CORDINATO

'Cordinato' is a Triple Helix Model Firm in Bangladesh. Which is focused on building proper bridges, connections, and facilitations among Academia-Private Sectors-Govt Organization by connecting the dots, formulating new businesses and innovations, enabling great impact on the economy and social standards.

Project: Commercial/Industrial use of Electron beam & X-Ray sterilization to increase Agriculture export and development in medical & pharma industry'

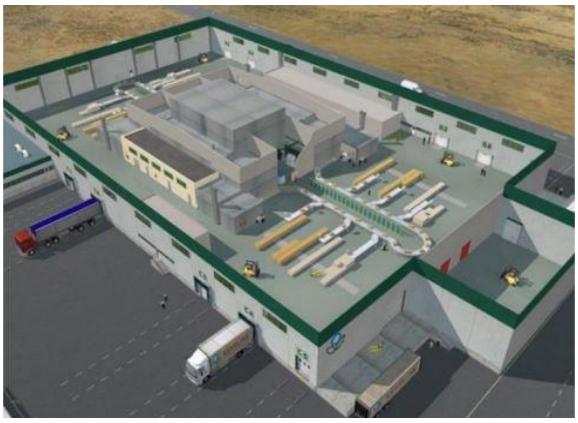
‘**Commercialization of irradiation technology and its importance & necessity in our country’**

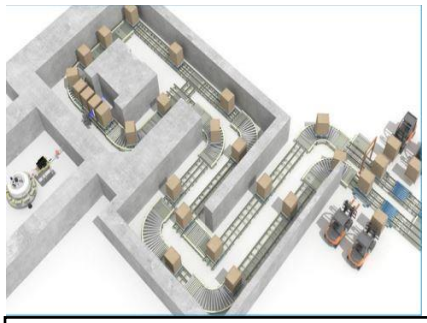
Irradiation technology has the potential to bring about significant foreign currency earnings, reduce food shortages, enhance the quality of the medical industry, and even revolutionize many other industries. It is also worth mentioning that the garments industry could greatly benefit from this technology.

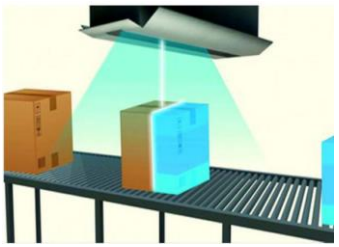
Our neighboring countries, including India, China, Pakistan Thailand, Malaysia, and Cambodia, have already commercialized this technology and are earning substantial foreign currency.

With a great regret for us that India has operating 26 radiation plants, and more are in the pipeline whereas we have only two but not commercialized. Even Indian govt called for ‘Proposal Invitations’ regarding this project. India processed plenty amount of food and other materials then export these to other countries, it is also said that India has been profoundly benefitted from exporting large amount of shrimps & meat by processing through irradiation means.

Content







Figures: A Complete Overview of an Electron Beam/ X-Ray

This technology allows virus/bacteria/micro-organism to be killed. This action is to reach the bacterium cell death by cutting DNA not to be reproduced in the bacterium cell. Endorsed by IAEA, WHO, FDA, FAO and consumed by every country in the world.

- In Increasing Global Warming, it Facilitates transshipment without spoilage which will bring immense exports and foreign currency.
- Problem In Exporting various food due to spoilage. 30 percent-50 percent of the food we produce is being wasted before it reaches the consumer, the time has come to use food sterilization as a tool to extend self-life concerns so that fruits and vegetables can be delivered to local & global markets.
- This technology can allow certain foods to be stored at room temperature without the need for cold storage.
- Increases the percentage of selling opportunity & better returns to farmers, giving an end to unethical uses of Chemical.

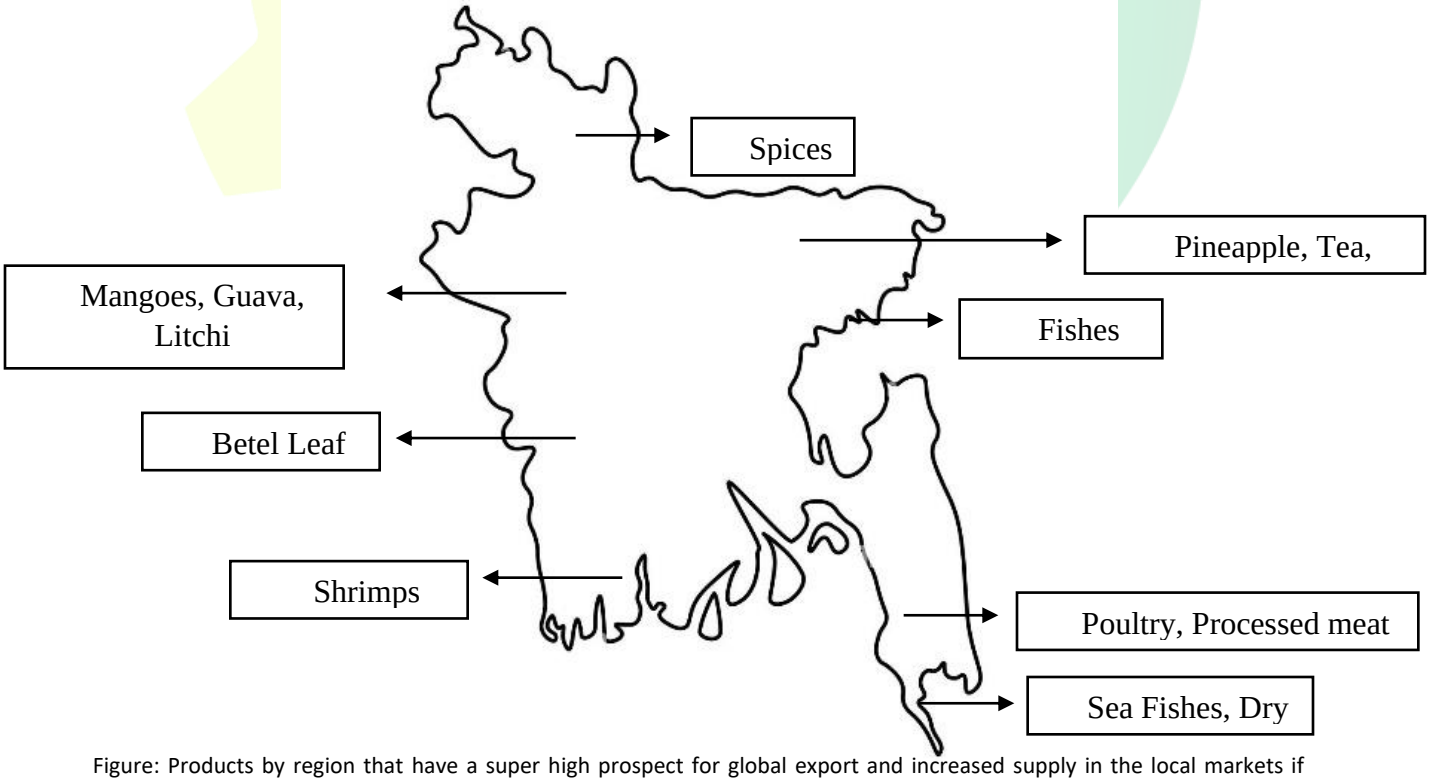


Figure: Products by region that have a super high prospect for global export and increased supply in the local markets if those are irradiated.

''Indian Government policy is encouraging private entrepreneurs to establish large gamma and e-beam radiation processing facilities. 22 large scale gamma irradiators have been commissioned in India since 2000. Additionally, 15 e-beam irradiators have been installed since 2015.'

– *White Paper on the Uses and Applications of Radiation Processing by International Irradiation Association - November 2020*

''Union State Minister of State for Atomic Energy Jitendra Singh said that gamma irradiation technology for food preservation has already been shared with private players and presently 26 Gamma Radiation processing plants are operational in the county in private, semi-government sector for irradiation of various products.''

– *Swarajya – Read India Right – August,2021*

Some information can be found that India has been buying our products (Fruits, Fishes, Shrimp) then processing through the technology then selling it on high prices in the high-end markets such as USA, Europe, Middle east etc.

The total cost of the project is approximately 300 Crore if we procure the facility from one of the best manufactures such as IBA Industrial a Belgian Company which has a significant track record. This cost is financially feasible in terms of ROI. For say, if we irradiate only 120 tons of spices everyday total revenue comes 12 Crores, yearly 144 Crores which is a minimum demand for export. In one year, the operational cost is 2.5 Crore, so the yearly surplus is minimum 140 Crore. So, Maximum it will take 2.5 years to meet its break-even point.

Experts suggest in Bangladesh to meet the full demand we need to establish minimum 15 of such facilities.

Why big shots of our country still did not invest in this super prospective industry???

-Big business individuals are still low in confidence while investing in high-tech, which has a enormous demand & significant national interest. Except for pharmaceuticals, textiles, and garments industries, a sufficient environment has not yet been created for high-tech industries also Government initiatives, encouragements, and policymaking must be needed for establishing such facility.

Scenario Of Bangladesh

Not a single industrial project in Bangladesh, whereas India, Pakistan, Thailand, Sri-Lanka, Vietnam, China are using this technology & we are also eating such irradiated fresh food carrying international recognition such as FAO, IAEC, WHO etc. There is a facility in atomic energy commission but very insufficient & not cost efficient either industrial. Huge tons of food are being spoiled annually for the lack of preservation & viral/bacterial action. Extremely high opportunity of increased export goods along with greater profit margin of Agro business institution. Such as Pran-RFL Group, AKIJ Group, ACI Group, Square Group, Meghna Group, Euro Foods, Paragon, City Group, Beximco Group, Partex Group, Meghna Group and many pharmaceuticals & medical equipment's industries.

Bangladesh is mainly depended on agriculture for her economy. Agriculture is the backbone of Bangladesh. Thousands of people depend on agriculture. About 60-70% people depends on agriculture. Agriculture is the main source of our country's economy. It comprises about 15% of the country's GDP and 60% of the total labor force. About one third of annul income comes from agriculture. So our country mainly depends on agriculture and the total annual exports items of 15% are mainly agriculture product. It is main occupation of our country's people and it is the old profession of the country's people. About 70% people directly or indirectly depends on agriculture as their professions. If this sector improve first then the hole industrial and economic develop possible. Agriculture supplies the country's people's food. Although Bangladesh is mainly depends on it but she is not self-sufficient on food because of so many people, Rain, Flood and other reasons. For the shortages of food Bangladesh government should import foods from another country, for the reason we lost a big amount of our foreign remittance. If we are able to produce and store efficiently more food than the problem will be solved. With the development of agriculture the farmer's income will grow so they can buy many industrial products and develop their agricultural system. And for this the industry of the country will develop Food security is another aspect the present government is concern about. One of the important aspects of food security is to ensure sustained availability of food to meet all people's demand at prices commensurate with their income. Food security is then achieved when all people can buy adequate good quality food sufficient for maintenance of an active and healthy life. It is essential to achieve an overall development of agriculture to ensure production, storage and marketing of food grains as well as non-food grain items, to create employment opportunities and increase real income of the poor, ultimately to improve their nutritional status. In the Bangladesh context, domestic food production, public and private stocking and international trade determine food availability at the national level. With the liberalization of trade, global availability and prices of food are of increasing importance for ensuring national food security. In this case irradiation of Food is much necessary for exporting food globally and for local markets.

Below Products Irradiated by Bangladesh Atomic Energy Commission (BAEC):

Food Item	Medical Item
Spices(Chili powder, Turmeric powder, Coriander powder, Cumin Powder, Garam Masala, Red Whole Chili ,Whole Bay leaf, Karachi beef biryani mix, Chotpoti mix masala, Bombay biryani mix masala, Vegetable curry mix masala, Sheek Kabab BBQ mix, Curry powder, Meat masala, Chicken curry masala, Garlic powder, Whole panchphoron, Fish Curry powder, Meat curry powder, Seasonings) Pet Food(Bull stick, Goat ear) Tea (Organic Herbal Teas) Peanut Spirulina Mushroom(Dry & Wet) Protein-90 Pit Soil Starch	Empty Eye ointment tube Sample container Unique eye drop Pharmaceuticals raw materials Medical equipment Poly bag Surgical Band Syringe

Commercial Food Irradiation in Bangladesh during 1994-98

Items	Quantity(MT)
Dry Fish	173
Fruits	936
Beef Casing	34
Bean/Pulses	6
Turtle meat	0.2
Macaroni	63 Total=1200

Mr. Khorshed Alam , Director, Bioscience (BAEC) says, " We encourage the private sector to participate in this irradiation business. Once there was a private irradiation plant which was shut down for a technical reason but now era has changed & its high time to let our agro products enter in international markets & earn foreign money. Such a facility is situated in Bangladesh Atomic Energy Research Establishment, But we can run it only one shift, whereas two shifts can be maintained easily in private sector".

Food Commodities Irradiated by Gamma tech & BAEC

Year	Quantity in MT
1994-98(Gamma Tech)	1200
2011	44
2012	23
2013	43
2014	81
2015	103
2016	105
2017	144
2018	152
2019	202
2020	148

Medical & Pharma Industries

Electron Beam/ X-Ray (Dual Source) radiation is very effective in inactivating microorganisms. As the bacterial count of each item should be as low as possible, products should be handled as little as practicable in the course of Processing. The Processing premises should be clean and dry, ventilated with clean air, and the construction and furnishings conducive to regular and thorough cleaning. A minimum radiation sterilization dose of 25kGy is employed for medical products as in most of the countries. This dose provides an extremely high safety factor, and when the product also has a low initial microbial count, the probability of any microbial survival can be expected to be less than one in one million. These products are such as Gowns, Syringe, Surgical Equipment, Surgical Mask ,Suture ,Gloves, Pharmaceuticals Raw material etc.

Bandages	Crape, Cotton Crape, Gauze
Cotton	Buds, Pads, Swabs
Dressing	Finger Dressing First Field Dressings Paraffin, gauze dressings, shell dressings
Face mask	Gauze Pads Gynaec pads
Kits	Maternity Minor Surgery Vasectomy
Nappies	Sanitary Napkins Tampons Umbilical cord
Metallic Product	Aluminum caps Aluminum Containers Aluminum tubes(collapsible, empty) metallic implants orthopedic Needles (Hypodermic) Surgical Tools

Pharmaceuticals	Absorption Gelatin Sponge Bentonite powder belladanna fry extract charcoal Powder, ergot powder. Fluorescrein sodium (as strips), Gelatin capsules(empty)
Ophthalmic Ointments in paraffin Base	In collapsible aluminum tubes Atropine sulphate Chloramphenicol Chlorotetracycline Gentamycin Sulphate Hydrocortisone and neomycin
Mercuric Oxcide	Neomycin,Polymyxin and bacitracin (in dusting powder) sodium sulphactamide Tetracycline in soft gelatin capsule Chloramphenicol
Ophthalmic Preparation in oil base	Physostigmine saticylet Tetracycline phthalmic oil suspension Papain(IP/BPC) Prickly Heat powder(Anti fungel)
Skin ointment in polyethylene Glycol Base	Neomycin Sulphate ,hydrocortisone acetate , Alphachymotrypsin
	Tetracycline (for intramuscular and intravenous injection)
Plastic & Rubber	Blood collection & donor sets Cannulae
	Slapstick ring Syringes

- Contact lens solution
- Gelatin (Photographic grade) Glass fiber filters
- Glass vials & bottles (Pharmaceuticals) Glass(for amber tint)
- Hip Joints
- Normal Saline & Ringers Lactate Solution (for kindly perfusion and cleaning of wound)
- Starch (for gloves)

Other Uses of Industrial Irradiation:

Crosslinking:

Crosslinking refers to a chemical reaction between polymer chains to link them together. Crosslinking is the most widely used effect of polymer irradiation because it can improve the mechanical, thermal and chemical qualities of performed products as well as bulk materials. Commercial applications of radiation crosslinking were the first improvement of the insulation on electrical wires and the jackets on multi-conductor cables. Many wire manufacturers are now using e-beam methods to produce high performance wire for aircraft and automobiles. increased tolerance to overloaded conductors and high temperature environments, fire retardation, increased abrasion resistance, increased tensile strength, reduction in cold air flow and increased resistance to solvents and corrosive chemicals are the product improvements obtainable by the E-beam method.

Semiconductor: Irradiation plays a critical role in semiconductor manufacturing, primarily in the form of ion implantation, where high-energy ions are used to dope semiconductors with precise amounts of impurities to alter their electrical properties. This process allows for the creation of p-type and n-type regions essential for transistors and integrated circuits. Radiation can also be used to modify material properties, such as improving insulation or enhancing defect engineering in silicon wafers.

Curing: Curing by irradiation refers to the process of hardening or polymerizing materials—such as coatings, adhesives, and inks—using electron beam (EB), or gamma rays. In this process, radiation initiates a chemical reaction that causes monomers or oligomers in the material to crosslink and form a solid, durable structure without the need for heat. This method is widely used in industries requiring fast, solvent-free, and energy-efficient curing, such as electronics, packaging, and medical devices

Polymerizing:

Low energy (75 keV to 300 keV) electron accelerators are used to cure(polymerize and crosslink) coatings, adhesives and inks on paper, plastic and metal substrate. E-beam technology helps to avoid the use of volatile solvents, thereby helping to reduce air pollution. High-energy(up to 10 MeV) accelerators are used to cure fiber-reinforced composite material. This is an emerging application for electron beam processing. Composite parts now being used in automobiles and aircraft are mainly cured with heat, but radiation curing offers several advantages.

Grafting:

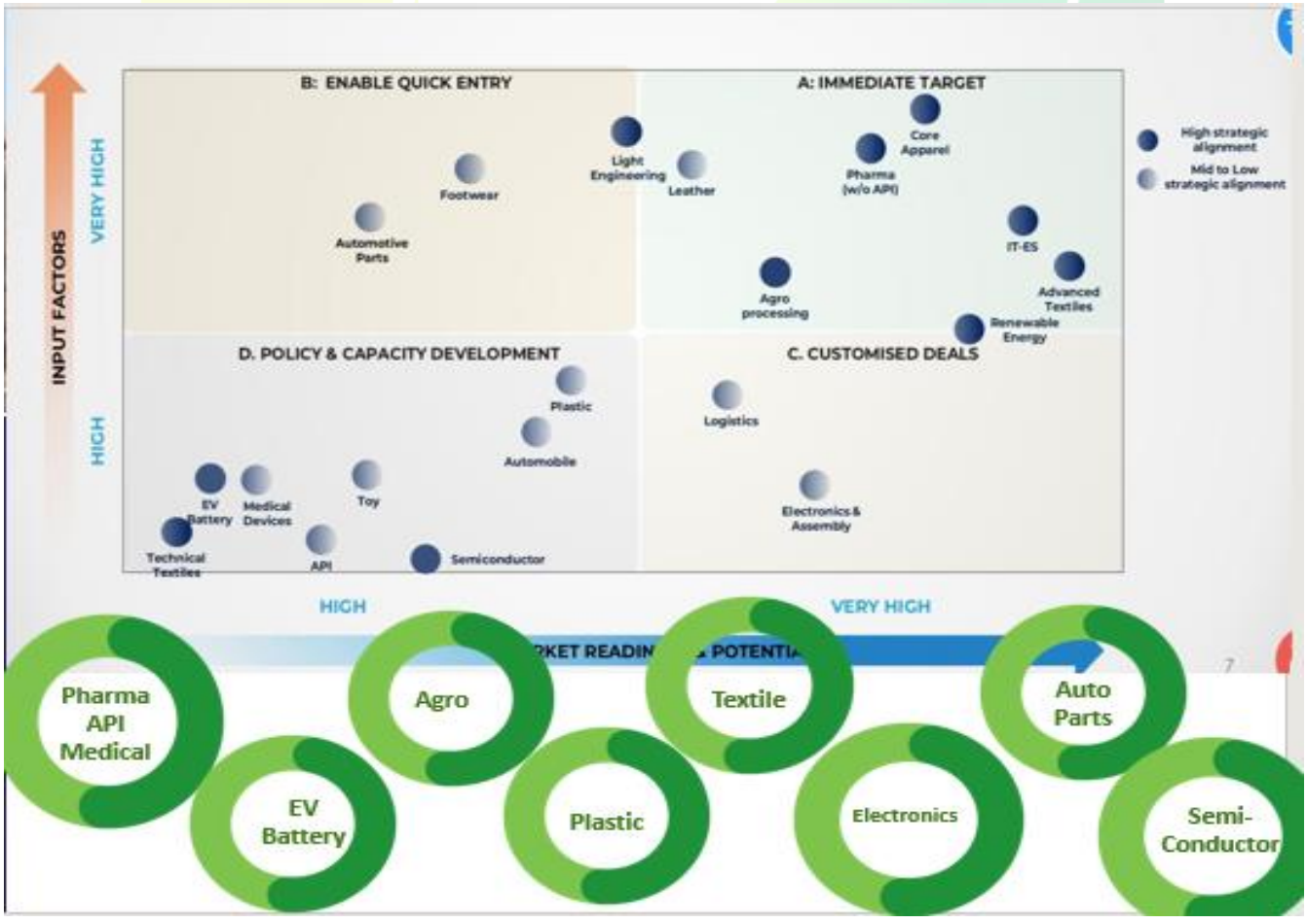
Graft copolymerization of monomers with preformed polymers can be used to modify the properties of their surfaces. Plastic films, ion exchange membranes, fibers and textiles are suitable products. The graft polymerization (polymerization reaction of low molecules to polymer) is the reforming technology of polymer to make the different monomer react onto the polymer chain like grafting to add the character of the monomer to the polymer. It is used to add high performance in the manufacturing of ion-exchange membranes, battery separators, water absorbing polymers, and anti-fog films.

Pollution Control:

Coal-fired and oil-fired electric power plants produce Acid Rain by emitting sulfur and nitrogen oxides. These gases are converted to sulfuric and nitric acids in the atmosphere by reactions with water vapor, activated by ultraviolet (UV) radiation from the sun. The amounts of such emissions can be substantially reduced by irradiating the combustion gases with energetic electrons. This process causes the formation of acid vapors under controlled conditions within the power plant. Then these acidic gases can be neutralized by injecting ammonia vapor to produce fine particles of ammonium sulfate and ammonium nitrate, which can be removed from the combustion gas stream by electrostatic precipitators or bag filters.

The ionizing radiation effects on municipal and industrial waste have been extensively investigated. The objectives include the disinfection of municipal wastewater and sewage sludge and the decomposition of toxic substances in industrial wastewater and contaminated soil. The design of a full-scale demonstration plant for treating the wastewater from a textile mill in South Korea has reported that the capacity will be 10,000 cubic meters per day. Experiments have shown that more than 90% of the reactive blue dye RBR BB in aqueous solution can be decomposed with a dose of about 10 kGy.

BANGLADESH FDI HEATMAP- BIDA



THE BUSINESS STANDARD

MONDAY, APRIL 14, 2025

TBS Report

28 February, 2024, 10:45 pm

Last modified: 29 February, 2024, 07:39 pm

Bangladesh Investment Development Authority (Bida) and the US Department of Agriculture (USDA)-funded Bangladesh Trade Facilitation (BTF) project organised the conference at Bida headquarters in Dhaka on Wednesday (28 February). Photo: Collected

Each year, up to 20-44% of fruits and vegetables are wasted in Bangladesh, resulting in estimated annual losses of $2.4 billion, according to US-based LixCap, which provides business and investment advice for frontier and emerging markets.

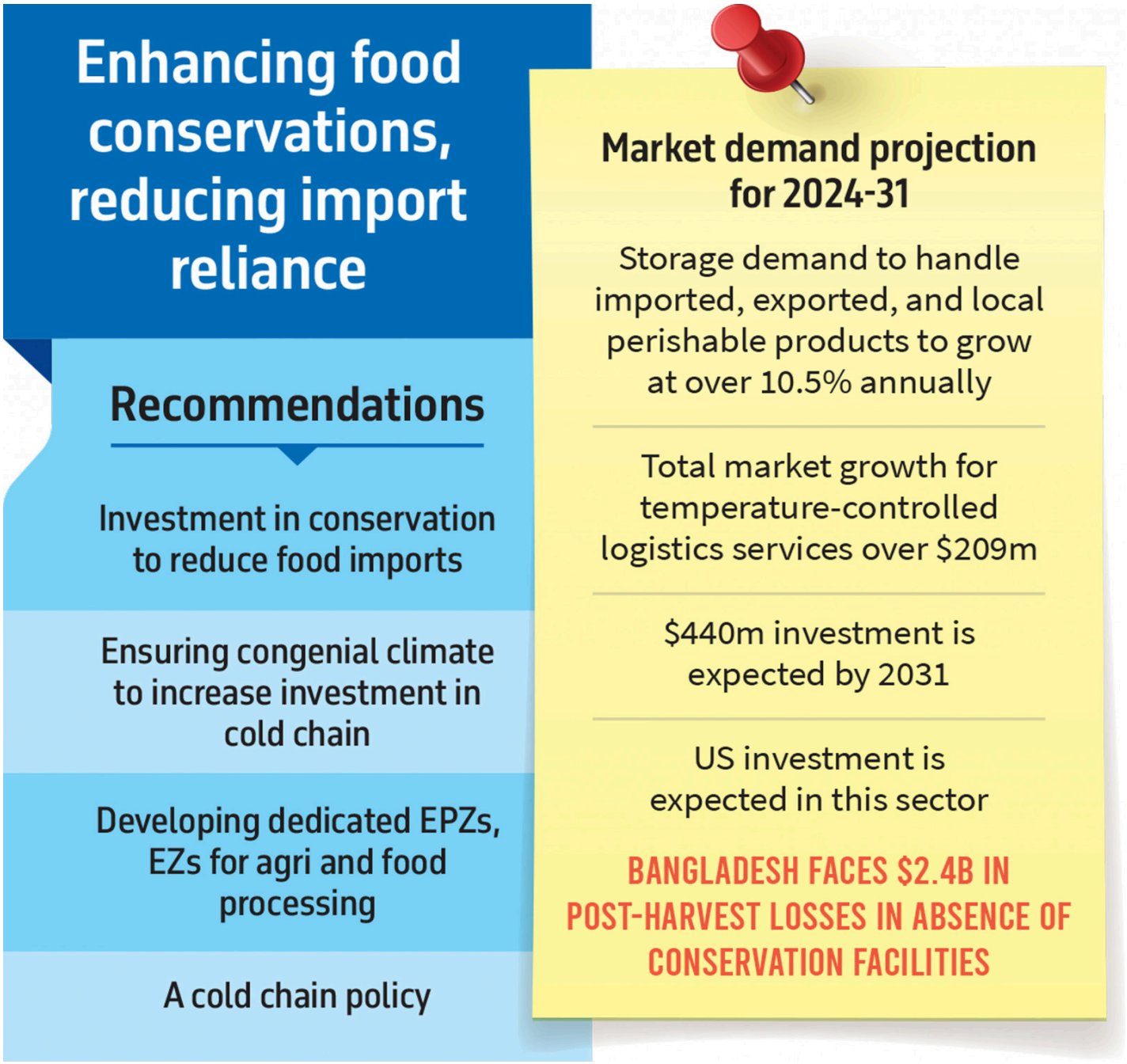
During a keynote presentation at the "Cold Chain Investment Conference 2024" in the capital on Wednesday, William C Fellows, managing principal at LixCap, emphasised that investing in cold chain logistics can significantly reduce post-harvest losses.

The conference was jointly organised by the Bangladesh Investment Development Authority (Bida) and the US Department of Agriculture (USDA)-funded Bangladesh Trade Facilitation (BTF) project at Bida headquarters in Dhaka.

At the programme, Michael J Parr, project director at BTF, emphasised the importance of state-of-the-art temperature-controlled logistics facilities as a crucial addition to Bangladesh's food and agriculture sectors.

Prime Minister's Private Industry and Investment Adviser Salman F Rahman said, "I strongly believe that developing the cold chain sector is imperative for achieving a Smart Economy and a Smart Bangladesh.

He mentioned that by 2031, temperature-controlled logistic services in Bangladesh, including storage, transportation, and value-added services like grading, labelling, and packaging, are expected to have a combined market value of $440 million.



Consequently, the demand for cold chain services in Bangladesh is projected to increase at an estimated 11% compounded growth rate, he said, pointing out that consumers in and outside Bangladesh are shifting their focus towards supporting supply chains that ensure sustainability and the delivery of products in optimal conditions.

He continued, "So, businesses, along with their financiers, have to consider how to plan ahead and integrate new technology into their supply chain to retain and capture both domestic and export markets."

Mostafa Azad Chowdhury Babu, president of the Bangladesh Cold Storage Association, said currently there are more than 450 cold storages, which are mainly potato based.

"Despite the good production of onions in various parts of the country, 25% is wasted due to a lack of storage. As a result, once the Indian import stops, onion goes above Tk100 per kg. Moreover, consumers are eating fruits containing formalin because the preservation system is not up-to-date," he lamented.

Now, many entrepreneurs and owners are looking for diversification in cold storage. But they still don't understand how to improve the cold chain system. For this, a policy is needed from the government to attract investors to invest, so that investors can set up cold storage.

At the same time, he demanded the authorities arrange a separate loan to build a better cold chain, saying, currently the interest rate is very high. In such a case, traders with 13% interest will not be able to invest here.

Khandaker Nazmul Haque, first secretary at the National Board of Revenue, announced plans to reduce heavy import duties on refrigerated vans to facilitate the cold-chain sector's growth.

He emphasised the need to enhance opportunities for handling perishable goods at inland container depots and assured the provision of necessary facilities to support investment in the cold-chain sector.

Economist M Masrur Reaz, CEO of Policy Exchange Bangladesh, highlighted Bangladesh's heavy reliance on the garment industry for exports, with 84% of export earnings attributed to this sector.

He lamented the lack of implementation regarding export diversification, citing maintenance and processing weaknesses hindering the potential of agricultural product exports.

Reaz noted that proper storage could reduce the need for importing products like potatoes and onions, thereby reducing prices and allowing for increased exports of other food products.

BIDA Executive Chairman Lokman Hossain Miah highlighted Bangladesh's significant agricultural production rankings, such as being the 3rd largest producer of vegetables and garlic, 4th in fish production, and 7th in onion, potato, ginger, eggplant, and bean seed production worldwide.

However, due to insufficient storage facilities, Bangladesh often resorts to importing instead of exporting these products. Therefore, he emphasised that investing in cold chain infrastructure would be highly profitable.

Miah also affirmed Bida's commitment to collaborating with investors to facilitate investment and assured that in the future, it would provide various investment services, including overcoming obstacles to investment.

Other speakers at the event included Secretary of the Ministry of Fisheries and Livestock Md Selim Uddin, and President of the Federation of Bangladesh Chambers of Commerce and Industry Mahbubul Alam.

THE BUSINESS STANDARD

SUNDAY, JANUARY 08, 2023

People concerned said that an investment of Tk100 crore to Tk400 crore is required to set up an irradiation centre

TBS Report

12 November, 2022, 08:45 pm
Last modified: 12 November, 2022, 08:45 pm

Bangladesh lags behind in exporting agricultural products for lack of food irradiation technology which reduces post-harvest losses by disinfecting and prolonging the shelf-life of crops, said entrepreneurs at a seminar in Dhaka on Saturday.

The technology is extensively used in many countries of the world, but its use in Bangladesh is very low, they said at the seminar in the capital organised by GB Corporation London Ltd, a London-based company.

Entrepreneurs say it is necessary to ease the investment and approval process in establishing food irradiation centres in the country.

"Many countries put conditions for sterilising agricultural products using this technology before importing them. In Bangladesh, we cannot do it commercially. That is why our exports in this sector are low," said Naser Ahmed, executive director, Pran Group.

Speakers at the seminar said this technology is widely used for spices, various processed foods, potatoes, mangoes, onions, animal feed etc. It is also used to sterilise medical equipment. Entrepreneurs in the country get these equipment sterilised from China, Vietnam, India, South Korea, Japan spending extra money.

Md Abdur Razzaq, founder and managing director, JMI Group, said, "We are compelled to spend a lot to get this technological help from abroad. Government initiative and support is needed for commercial use of this technology in Bangladesh."

Science and Technology Minister Yafes Osman, chief guest at the seminar, said, "We are working to increase our exports. The government would provide all kinds of help to the entrepreneurs investing in setting up irradiation centres."

People concerned said that an investment of Tk100 crore to Tk400 crore is required to set up an irradiation centre.

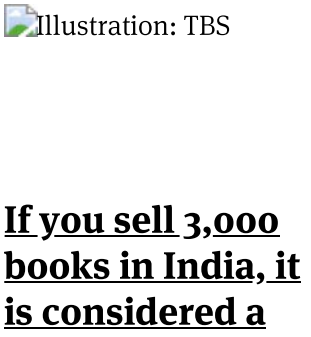
Bangladesh Atomic Energy Commission has two irradiation centres in Savar. But they are generally used for research purposes.

In the seminar, IBA Life Science Irradiation Center informed about two technologies – X-ray and electron beam – that are widely used in radiation centres worldwide. These two technologies are also said to be environment friendly.

FEATURES

Amp up your style with fashionable winter wear

2h | Mode



If you sell 3,000 books in India, it is considered a bestseller: Paro Anand

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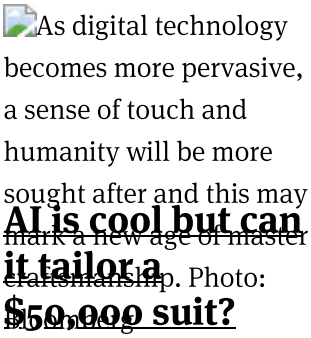
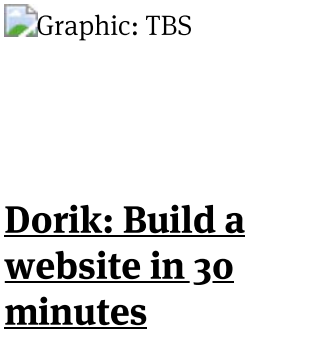


AI is cool but can it tailor a $50,000 suit?

47m | Panorama



Dorik: Build a website in 30 minutes

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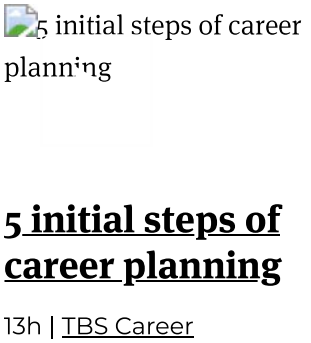

5 initial steps of career planning

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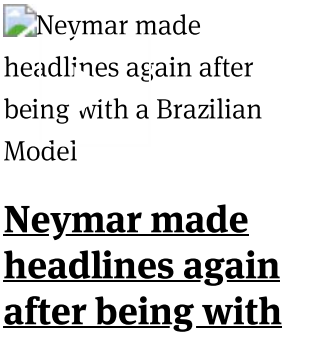

Neymar made headlines again after being with a Brazilian Model

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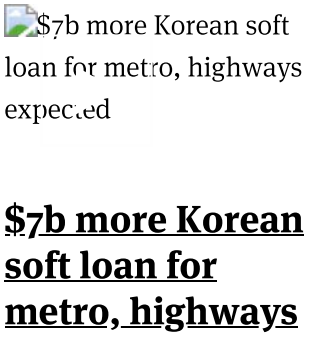

$7b more Korean soft loan for metro, highways expected

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Saturday, April 10, 2021
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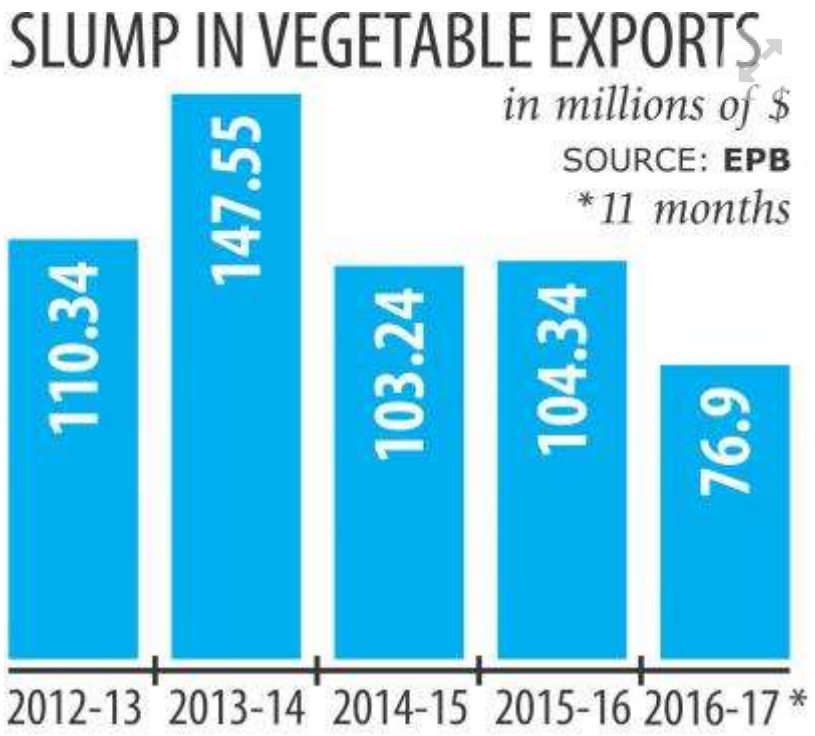
12:00 AM, June 13, 2017 / LAST MODIFIED: 12:00 AM, June 13, 2017

Vegetable exports drop on cargo ban



Refayet Ullah Mirdha

Vegetable exports dropped 16.81 percent year-on-year to $76.90 million in the first 11 months of fiscal 2016-17 due to a ban on direct cargo flights from Dhaka to Europe.

Besides, the partial 'self-ban' last month by the Plant Protection Wing of the Department of Agricultural Extension on export of vegetables to avoid return of consignments also

had an impact on shipments.

The EU, especially the UK and Italy, is a major destination for Bangladeshi fruits and vegetables because of a sizeable population of non-resident Bangladeshis.

“Shipments to Europe saw a decline from last month because of the Plant Protection Wing's partial ban,” said Foyez Ahmed, proprietor of Tahura International, an exporter, agent and freight forwarder.

Ahmed said he used to export seven tonnes of vegetables a day, but the quantity came crashing down to three tonnes because of the ban.

“Now, the Middle East has turned into our main export destination,” Ahmed said.

Bangladesh exports carrot, tomato, potato, eggplant, spinach, cauliflower, papaya, pumpkin, bottle gourd, cabbage, coriander leaf, ladies finger, cucumber, bitter gourd, bean, jute leaf, drumstick, radish, dry fish, fish and meat.

The Plant Protection Wing though is allowing shipments of vegetables, fruits and other agricultural produce that comply with the strict rules of the EU, said Md Anwar Hossain Khan, its deputy director of export.

Any kind of failure in following the EU compliances means a return of consignments.

If the Plant Protection Wing does not follow the controlled system in allowing exports, the EU might impose a complete ban on Bangladeshi fruits and vegetables, he said.

“That's why the wing imposed a self partial ban as a precautionary measure to avoid any extreme action from the EU.”

Many exporters cannot comply with the rules for pest, food safety and packaging of fruits and vegetables to the EU, he said.

“Sometimes, it is difficult to follow high levels of compliance when the exporters collect the vegetables from the local open markets and send those straight to the EU.”

However, there is good news this year for mango exporters from the Satkhira and Rajshahi districts thanks to contract farming of the tropical fruits.

Under contract farming, mangoes are grown following the rules and regulations of the EU, he said.

Moreover, the exporters have been availing the facility of central packaging, set up on three bighas of land in Shyampur by the DAE, Khan said.

The central packaging house, which is now partially open and will go into full operations soon, has washing, sorting, grading, packaging and cooling facilities for fruit and vegetable exporters to ensure hygienic processing before shipment.

Previously, 60 percent of the fruit and vegetable consignments were sent to the EU, but now the share has come down to less than 40 percent, said Mohammad Mansur, general secretary of Bangladesh Fruits, Vegetables & Allied Products Exporters' Association.

Now, 60 percent of the shipments go to the Middle East, Mansur said.

Besides, airlines have increased their fare for carrying fruits and vegetables to any European country because of the need for re-screening the cargo in a third country.

Airlines increased their fare by Tk 10 per kg to Tk 165 for carrying goods from Dhaka to Europe, he said.

THE NEW INDIAN EXPRESS

Business

Country's mango export now tastes global success

Shipments reached 2,500 tonnes in 2023 & 3,000 tonnes in 2024

Representative Image

Varsha Somaraj

Updated on: 10 Oct 2024, 7:14 am · 2 min read

THIRUVANANTHAPURAM: Mango export in India has made huge strides by utilising radiation processing to meet international phytosanitary standards, particularly for markets like the USA. After resuming exports in 2007, India has seen steady growth with shipments reaching 2,500 tonnes in 2023 and 3,000 tonnes in 2024. India resumed mango exports in 2007 after an 18 break, following the commissioning of the KRUSHAK irradiation facility 2006, KRUSHAK was upgraded to quarantine treat mangoes, and received approval from the USDA for exporting Indian mangoes to the USA.

Though Andhra Pradesh, Uttar Pradesh, Karnataka, Bihar, Gujarat and Tamil Nadu produce mangoes, export is mostly made from Maharashtra and Gujarat.

A total of 28 food irradiation plants are there in India. The Maharashtra State Agricultural Marketing Board (MSAMB) has leased KRUSHAK to irradiate mangoes, onions, spices, and food grain. This treatment ensures mangoes are free from pests, allowing them to meet the phytosanitary requirements of many countries. It also increases the shelf life and the ability to supply high-quality, irradiated fruit.

According to data from BARC, India's mango exports have shown steady growth since 2007 when 157 tonnes were exported to the US. The numbers climbed consistently, with 1,150 tonnes exported by 2017, 2,500 tons in 2023, and projections reaching 3,000 tonnes by 2024.

"This shows the increasing global demand for Indian mangoes and the success of radiation processing in meeting international quality standards," said P A Hassan, scientist and associate director of bio science group at Homi Bhabha National Institute.

The US has been a major importer of Indian mangoes since 2007, and India has successfully made it into other markets as well. Australia joined the list of export destinations in 2017, Malaysia in 2022, and South Africa more recently in 2023. India's mango export industry marked another milestone last year with its first successful sea-route shipment to the US. Utilising BARC-

developed Standard Operating Procedures (SOPs) and radiation-treated mangoes, 16 tonnes of the fruit were shipped and it reached the USA in 25 days.

The shift from air to sea-route exports has brought many advantages for stakeholders. The cost of sea shipping is just one-eighth of air freight, drastically reducing the overall costs of export. Also, the sea route allows for larger shipments.

Year of Mango Quantity	Export in tonnes
2007	157
2008	300
2009	121
2010	95
2011	84
2012	210
2013	281
2014	295
2015	329
2016	750
2017	1,150
2018	1,200
2019	1,070
2022	1,086
2023	2,500
2024	3,000

Indian mangoes land in US after 18 years

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Synopsis
It was a year back that the mango initiative was launched by George W Bush and Manmohan Singh.

Washington: Mango diplomacy was in full flow with the arrival of Indian mangoes in the American market after nearly two decades, an event hailed by the U.S as an "important step" to bolster bilateral trade. A year after the mango initiative was launched by President George W Bush and Prime Minister Manmohan Singh, the first consignment of Alphonso and Kesari mangoes that landed in Washington on Tuesday tickled the palate of top American officials, who said it represented more than just a market opening for the fruit. An excited US Trade Representative Susan Schwab said "the Indian mangoes I enjoyed today represent more than just a market opening for one product." During his visit to India in March 2006, Bush had expressed a keen desire to have Indian mangoes. The officials said the Indian mango exports signals the resolve of both sides to forge stronger trade ties and create significant new economic opportunities for the people of the two countries. President of the US-India Business Council(USIBC) Ron Somers describing the arrival of the king of fruits as a joyous occasion said the "US willingness to purchase Indian mangoes is another important step towards deeper engagement and more robust US-India trade". At a press conference at the Embassy of India where the visiting Indian Foreign Secretary Shivshanker Menon was present, Ambassador Ronen Sen spoke of the mangoes' issue as a symbolic and substantive move in bilateral relations.Symbolically, Sen argued it was emblematic of the relationship between the two countries.

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Bangladeshi agro-products fall behind in UK market

A Bangladeshi expat in the UK shows a lemon imported from Egypt at the Spitalfields wholesale market in London. Photo: Hridoye Mati O Manush

Shykh Seraj

In 2013, I went to one of the largest agro-product wholesale markets in Birmingham, UK. I was fascinated to see the huge quantities of agricultural products coming from different

countries to the market. What was not there! Hog plum, guava, watermelon, mango, lemon, cauliflower, pumpkin, eggplants, snake gourd, coriander leaves, spinach and many more. Unfortunately, I did not find any product from Bangladesh in the entire market. Hog plum, guava and watermelon went there from Thailand, gourd and pumpkin from Italy, lemon from Egypt, eggplant from the Dominican Republic and onion leaves from Mexico. I was very shocked not to find any of our crops. But there were agricultural products from many under-developed countries of the world.

When I went to Malaysia in 2006, I saw pineapple being exported to Europe and Middle East markets from Johor Bahru after due processing. I also saw mint leaves being exported to the international market from Uganda. Despite the astounding success of Bangladesh in agriculture, why aren't Bangladeshi products able to enter this large foreign wholesale market? What I found while looking for answers really frustrated me. Bangladesh's agricultural exporters are unable to follow the standards set by the Department for Environment, Food and Rural Affairs (DEFRA) of UK government.

Then I visited the ethnic markets of UK. Particularly, I visited the local ones where expatriate Bangladeshis mostly go. There seemed to be a great demand for Bangladeshi agricultural products. The vendors of those markets used to take agriculture products from Bangladesh and sell those there on their own. We had quite a big market in our possession. But certified standard of DEFRA came in the way of importing from there. Among those products, there were mainly lemons, different vegetables and betel leaf. To overcome the barriers, a programme was also organized by the Department of Agriculture Extension in our country for quality vegetable production and packaging. I even aired a report on this issue in Hridoye Mati O Manush (Soil and People in Heart) programme of Channel i at that time. Many farmers also received training. But after one or two years, after the department's programme ended, all the activities virtually came to a halt.

Five years later, I went to the UK to observe the current status of Bangladeshi agricultural products. It was a very old market, established nearly 350 years ago. Until 1991, it was named 'Old Spitalfields Market'. Later it was renamed 'New Spitalfields Market'. Several changes have also been made in the market's place and old structure to ease traffic in London city. The market has developed as a true vegetable and fruit wholesale market. It is also one of the largest fruit and vegetable wholesale markets in Europe. There fruits and crops from all regions of the world are imported. There are several small bazaars surrounding the market. They sell the imported commodities to retailers. Many of them sell the products directly to customers as well. There are some agricultural commodities

in this market, which are similar in sizes and shapes of Bangladesh's produces. My main search here was for imported Bangladeshi agricultural products. Roaming around the whole market, I saw gourd from Spain and chilli from Sri Lanka.

According to a recent data, guava is cultivated on 10 thousand hectares of land in Bangladesh. The total production is 46 thousand tonnes. Yet, this market of London is occupied by Thailand's guavas. It is frustrating for us. I talked to different traders in the market. I also had talks with expatriate Bangladeshi businessmen. No, there are no products of Bangladesh over there.

Traders at the wholesale market mentioned a number of reasons why there is no Bangladeshi product in the market. One, the packaging of Bangladeshi products is not good. As a result, the goods get spoiled by the time they come to the market. Two, Bangladeshi products do not come in the right weight. The weight labelled in the packet of the product includes the weight of the packet too. The packet itself weighs about 400 grams. Three, Bangladeshi products are pricier. The same product from another country is available at a lower price. Four, Bangladeshi products are not produced and marketed in HACCP approved process. There are many other difficulties too. Meanwhile, many countries of the world are taking advantage of our indifference. The expatriate Bangladeshi businessmen from Leyton's Spitalfields wholesale market said that our commodities are going to other countries illegally. Exported from other countries, they reach this market after meeting the requirements of major wholesale markets and international standards. Expatriate businessmen have much regret regarding this.

Shykh Seraj is Bangladesh's pioneer development journalist. He received country's two highest civilian honours, *Swadhinata Puroshkar and Ekushey Padak*, respectively. He is an Ashoka and Bangla Academy Fellow. He also received highest award for agricultural journalism from the United Nations, FAO A.H. Boerma Award, Gusi Peace Prize (Philippines) and many other prestigious accolades at home and abroad. At Channel i, he's the Founder Director and Head of News. He's also Director and Host of Channel i's popular agro-documentary, *Hridoye Mati O Manush*.

Dear readers, this is the situation of Spitalfields Wholesale Market. Now let's talk about ethnic markets. In 2013, I saw huge demand of Bangladeshi products in the markets of Bangladeshi populated areas of UK. This year, I went to White Chapel in East London where Bangladeshis gather in large numbers. This place is widely known in the region inhabited by Bangla speaking people as a consumers' market with various vegetables and fruits. There are open shops or stalls for raw products run by many Bangladeshi traders. Among the products sold in the stores, there are Bangladeshi products indeed. But the vendors want to keep the source of these products secret for a variety of reasons. They say that there are doubts about the quality of Bangladeshi products. I talked to local businessmen and expatriate consumers. What came up is that they feel Bangladeshi products are treated with chemicals. The complaint is that excessive pesticide is sprayed on our produced goods. Apart from this, there was also the allegation of not marketing the agricultural products in a standard way.

I went to Bangla Town from there. It is a famous name among East London's Cash and Carry Shops. It is a favourite market place of Bangladeshi consumers. You will get emotional after entering the place as you will see familiar commodities. Bengali consumers also believe these to be Bangladeshi products. But the problem is to officially mention these items as Bangladeshi. However, Rafiq Haider, The Chairman of Bangla Town Group of Companies and President of British Bangladesh Importers Association, said most of the agro-products came from other countries of the world -- eggplant from The Netherlands, arum from Malaysia, guava from Thailand. He showed me hog plums which came from Bangladesh. Those looked small and old.

Our country is renowned for jute. However, jute products from Middle East's Jordan are being sold in Bangla Town. Although we have reached third place in the world for vegetable production, we do not have any significant position in the export trade. Rafiq Haider mentioned the reasons behind this from his long business experience. According to him, since 1982, demand for Bangladeshi products saw a gradual increase in the ethnic markets. Just like immigrants increased over time, so did the market of Bangladeshi agriculture products. More than a hundred products including vegetables and betel leaves used to be exported from Bangladesh to London's market. In 1996-98, this market saw a huge growth. But in 2000-2001, many countries including India, Myanmar and Pakistan started entering this market. Later, when it was not possible to import agricultural goods from Bangladesh due to political unrest and strikes, officials from other countries contacted market entrepreneurs through their embassies. They invited and took the entrepreneurs to their countries and established good relations. Thus, they occupied the market. Rafiq Haider also mentioned the bureaucratic complexities of Bangladesh. He said that the High Commission has to send a letter to the Export

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Promotion Bureau. From there, it goes to the Ministry of Commerce and then to Civil Aviation. We have lost this huge market due to such long processing.

The chains of Europe, America and Middle East, do not have our agricultural products. Yet, there are products of other countries there. To make a place there, we must follow the policies of the European Union in producing agriculture products. We are lagging behind in using scientific technology and equipment for agriculture production and preservation. Similarly, there is a shortage of cold storage. Due to these limitations, vegetables and fruits are getting ruined every year. If the government takes necessary steps to address the problems, our produced vegetables, fish and meat can enter the million dollar worth foreign market. This will enrich the country's economy along with the lives of Bangladeshi farmers.