.37	1.70	9385.08	3.56	2168.32		
2021	4.15	9502.33	2.22	5572.95	3.56	3672.63		

Source → FAO, BTS, DRC, MoF
Annual Import in 2021 → 19,485.29 MT
Export from Bhutan in 2021 → 6,201.41 MT

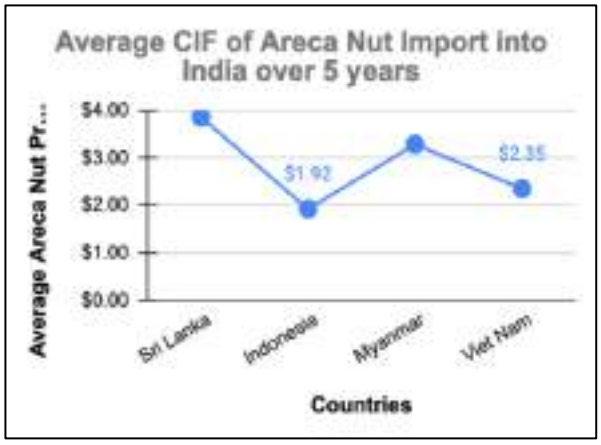

Figure 9 - Average CIF of Areca Nut imported into India over 5 years

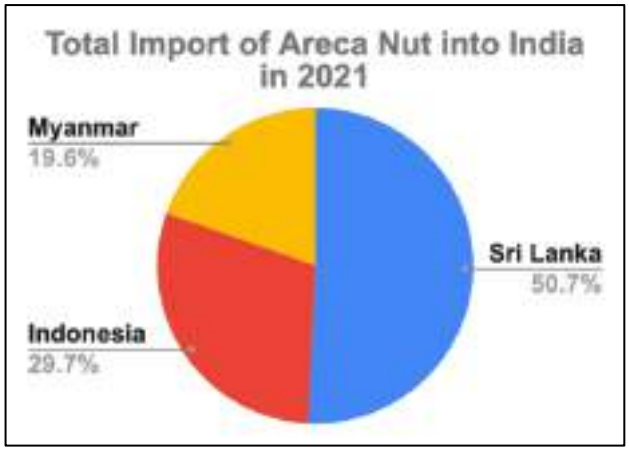

Figure 10 - Total Import of Areca Nut into India in 2021

The annual import of arecanut amounts to over 19,000 MT, with the CIF value per kg ranging from USD 4/kg from Sri Lanka to USD 1.92 from Indonesia. In contrast, Bhutanese arecanuts are typically sold for Nu. 35 to 55 per kg, depending on the agreement between the buyer and seller.

5.1.6 Strawberry

Country	Sri Lanka		Thailand		Argentina		Netherlands		USA	
Year	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)
2017	7.36	10.47	4.51	2.22						
2018	8.36	10.85	5.08	0.66	5.26	2.4	2.04	2.828	9.24	1.2
2019	7.08	0.28	3.85	0.63	5.13	4.56	2.02	1.428	2.42	0.63
2020			4.14	0.04						
2021	8.11	21.25	4.81	0.16						

Source → FAO, BTS, DRC, MoF
Annual Import in 2021 → 21.8 MT
Export from Bhutan in 2021 → No Data

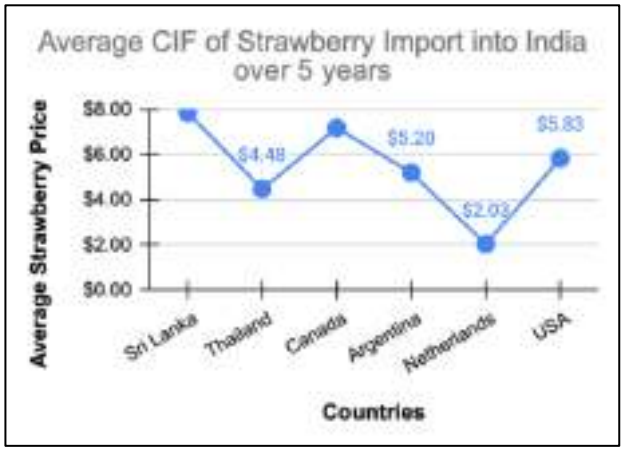

Figure 11 - Average CIF of Strawberry imported into India over 5 years

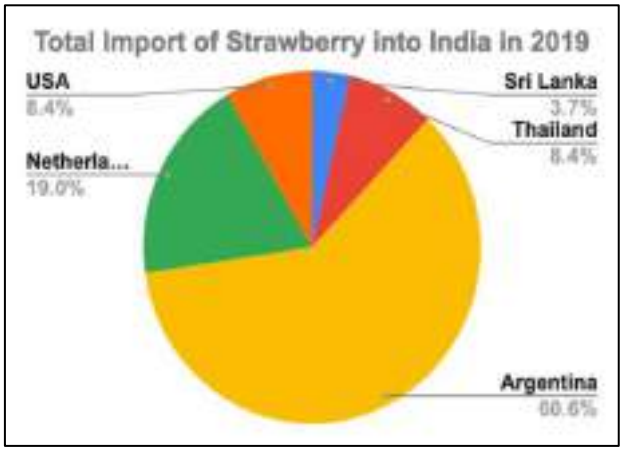

Figure 12 - Total import of Strawberry into India in 2019

The fruits mentioned here, namely strawberries, lettuces, lemon grass, and asparagus, are relatively new to the Indian market and are often presented as "English Fruit and Vegetables" to wholesalers and buyers. In Delhi, there are a few importers who specialize in these products, which are typically air-shipped to Mumbai and redistributed throughout India.

According to government officials whom the consultants met with in both India and Bangladesh, these products are primarily targeted towards diplomats, high-end hotels, foreigners, and the upper-class and wealthy segments of the local population. The fact that the annual import volume in 2021 was only around 22 MT supports the claim that the market for these products is relatively small.

5.1.7 Potato

Country	Bhutan		Bangladesh		Somalia		Oman		Germany	
Year	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)
2017									0.30	458
2018					0.46	28	0.40	364		
2019			1.56	10						
2020	0.41	79.6								
2021	0.25	2932.95								

Source → FAO, BTS, DRC, MoF
Annual Import in 2021 → 2932. 95 MT
Export from Bhutan in 2021 → 27,104.93 MT

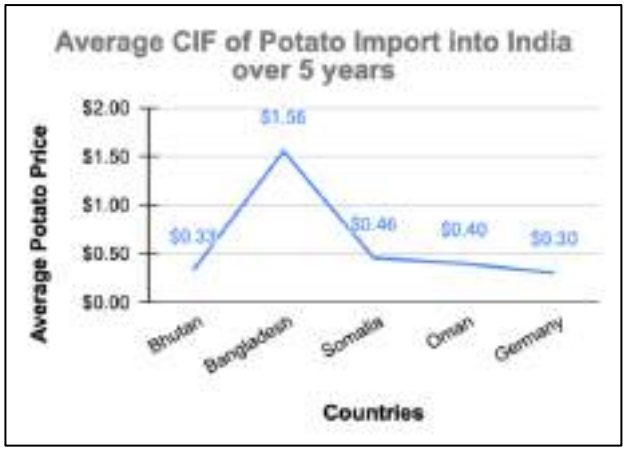

Figure 13 - Average CIF of Potato imported into India over 5 years

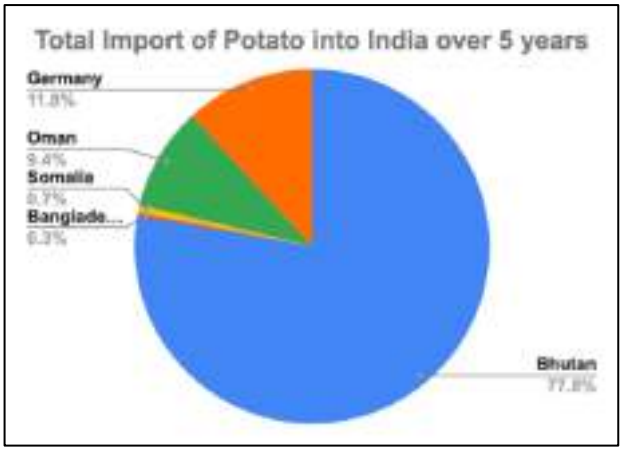

Figure 14 - Total Import of Potato into India over 5 years

The import data for potatoes is unreliable and is not reflected in many databases. Although Bhutan recorded an export of 27,104 MT, the import record shows only around 2933 MT. The import data from 2020 may suggest that the potato trade is becoming formalized. However, if this is not the case, it is necessary for us to pursue formalization before we can sell seed potatoes.

5.1.8 Buckwheat

Country	Nepal		China		Germany		Russian Federation	
Year	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)
2017	0.21	516.50	0.71	25				
2018	0.20	428.07	0.65	199				
2019	0.19	751.08	0.59	199	0.51	20	0.42	20
2020	0.17	60.05	0.75	50				
2021	0.18	58.02						

Source → FAO, BTS, DRC, MoF
Annual Import in 2021 → 58.02 MT
Export from Bhutan in 2021 → 10.08 MT

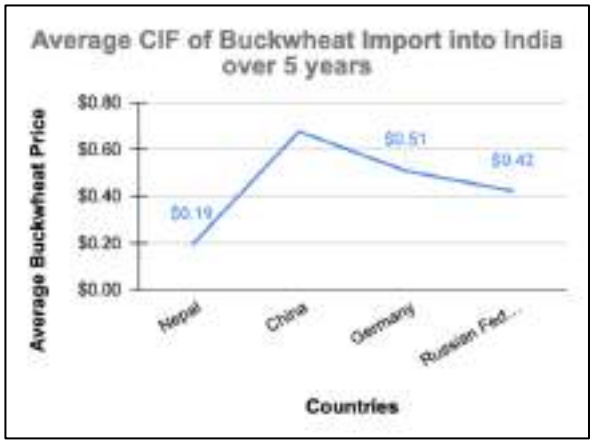

Figure 15 - Average CIF of Buckwheat imported into India over 5 years

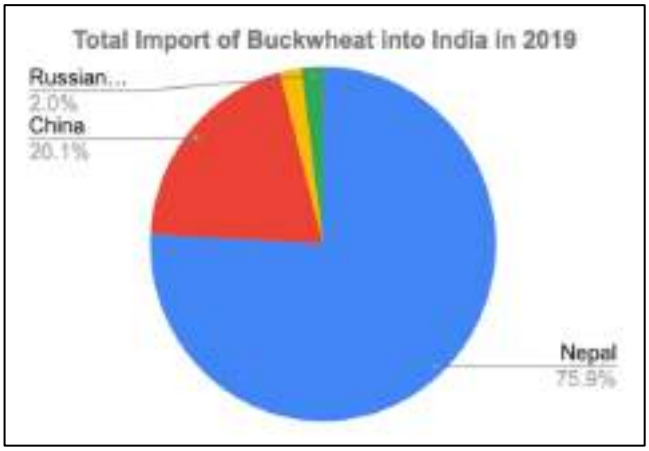

Figure 16 - Total Import of Buckwheat into India in 2019

Although Nepal appears to be the primary supplier of buckwheat to the Indian market, imports have been decreasing and prices have remained low. In fact, even China, which is another major supplier, receives a price of less than one dollar per unit.

5.1.9 Quinoa

Country	Peru		USA		Ecuador	
Year	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)
2017	2.66	143.68				
2018	2.47	90.20			3.84	5.04
2019	2.64	74.75	5.43	1.815		
2020	2.38	89.55	4.86	3.629		
2021	0.51	40.00	0.52	20.01		

Source → FAO, BTS, DRC, MoF
Annual Import in 2021 → 60.01 MT
Import from Bhutan → No Data

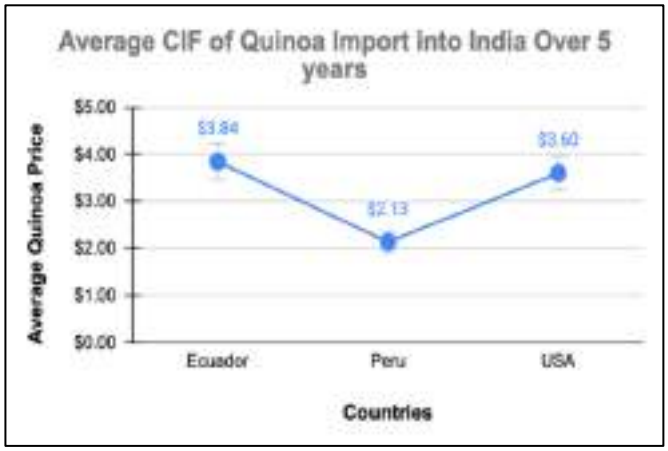

Figure 17 - Average CIF of Quinoa imported into India over 5 years

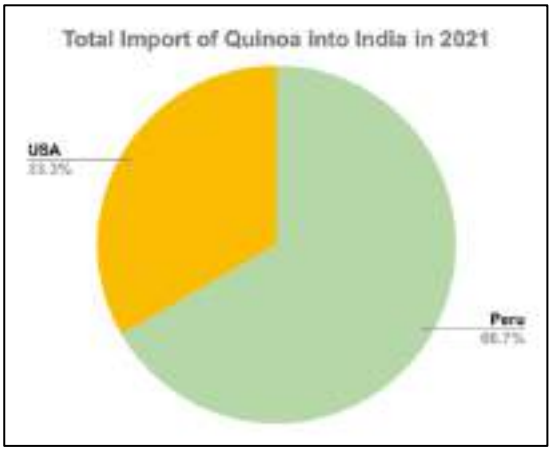

Figure 18 - Total Import of Quinoa into India in 2021

India's annual import is only about 60 MT. Based on the CIF price, Bhutan appears to have the potential to be price competitive in the Indian market. However, before entering the market, it is important to identify the specific varieties that have been imported.

5.1.10 Asparagus

Country	Thailand		Netherlands	
Year	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)
2017	2.30	260.51	1.66	11.49
2018	2.49	338.80	1.66	12.69
2019	4.73	392.64	2.39	14.53
2020	5.76	114.03	4.18	0.60
2021	6.49	148.29		

Source → FAO, BTS, DRC, MoF
Annual Import in 2021 → 148.29 MT
Import from Bhutan in 2021 → 0.01 MT

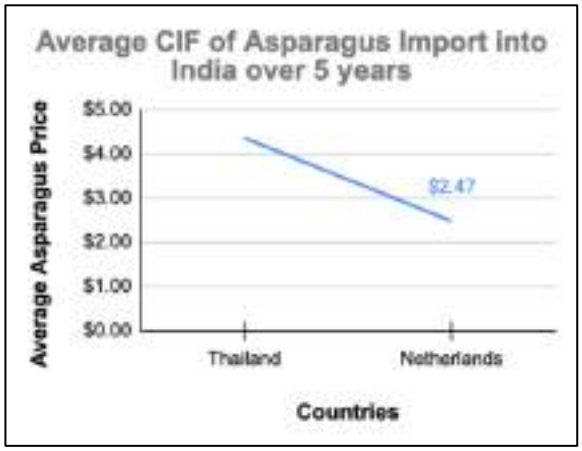

Figure 19 - Average CIF of Asparagus imported into India over 5 years

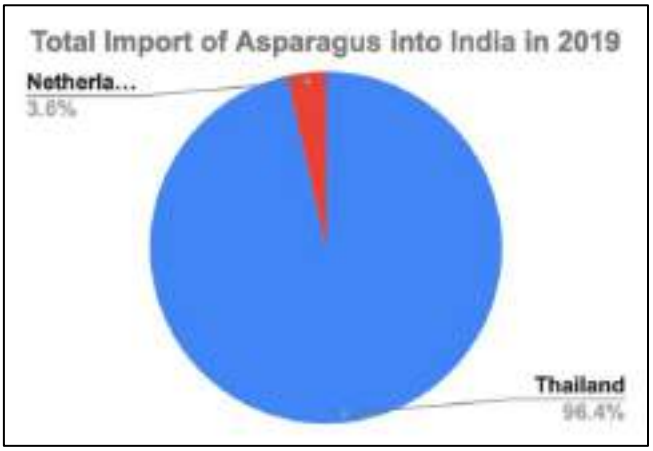

Figure 20 - Total Import of Asparagus into India in 2019

Delhi and Kolkata predominantly import from Thailand, with a CIF price of USD 4 (approximately Rs 320). The product is then retailed by SM at around Rs 750. Based on the price and product display in supermarkets in bundle, Bhutan can supply to the market at competitive price. However, it is the inconsistent supply that was raised as an issue by Taj and also officials.

5.1.11 Lemongrass

No import and data

5.2 Import of Selected Commodities into Bangladesh Over 5 Years from Major Importing Countries

5.2.1 Ginger

Country	India		China		Myanmar		Thailand		Indonesia	
Year	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)
2017	0.40	10087.63	0.73	35234.35	0.33	4483.61	0.38	8150.17	0.66	13168.6
2018	0.37	8162.06	0.76	42779.8	0.28	30833.92	0.52	2541.49	0.70	370.01
2019	0.85	16117.33	0.89	63334.2	0.31	23625.1	1.08	6109.16	1.35	1622.55
2020	0.61	81777	1.09	37176	0.29	13219.19	0.88	81	1.63	174.05

2021	0.38	130056.36	0.77	28139.94	1.30	759.58				

Source → FAO, BTS, DRC, MoF
Annual Import of 2021 → 159027.92 MT
Export from Bhutan in 2021 → 4,716.45 MT

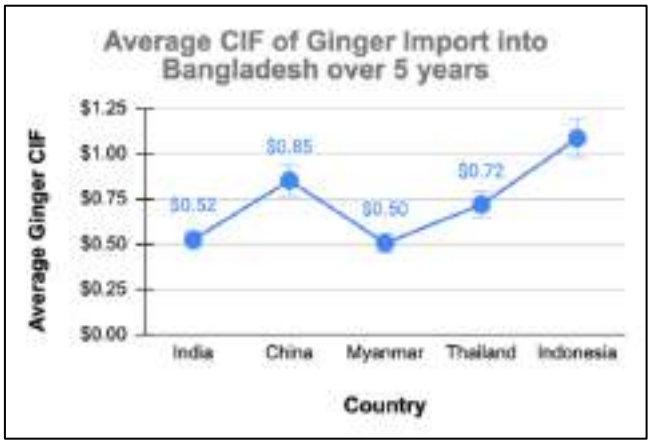

Figure 21 - Average CIF of Ginger imported into Bangladesh over 5 years

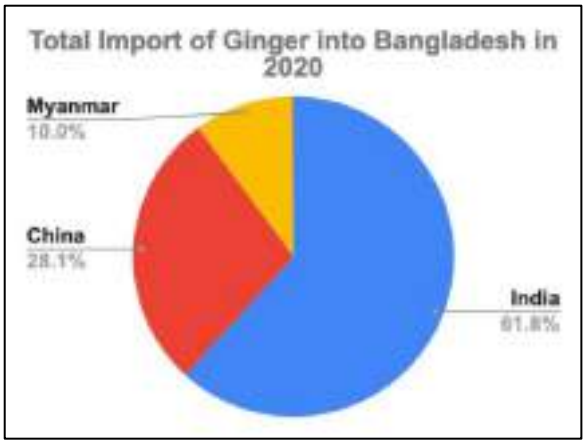

Figure 22 - Total Import of Ginger into Bangladesh in 2020

Bhutan has the advantage of proximity and tax benefits to compete with the annual import of Bangladesh, which stands at almost 160 thousand MT. Thus, there is an opportunity to develop Bangladesh as an alternative market to India for Ginger.

5.2.2 Cardamon

Country	Guatemala		Singapore		UAE		India		Indonesia	
Year	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)
2017	10.42	3270.98	11.93	414.41	7.61	109.63	6.23	216.05	5.52	188.02
2018	11.94	3511.74	13.54	488.23	12.03	248.91	10.26	168.45	6.64	277.51
2019	19.54	2866.03	18.69	552.32	17.65	212.85	2.14	21.95	6.96	418.25
2020	14.47	7345.30	21.57	616.19	20.81	697.88	17.93	489.35	19.73	270.28

2021	17.53	1988.44	18.08	851.02	19.06	545.00	15.35	886.03	15.92	317.04

Source → FAO, BTS, DRC, MoF

Annual Import of 2021 → 8004.04 MT

Export from Bhutan in 2021 → 3,430.68 MT

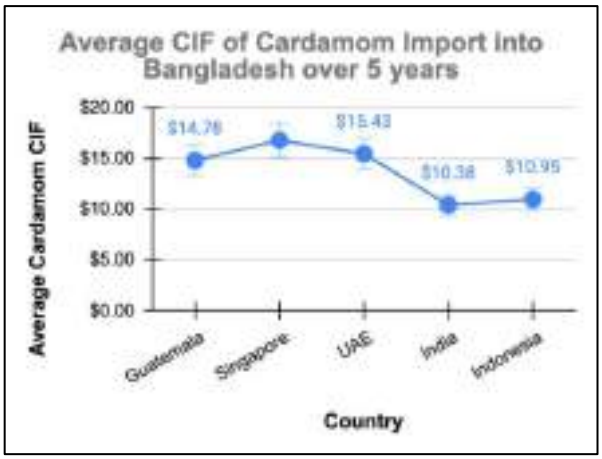

Figure 23 - Average CIF of Cardamom imported into Bangladesh over 5 years

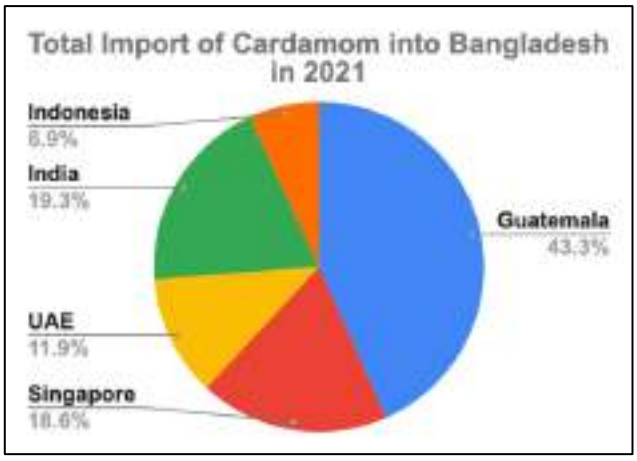

Figure 24 - Total Import of Cardamom into Bangladesh in 2021

The export market may not be consistent, but there is certainly demand for the product in Bangladesh.

5.2.3 Orange

Country	Egypt		South Africa		India		Australia		Malaysia	
Year	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)
2017	0.46	75363.3	0.81	45517.08	0.42	15911.55	0.71	1713.18	0.83	176.24
2018	0.48	69581.08	0.73	59425.51	0.36	6202.86	0.64	227.64	0.43	120
2019	0.50	78415.84	0.75	44041.36	0.44	40786.6	0.77	2881.62	1.00	1032.76
2020	0.48	80257.9	0.81	66001.25	0.44	120509.74	1.11	1431.99	1.10	216
2021	0.62	76802.56	0.76	61624.44	0.44	119078	0.84	609.11	0.83	288

Source → FAO, BTS, DRC, MoF
Annual Import Data in 2021 → 259304.98 MT
Export from Bhutan in 2021 → 12,533.28 MT

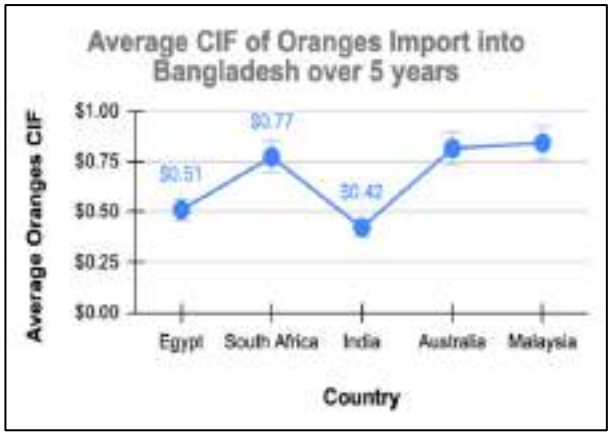

Figure 25 - Average CIF of Oranges imported into Bangladesh over 5 years

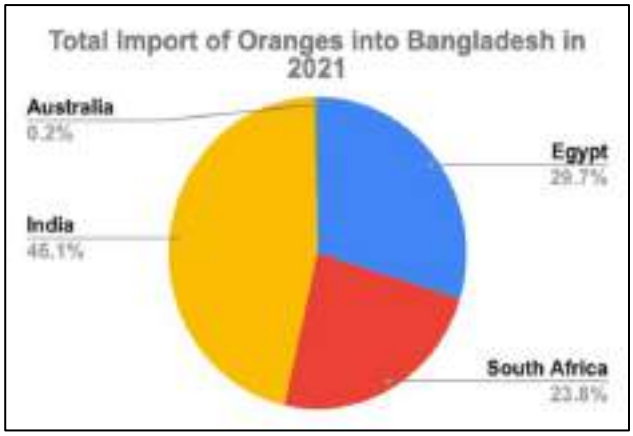

Figure 26 - Total Import of Oranges into Bangladesh in 2021

Almost all Bhutan oranges go to Bangladesh. As can be seen from the volume of their annual import of more than 260 thousand MT there is no dearth of market. Any increase of production of oranges thorough the million fruit trees plantation or other program will have no problems in marketing.

5.2.4 Apples

Country	China		South Africa		Brazil		New Zealand		India	
Year	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)
2017	0.73	166887	0.90	35068.1	0.75	18813.88	0.87	4349.99	0.59	2523.64
2018	0.90	148178.92	0.88	23825.19	0.73	20745.43	0.63	982.12	0.69	2788.98
2019	0.97	176123.19	0.83	40293.27	0.76	19051.26	0.87	4882.38	0.55	7296.91
2020	1.14	179109	0.82	37617.14	0.66	17865.88	0.71	1550.67	0.55	16953.59
2021	1.18	179854.03	0.89	37495.58	0.76	24195.66	0.91	736.1	0.55	16761.2

Source → FAO, BTS, DRC, MoF
Annual Import of 2021 → 262742.37 MT
Export from Bhutan in 2021 → 837.45 MT

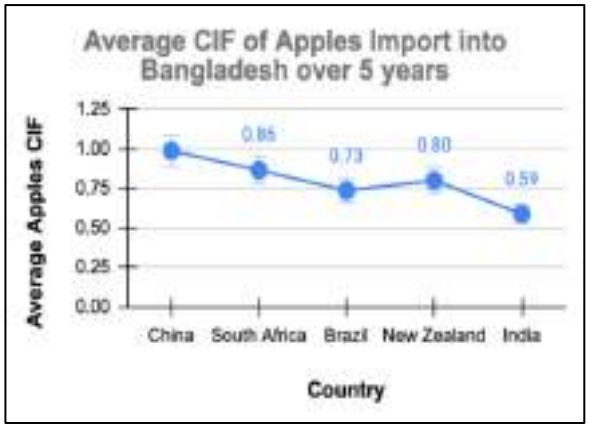

Figure 27 - Average CIF of Apples imported into Bangladesh over 5 years

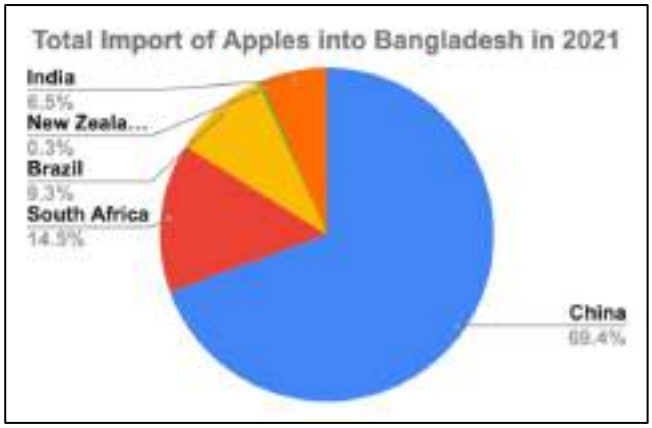

Figure 28 - Total Import of Apples into Bangladesh in 2021

Previous research has indicated a decline in Bhutan's apple exports to Bangladesh, possibly due to a reduction in production. China currently dominates as the primary provider to the market.

5.2.5 Areca Nut

Country	Indonesia		Singapore		Thailand		Malaysia		Myanmar	
Year	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)
2017	1.42	9746.32	1.92	442.5	2.32	1872	1.79	468		
2018	1.52	5468.8	1.64	443.98	1.87	3805.38	1.68	432	1.52	38.25
2019	1.46	9254.87	1.56	2196.28	1.89	1890.97	1.70	504	1.86	149.88
2020	1.66	6885.26	1.43	2809.48	1.88	6791	1.85	990	0.69	423.08
2021	2.09	16937.17	2.37	6333.34	2.01	4612.84	1.84	594	1.18	130.85

Source → FAO, BTS, DRC, MoF
Annual Import in 2021 → 29889.27 MT
Export from Bhutan in 2021 → 6,201.41 MT

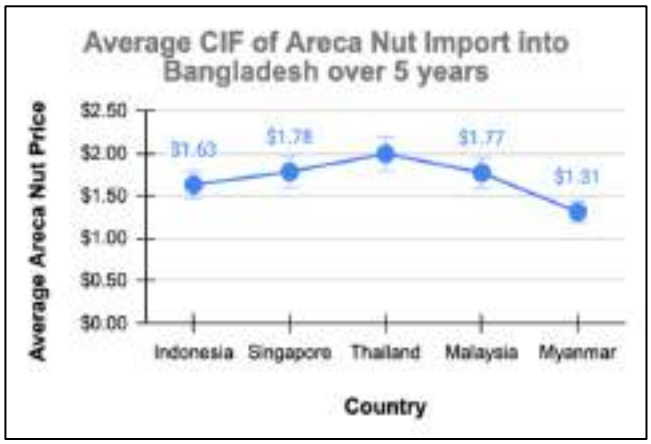

Figure 29 - Average CIF of Areca Nut imported into Bangladesh over 5 years

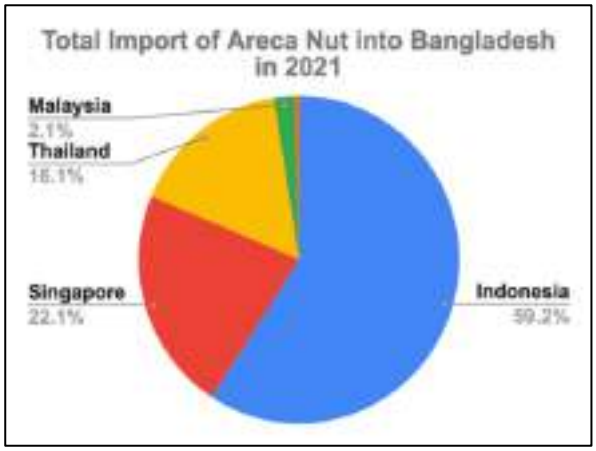

Figure 30 - Total Import of Areca Nut into Bangladesh in 2021

Bhutan could explore the possibility of developing the Bangladesh market as an alternative market. The CIF value on average is over 1.31 USD, and she imports approximately 30 thousand MT of Arecanut every year.

5.2.6 Strawberry

Country	Egypt		Netherlands		Türkiye		UAE	
Year	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)
2017								
2018								
2019	0.53	1.88					0.90	1.11
2020	2.66	4.14	6.38	0.47			1.45	1.38
2021	3.08	21.72	1.60	1.25	1.69	1.77	1.85	1.08

Source → FAO, BTS, DRC, MoF
Annual Import in 2021 → 25.82 MT
Export from Bhutan in 2021 → No Data

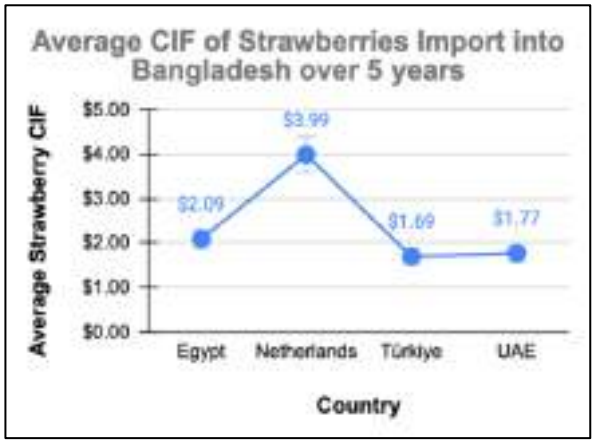

Figure 31 - Average CIF of Strawberry imported into Bangladesh over 5 years

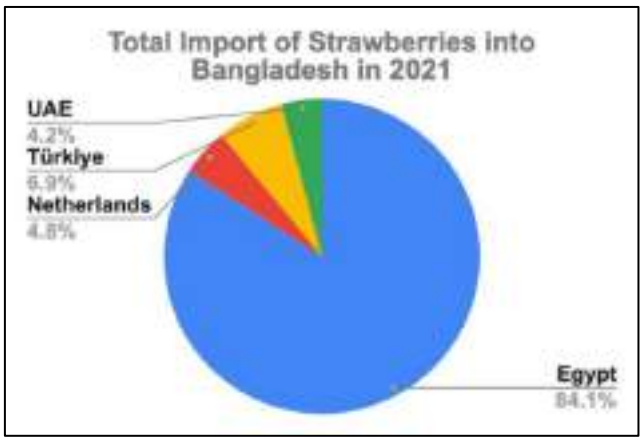

Figure 32 - Total Import of Strawberry into Bangladesh in 2021

Egypt is the main supplier of strawberry to Bangladesh. Given the high price, the department of agriculture informed the consulting team that they are going to mass production of the product. Nevertheless, given the seasonal differences, we can be their off-season supplier.

5.2.7 Potatoes

Country	Netherlands		Belgium		Australia		Germany	
Year	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)
2017	0.87	5953.81	0.86	50.00				
2018	0.87	4330.10						
2019	0.89	3184.56					0.93	3.00
2020	0.88	7858.84	0.86	499.00			0.75	100.00
2021	1.00	1740.35	0.70	117.50	0.74	170.00	1.06	200.00

Source → FAO, BTS, DRC, MoF
Annual Import in 2021 → 2227.93 MT
Export from Bhutan in 2021 → 27,104.93 MT

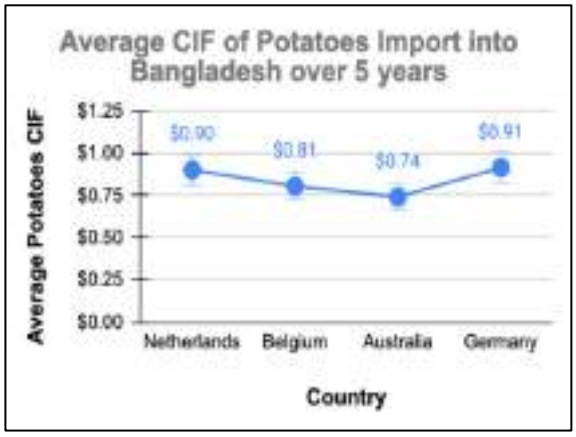

Figure 33 - Average CIF of Potatoes imported into Bangladesh over 5 years

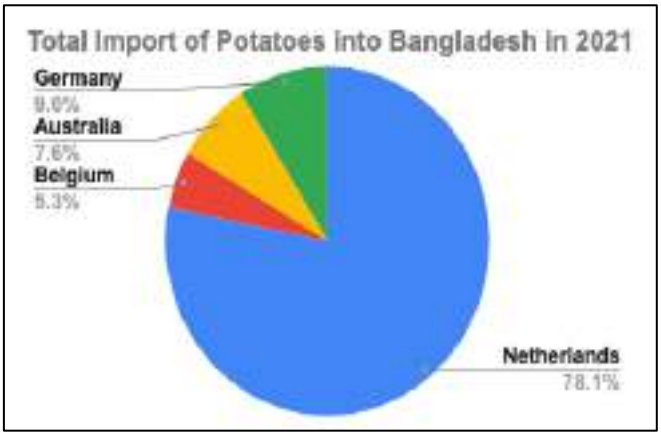

Figure 34 - Total import of Potatoes into Bangladesh in 2021

The importation of potatoes is prohibited in Bangladesh, but seed potatoes can be exported subject to certification according to the RBE.

5.2.8 Buckwheat

Country	Belgium		China		India	
Year	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)
2017						
2018			1.00	1		
2019					0.20	5
2020	0.83	1.20	0.60	5	0.17	12
2021	2.00	0.50				

Source → FAO, BTS, DRC, MoF
Annual Import in 2021 → 0.5 MT
Export from Bhutan in 2021 → 10.08 MT

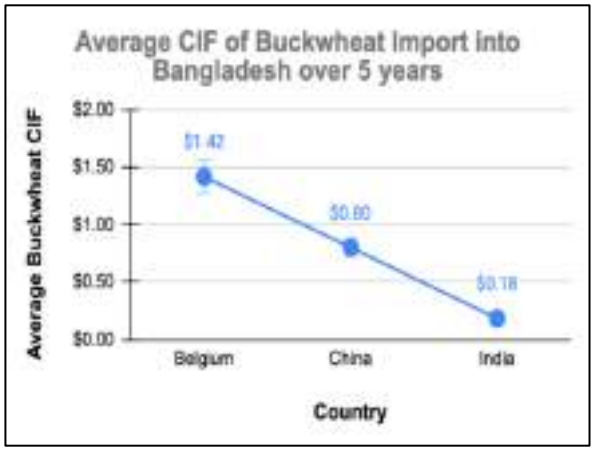

Figure 35 - Average CIF of Buckwheat imported into Bangladesh over 5 years

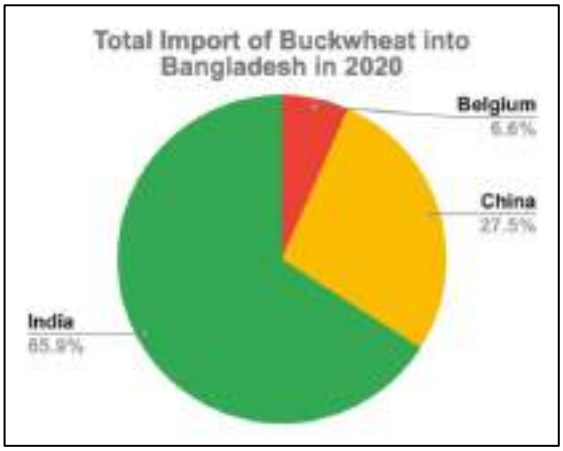

Figure 36 - Total Import of Buckwheat into Bangladesh in 2020

Buckwheat is not a native crop and no production data is available. Thus, the product will have to be introduced. The import in 2021 was only 0.5 MT.

5.2.9 Quinoa

Country	Singapore		Thailand		North Marcedonia		India	
Year	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)	CIF ($)	Net Weight (MT)
2017					20	0.05		
2018	7.41	0.27			12.50	0.08		
2019								
2020							1	1
2021	10.00	0.10	1.01	0.99			2.08	0.48

Source → FAO, BTS, DRC, MoF
Annual Import in 2021 → 1.57 MT
Import from Bhutan → No Data

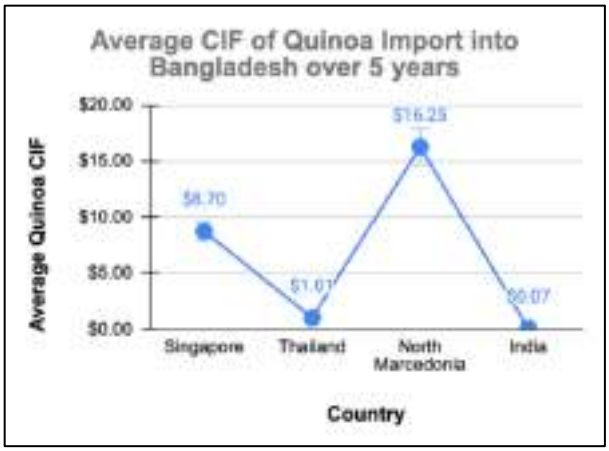

Figure 37 - Average CIF of Quinoa imported into Bangladesh over 5 years

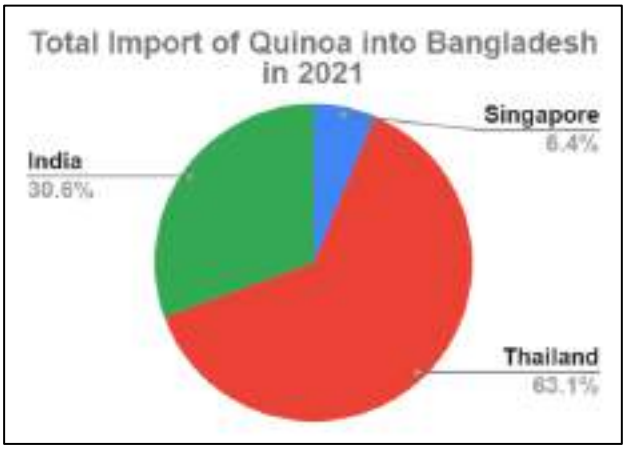

Figure 38 - Total Import of Quinoa into Bangladesh in 2021

Quinoa production data is not available even though some trail production has been initiated since 2020. Thus, the product will have to be introduced. The import in 2021 was only 1.57 MT.

5.3 CIF Price of commodities short listed for this study

Conclusion and Recommendations based on average CIF values

5.3.1 India

- Nepal offers ginger at the lowest CIF price of 0.44 cents, but there is potential to increase competitiveness and achieve prices as high as USD 2.25 like China.
- Cardamom also has a low CIF price at USD 7.41, which can be improved through better quality and supply management, although price differentials may be related to different varieties.
- Oranges face no issues in being exported to Bangladesh.
- The average CIF value is one USD = Approx Rs 85. Apples are currently being retailed at Rs 250-300/kg, and there is potential to store and redistribute our own apples. This may require financial and logistical support, and planning needs to begin soon to inform orchard owners, who may have already sold to Indian buyers. Buyers may give advances by June-July to book the orchards based on their relationships and production forecast in India.
- The CIF value of arecanut is currently high. Formalizing trade and import by licensed importers is the way forward, as taxes and duties will be their responsibility. However, there is a need to strategize, as exporters also have to reflect the export value at Nu. 251.
- There is not much import of strawberries and lemon, but there is a high-end market, which can be supplied through a supplier. However, like asparagus, year-round supply cannot be assured.

- There are no current imports, but formalizing sales may allow for seed potato sales, according to the Chairman of the Fruit and Vegetable Association in Kolkata.
- Superfoods such as buckwheat and quinoa have very little import, but there is potential to establish a market. However, a constant supply must be maintained, and risk-taking may be necessary.

5.3.2 Bangladesh

- While the CIF price for ginger is low, it is important to maintain a small market share as an alternative.
- There is potential to export cardamom to Bangladesh, as the current CIF value of USD 7.41 to India could be increased to USD 10.38 for export to Bangladesh, with a value differential of USD 2.57 that could cover transportation and other costs.
- All orange exports are currently going to Bangladesh, indicating a steady market for Bhutanese oranges.
- The average CIF value is less than one USD = Approx. Rs 85, and there is potential to store and redistribute Bhutanese apples. However, this may require financial and logistical support, and planning should begin soon to inform orchard owners, as some may have already sold to Indian buyers who may give advances by June-July to book the orchards.
- With Bangladesh importing around 30 thousand MT of arecanut annually at a CIF value of over 1.31 USD, Bhutan could study and develop the Bangladesh market as an alternative market.
- There is potential to market seed potato, but certification is required.
- Super foods and "English vegetables" require a concentrated effort, especially if the STCBL office in Dhaka is involved in importing and distribution in Bangladesh.

Chapter 6: List of Interested Importers with Contact Details and the Types of Markets operational in these three markets and how we may target to penetrate if viable

6.1 List of Interested Importers with Contact Details

The following individuals or companies have shown interest in importing Bhutanese agricultural products, subject to high quality and reasonable pricing. It is important to note that their interest is contingent upon the products being delivered to wholesale markets in India or the border in Bangladesh. Pricing in India will be based on daily auction prices at the mandis, whereas in Bangladesh, negotiation will be necessary as payment will be conducted through banks.

During the study, the central management of the supermarket chains was unreachable. Nonetheless, it is recommended that this avenue of entry be explored in conjunction with the government's initiative to connect Bhutanese exporters with Indian importers and companies.

INDIA

Market	Business Contact	Area of Interest	Current Offering Price	Point of Delivery	When demand	Remarks
New Delhi	RAM KUMAR & COMPANY, Shop- D-1376, H.O. D-437, New Subji Mandi, Azadpur, ND 110033 9811191243	FRUIT & Vegetable Commission Agent	Daily market price	Azadpur, Delhi	Can be Seasonal	Expresses interest but depend on quality and price
	Raja Babu 9654546835	FRUIT & Vegetable Commission Agent	Daily market price	Azadpur, Delhi	Can be Seasonal	Expresses interest but depend on quality and price
	GSB 9810196068	FRUIT & Vegetable Commission Agent	Daily market price	Azadpur, Delhi	Can be Seasonal	Expresses interest but depend on quality and price
	LRC Ircc628@gmail.com 9717398630	FRUIT & Vegetable Commission Agent	Daily market price	Azadpur, Delhi	Can be Seasonal	Expresses interest but depend on quality and price
	Ms Chuni Lal & Co 9990692333 naveen0378@yahoo.com	FRUIT & Vegetable Commission Agent	Daily market price	Azadpur, Delhi	Can be Seasonal	Expresses interest but depend on quality and price
	MS &Sons	FRUIT &	Daily	Azadpur,	Can be	Expresses

	9811290772	Vegetable Commission Agent	market price	Delhi	Seasonal	interest but depend on quality and price
Kolkata						
	Wakil & Brothers 9681553593	Fruit Merchants & Commission Agents	Daily Market Price	Machua Wholesale Market	Can be seasonal	Expresses interest but depend on quality and price
	Gulam Nabi Traders 8100611214	All fruit Sellers and C.A.	Daily Market Price	Machua Wholesale Market	Can be seasonal	Expresses interest but depend on quality and price
	Mister Adarsh 9163360349	Fruit Merchants & Commission Agents	Daily Market Price	Machua Wholesale Market	Can be seasonal	Expresses interest but depend on quality and price
	MPS 9331507444	Vegetable Merchant and CA	Daily Market Price	Kolay Mkt, Sealdah	Can be seasonal	Expresses interest but depend on quality and price
	Satya Chanda 9830163055	Merchant and CA of Potato & Onion.	Daily Market Price	Machua Wholesale Market	Can be seasonal	Expresses interest but depend on quality and price
	Arnab Kumar Das 919121008555 Arnab.das@tajhotels.com	Material's Manager, Taj Bengal, Kolkata	Tendering System - Rs 750 (Presently SM price in Spencer)	Door Delivery	Little throughout the year but mostly during weeding season Nov-Jan.	-Interested in lemon grass and asparagus.
SUPER MARKET CHAINS						
	Spencer's, Quest Mall	Will have to discuss with Hq. as procurement is centrally controlled.				
	Metro	29 outlets, German owned, central procured from Bangalore, membership card holders only can shop.				
	Reliance, New Town	Procured from local farmers and contract farmers. If not enough then only sourced from others.				

BANGLADESH

Market	Business Contact	Area of Interest	Current Offering Price	Point of Delivery	When demand	Remarks
Sham Bazar, Dhaka	Faruk (Vegetables) Contact: 01923965527	Ginger and Garlic	110 taka/ kg 90 taka/ kg	Burimari	When in season	They are interested to import from Bhutan, but they have to verify with the quality and market price
	M.D Mijaneur Rasman, Ms. Sonar Bangla Arot, Commissioning agent to the importer (Vegetables) Contact: 01720425915	Ginger, Garlic and Onion	70-80 taka/ kg 90-100 taka/ kg 20-25 taka/ kg	Burimari	When in season	They are interested to import from Bhutan, but they have to verify with the quality and market price
	M.D Khorshed, Ms Gazi Enterprise, Commissioning agent to the importer (Vegetables) Contact: 01977855341	Ginger, Garlic and Onion	200 taka/ kg 150taka/ kg 23taka/ kg	Burimari	When in season	They are interested to import from Bhutan, but they have to verify with the quality and market price

	Mr. Noorudin, Importer (Vegetables) Contact: 01711938098	Ginger, Garlic and Onion	200-225/ kg 160-165/ kg 20-25/ kg	Burimari	When in season	-they sell 20-50 tons of all the items every day. **the transactions are made through bank like Janta Bank, Islamic bank
Badamtolli, Dhaka	MD Salam Importer (Fruits) Contact: 01720220173	Strawberry, Apple and Orange	Need to Negiotiate	Burimari	When in season	- High demand fruits: Pear, Kiwi, oranges, apples and cardamom -demand 5ton daily on each items -packaging and quality plays very important role for pricing

6.2. Entry into Delhi and Kolkata

6.2.1. Mandi Auction

From chapter three we can conclude that the mandi system is the main fresh agricultural products' distribution system in India. It is not only the sourcing and the assembly place for all locally produced products, but it is also a place of sourcing and redistributing almost all the imported products in the cities. It supplies to the supermarkets and retailers. However, there are individuals who import and supply directly to the supermarkets and also there are supermarket chains which import centrally and redistribute to their network all over India.

Entering through the Mandi Auction Marketing System is not recommended. Previous studies by experts, such as Grant Vinning, have concluded that Bhutanese exporters are hesitant to participate in this system because prices are determined on a daily basis by the auction, leaving exporters uncertain of the expected price. As a result, exporters have lost faith in this auction system, and the unwillingness of Bhutan to participate without knowing the expected price remains a deterrent.

6.2.2. Supermarket Chains

Bhutan could also negotiate with super market chains like Reliance or Metro Cash and Carry which have their own supermarket outlets all over India. Supplying to their centrally located place may cost a bit more; however, if a deal can be tied up, this will be a reliable outlet for Bhutanese agricultural products. We could deliver on a weekly or bi-weekly basis.

6.2.3. Licensed Importer

It is clear from the import and distribution system in Delhi and Kolkata that a licensed importer is necessary, who can distribute products according to their own network. However, Bhutan could negotiate agreements with importers to target high-end markets, niche markets and other specialty outlets.

6.2.4. Conclusion regarding entry to Delhi and Kolkata.

From the study, it is clear that a licensed importer is needed to export to India. Thus, any export to these two cities or any other cities should be built on the government initiative and negotiations that are already under way. Concurrently, Buyer-Seller meets could be initiated in case we find a right and trustworthy importer to market into these identified markets.

6.3. Entry into Dhaka Market

With regard to summer vegetables, there are many who express interest to import from Bhutan and there are also many who express interest to export to Bangladesh. However, the business in this area has not blossomed though in the past trials and market tests have been done successfully by the Ministry.

During the study, it was learnt the from the market side, the issue is that supply is not consistent and normally Bangladesh is looked on as an alternative market only when there is no market in India. However, from suppliers' side the demand is not consistent and only made when prices are good. Thus, to address these issues, RBE in in the advance stage of negotiations with Bangladeshi Government and STCBL to establish STCBL office in Dhaka as importer for Bhutanese

products. Agricultural products are included and clearly Bhutanese vegetables will be more visible in the markets as regular imports will be maintained.

STCBL office in Dhaka as an importer will definitely ease the business of vegetable export to Bangladesh. However, the issue of inconsistency from the suppliers' side must also be addressed. Thus, it is recommended that FMCL be the exporter from Bhutan. FMCL being a producer will not only address the issue of inconsistent supply but would also in long run contribute to development of the vegetable export industry by investing in storage facilities and maintaining refrigerated transportation system.

Chapter 7 - Economic Analysis with regard to the selected Products and Markets

This survey report has attempted to analyze the prices of selected vegetables in the target markets
and compared to Thimphu and Phuentsholing markets. The costs and sales price analysis of selected summer vegetables and cereals mentioned in the selected commodities are also done. Finally, the production and distribution of potential Bhutanese agricultural products within Bhutan is also studied with regard to the potential commodity apples.

7.1. Prices of selected products in target markets and markets in Bhutan

Table 8 - Prices of selected products as on Feb 25th, 2023

Vegetable (1kg)	Delhi		Kolkata	Dhaka		T/phu	Pling
	Rs	Ave.	Rs	Taka	Rs	Nu	Nu
Tomato	38-42	40	40	19	15	80	30
Potato	41-46	43	20	23	18	50	30
Onion	24-27	26	25	35	27	60	40
Cabbage	23-25	24	25	29	22	60	40
Carrot	32-36	34	50	19	15	60	80
C/flower	31-34	33	45	29	22	100	70
Cucumber	28-30	29	30	29	22	100	70
Brinjal	32-36	34	40	65	50	80	70
Garlic	64-71	68	64	95	74	300	300
Ginger	48-53	51	240	155	120	100	100
Lemon	62-69	66	175	49	38	Nu. 10/ piece	100
Pumpkin	26-29	28	20	35	27	80	50
Radish	29-32	31	30	19	15	50	40
Ladies Finger	55-61	58	35	59	46	-	-

1Rs = Taka 1.29 on the date of survey (Rs rounded off and Delhi prices averaged for easy read)
1 Rs= 1 Nu.
Delhi market prices - https://vegetablemarketprice.com/market/delhi/today
Kolkata market prices – https://rates.goldenchennai.com/vegetable-price/kolkata-vegetable-price-today/
Dhaka market prices - https://chaldal.com/fresh-vegetable

The prices of various commodities from our targeted markets in Delhi, Kolkata and Dhaka was done on the same day on 25 February to make a comparative analysis among the target markets and also to compare to prices in Bhutanese markets. As can be seen from the above table, the prices fetched by various commodities are much higher here in the Bhutanese markets as compared to Delhi, Kolkata and Dhaka. This clearly indicates that there is no advantage in exporting to these markets in winter season. Thus, the study recommends that Bhutan produce

and target these selected markets only during the summer months. As is long known, these and other vegetables have a seasonal comparative advantage. Due to intense heat and monsoon flooding, these commodities are not produced in Delhi, Kolkata or Dhaka in Summer months.

From the high prices as compared to target markets, it is evident that Bhutan is either not producing any of these commodities or she is importing. Even if we are producing, our winter vegetables cannot be price competitive with Indian or Bangladeshi vegetables. Thus, the way forward is to plan and export summer vegetables where we have seasonal advantage. An analysis of costs and returns: table 7.2., from such a venture indicates profitability.

7.2. Costs and Expected Sales Price of Selected Vegetables and Selected Cereals.

Table 9 - Economic Analysis of Selected Summer Vegetables and Cereal's export to Dhaka

All Cost and Prices in Nu

	Particulars	Asparagus	Broccoli	Cauliflower	Ginger	Strawberries	Cardamom	Quinoa	Buckwheat
I.	**Net Returns**	**1,008,000**	**144,000**	**180,000**	**8,480**	**312,000**	**68,760**	**412,500**	**343,500**
	Quantity (20% rejects of Returns from Sales)	252,000	36,000	45,000	2,120	78,000	7,640		
	Retail Price /kg (Prevailing Prices in Dhaka as on 9th March, 2023)	840	120	150	53	1,300	764	825	687
	Return from Sales (Commodity Quantity x Retail Price)	1,260,000	180,000	225,000	10,600	390,000	76,400	412,500	343,500
II.	**Cost:**								
	Material Costs :	**167,350**	**92,350**	**77,350**	**9,600**	**211,350**	**45,500**	**125,000**	**85,000**
	Commodity Quantity (kg)	1500	1500	1500	200	300	100	500	500
	Farm Gate Price (Nu)	100	50	40	30	600	450	250	170
	Cost of commodity (Commodity Quantity x Farm Gate Price)	150,000	75,000	60,000	6,000	180,000	45,000	125,000	85,000
	Packaging Costs (150 boxes x Nu 89 per box for asparagus, broccoli, cauliflower and strawberries For Ginger 20 Bags @ Nu 30 Per bag) For cardamom 100 plastic bags @ Nu. 5 Quinoa & buckwheat already packaged	13,350	13,350	13,350	600	13,350	500	-	-
	Other packaging materials (Plastics & labeling - For Asparagus, Broccoli & Cauliflower Lump sum 1000 for cling wrap, For Strawberries smaller plastic boxes 200 - 250 gm @ Nu 10 per box for 1500 small plastic boxes to accommodate 300 kgs)	1,000	1,000	1,000	0	15,000	0	-	-
	Ice Pack (Nu 20 /packet)	3,000	3,000	3,000	3,000	3,000	-	-	-
	Labour Costs	**8,100**	**8,100**	**8,100**	**1,400**	**2,200**	**1,400**	**600**	**600**

	Sorting/grading/packaging/Loading cost at source (Nu 50 Per box for Asparagus, Broccoli & Cauliflower. For Other Products four man days @minimum wage per person per day) Quinoa & Buckwheat already packaged.	7,500	7,500	7,500	800	1,600	800	-	-
	Unloading/Loading at Burimari (4 People @ Nu 1200 per Person, Tk 1500 minimum wage)	600	600	600	600	600	600	600	600
	Transportation Costs	**6,200**	**6,200**	**6,200**	**2,560**	**6,200**	**2,000**	**2,000**	**2,000**
	Paro/Thimphu to Burimari via Pling (Govt Refrigerated Van) Expenses for Fuel, Minor Maintenace (Nu 5000) and Driver DSA (Nu 3000)	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
	Burimari to Dhaka (Nu) (Hire of refrigerated van Nu. 8000)	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
	Cold storage charge, Dhaka for 1 week. (For Asparagus, Broccoli, Cauliflower and Strawberries Nu 4 per day for 150 boxes. For Ginger Nu 4 Per/day for 20 bags)	4,200	4,200	4,200	560	4,200	-	-	-
	Documentation Charges	**2,375**	**2,375**	**2,375**	**2,375**	**2,375**	**2,375**	**2,375**	**2,375**
	Costs of Documents (Lump sum Nu 4000)	500	500	500	500	500	500	500	500
	Clearing Agents Charges at Burimari (Higher side Nu 15000)	1,875	1,875	1,875	1,875	1,875	1,875	1,875	1,875
	Tax Rates (Based on PTA taxes are zero, Quinoa and Buckwheat 37% each)	0	0	0	0	0	0	37%	37%
	Taxes (Nu)	-	-	-	-	-	-	48,091	33,291
	Weight Loss (10%) (Not Calculated for Quinoa and Buckwheat as they are vacuum packed)	**15,000**	**7,500**	**6,000**	**600**	**18,000**	**4,500**	**0**	**0**
	Total Costs	199,025	116,525	100,025	16,535	240,125	55,775	129,975	89,975
	Gross Revenue (Net Returns- Total Costs)	**808,975**	**27,475**	**79,975**	**-8,055**	**71,875**	**12,985**	**282,525**	**253,525**
	Importers and Retailers Margin (30 + 30 = 60%) - (on Gross Revenue)	**485,385**	**16,485**	**47,985**	**-4,833**	**43,125**	**7,791**	**169,515**	**152,115**
	Net Revenue	**323,590**	**10,990**	**31,990**	**-12,888**	**28,750**	**5,194**	**64,919**	**68,119**
	Total Profit (Add all net revenues)	520,665							

In the table above, costs and returns are calculated in exporting 1500 kgs of asparagus, 1500 kg of broccoli, 1500 kg of cauliflower, 200 kg of ginger, 300 kgs of strawberries, 100 kgs of cardamom and 500 kg each of Quinoa and Buckwheat at the prevailing prices in Dhaka. The farm gate prices for the coming summer months were averaged based on the past prices and buy back experiences of National Post Harvest Centre and DAMC officials.

Costs of materials are based on prevailing prices and labour costs based on daily wage rate in Bhutan and minimum wage rate in Bangladesh. For packaging materials, corrugated boxes that are presently used for packaging fresh fruits and vegetables will be used. Asparagus, broccoli and cauliflower will be cling wrapped and packed in the corrugated boxes. Strawberries will be packed in the corrugated boxes and will be repacked by importer into smaller plastic boxes and dispatched to the retailers. 20 kg bags will be used for packaging ginger. Cardamom will be packed in one kg or smaller plastic bags and packed in boxes. Quinoa and Buckwheat are already packed in 1kg packets in cartoon boxes.

Since there is no refrigerated van on hire service, it is assumed that the DAMC will provide the refrigerated van of NPHC. The exporter will bear the DSA for the driver and meet the fuel and minor repair charges.

Based on the above assumptions, the analysis indicates that summer vegetable export to Bangladesh will be a profitable business. Even at the prevailing rates, the return is good and profits are expected to be over five hundred thousand. The actual returns will be higher in summer as prices of asparagus, cauliflower and broccoli are bound to rise. Even if cauliflower and broccoli prices rise to Nu. 350 and 300 respectively on a very conservative note, the rise in profit will be more than by two hundred thousand to the net profit reflected in the table.

One of the commodities with highest return is asparagus. If you look at asparagus, the net returns to the product is Nu. 1,008,000 from sales of 1500kg.

- 1500x Nu. 840/kg= Nu. 1,260,000. Then (1,260,000-252,000 (20% reject) = 1,008,000). The total cost of materials 167,350,
  labour cost=8,100,
  transportation cost=6,200,
  Documentation charges= 2,375,
  Taxes=0, weight loss 15,000 adds up to Nu. 199,025.
  The gross revenue is Nu. 808,975 (1,008,000-199,025). After deducting 60% importer and retailers' margin from the gross revenue, the net revenue or profit from asparagus is Nu. 323,590.

Likewise, profit from broccoli is Nu. 10,990, cauliflower Nu 31,990, strawberries Nu. 28,750, cardamom Nu. 5,194, quinoa Nu. 64,919 and buckwheat Nu. 68,119. However, the return on Ginger, is negative. The retail price will have to be Nu. 104/kg just to break even, at purchase price of Nu. 30/kg. If volume is increased, economy of scale will be a factor; however, an exporter must re-evaluate the costs and returns in dealing with this commodity. With respect to cardamom, quinoa and buckwheat, the analysis is as per the prevailing retail prices in Bhutan

and Dhaka. Thus, though not a huge profit margin for cardamom, the returns seem to be good for quinoa and buckwheat. These cereals definitely must be consigned when exporting the summer vegetables.

Chapter 8 - Conclusions and Recommendations

The following are the conclusions and recommendations. It is grouped under three subheadings based on the interventions needed by government, producers and by stakeholders.

A. Government

8.1 Development of Infrastructure at the Border:

Infrastructure development at the border can significantly improve the efficiency and ease of cross-border trade between neighboring countries. Such development can include the construction of storage facilities for goods and wider roads with designated lanes for the transportation of goods. This would help reduce the time and cost of transporting goods across the border, as well as minimize the risk of damage to goods during transportation.

In addition to the above, the development of centralized orange packaging depots and dry ports can further enhance cross-border trade. These ports are designed to facilitate the movement of goods, with a single-window documentation center that streamlines the process of obtaining necessary permits and documentation required for trade. Such documentation centers can significantly reduce the time and cost involved in obtaining permits and clearances, leading to smoother and more efficient trade.

Another critical aspect of infrastructure development at the border is the implementation of Sanitary and Phytosanitary (SPS) requirements link fumigation. SPS measures are designed to protect human, animal, and plant health from the risks associated with the importation of goods. Fumigation is a crucial component of SPS measures and is required for the importation of certain types of goods into some countries. By implementing these measures, the risk of pests and diseases spreading across borders can be minimized, leading to safer and more sustainable trade.

Overall, the development of infrastructure at the border is essential for facilitating smoother and more efficient cross-border trade. By investing in infrastructure such as storage facilities, wider roads, centralized ports, and SPS measures, countries can reduce the time and cost of trade, while also improving the safety and sustainability of the trade. In gist, the stakeholder recommends that infrastructure be developed throughout the marketing chain from the producers, aggregators, and exporters till the products exit the country. In other word, the following infrastructure needs to be developed.

8.1.1. At the production areas where Farmer groups and Cooperatives exist, field assembly and pack house with minimal amenities like water supply and electricity needs to be built. The number and size will depend on the production capacity of each Dzongkhag.

8.1.2. At the Dzongkhags, semi-automated and bigger assembly unit with storage facilities to hold the products for one to two weeks are needed. Based on its location, 2-3 cold storage rooms are also proposed.

8.1.3. Accordingly, larger Export Facilitation Centers are needed to be built in southern exit points like Phuentsholing. Such centers will have one window services for documentation and also would ease meeting SPS requirements like fumigation of the products as it will exit from one central point.

8.1.4. As in 8.1.3, infrastructure to facilitate exports by air also needs to be built in Paro. Such facilities would not only benefit export but also imports as the same facilities could be used for holding place /quarantine for imports.

8.1.5. To maintain the cold chain, from production to export of the commodities; refrigerated cold vans are also needed to be supplied.

The building of infrastructures at production areas, Dzongkhag headquarters and at exit points at the southern borders and airport in Paro will go a long way in mitigating problems related to volume and transportation of the products. Such facilities will not only help in maintaining a constant supply but quality of the products too will be maintained. Thus, higher prices will be fetched not only of the selected commodities for export but also in general will benefit the export of all agricultural products.

8.2 Production and Redistribution of Selected Commodities: namely, apples

Apples are one of the primary agricultural products grown in Bhutan and are also an essential source of income for many farmers in the country. However, due to the limited market size within Bhutan, apples are the only product that can be stored and redistributed within the Bhutanese markets. This means that farmers need to find ways to store their apples properly so that they can be sold throughout the year, even during the offseason when the production of apples is lower.

To address this issue, various interventions can be implemented to support apple farmers in Bhutan. One such intervention is providing credit for storage and redistribution of apples. This would enable farmers to invest in proper storage facilities and equipment, which would help

them preserve their apples for longer periods, reducing waste and allowing them to sell their apples at a better price throughout the year.

Additionally, priority can be given to cold storage facilities built by the government through the Food Corporation of Bhutan Limited (FCBL). This would ensure that farmers have access to proper storage facilities, which are essential for preserving the quality and freshness of apples for longer periods.

Finally, the government can control the import of non-Indian apples into the country. This would help support the domestic market and reduce competition faced by local farmers. By controlling the import of non-Indian apples, the government can also ensure that the quality of the apples sold in Bhutan meets the required standards, promoting better health and safety for consumers.
Overall, interventions such as credit for storage and redistribution, priority for cold storage facilities built by the government through FCBL, and control of the import of non-Indian apples are necessary to support apple farmers in Bhutan and ensure a sustainable apple industry. These interventions would help reduce waste, improve the quality of the apples sold in the market, and provide better prices for farmers, leading to a more stable and profitable agricultural sector.

In the light of the one-time capital required to purchase apples, it is recommended that the activity be carried out by an SOE like FMCL or FCBL.

8.3 STCBL as Importer and Distributor of Agricultural Products:

STCBL, or the State Trading Corporation of Bhutan Limited, has been recommended as the importer and distributor of Bhutanese agricultural products. This means that they will be responsible for bringing in these products from Bhutan and then distributing them to various markets and consumers.

There are several reasons why STCBL is a good choice for this role. First, they have experience and expertise in trading and distribution, having been involved in the import and export of various goods for many years. They also have established relationships with suppliers and buyers, which can help facilitate the import and distribution process.

Additionally, STCBL Dhaka, specifically, has been recommended as the first point of entry for these agricultural products. This is likely due to its strategic location and infrastructure, which can make the import process smoother and more efficient. It may also help ensure that the products are properly handled and stored before being distributed.

Overall, choosing STCBL as the importer and distributor of Bhutanese agricultural products can help support the growth of Bhutan's agriculture industry and provide consumers with access to high-quality, locally produced goods.

8.4 Designated Agency for Export:

Establishing a dedicated agency for the export of agricultural products is a crucial step towards formalizing trade and ensuring that food standards and testing laboratories, SPS (sanitary and phytosanitary) measures, and labeling requirements are met. APEDA (Agricultural and Processed Food Products Export Development Authority) in India is an example of such an agency, which has been successful in promoting and regulating the export of agricultural products from India.
A designated agency for export can play a key role in facilitating exports by providing exporters with information about market opportunities, trade regulations, and procedures for obtaining necessary certifications and permits. The agency can also help exporters to comply with international food safety and quality standards, such as those set by the Codex Alimentarius Commission, by providing guidance on the application of SPS measures and assisting with laboratory testing of agricultural products.

In addition, the agency can help to improve the competitiveness of the agricultural sector by promoting good agricultural practices, recommending new varieties of crops, and supporting research and development. By providing technical assistance and training to farmers and exporters, the agency can help to ensure that agricultural products meet the standards required by international markets, which can lead to increased exports and higher prices for farmers. Furthermore, the agency can establish a system for monitoring and evaluating the quality of agricultural products, from farm to export. This can help to ensure that products meet the required quality standards and that exporters comply with the labeling and packaging requirements of target markets.

In conclusion, establishing a designated agency for the export of agricultural products is an important step towards formalizing trade and improving the competitiveness of the agricultural sector. By providing technical assistance, promoting good agricultural practices, and establishing quality monitoring systems, the agency can help to ensure that agricultural products meet the required standards and increase the exports of agricultural products.

8.5 Trial Marketing

A trial marketing of summer vegetables to Dhaka should be undertaken coming May, June as it is found economically viable. As recommended in the report DAMC and RBE should coordinate for

STCBL Dhaka to import and FMCL to export. CSI products and FCBL products like quinoa could also be test marketed provided the certification and labeling requirements are met

B. Producers

8.6 Quality and Price:

Our producers and exporters must always be aware that when it comes to fruits and vegetables, quality and price are two important factors that need to be considered. Quality refers to the characteristics of the produce that make it desirable for consumers, such as its appearance, taste, texture, and nutritional content. Produce that is fully matured, fresh, and free from defects such as bruising or rotting is considered to be of good quality.

Retailers and vendors selling fruits and vegetables must ensure that their produce is of good quality to attract and retain customers. Consumers expect high-quality produce that meets their expectations, and retailers must meet these expectations to remain competitive in the market.
While quality is important, price is also a critical factor when it comes to selling fruits and vegetables. In some markets, such as those targeted by supermarkets, retail outlets, and roadside vendors, price is extremely important. These markets are often highly competitive, and customers are looking for the lowest prices possible.

In such markets, retailers and vendors must strike a balance between quality and price. They must source high-quality produce at a reasonable price to be able to sell it at a competitive price point. This may involve finding the right suppliers, negotiating prices, and managing inventory to minimize waste and spoilage.

Quality and price are both important considerations when it comes to selling fruits and vegetables. While quality is essential for attracting and retaining customers, price is critical in highly competitive markets where customers are looking for the lowest prices possible. Successful retailers and vendors must find ways to balance these two factors to succeed in the market. Our producers and exporters need to be aware of these factors to keep a market share of our products.

C. Stakeholders

8.7. Licensed Importer:

A licensed importer is an entity that has obtained a permit or authorization from the relevant regulatory authorities to import goods into a particular country. In the case of India, any exports to the country require a licensed importer to ensure smooth cross-border trade. The licensed

importer is responsible for obtaining all necessary permits, licenses, and documentation required by the Indian government for the importation of goods.

If the exporter fails to use a licensed importer, the documentation required for the import may be incomplete, leading to the seizure of goods by customs officials, fines, and reduced profits. Therefore, it is essential to ensure that a licensed importer is used to facilitate the smooth importation of goods into India.

In the context of Bhutanese entities, officials suggest that they can operate the agricultural import and distribution business if they develop a long-term business relationship with interested individuals or firms from India. This could involve working with licensed importers in India to facilitate the importation of goods into the country. Developing a long-term business relationship can help build trust and ensure that all necessary permits and documentation are obtained, leading to a smoother and more profitable cross-border trade.

8.8. Regular Buyer-Seller Meets & Participation in Fairs and Shows:

Regular buyer-seller meetings and participation in trade fairs and shows are essential for promoting Bhutanese agricultural products and establishing contacts with potential buyers. These activities offer an excellent opportunity for farmers and traders to showcase their products, exchange information, and build relationships with buyers and suppliers.

Participating in trade fairs and shows can help increase the visibility of Bhutanese agricultural products and create a positive image in the minds of potential buyers. These events provide an opportunity for farmers and traders to showcase their products, share their knowledge and experience, and learn about the latest trends and developments in the market. By participating in these events, they can also network with other industry players, including suppliers, buyers, and government officials.

Regular buyer-seller meetings are another way to establish contacts and build relationships with potential buyers. These meetings provide an opportunity for farmers and traders to discuss their products, prices, and delivery schedules with buyers. By meeting face-to-face, they can establish trust and a better understanding of each other's needs and expectations.

In addition to promoting Bhutanese agricultural products, regular buyer-seller meetings and participation in trade fairs and shows can also help farmers and traders improve their marketing skills and learn about new marketing strategies. They can also gather information on market demand, pricing trends, and other market factors that can help them make more informed business decisions.

Chapter 9 - Export Plan for the potential commodities that were selected to New Delhi, Kolkata and Dhaka

India and Bangladesh present significant opportunities for Bhutanese agricultural exports. With their large populations with growing higher incomes class and super rich people, diverse food demands, and government initiatives to promote agricultural trade and investment, these markets are attractive destinations for Bhutanese agricultural products. However, exporters need to be aware of the regulatory requirements and market dynamics to succeed in these markets.

There are two issues and concerns when entering these two markets. The Indian markets in Delhi and Kolkata can be penetrated only through a licensed importer. The other concern raised by both markets in India and Bangladesh are that our supply is not consistent. Thus, it may actually be prudent to tie up with an importer in India, especially if it is a supermarket chain, so that we can supply during our production season only. During our off season, the importer can source the same products from other countries if not available locally.

With the above in mind and the selected crops identified for the study, the Production and Exporting Plan is reflected in the table 10 below -

Table 10 - Production and Export Schedule for selected commodities

Country	**Product Selected from List**	**Scheduled Export**	**Remarks**
Delhi and Kolkata, India	All selected products	When agreements reached and contracts drawn	-Build synergies with Government's initiative to distribute through supermarket chains in India
	All selected products	Initiate Seller/Buyer Meets	Before production starts
	All selected products	Participate in trade fairs and shows	As and when scheduled
Dhaka, Bangladesh	Asparagus Ginger Strawberries Cardamom Quinoa Buckwheat Lemon Grass Tumeric	May-June 23. Try with other "Summer Vegetables" like cauliflower, broccoli, beans and chillies.	-Trial Market lead by DAMC in liaison with RBE Dhaka. Collaborators, FMCL as producer/exporter and STCBL as importer. -CSI products -FCBL products
	Seed Potato	Next season 24	Must fulfil certification and additional requirements.

	Arecanut	From next season 24	
	Oranges, Apples	Export as usual.	No intervention needed.

9.1 Export to India

During the survey period it was learnt that there are initiatives to tie up export to these selected markets, New Delhi and Kolkata. The government has led delegations and identified some 29 products to sell through the supermarkets in India. If an importer or distributor owning supermarket chain in India is interested to be the importer, then this would be the most suitable arrangement. Thus, it is recommended that export to Kolkata and Delhi of the selected agricultural products be tied up together with this government initiative.

Concurrently, as suggested in the report, the Ministry of Agriculture and Livestock could initiate Buyer/Seller Meets and participate in agricultural trade fairs and shows. Through these meets, importers could be identified to enter into these markets of India.

9.2 Export to Dhaka, Bangladesh

9.2.1 STCBL as Licensed Importer

As far as Dhaka market is concerned, the Royal Bhutanese Embassy (RBE) is in an advanced stage of negotiations to appoint STCBL office in Dhaka to be the importer and distributor of agricultural products in Dhaka. While suppliers make a case of no demand being there in Bangladesh, importers make the case that supplies from Bhutan are channeled only when the goods cannot be sold to India. Thus, even when demand is there in Bangladesh, Bhutanese exporters do not supply as they prefer to sell to Indian dealers at the border. If STCBL is established as importer/distributor, additional costs of space and outlet will be minimal as it already has premise. Further, as an SOE, it will be accountable and answerable for its activities. Thus, RBE strongly recommends that STCBL try to establish as an importer and distributor. To fulfill the obligation for license to function, STCBL office can easily hire 5 locals for every Bhutanese hired in this venture.

9.2.2 FCMCL as exporter

To make the supply consistent and also to maintain a share of the Bangladesh market at all time for our products, it is recommended that FMCL be the supplier to the STCBL. FCMCL already has backward integration, as it is producing for the market and supplying to the schools under Schools and Hospital Linking Programme (SHLP). In time, if demand is consistent, FMCL could initiate contract farming with producers of crops demanded in the market. This way, FMCL will

not only have link with domestic markets through SHLP but also with markets outside the country.

9.2.3 Selected Commodities for 2023 Season

The export to Dhaka is proposed to be by road and the costing and returns are worked out in Table 9 which indicates that growing and exporting selected summer vegetables would be profitable. All the products asparagus, broccoli, cauliflower, strawberries, quinoa, buckwheat show potential returns except for ginger where farm gate price of Nu. 30 is high whilst retail price of Nu. 53 is too low for export to be profitable to all concerned. Lemon grass is yet to be tested in the market.

The export is recommended to be led by DAMC in liaison with RBE, Dhaka. FMCL is recommended as producer/exporter whilst STCBL will be the importer. Besides the selected fresh agricultural products, CSI and FCBL processed products could also be part of the consignment provided it fulfills the certification requirements.

9.2.4 Selected Commodities for export in 2024

On discussion with RBE, Seed Potato is also a potential commodity to export. However, as reflected in chapter 2, special conditions and additional declarations have to be met. Since the importer (STCBL) has to file for Import Registration Certificate (ICR) and at the same time look for customers, the survey report has proposed to pursue this activity in 2024. This would also give RGoB officials to plan the seed production as per the requirements conveyed by STCBL.

Bhutan could also explore the possibility of targeting the Bangladeshi market as an alternative market for arecanut. She imports around 30 thousand MT annually. Average CIF of the commodity is quite high: over USD 1.31. This product is also recommended to be studied and exported only in 2024, as the commodity may already have been sold for this season.

9.2.5 Oranges and Apples

For oranges and apples, the export business is going on as usual and no interventions presently are recommended. Provided the quality and prices are right, there is no dearth of market in Bangladesh and also in India for these two products. Bangladesh imports around 259,305 MT of oranges and 262,742 MT of apples annually. India import around 153,296 of oranges and 436,194 MT of apples annually.

In conclusion, for India we need to identify a licensed importer or an entity before initiating export to Delhi or Kolkata. For Bangladesh, if STCBL could be established as an importer, we could initiate export of selected products from the summer of 2023.

Annexures

Annex 1: Terms of Reference

Introduction

Royal Government of Bhutan considers the export promotion of agricultural products as one of its marketing strategies (Renewable Natural Resource Marketing Strategy 2021), and targets high-value-added agricultural products for high end customers living in neighboring countries. Although it is alleged that there is market potential and demand for Bhutanese agricultural products in the export markets, particularly in neighboring ASEAN countries like Bangladesh, India, Nepal, Singapore, Malaysia and Thailand, no confirmed studies and focused assessment or surveys had been done. Much is what has been learned from hearsay, informal communications, and desktop research by the government officers.

In this study, the actual situation of supply chains, potential Bhutanese agricultural products, and potential partner companies are clarified through visiting market relevant stakeholders in Bangladesh, India and Bhutan. Then, the result of this survey and the one of "Survey on Market Potential of Bhutanese Agricultural Products in Singapore, Malaysia, and Thailand" will be compiled as "Bhutanese Renewable Natural Resource Production Exporting Plan."

1. Scope of Works

1.1 Objective and output of the work

Objectives	Outputs
1. To clarify law, regulation and certification system related to imported agricultural products to Bangladesh and India.	1. Insights about law, regulation and certification system are grasped.
2. To seek market needs of the Bhutanese agricultural products in Bangladesh and India.	2. Potential Bhutanese agricultural products for exporting to Bangladesh, and India are clarified.
3. To grasp information about potential partner companies	3. Potential partner companies to import the Bhutanese agricultural products are clarified.
4. To analyzes the cost of production in Bhutan and domestic needs in Bhutan, and calculates distribution cost and expected sales price.	4. Cost and prospective sales prices of the Bhutanese agricultural products are analyzed.
5. To develop "Bhutanese Renewable Natural Resource Production Exporting Plan" by compiling the result of "Survey on Market Potential of Bhutanese Agricultural Products in Singapore, Malaysia, and Thailand"	5. "Bhutanese Renewable Natural Resource Production Exporting Plan" is developed.

1.2 Work Items and Method

The work should include the following work items. The consultant should perform the following work items without delay, and report the situation of the preparation and the survey progress to the Client.
For all the works below, the consultant must take measures to prevent infection of COVID-19 such as wearing facemask by participants and informants, washing hands of them, using hand sanitizers, or securing social distance among the people.

1.2.1 Survey on laws, regulations and certification systems related to imported agricultural products to Bangladesh and India

- The consultant surveys on laws and regulations of Bangladesh and India, which provide necessary procedure, standards, taxes and so on for importing agricultural products to these countries, through interviews, literature survey and searching web sites.
- The consultant collects information about certification system of agricultural products, which are applied in these countries. The policy and interventions, which are current and expected by the governments are also necessary to be surveyed.

1.2.2 Survey on market needs in Bangladesh and India

- The consultant visits agricultural products market, department stores, supermarkets, hotels, restaurants, retail shops and organic product importers, and conduct interview survey on actual sales situation, price and quality of the products.
- The consultant clarifies potential needs for the Bhutanese agricultural products in terms of quantity of distribution in each season, price and necessary conditions of the products and contracts, through interview survey to the market stakeholders as above.
- The consultant conducts the survey on customers about their preference and analyze potential market scale of the Bhutanese agricultural products.
- The consultant suggests the way to promote the sales in each market.
- The consultant survey on expected way to transport the Bhutanese agricultural products, which were clarified as potential products by the survey above, from Bhutan to those countries, prospective importers, and cost for the transportation.

Survey Plan

- Objective of the survey:
  As mentioned, 2 & 3 of "1.1 Objective and output of the work" as above.

- Method of the survey
  Semi-structured Interview

- Main question of interview survey:
  Which agricultural products in Bhutan do the people in Bangladesh (Dhaka,) India (Delhi and Kolkata) prefer to buy?

- Sub questions of interview survey:
  1) Which agricultural products in Bhutan would the interviewees like to buy?
  2) How much is appropriate price of the agricultural products in Bhutan for the interviewees?
  3) Which season or month would the interviewees like to buy?

4) How large do the market needs of the agricultural products in Bhutan in the future?
5) How can the agricultural products in Bhutan be improved for their successful sales?
6) How can the agricultural products in Bhutan be appealed for their quality?

- Expected interviewees:
  Importer, Wholesaler, Retailer, Distributer, Buyers of Department/Supermarket, and etc.
  (At least 3 interviewees in each category of business)

- Target Agricultural Products in Bhutan (At least 6 Products from or out of examples below,) but potato has to be selected.
  1) Potato (Seed Potato), 2) Cereal, 3) Ginger, 4) Turmeric, 5) Fruits,
  6) Lemongrass, 7) Asparagus, 8) Nuts

1.2.3 Survey on potential partners in Bangladesh and India

- The consultant grasps information about potential partner companies as buyers, transporters and trading companies.

1.2.4 Analysis of cost and expected sales prices

- The consultant analyzes the cost of production in Bhutan and domestic needs in Bhutan, and calculates all of transportation/distribution/logistics cost from Bhutan to each market and expected sales prices of potential Bhutanese agriculture products.

1.2.5 Analysis of production and distribution of potential Bhutanese agricultural products within Bhutan

- The consultant analyzes current and possible quality/quantity of potential Bhutanese Agricultural Products, which are clarified through the works from 1.2.2 to 1.2.4 and "Survey on Market Potential of Bhutanese Agricultural Products in Singapore, Malaysia, and Thailand."
- This analysis of production and distribution will be done comprehensively with surveyed data on such as domestic needs, all of transportation/distribution/logistics cost, and production cost.

1.2.6 Development of Bhutanese Renewable Natural Resource Production Exporting Plan

- Based on the results of works from 1.2.1 to 1.2.4 and result of "Survey on Market Potential of Bhutanese Agricultural Products in Singapore, Malaysia, and Thailand," which will be done by another contract, the consultant develops Bhutanese Renewable Natural Resource Production Exporting Plan.
- Development of Bhutanese Renewable Natural Resource Production Exporting Plan includes not only potential of Bhutanese agricultural products, but also potential of production and domestic needs of them. In addition, necessary activities, investment, and development of system/technology must be suggested in this plan.

1.3 Output of the work

The work should include the following work items. The Consultant should perform the following work items without delay, and report the situation of the preparation and the progress to the Client.

1. Report on law, regulation and certification system in Bangladesh and India
2. Report on potential Bhutanese agriculture product for importing to Bangladesh and India
3. Report on potential partner companies and their profiles
4. Report on cost and expected sales prices
5. Report on production and distribution of potential Bhutanese agricultural products within Bhutan
6. Bhutanese Renewable Natural Resource Production Exporting Plan

2. REPORTING

- The report size should be A4 size, and should be written in English.
- The Consultant should take pictures of survey and meeting situations and submit them to the Client.
- The Consultant should submit two (2) copies of the Final Report.

3. RESPONSIBILITIES

The Consultant should take into consideration the following responsibilities:

- Train the staff for their full understanding of the work objectives, outputs. This is extremely important in early stages of work process.
- A detailed schedule of the work activities in English should be submitted to Client and approved by JICA Bhutan Office, prior to the commencement of the works.

4. WORK PERIOD

The work period shall not exceed 1.5 months (6 weeks) from the date of signing the contract with the successful the Consultant.

The works shall be conducted according to the schedule presented in following figure.

Table. Work Schedule

Months	Jan. 2022	Feb. 2023	Mar. 2023
1.2.1 Survey on laws, regulations and certification systems related to imported agricultural products to Bangladesh and India		▬▬	
1.2.2 Survey on market needs in Bangladesh and India		▬▬	
1.2.3 Survey on potential partners in Bangladesh and India		▬▬	

1.2.4 Analysis of cost and expected sales prices			
1.2.5 Analysis of production and distribution of potential Bhutanese agricultural products within Bhutan			
1.2.6 Development of Bhutanese Renewable Natural Resource Production Exporting Plan			

● : Submission Date

5. DUTY OF THE CONSULTANT

The Consultant should not disclose any information, which will be obtained during this work without the permission of the Client in writing, both during the work and after the termination of the Agreement on the work.

Annex 2: Upcoming Agricultural Trade Fairs in India 2023

Trade fair name	Date	Contact details
Smart Urban Farming Expo 2023	March 24 - March 25, 2023, At New Delhi	https://smarturbanfarmingexpo.com/
AGRI INTEX 2023	July 14 - July 17, 2023 At Coimbatore - Codissia Trade Fair Complex	http://www.agriintex.codissia.com/
GrainTech India 2023	August 25 - August 27, 2023 At Bengaluru - BIEC Bengaluru International Exhibition Centre, India	http://mediatoday.in/exhibition-of-media-today.html
Agro Tech 2023	August 25 - August 27, 2023, BIEC, Bangalore, India.	http://mediatoday.in/exhibition-of-media-today.html Contact details: Email - agrotech@cii.in, Phone - +91-172-5022522
BIOFACH India 2023	September 07 - September 09, 2023, Greater Noida - INDIA EXPO CENTRE & MART, India	https://biofach-india.com/home
KISAN 2023	December 13 - December 17, 2023, Pune	Contact details: Email - team@kisan.in, Phone - +91（0）20-30252000
India International Horti Expo 2023	September 29 - October 01, 2023 At Greater Noida - INDIA EXPO CENTRE & MART, India	https://hortiexpo.com/
India International Horti Expo 2023	September 29 - October 01, 2023 At Greater Noida - INDIA EXPO CENTRE & MART, India	https://hortiexpo.com/
Agri Asia 2023, in Taipei - Taipei Nangang Exhibition Center, Taiwan, China (Map).	November 02 - November 04, 2023	Contact details: Email - aat-tw@ubm.com, Phone - +886 2 2738 3898