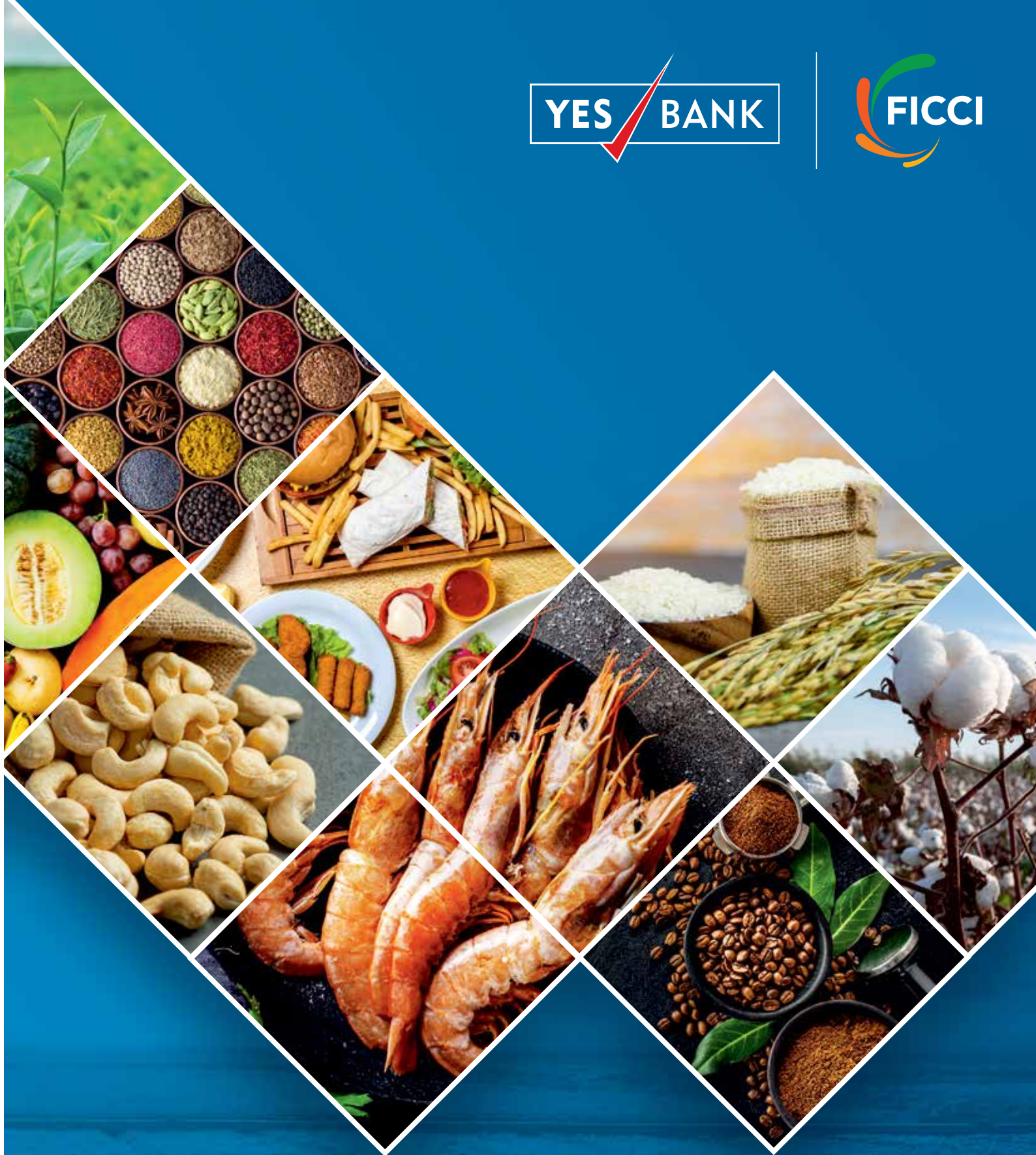


YES BANK



ENHANCING COMPETITIVENESS OF INDIAN AGRI EXPORTS

September 2021

TITLE	Enhancing Competitiveness of Indian Agri Exports	
YEAR	September, 2021	
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MESSAGE



The initiative taken by FICCI in bringing the report “Enhancing competitiveness of Indian Agri Exports” in collaboration with FASAR team of YES BANK Ltd. is well appreciated. Such report is really required at a juncture where the Govt. of India is focusing on increasing the farmers’ income and exports as well.

India being an agrarian economy with varied type of climatic zones and producing vast range of agricultural products at its own land has immense potential to increase its agri exports. Such potential in Indian agriculture products supported by recent initiatives in agri sector which will make impact in growth of export in terms of qualitative and quantitative terms both.

We believe the knowledge report on “Enhancing competitiveness of Indian Agri Exports” will provide a deep insight to all the concerned stakeholders and prove to be a useful tool for augmenting the exports of the respective products sectors.

I convey all the best wishes to all the stakeholders in agri supply chain for increasing agri exports from the country.

(Dr. M Angamuthu)
Chairman APEDA

MESSAGE



India has a vision of doubling farmers' income by 2022. As per fourth advance estimates for 2020-21, total food grain production in the country is estimated at record 308.65 million tonnes which is higher by 11.14 million tonnes than the production of food grain during 2019-20. Contributing towards the government's larger goal of enhancing farmers' income requires focused interventions to increase agricultural exports by tapping the potential of small farmers. If adequately supported by a conducive ecosystem, strong partnerships and enabling policies, we can certainly prepare our farmers well and enable them to get the benefit of several export opportunities in agriculture.

To create an export-oriented value chain, farmers not only need to achieve economies of scale but also maintain quality parameters. Therefore, investment in good agronomic practices and access to grassroot level knowledge is imperative. Traceability through blockchain support can enhance the value proposition of produce. This also calls for setting export-oriented research priorities which are in line with export requirements. A fully integrated approach with a committed partnership among relevant stakeholders is important. Such an approach will create an impact at farm level and enhance competitiveness of our agricultural exports. Agri start-ups can also play a vital role in enhancing application of information technology and artificial intelligence to create export oriented agricultural value chains.

The Knowledge Report prepared by the FICCI and YES BANK team is a key document that synthesizes the knowledge and insights of relevant stakeholders into one comprehensive document. I hope this report works as a strong point of reference for all stakeholders.

T R Kesavan

Chairman, FICCI National Agriculture Committee &
Group President, TAFE Ltd.

FOREWORD



Agriculture is the primary source of livelihood for more than 55% of the Indian population, and also employs around 44% of the workforce of the country. Hence the overall economic prosperity of the country is closely inter linked with the fortunes of this very important sector of the economy. Despite multiple challenges like climate change and COVID 19, agriculture has emerged as one of the most resilient sectors of the economy due to the industrious Indian farmers, favourable government policies, advances in technology and general improvement in the agri infrastructure across the country over the last few years. India is now consistently generating surplus food production across commodity value chains as growth in agri production across crops like rice, wheat, sugar, cotton and Fruits & Vegetables etc continues to outpace growth in domestic consumption.

As the impact of an aggressive push by the government for improvement in farm gate infrastructure plays out along with greater value chain integration through the participation of agritech players and other value chain participants, a healthy growth in production is expected in the coming years as well. While on one hand this would be a cause for great pride and satisfaction for our overall food and agri system, the resultant growing surplus production would have serious implications on the livelihood of farmers if India does not develop the right markets for this surplus. Therefore, at FICCI, we believe that India has a significant opportunity as well as an imperative to substantially increase its agricultural exports in the coming years through sustained and focused initiatives, given the substantial endowments and the resilience its agricultural sector has demonstrated.

FICCI jointly with YES BANK have developed a knowledge Report on “Enhancing Competitiveness of Indian Agri Exports” to provide a strategic direction to take Indian Agri exports to the next level of growth. This has been developed with work spanning across several months which involved conducting dialogues and consultations with relevant stakeholders. Several commodity specific webinars and focused group discussions were organised to arrive at practical recommendations that have been put together with detailed analysis in this Report. The emphasis has been on providing specific and actionable recommendations for the reference and use of the relevant stakeholders like the Central and State Governments, farmer organisations, the Private Sector, research institutions as well as other agencies involved in the Food & Agri eco system.

I would like to put on record my sincere appreciation for the YES BANK and the FICCI teams for their untiring efforts in consulting multiple stakeholders, conducting primary and secondary research on the topic as well as developing the report in its present form. We sincerely hope that the report serves the purpose of a good compendium of strategy and initiatives which we as a country need to put in place to enable us to take our Agricultural exports to USD 100 bln over the next few years within this decade.

Mr. Sanjay Sacheti

Co-Chair, FICCI National Agriculture Committee &
Country Head & Executive Director, Olam Agro India Ltd

FOREWORD



Enhancing India's agricultural exports has significant implications on our nation's progress. Agri-exports serves as a key pathway for better farm produce off-take and higher farm price realization on the one hand, while providing for important forex earnings on the other. Rising global food demand coupled with India's increasing focus on quality, traceability and value addition has propelled our country's agricultural exports to grow at a CAGR of ~ 5% over the last decade and crossed a value of USD 42 billion in 2020. India now contributes to about 2.5% of global agricultural exports.

With increasing globalization of agricultural value chains and India's innate supply strengths to address global demand, the country stands at an inflection point in addressing the potential that global agricultural trade offers. However, the Indian agri-export ecosystem faces several systemic challenges – such as low farm productivity, inadequate post-harvest infrastructure, quality mismatch with global demand, high logistics cost, limited value addition and trade barriers - which hinder the country's ability to harness its true agri-export potential.

The Government of India has taken several vital and commendable initiatives to overcome these challenges and boost agricultural exports - including framing the national Agri Export Policy (2018), encouraging agri-export clusters under public-private partnership and intensively promoting private investment in value added exports. The launch of Production Linked Incentive (PLI) scheme for the food processing sector and the recently announced RoDTEP scheme clearly reflect Indian policy makers' intent to catapult private investment towards agricultural exports.

Proactive initiatives such as these, coupled with strong private sector participation in building efficiencies across export oriented agri-supply chains so as to make them globally competitive, will help position India as a preferred global hub for supply of agricultural produce.

YES BANK is pleased to partner with FICCI for the preparation and release of this knowledge report on "Enhancing Competitiveness of Indian Agri Exports". This report reviews India's current agri-export scenario, identifies key categories to focus on to boost exports, elaborates critical challenges faced by export-oriented value chains and recommends a series of action steps that could significantly enhance India's agri-export competitiveness and growth.

I sincerely hope that this knowledge report is relevant in shaping strategic interventions that are instrumental in furthering the competitiveness and growth of India's agri-exports.

Prashant Kumar

Managing Director & CEO
YES BANK Ltd.

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PREFACE

This report titled- “Enhancing Competitiveness of Indian Agri Exports” has been developed jointly by FICCI and the Food and Agribusiness Strategic Advisory & Research (FASAR) team of YES BANK Ltd. with the objective of providing the readers an overview of Indian Agri exports scenario, identifying critical challenges hindering growth of agri exports and ascertaining critical areas of interventions, which, if implemented, could catapult Indian Agri exports to the next level of growth and development.

For the purpose of this study, commodities falling within the purview of HSN 1 to 24 and HSN 52 have been considered for agri exports. ITC Trademap has been used as the key source of data for overall agri exports (global and Indian). Other key databases made available by agencies such as APEDA, MPEDA, Spice Board etc. have also been utilized for specific commodity profiling. Since the timeframe for data capture for ITC (which follows calendar year) and Indian agencies (follow financial year) varies, the numbers from both sources may vary marginally. A careful attempt has been made so as to utilize data sources that aptly reflect trends and current situation to the best of our knowledge.

For the purpose of this report, India’s entire agri exports basket was evaluated based on the average value of exports from the year 2015 to 2020. The top 12 categories were shortlisted for further detailed assessment and stakeholder consultations. All non-food categories including tobacco, castor, residues etc. were excluded from the detailed analysis. However, Cotton was included in the analysis, given its significant contribution to India’s agriculture and agri exports. The shortlisted categories for which detailed analysis has been carried out in the report include: Rice, Buffalo Meat, Fisheries/Aqua, Spices, Fruits & Vegetables, Vegetable Saps & Extracts, Coffee, Cashew, Sugar, Oilseeds (focus Groundnut), Tea and Cotton.

To get detailed insights into specific export value chains, sector specific webinars were conducted between October and December 2020, for Rice, Fruits & Vegetables, Spices and Fisheries/Aqua. These webinars witnessed participation from central government agencies, state governments, industry, think-tanks as well as from academia. In addition, focused group discussions and one-on-one interviews were held with key stakeholders across export value chains for oil seeds, sugar, cotton, vegetable extracts, tea and coffee to identify key trends, gauge strategic and operational challenges across the value chain and to ascertain critical interventions required to boost exports.



Executive Summary

The emerging surplus of food in India is calling for a close look at alternative opportunities for off-take of produce, such as promoting domestic consumption of high value & healthy food produce, value addition through processing and enhancing exports – so as to maximize farm income and protect the livelihoods of farmers dependent on these commodities. This report focuses on examining the trends, opportunities and challenges that Indian agricultural exports face and identifies specific areas for action so as to enhance India's agricultural exports.

In the year 2020, value of global exports of agricultural produce stood at USD 1.66 trillion, contributing to 10% of overall merchandise exportsⁱ. In value terms, fifteen countries contributed close to 60% of global agricultural exports in the year 2020, with USA, Netherlands, Brazil, Germany and China being the top five.

In the coming years, agricultural trade is expected to continue to play a significant role in terms of fulfilling the food and nutritional security of resource-constrained nations as well as bridging the demand-supply gap for high value and value added products in growing economies. An expanding global population remains the focal growth driver for expansion of global consumption. Other key factors that are expected to drive food and agricultural trade include increasing demand for value added products, climate change driven trade, regional trade agreements, export oriented domestic agricultural policies adopted by agri-surplus countries and increasing demand for sustainable & traceable products among others.

In 2020ⁱⁱ, India exported agricultural products worth USD 42 Bnⁱⁱⁱ, ranking 11th in terms of agri exports and contributing to about 2.5% of global agri exports. India's Agri exports contributed to about 13% of overall merchandise exports in 2020. The country's agri trade value witnessed a growth (CAGR) of over 5% between 2010 and 2020 and its share in the global agri exports increased from 2.1% to 2.5% during the same period.

The Indian Agricultural export basket is a diverse mix comprising of traditional cereal crops, fiber crops, animal products, horticultural products and mixed product preparations amongst others. India exports food and agricultural products under more than 800 HS codes at 6 digit levels. In value terms, ten categories namely –Rice, meat & products, fish/shrimp products, spices, sugar, fruits & vegetables (including their preparations), cotton, oilseeds, vegetables oils/fats and oilcakes contribute to ~70% of India's Export

ⁱ ITC Trademap

ⁱⁱ Calendar year 2020

ⁱⁱⁱ ITC Trademap, YES BANK Analysis. Agriculture products include HS Code 1 to 24 and 52

basket (refer exhibit 15)^{iv}. In many of these categories India has retained its position as a key supplier to the world (for instance Basmati rice, Groundnuts in Oilseeds, Buffalo meat, frozen Vannamei shrimp in fisheries, mangoes, pomegranate and grapes in fruits).

India's key agri-export destination countries include USA, China, Bangladesh, UAE, S. Arabia, Iran, Vietnam, Malaysia, Nepal and Indonesia. These 10 countries together contributed to over 50% of India's agri-exports in 2020.

An analysis of five year annual average growth trend of various categories in the Indian agri-export basket reflects that:

- Categories where growth in export has been positive both at global level and for India include fisheries/aquaculture products, spices, tea, milled cereals products and processed F&V.
- Categories where growth in global exports has been positive but India's exports have been sluggish, include meat, fruits (especially Mango), nuts, vegetables, eggs and maize.
- Categories which have shown negative/stagnant growth in exports both globally and from India include rice, oilseeds, coffee and cotton.

Each of these categories requires a different approach and strategy for enhancing exports. For the purpose of this report, India's entire export basket was evaluated based on the average value of exports for last 5 years^v. The top 12 categories were shortlisted for further detailed assessment and stakeholder consultations. Non-food categories were omitted from the detailed analysis. However, Cotton was included in the analysis given its significant contribution to India's agriculture and exports. For each of these twelve categories, detailed stakeholder consultation was done and their views and suggestions were corroborated with secondary research. This report captures commodity wise analysis of trends in global and Indian exports, challenges across the supply chain that hinder growth of exports and specific & actionable recommendations to address bottlenecks across each leg of the commodity value chain.

This study identifies Seven critical cross cutting challenges that significantly hinder India's agri-export competitiveness. These include:

1. Untapped small farmers' potential to deliver exportable surplus

- Low farm productivity
- Farmer's limited access to factors of production (inputs, credit, knowledge and market/price information)
- Lack of scale – Fragmented land holdings hinder economies of scale and hence cost efficiencies
- Lack of seed, planting material and breeds/varieties that match international demand/requirements

2. Infrastructure deficit resulting in quality and cost inefficiencies

- Low access to farm level primary processing & storage infrastructure
- Fragmented logistics- lack of bulk handling capabilities, multiple intermediations & handling points
- High cost of agri-logistics: 30 – 40% higher than global benchmark
- Multimodal transport not well developed
- High cost of cold storage- Due to low scale, poor access & high cost of power
- Congested port infrastructure
- High ocean freight and shortage of containers

^{iv} Cotton includes all cotton and cotton products under HS52, Sugar includes beet/cane sugar, oilseeds includes Soybean, groundnut, linseed, sunflower, rapeseed, copra and others HS 1201 to 1207
^v 2015-2020

3. “Institutional capacities” not sufficiently oriented to meet international quality requirements

- Low export oriented institutional capacity- Required to promote, maintain and monitor quality
- Safety & Quality management- Inability to contain unscrupulous use of chemicals due to poor farm level extension and poor post-harvest quality testing, monitoring & management
- Sustainability & Traceability- Low capacity to roll out sustainable / ethical production & traceability techniques render India uncompetitive especially in the high value/ niche space
- Access to information- Exporters lack access to farm data. Hence, unable to plan sourcing/ quality management interventions

4. Deficit of private investment in export-oriented processing and value addition

- Investment in export oriented processing is economically unviable or internationally uncompetitive
- High cost of domestically sourced raw material
- Highly fluctuating raw material quality, prices and quantum of supply
- Seasonal processing, low product diversification and hence low capacity utilization
- Comparatively high cost of doing business (scale, land, capital, power, logistics etc.)

5. Conflicting policies and regulations hinder export competitiveness

- MSP distorts commodity prices making them internationally uncompetitive – Sugar, Wheat, Rice etc.
- Exporters’ access to incentives- poor predictability, abrupt changes in policy/regulations, delayed reimbursements etc.
- Relevance of FSSAI norms imposed on exports and import of raw material for re-exports need to be reviewed
- Heavy documentation procedures at ports for clearing shipping bills to process remittances

6. Challenging international market access and trade conditions

- Non-tariff barriers- Diverse sanitary and phyto-sanitary measures faced by Indian products
- MRL Standards- Lack of transparency & arbitrariness in applying MRL standards
- Free trade agreements give preferential duties and access for partner countries, making Indian produce uncompetitive. (E.g ASEAN countries have zero duty for China unlike India, for chili, making Indian export uncompetitive)

7. Insufficient international marketing and branding

- Lack of a holistic, demand led and market information based branding for agri-exports
- Fragmented & multi-departmental government efforts diffusing a focused strategy for growth
- Lack of coordinated public-private partnered efforts to brand Indian produce globally

Concerted efforts are required to overcome these challenges hindering growth and competitiveness of Indian agri exports. This in turn warrants synergies between the government and the private sector as well as inter-departmental collaboration to work towards key facets of - driving export-led farm production, boosting infrastructure, enabling capacity building, progressing on market access, building concrete marketing & branding programs and creating congenial policies and regulatory environment that boost exports. This study identifies **Nine key cross-cutting recommendations** that are critical to boost agri-exports.

1. Tap small farmers' potential to deliver exportable surplus

- Drive Productivity enhancement- Institute Commodity wise task forces on PPP mode to evaluate critical reasons for low productivity & recommend solutions.
- Continue creating economies of scale through export-oriented cluster development, export-oriented farmer collectives and export-oriented contract / contract farming. Develop a framework for identifying, leasing out and developing non-traditional areas for producing high quality, high yielding export-oriented products (large scale corporate farming as in palm oil).
- Promote international demand led research and development – Commodity wise export focused research steering committees may be set up under the Ministry of Agriculture and Farmers' Welfare – with at least 50% representation from private sector. Develop a voluntary private sector contribution fund for export-oriented research. Benchmark quality of planting material / breed stock of India vis-à-vis best in globe & draw out a roadmap for introduction of these genetic stock into India. Create conducive environment for import of good quality germplasm / genetic stock.
- Promote export-oriented farm level extension to meet international demand - Private players could form commodity focused export associations to provide on-farm extension services (Seed Companies, Pesticide Companies, Exporters – for each crop). Encourage private Sector participation in developing export-oriented Centers of Excellences (CoE). Develop farmer level data and a digital platform to access this data on sowing time, practices, harvesting – to facilitate private sector extension & sourcing plans. Promote start-up ecosystem providing innovative digital extension services & farmer access to factors of production.

2. Promote investment in building export oriented post-harvest infrastructure

- Promote investment in post harvest infrastructure for perishables. Continue schemes to attract private sector investment in cold chain development. Evaluate the possibility of attracting large integrated logistics players to invest in developing end-to-end export oriented logistics solution.
- Promote private sector investment for handling bulk dry commodities- Roll out a PPP model for development of scientific and integrated export-oriented bulk storage and transportation infrastructure (Such as the PEGS & Integrated bulk logistics by FCI for PDS). Support agri warehouses on pay-per-use basis for distribution and ease of logistics. Roll out a wagon design overhaul program, with designated clean wagons for agri-commodities. Develop multi modal logistics on a PPP mode for intra and inter country trade. Replication of Kisan Rail Model for export oriented logistics.
- Modernize handling at ports to match international benchmarks - Develop dedicated agri-infrastructure at ports with 24X7 custom clearance for perishables. Provide for quick turn-around time and efficient quality management. Improved berthing facilities, warehousing and roads in key ports (such as Kakinada for Rice).
- Extend export logistics support to address vagaries in ocean freights - Evaluate establishing own shipping line & container manufacturing in PPP mode. Develop dedicated Kisan ships. Promote investments in developing own shipping lines.

3. Build & revitalise export enabling Quality Assurance capacities & initiatives

- Strategize and launch an “export-enabling capacities” mapping and re-vitalization initiative for quality assurance.
- Create a farmer information database such that exporters can develop procurement plans based on robust data analytics and can plan farmer extension, traceability and quality enhancement accurately.
- Strongly focus on sustainable production and traceability initiatives - Building institutional and technical capacities to implement sustainable production and traceability systems – especially to high value destinations.
- Establish a robust, commodity specific testing and sanitary management infrastructure - Invite private players to set up an integrated quality assurance system for each commodity – with viability gap funding support from Government.
- Establish a “pre-export quality clearance agency” for each of the main export commodities- Set up by private sector, with representation from importers as well as exporters. Give authority to clear or reject organizations or geographies to export produce. Give powers to implement strict punitive action on players found deficient in ensuring quality norms• Build other institutional capacities for quality assurance – Set up a grievance cell for escalation of any rejections / support in drastic changes in regulations that can impact exports. Develop tools for accessing changes to SPS standards and export rejections/notifications by importing countries, similar to the Rapid Alert System for Food and Feed (RASFF).

4. Continue promotion of private investment in export oriented processing and value addition

- Benchmark incentives being given by competing countries for value addition of specific products and design incentives accordingly.
- Give preferential weightage and ease guidelines for export oriented applicants – in schemes such as Integrated Cold Chain. Consider providing power subsidy for food processing operations.
- Run a grand challenge for export oriented investments – where in grant in aid is given to investments in products and processing innovations / technologies / investments that are export oriented.
- Review customs duty regime and simplify procedures to address re-export opportunities.

5. Nurture an export-enabling policy and regulatory environment

- Study impact of all the policy and regulatory initiatives across the value chain on ease of trading internationally and arrive at roadmap to orient them such that they enable exports.
- Improve budgeting and administration of export subsidies – so as to reduce delay in claim reimbursements, change in incentive rates, change in application process etc. Ensure predictable, clear and timely communication of policies impacting exports.
- Digitize all export related processes on an end to end basis to reduce documentation (Customs, Banks, DGFT, Subsidy release, refund of taxes etc).

6. Invest heavily on navigating trade barriers and enabling market access

- Concerted efforts and negotiations required to address trade barriers - Strongly focus on increasing number of bilateral agreements and FTAs to reduce tariff barriers. Set up a central agency for representing and negotiating on stringent non-tariff barriers imposed by importing countries (taking up MRL issues etc), addressing arbitrary norms / rejections and litigations and developing mutually agreed, scientific and transparent protocols (with importers / importing countries).
- Develop enabling infrastructure for market access - Study maritime transportation requirement of Indian agriculture produce & develop innovative models to address requirements. For instance, a dedicated Kisan Cargo / reefer Ship for supply to Gulf countries. Set up of country offices and distribution hubs (common infrastructure hubs for Indian exporters) in target destination markets.

7. Develop & roll out an “addressable international demand led” marketing & branding exercise

- Need to consolidate & coordinate efforts of multiple export promotion bodies (EPCs, EPAs, Commodity boards, Destination trade offices).
- Draw out the export promotion strategy for agriculture and develop a roadmap for reorganizing its governance and implementation.
- Launch an international branding initiative to establish a ‘Country Brand’ positioning ‘Produce of India’ in addressable destination markets.

8. Pave a “Public-Private Co-creation pathway” to export orientation across the value chains

- Given the diversity of agri-export basket, there is a need to study the relevance and role that private sector can play to improve export orientation across export value chain and create pathways for enhancing their role and participation.
- Number of private enterprises carry out focused farm level interventions to generate the right quantity and quality of produce for exports. Private players act independently and lack a common platform for co-creating and co-implementing their efforts collectively. There is a need to develop a common platform to collaborate and co-create interventions (between like-minded private players as well as between private sector and governments).
- Promote private representation across the value chain – including for Research & Development for introduction of varieties and brood stock (soliciting private sector funds and resources for R&D), Collaborative extension (as in NHB’s cluster development scheme), active representation in commodity boards, quality control agencies and export promotion agencies - to channelize resources towards most potential export commodities and markets.
- Challenge funding to promote private investment in a particular direction – such as for specific value addition, integrated export-oriented logistics etc. (Example – PLI scheme can be replicated for focus agri-export commodities).

9. Create a “National Agri Export Council” to govern the entire agri export ecosystem

- To bring in coordinated focus on boosting agri-exports a governing body, with representation from all relevant agencies will be extremely beneficial to streamline, administer and facilitate all efforts and resources being put in on various fronts for boosting exports.
- Commodity specific councils/committees for key export oriented products to be formed within the umbrella agency to liaise, coordinate and strategize for end to end interventions for boosting exports.
- This apex body can also function as an Export Promotion Agency and manage private and public efforts to promote exports. In addition to branding and marketing, the body needs to be responsible for gathering and disseminating market and price information, secure funding assistance for specific export promotion activities, assist companies with foreign trade matters, contracts and legal support for addressing destination markets, promote coordination among stakeholders along the export value chain and represent to government on key policy issues from an exporter perspective among others.

Enhancing Indian agricultural exports has been identified as a key lever for increasing farmer income. Towards this, the Government of India has been taking up several steps to address key constraints across the supply chain and to build efficiencies that would drive growth in exports. For instance, the nation's first dedicated Agricultural Export Policy, released in 2018 sets an ambitious target of doubling agricultural exports and reaching USD 100 Bn in the next few years^{vi}. The policy lays out the contours to achieve this target – focused on establishing a stable, predictable and transparent agricultural trade policy - to positively signal India's reliability to the global market, devising an institutional framework enabling infrastructure reforms; boosting high value and value added agricultural exports and promoting novel indigenous, ethnic traditional and non-traditional categories such as ethnic snacks and medicinal herbs.

To address various constraints across the value chain, the government has rolled out numerous initiatives, such as various schemes by Ministry of Agriculture & Farmers' Welfare and commodity boards to improve productivity and develop export oriented production clusters, formation and promotion of 10,000 FPOs, registration of farmers by MPEDA and development of traceability systems for quality management by APEDA, post harvest infrastructure program by Spice Board, NHB & MPEDA, the Pradhan Mantri Kisan Sampada Yojana and PLI scheme to promote private investments in food processing sector by MOFPI, ROTDEP, strong focus on trade negotiations, bilateral agreements and FTAs and Brand promotion schemes by APEDA and Spice Board among others.

To further boost agricultural exports from India, this study suggests that a category or commodity focused transformational approach is needed – that identifies critical commodities from an exports perspective, assesses in detail all challenges impacting these commodities and develops focused interventions to address each challenge in each commodity. In this approach, growth is strategically planned for identified commodities and focus is towards time bound, action-oriented implementation plans. Through this commodity focused transformational approach, each focus commodity is expected to grow by an additional 5-10% annually and is expected to take the value of India's Agri exports to over 80 billion in the medium term.

^{vi} Agriculture Export Policy, Ministry of Commerce & Industry

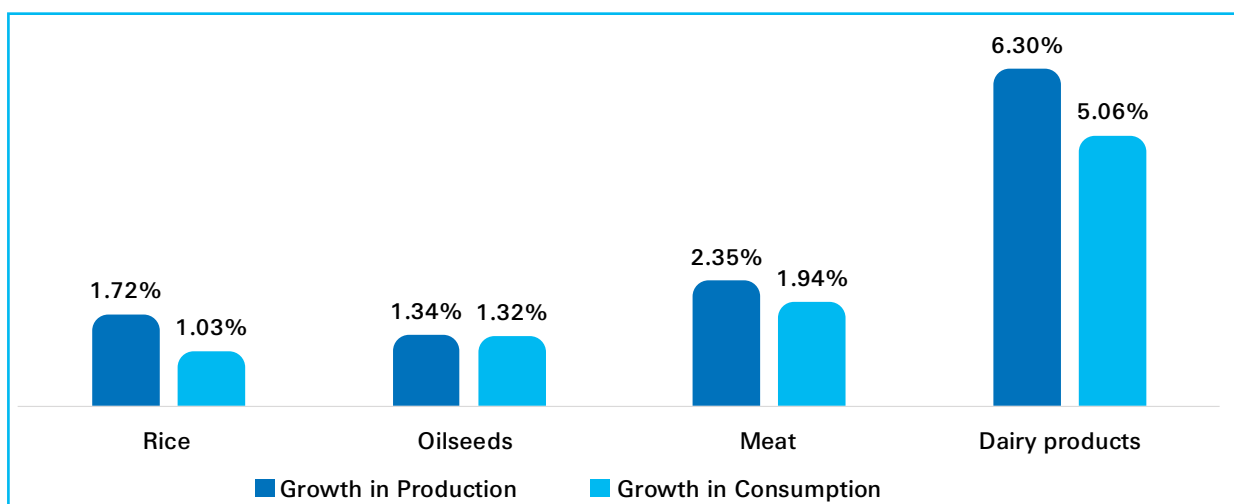
01 Indian Agricultural Exports – An Introduction



The quest to grow our Agricultural sector sustainably, trade abundantly and progress harmoniously¹ will continue to be a crucial factor for sustainable growth and development of India. For close to six decades since independence, agricultural development policies have primarily been focused on increasing farm productivity so as to achieve self-sufficiency in production of foodgrains. Due to these focused policy initiatives, India has witnessed a transformation from being a food-deficit nation to the 11th largest exporter of agricultural produce².

While concerted efforts put in by the Indian Government to improve production and address post-harvest challenges have resulted in stable growth in supply of agricultural produce, the growth in domestic consumption is not at par with that of production for many key agricultural commodities (refer exhibit 1).

Exhibit 1: Growth in Production and Consumption of Select Agri Commodities (2010-19)



Source: OECD-FAO Agricultural Outlook 2020-2029

¹ Agri exports policy-2018

² ITC Trademap, YES BANK Analysis

Supply exceeding demand, is resulting in bouts of production gluts and high pressure on commodity prices - both for staples as well as for seasonal perishable produce such as fruits and vegetables. The emerging surplus of food in India is calling for a close look at alternative opportunities for off-take of produce, such as promoting domestic consumption of high value and healthy food produce, value addition through processing and enhancing exports – so as to maximise farm income and protect the livelihoods of farmers dependent on these commodities.

In light of this transformation in demand-supply dynamics, policy makers are keen on re-orienting agriculture development policies from focusing just on increasing crop productivity to increasing farmer income - by creating the right ecosystem for better off-take at a remunerative price.

The recent COVID-19 pandemic has clearly exemplified the robustness and resilience of Indian Agriculture and its importance to the rural economy. However, the situation has also re-emphasized the importance of surplus management through value chain transformation across each leg of the chain through climate-resilient activities, diversification of production, appropriate post-harvest management, digitalization & strengthening of supply chains and development of alternate channels for marketing of produce. This report emphasizes the importance of agricultural exports to the resilience of agriculture in India.

Exhibit 2: Extracts of Speech on “Are Dynamic Shifts Underway in the Indian Economy?”

Indian agriculture has witnessed a distinct transformation. The total production of food grains reached a record 296 Mn MT in 2019-20, registering an annual average growth of 3.6% over the last decade. Total horticulture production also reached an all-time high of 320 Mn MT, growing at an annual average rate of 4.4% over the last 10 years. India is now one of the leading producers of milk, cereals, pulses, vegetables, fruits, cotton, sugarcane, fish, poultry and livestock in the world. Buffer stocks in cereals currently stand at 91.6 Mn MT or 2.2 times the buffer norm. These achievements represent, in my view, the most vivid silver lining in the current environment.

Shifting the terms of trade in favor of agriculture is the key to sustaining this dynamic change and generating positive supply responses in agriculture. Experience shows that in periods when terms of trade remained favorable to agriculture, the annual average growth in agricultural gross value added (GVA) exceeds 3 %. Hitherto, the main instrument has been minimum support prices, but the experience has been that price incentives have been costly, inefficient and even distortive. India has now reached a stage in which surplus management has become a major challenge. We need to move now to policy strategies that ensure a sustained increase in farmers’ income alongside reasonable food prices for consumers.

An efficient domestic supply chain becomes critical here. Accordingly, the focus must now turn to capitalizing on the major (Farm) reforms that are underway to facilitate domestic free trade in agriculture. With this enabling legislative framework, the focus must turn to (a) crop diversification, de-emphasizing water-guzzlers; (b) food processing that enhances shelf life of farm produce and minimizes post-harvest wastes; (c) agricultural exports which enable the Indian farmer take advantage of international terms of trade and technology; and (d) public and private capital formation in the farm sector.

(Shri Shaktikanta Das, Governor, Reserve Bank of India - July 27, 2020 – Addressed to CII National Council, Mumbai)

Source: Reserve Bank of India

Alongside food processing, agri-export has been identified as a priority area, as it provides the opportunity, not just to enhance farm produce off-take opportunities and thus enhance farmer income, but also to act as a pathway for introduction of international technology, good farming practices and quality norms that would augment farmer income in the long run.

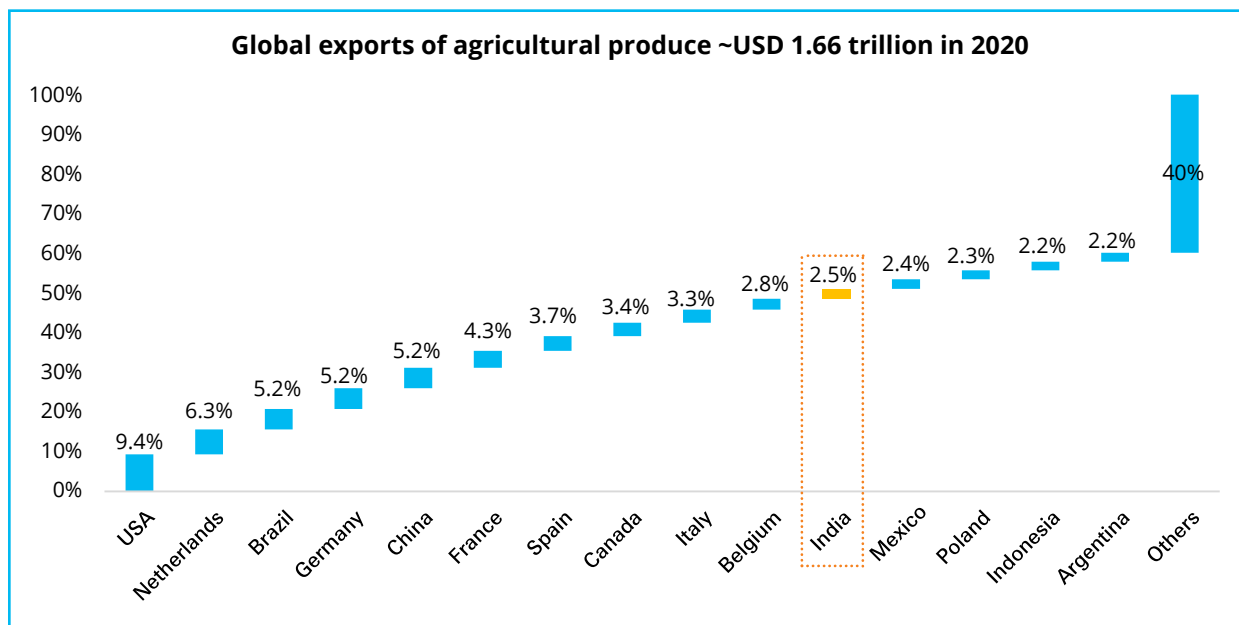
With the Government aiming to boost agriculture production at one end and increase remunerative farm off-take on the other, there is immediate pressure to streamline the agricultural value chain in order to address global market standards and opportunities.

This chapter captures a snapshot of trends in global agriculture trade, assesses the current scenario of India's agriculture exports, identifies cross-sectoral constraints that are challenging its growth, highlights select government initiatives playing a significant role in boosting agri-exports and puts forth key enablers across the value chain which, if worked on, could facilitate the Government's aim of doubling India's Agricultural Exports.

1.1 Global Agriculture Exports

Global agricultural trade has increased significantly over the last couple of decades. The value of Agri-exports grew at a CAGR of 3%³ over the last decade (2010-2020). This was higher than the CAGR of global agricultural production (2%⁴), growth in overall merchandise trade (1% between 2010-20) and at par with growth in world GDP (at current prices). In the year 2020, value of global exports of agricultural produce stood at USD 1.66 trillion, contributing to 10% of overall merchandise exports⁵. In value terms, fifteen countries contributed close to 60% of global agricultural exports in the year 2020 (refer exhibit 3), with USA, Netherlands, Brazil, Germany and China being the top five in the list.

Exhibit 3: Global Agriculture Export Value- Key Contributors (2020)



Source: ITC Trademap, YES BANK Analysis

³ITC Trademap

⁴FAOSTAT (for the period 2009-2019)

⁵ITC Trademap

In value terms, the top 10 agri-categories⁶ contributed about 65% to global agri-exports, the largest being meat (including edible offal) followed by edible fruits & nuts, beverages (including spirits and vinegar), cereals and fish (including allied produce). The contribution of various categories to global trade and their respective growth (decadal CAGR-2010 to 2020) is captured in Exhibit 4. Four categories namely - edible fruits & nuts, miscellaneous edible preparations (including food preparations, juices, spreads, sauces etc.), oilseeds & oleaginous fruits and cereal preparations – recorded the fastest growth ($\geq 5\%$ CAGR between 2010-2020).

Exhibit 4: Contribution of Various Categories to Global Trade (2020), Decadal Growth and % Change

Commodity	Value in USD billion (2020)	% of Agri - Export	Decadal CAGR	% Change since 2010
Meat & edible meat offal	134	8%	3%	38%
Edible fruit & nuts	131	8%	6%	72%
Beverages, spirits & vinegar	118	7%	3%	36%
Cereals	118	7%	3%	39%
Fish, crustaceans, molluscs etc.	111	7%	3%	35%
Oil seeds and oleaginous fruits etc.	110	7%	5%	62%
Vegetable plaiting materials etc.	101	6%	2%	24%
Dairy, birds' eggs, natural honey etc.	89	5%	2%	26%
Miscellaneous edible preparations	82	5%	6%	74%
Residues & waste (food ind.)	80	5%	4%	42%
Preparations of cereals etc.	80	5%	5%	66%
Edible vegetables, roots & tubers	75	5%	3%	34%
Preparations of vegetables, fruit, nuts	63	4%	3%	33%
Preparations of meat/ fish	52	3%	3%	41%
Cocoa & cocoa preparations	51	3%	3%	34%
Coffee, tea, maté & spices	51	3%	3%	40%
Cotton	46	3%	-2%	-21%
Sugars & sugar confectionery	42	3%	-1%	-6%
Others	120	7%	2%	21%

Source: ITC Trademap, YES BANK Analysis

CAGR calculated over 2010-2020,

% change is the delta increase/decrease over the period 2010-2020

Over the last decade, global agricultural trade has grown at a CAGR of about 3%, with commodity prices peaking in the year 2013 and 2014 and then cooling off. Since 2000, the largest annual increase in global food exports was recorded in 2008 – following the 2007–08 world food price crisis (+22%). The largest decline was in 2009 (-10.5%).⁷

Over the coming decade, agricultural trade is expected to play a significant role in terms of fulfilling the food and nutritional security of resource-constrained nations as well as bridging the demand supply gap for high value and value added products in growing economies. There is no major structural demand shift that is expected in the coming years that could change the relative significance of food, feed and biofuel⁸. An expanding global population remains the main growth driver for expansion of global consumption. Other key factors that are expected to drive food and agricultural trade are captured in exhibit 5.

⁶Agricultural categories included for analysis in this report includes HSC 01 to 24 and HSC 52

⁷World Trade Organization

⁸OECD-FAO

Exhibit 5: Factors Influencing Global Trade



Global Population Growth and Changing Demography

- Global population growing at 1.2% (CAGR 2000-2020).
- Population growth highest in regions of Africa⁹.
- Proportion of working age group (15-64 years) increased from 61% in 1990 to 65% in 2020¹⁰.



Domestic Agriculture Policies and Export Oriented Policies and Scheme

- Support price to farmers (such as MSP), incentives to traders/ processors/ exporters determining trade competitiveness
- Strong support provided by various countries to promote exports
- India launched its first ever Agri Exports Policy in 2018



Increased Demand for Value Added Products

- Differing income levels and varying income growth projections between countries will lead to diverging nutritional patterns over the coming decade. In particular, consumers in middle-income countries are expected to use their additional income to transform their diets from staples to higher value products¹¹.
- Dietary shift to high value/ processed products and focus on preventive healthcare
- The value of processed & value added agricultural produce has grown by ~5% CAGR over the 2010-2020 period.



Climate Change

- Increasing imports by countries where agri production is being adversely impacted by climate change.



Global GDP Growth

- Global GDP growing at 5% (CAGR 2000-2020)¹²



Trade Deficit

- Agricultural trade deficit of developing countries is expected to widen markedly, reaching an overall net import level of USD 31 Bn by 2030¹³.



Regional Trade Agreements

- Reciprocal preferential trade agreements, both bilateral and multilateral, defining the contours of opportunity for addressing global markets



Sustainability at the Core

- Enhanced demand for sustainable, ethically sourced, traceable produce.



Infrastructure Development

- Reduction in transport costs and new transportation facilities as well as cheaper and more efficient communications driving better quality, cost efficiency and global competitiveness

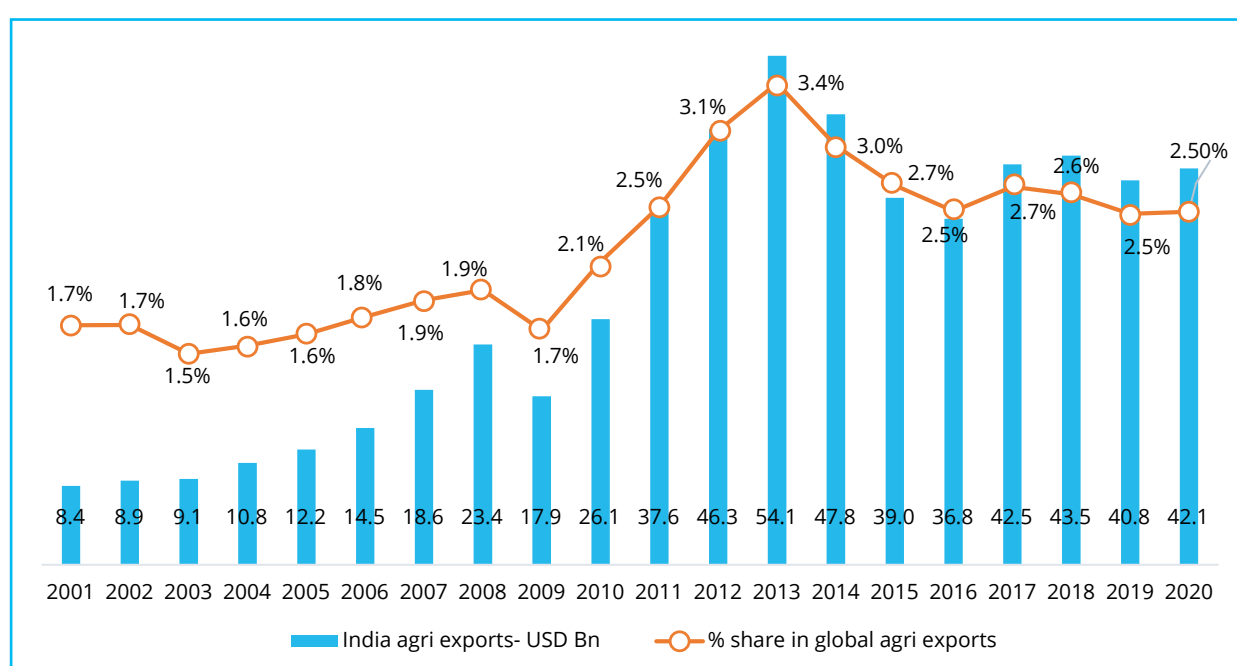
Innovation in agro-food supply chains, including digitization will have a significant impact on demand and supply trends

⁹FAOSTAT | ¹⁰<https://ourworldindata.org/world-population-growth> | ¹¹OECD-FAO | ¹²World Bank | ¹³FAO

1.2 Agriculture Exports from India

In 2020¹⁴, India exported agricultural products worth USD 42 Bn¹⁵, ranking 11th in terms of agri exports and contributing to about 2.5% of global agri exports. India's Agri exports contributed to about 13% of overall merchandise exports in 2020. India witnessed its peak agri exports of USD 54 Bn during 2013, on account of a decade long commodity boom. The country's agri trade value witnessed a growth (CAGR) of over 5% between 2010 and 2020 and share in the global agri exports increased from 2.1% to 2.5% during the same period (refer exhibit 6). Growth in agricultural exports, despite pandemic disruptions, has been driven by numerous factors including enhanced global demand due to stockpiling on account of food security issues, Indian government's policy-level interventions as well as the expansion of products into new markets.

Exhibit 6: India's Agriculture Exports and Share in Global Agri Exports (2001-2020)



Source: ITC Trademap, YES BANK Analysis

Note: % represent contribution to global exports in value terms.

Agri-export basket composition

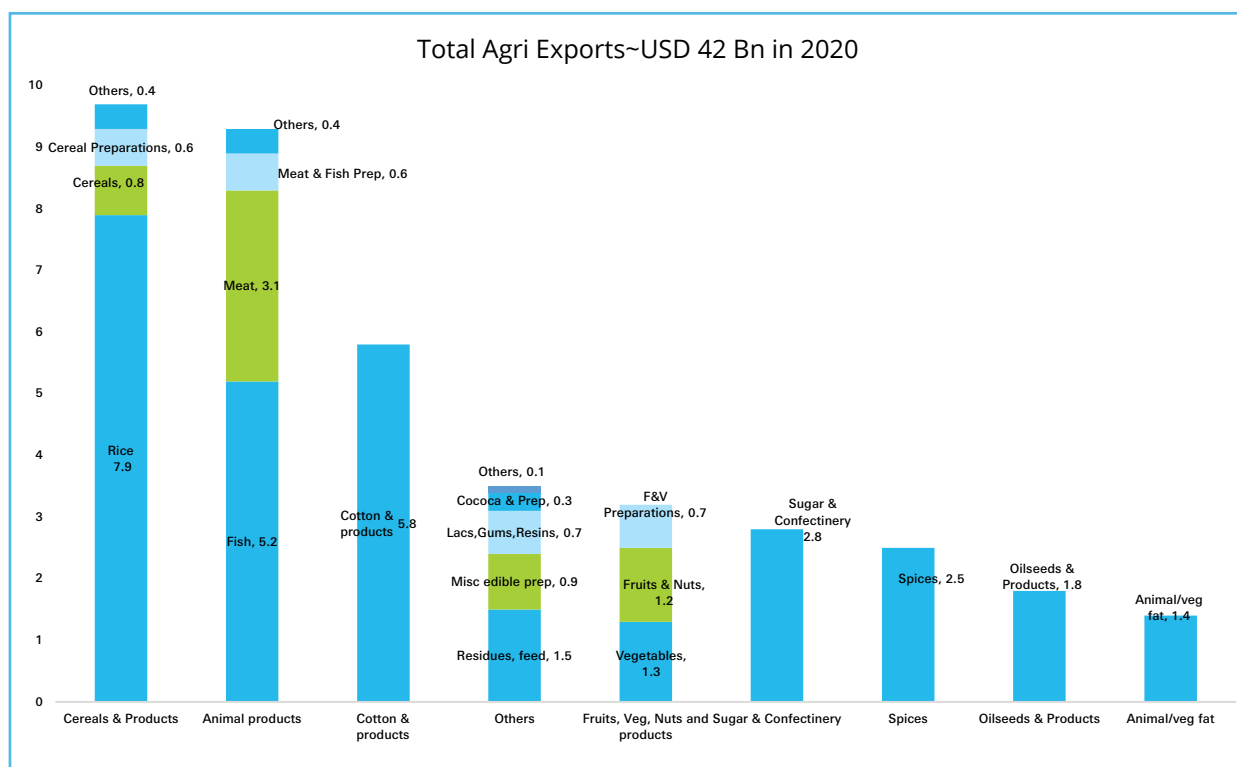
India exports food and agricultural products under more than 800 HS codes at 6 digit levels, with largest contribution coming from animal products (22%), followed by cereals & products (21%) and cotton (14%)¹⁶. In terms of individual commodities, rice tops the chart in terms of export value, followed by fisheries products, cotton and meat. An overview of India's agri export basket is captured in exhibit 7.

¹⁴Calendar year 2020

¹⁵ITC Trademap, YES BANK Analysis. Agriculture products include HS Code 1 to 24 and 52.

¹⁶Cotton here includes carded, non-carded, combed cotton, cotton waste, sewing thread, cotton yarn and woven fabrics of cotton

Exhibit 7: Contribution of Categories to India's Export Basket (Values in USD Bn)



Source: ITC Trademap, YES BANK Analysis

Note:

1. Other cereals include wheat, rye, barley, sorghum, oats, buckwheat, wheat gluten
2. Animal products- others includes dairy, eggs, honey, live animals and, Products of animal origin, not elsewhere specified or included
3. Cotton includes carded, non-carded, combed cotton, cotton waste, sewing thread, cotton yarn and woven fabrics of cotton
4. Others category includes- live trees/plants, cocoa & its preparations, bamboo, lacs gums, resins, Miscellaneous edible preparations, Vegetable plaiting materials, veg saps and extracts, beverages ,spirits & vinegar, residues, waste from food industry, prepared animal fodder, Tobacco and manufactured tobacco substitutes
5. Oilseeds & Products- includes oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit; industrial or medicinal plants; straw and fodder
6. F&V- Fruits & Nuts consists all items under 08, Vegetables includes all products under HS 07, F&V preparations consists of products under HS 20
7. Total agri export- HSN 1-HSN 24 & HSN 52

The export values depicted above may vary from the figures provided by APEDA, MPEDA, Spices Board etc., as the figures are for the calendar year 2020 and sourced from ITC Trademap.

Export destinations

India's key agri-export destination countries include USA, China, Bangladesh, UAE, S. Arabia, Iran, Vietnam, Malaysia, Nepal and Indonesia. These 10 countries together contributed to over 50% of India's agri-exports in 2020. Exhibit 8 highlights select trends in agri-export to key trade partners, capturing share in agri exports, decadal CAGR of India's exports to the partner nation and change in value of agri-exports in last 5 years (% change between 2015 and 2020). The exhibit also captures India's share in the partner's total agri imports.

Exhibit 8: India's Trade Partners, their Share In India's Agri Exports, Growth and India's Share in Partners' Agri Imports

Export destinations	Value in USD million (2020)	% of Agri - Export	Decadal CAGR	% Change (5 years)	% India's share in country's agri imports (2020)
USA	4808	11%	12%	32%	3%
China	3509	8%	2%	31%	2%
Bangladesh	3061	7%	6%	32%	23%
UAE	1895	5%	1%	-11%	13%
S.Arabia	1642	4%	3%	-15%	8%
Iran	1571	4%	10%	41%	28%
Vietnam	1480	4%	2%	-60%	6%
Malaysia	1175	3%	3%	9%	7%
Nepal	1171	3%	16%	107%	74%
Indonesia	1088	3%	6%	113%	6%

Source: ITC Trademap, YES BANK Analysis

% change is the delta increase/decrease over the period 2015-2020

Decadal CAGR for 2010-2020

This analysis reflects the following:

- About 50% of India's agri-exports is concentrated in top 10 countries, with USA (11%) and China (8%) being the leading destinations. In the year 2020, Export to USA was about USD 4.8 Bn, while that to China was USD 3.5 Bn. Exports to Bangladesh crossed the 2 Bn mark in 2020, with cereals and cotton being the key exported products.
- Exports to USA, Iran and Nepal have witnessed a double digit growth (CAGR) over the last decade (2010 to 2020), while that to countries such as China, Saudi Arabia, Malaysia, Vietnam and UAE, the growth has been below 5%.
- Compared to 2015, value of agri-export to countries such as an USA, China, Bangladesh, Iran, Nepal and Indonesia have increased, while that to UAE, S. Arabia, and Vietnam have dropped.
- While India's share in neighboring countries (Nepal, Bangladesh) agri imports remains significant, its share in the larger importers (China, USA) remains miniscule.

Factors driving growth of Indian agri-exports

Exhibit 9: Factors Driving Growth of Agri-Exports from India

Supply side

- India is one of the key producers of Foodgrains, F&V, Spices, Fisheries resources amongst others
- Unique agro-climatic conditions – prospers numerous varieties
- Increasing focus on traceability and sustainability
- Promotion of GAP/GMP at farm level
- Increased value addition
- Focus on food safety and testing
- Domestic Agri policies (MSP/FRP) leading to commodity surplus

Demand side

- Rising global population
- Global demand for healthy, safe, sustainably sourced food
- Global demand for convenience food
- Safety and Hygiene – clean labels
- Traceable products

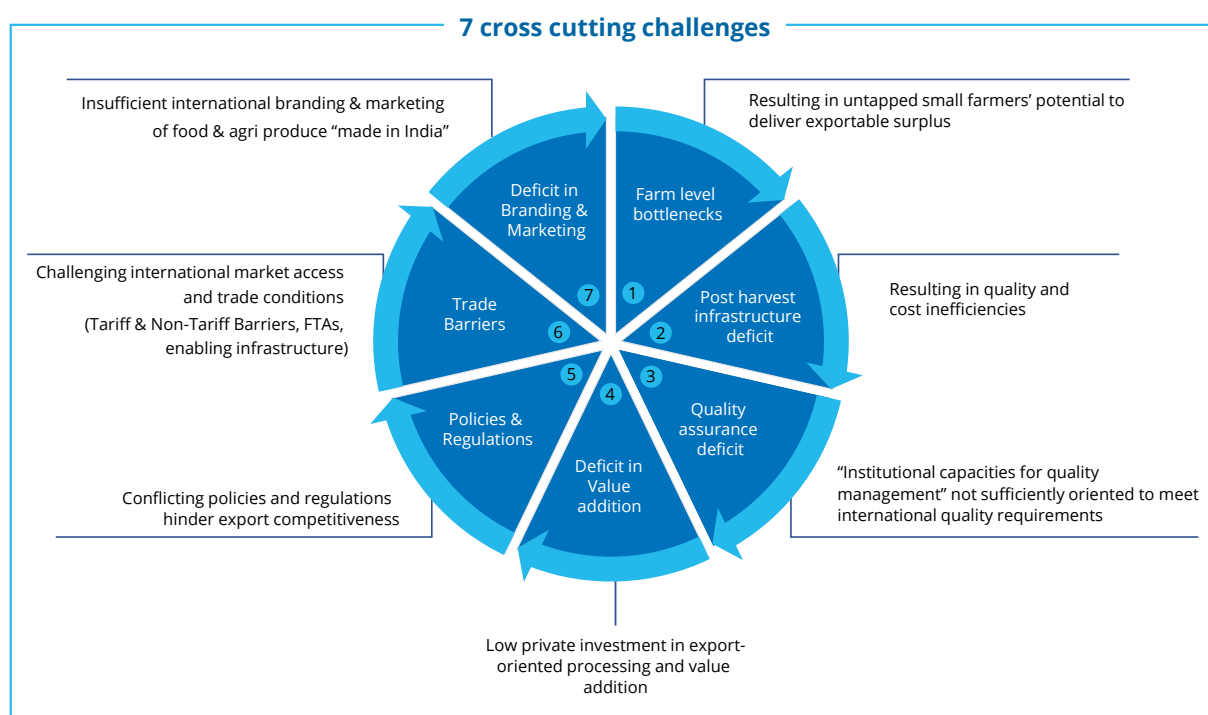
Government focus and support

- Renewed focus on integrating farms with the global supply chains
- Enhanced focus on value addition
- Data collection & management for informed decision making
- Focused efforts to incentivize private sector investment
- Farmer centric approach-focus on doubling income
- Agri export policy 2018 and export oriented subsidies
- Farm bills-opening avenues for direct procurement, enhancing investments at farm level

Source: Industry Discussions, YES BANK Analysis

1.3 Key Challenges faced by Export Oriented Agri Value Chains in India

To be responsive to global market demands in terms of cost, quality & hygiene and be a reliable supplier, India needs to take focused action to overcome deep rooted challenges that exist at each leg of its agri-value chain. This must begin with a deep appreciation of India's farm dynamics and supply side constraints. **Seven critical cross cutting challenges** that significantly hinder India's agri-export competitiveness are captured below. While the degree of significance of each challenge and the extent to which addressing it impacts efficiencies, will vary from commodity to commodity, these challenges are common to all agricultural produce being exported from India.



1. Untapped small farmers' potential to deliver exportable surplus

Though India has the second largest area under cultivation in the world, and is endowed with diverse and conducive agro-climatic conditions, the country is unable to tap small farmers' potential to consistently deliver right quality of exportable produce at competitive prices. The key reasons include:

Low Farm Productivity: Farm productivity in India stands much lower than competing countries in a number of commodities (refer exhibit 10). This is largely driven by the fact that agriculture is predominantly carried out by small and marginal farmers in fragmented landholdings, with limited capacity to invest in precise agricultural practices.

Exhibit 10: Comparative Analysis of Yields (Kg/Ha) of Select Crops

	Global Average	India	Top 3 countries in yield (Kg/Ha)		
Rice (Paddy) 	4661	4057	Australia 8771	Tajikistan 8588	USA 8373
Sugarcane 	72797	80104	Peru 125488	Egypt 115743	Senegal 113255
Cotton 	2137	1156	Australia 5361	China 4881	Turkey 4604
Mango 	9994	9964	Guyana 42924	Samoa 34042	Malawi 29981
Grapes 	11137	21721	China 32646	Egypt 22171	S. Arabia 21878
Coffee 	902	-	China 3029	Vietnam 2704	Malaysia 2252
Tea 	1279	2212	Thailand 7676	Iran (Islamic Repub) 5597	Malaysia 4598

Source: FAOSTAT, YES BANK Analysis;
Yields taken for 2019

Farmers' limited access to key factors of production

- Limited access to quality planting material (seed, root stock, brood stock and hatcheries for shrimp etc.) resulting in use of inferior quality seed.
- Limited awareness on right plant growth and protection chemicals resulting in high pest and disease attack.
- Low investment on irrigation infrastructure and low access to water related technological advances (such as drought tolerant varieties, modern irrigation techniques etc.) leading to high susceptibility to vagaries of monsoon.
- Low adoption of farm mechanization and lack of labor at the right time leading to higher cost of production .
- Poor access to formal finance, price/market information, knowledge, and extension leading to inadequate investment in quality production and risk mitigation.
- Limited access to extension support for Good Agricultural Practices.

Lack of scale: Fragmented holdings hinder introduction of technologies (such as mechanization of agricultural operations) that build cost efficiencies and also increase cost of aggregation. While significant efforts in the right direction have been put in by the Government to develop farmer cooperatives, FPOs and FPCs, their impactful operationalization is yet to take off on a large scale. Moreover, land ceiling regulations and absence of a suitable and comprehensive agricultural land leasing framework hinders farm land consolidation which is necessary for attracting private investment and modern technology for export oriented agriculture.

Lack of seed, planting material and breeds that match international demand: Research and introduction of globally competitive varieties, planting material and genetic stock – suitable to produce the quality and yields that address global market need is lacking in many commodities. Glaring examples include India losing out to Vietnam in Pepper and to China in Chilies. Similarly lack of sufficient brood stock development centers & certified hatcheries for shrimp impact India's competitiveness in exports.

2. Infrastructure deficit resulting in quality and cost inefficiencies

The state of infrastructure throughout the value chain -right from harvesting, post-harvest storage, transportation and exit points at ports is crucial for maintaining quality as well as price competitiveness. The cost of production of many commodities may be at par or below in India, as compared to a competing nation, however, inadequate infrastructure adds to the overall cost or poor quality of these commodities, rendering them uncompetitive in the international market. Some of the key post-harvest infrastructure challenges faced for agri-exports include:

- Low access to primary processing and storage infrastructure at farm/farm proximate level – accentuated by inability to use the infrastructure due to individual low scale production and high cost of storage
- High cost of agro-logistics due to fragmentation and high dependence on road transport. Currently, the logistics cost in India is 30-40% higher than the global benchmarked logistics cost. Logistics cost estimated at 14% for India is much higher than Japan's 11% and the US' 9-10%. The Government of India aims to reduce this cost to 10% of the GDP or less¹⁷.
- High cost of cold storage due to low scale, poor access to quality power and high power rates.
- Low utilization of cold chain logistics & modern primary packaging techniques for perishables resulting in high damage during transit and quality deterioration.
- Fragmented logistics and transportation (lack of bulk handling infrastructure and capabilities), multiple intermediation and handling points, especially for high volume low value commodities such as cereals, oilseeds etc. result in high post-harvest handling costs.
- Multimodal transportation (road-rail-water) not well developed, resulting in high pressure on railways in non-perishable commodities and roadways in perishables.
- Congested port infrastructure and high traffic leads to quality deterioration and cost enhancement. This problem is accentuated due to unavailability of modernized infrastructure at the ports.
- Recent drastic increase in ocean freights and shortage of containers are severely impacting the agri exports.

¹⁷<https://www.thehindubusinessline.com/economy/logistics/india-aims-to-bring-down-logistics-cost-to-below-10-of-gdp-says-union-minister-som-prakash/article30297895.ece>
<https://economictimes.indiatimes.com/industry/transportation/shipping/-/transport/index-to-measure-logisticscosts-of-key-export-sectors-on-the-cards/articleshow/71486010.cms?from=mdr>

3. “Institutional capacities” not sufficiently oriented to meet international quality requirements

One of the key challenge that Indian agri export produce faces is the number of rejections at the importing nation. This is primarily due to low export oriented institutional capacity required to promote, maintain and monitor quality. Key deficiencies include:

- **Safety and Quality management:** Inability to contain unscrupulous use of pesticides, fungicides and antibiotics due to poor farm level extension and poor post-harvest quality testing, monitoring and management capacities result in high levels of rejection of consignments. In addition, delays at port due to unavailability of requisite resources specially at the quarantine facility, lack of proximity of testing laboratories near ports and inadequate testing lab infrastructure with the requisite accreditations further accentuates the challenge of delivering quality.
- **Sustainability and traceability:** Low capacity to roll out sustainable / ethical production techniques & traceability, renders India uncompetitive especially in the high value/ niche space. For instance, Ecuador’s Sustainable Aquaculture Production initiative is leading to capture of EU and China market displacing Indian produce.
- **Access to data on production and availability:** A key requirement for importers is reliability of supply. This entails detailed production and sourcing plans. However, exporters lack access to farmer level database, capturing the crops production and harvesting time.

4. Deficit of private investment in export-oriented processing and value addition

High cost of value added products (post processing) due to high raw material cost, seasonal capacity utilization, lack of product diversification (including low by-product utilization) and high cost of doing business (including land, labor, capital, power and logistics) renders investment in export oriented processing economically unviable or internationally uncompetitive - keeping private sector wary of investing heavily in value addition.

5. Conflicting policies and regulations hinder export competitiveness

Certain government policies and regulations – that are developed in the interest of balancing food security with the need to enhance farmer income, constrain agri-exports. For instance Minimum Support Price (MSP) protection (for commodities such as rice, wheat) continues to distort commodity prices, making them uncompetitive in international markets. The MSP based procurement programs for cereals lead to stocking beyond buffer stock norms which hinders availability of the true exportable surplus for open market export oriented operations thereby inhibiting the export potential for cereals.

- In addition, certain policy decisions and processes impact the ability of exporters to efficiently avail of incentives and support being provided for boosting exports. For instance:
- Poor predictability of export incentives and sudden changes in policy/regulations
- Delay in reimbursement of GST or subsidies due to insufficient funds
- Duplication in certification to be availed from multiple agencies to meet domestic and international norms

- Heavy documentation procedures at ports or for clearing shipping bills to process remittances; duplication in having certain certificates manually signed.
- FSSAI norms imposed on exports and imports of raw material for re-exports.

6. Challenging international market access and trade conditions

While addressing the international market, Indian agricultural products face stiff market access and trade barriers. This is coupled with rigid competition from competing countries, who find innovative ways to incentivize exports. Key challenges in this regard include:

- **Non-tariff barriers:** Even as countries move towards complying with WTO norms and reduce duties, there has been a proliferation of protocols and non-tariff barriers in the form of sanitary and phytosanitary measures faced by Indian products in the global markets. Key markets such as US, EU and Japan have placed stringent norms on quality standards and parameters which are often challenging to meet. In addition, diverse quality specification and protocols need to be followed from the time of sowing till transportation to the end destination. Often, protocols for same product differ for various countries. For instance, in Mango – Vapor treatment is required for Japan, irradiation for USA and hot water treatment for EU.
- Free trade agreements between countries give preferential duties and access for partner countries. For instance, ASEAN countries have zero duty for China unlike India, for chili, making Indian export uncompetitive. Under the recent EU-Vietnam Free Trade Agreement (EVFTA), the EU has removed tariffs on meat including, buffalo meat.
- FAO has defined universal MRL norms as Codex norms. Countries should work either on Codex norms or set norms in a transparent manner where scientific evidence is shared and the norms for setting the MRL limits are universal. Currently there is arbitrariness, lack of transparency and no recourse when arbitrarily changed norms are implemented. The method of measuring the MRL levels are also not standardized and each country decides arbitrarily.

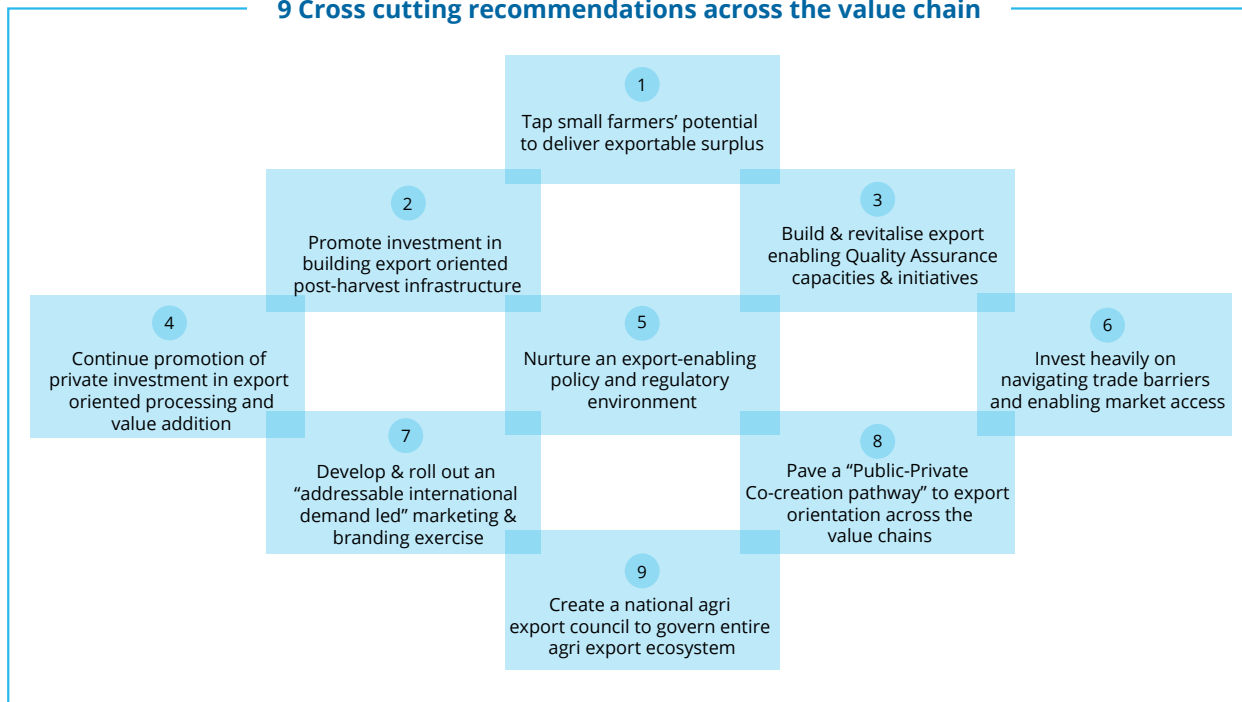
7. Insufficient international marketing and branding

Capturing a higher share of export markets and commanding premiums will require India to gain international trust as a reliable supplier of superior quality products. While the first step to achieving this is to develop the ability to supply right quality produce at the right quantity and the right time, it is equally important to position India as a niche, high quality supplier of safe and hygienic agricultural produce. While India does have a strong mindshare and recall for certain produce – such as Basmati rice and spices, there is lack of coordinated efforts to brand Indian produce globally. Also a holistic, demand led marketing and promotion plan for agri-exports is absent. Efforts to promote exports are too fragmented to provide sufficient support for private sector growth. Demand led market information, cooperative and coordinated private sector effort to branding and institutionalized export promotion is lacking.

1.4 Cross-cutting Recommendations for Boosting Agri-exports

Concerted efforts are required to overcome challenges hindering growth and competitiveness of the Indian agri-exports. This in turn warrants synergies between the government and the private sector as well as inter-departmental collaboration to work towards the key facets of - driving export-led farm production, boosting infrastructure, enabling capacity building, progressing on market access, building concrete marketing & branding programs and creating congenial policies and regulatory environment that boost exports. **Captured herewith are 9 key cross-cutting recommendations that are critical to boost agri-exports.**

9 Cross cutting recommendations across the value chain



1. Tap small farmers' potential to deliver exportable surplus

India's strategy to boost exports of its agricultural based products needs to begin with addressing challenges at the grass root level. Majority of the export surplus in India, is sourced from smallholder dominated farming system, which is subject to multiple challenges and risks. This implies meeting complex export requirements and adhering to international standards while procuring from an exceptionally large number of small farms spread across geographies, terrains and climates with varied natural resources, input usage, varieties and growing practices. To gain market share and command a premium it is essential to build the country's image as a reliable supplier of superior quality products. This would begin with assured supply of international quality produce with desirable traits such as size, color and taste. This requirement can be met by the farmers provided an ecosystem that promotes production for exports is created at the farm level. Concerted efforts are required at the farm level through greater government investments as well as increased handholding by the private sector to achieve export demand/market led production at competitive prices. Key areas of focus for tapping small farmers' export potential include:

- **Drive Productivity enhancement:** This is a critical aspect for boosting India's competitiveness across a gamut of commodities; through suitable measures including usage of high yielding variety seeds, disease resistant crops, orchard/plantation rejuvenation, farm mechanization, improvement in irrigation infrastructure, technology integration, implementation of good agricultural practices and promotion of climate resilient / smart agriculture to mitigate the climate change risk. This warrants formation of a separate task force to evaluate critical reasons for low productivity for each commodity, recommend suitable measures and implementation plan for productivity enhancement through PPP mode (such as PPP IAD program).
- **Continue creating economies of scale through export oriented cluster development, export oriented farmer collectives and export-oriented contract / contact farming:** Accessing international markets requires that small and marginal farmers combine their capabilities so as to reap benefits of scale. Export -oriented cluster development has already been identified as a key focus area in the agri-

export policy published in 2018. The one-district-one-product (ODOP) is another initiative focused on cluster development. Within these commodity clusters, export -oriented FPOs need to be promoted with handholding support from public and private sector on all aspects- including good agricultural practices, certifications, value addition, packaging and branding. Such farmer collectives, in tandem with promotion of export -oriented contract or contact farming would improve the scale of operations for farmers, thus improving their access to good quality seed, plant protection chemicals, farm credit as well as improving their awareness, knowledge, skills and capability to produce quality produce that match market requirements as well as access markets better.

- **Leasing out of land for the purpose of consolidation** may be looked at for boosting export competitiveness (quality consistency, traceability, mechanization, ease of information dissemination, implementation of GAP, economies of scale and ease of consolidation). A requisite framework for the same should be drawn out and initially implemented on a pilot mode, which if successful can be replicated across focus commodities and geographies (such as in the oil palm development program).
- **Promote international demand led research and development:** The agricultural research priorities for each commodity need to have a component of export orientation – at least for commodities that have export potential. Towards this, it is suggested that export focused research steering committees be set up under the Ministry of Agriculture and Farmer Welfare – with at least 50% of representation from private sector. These committees need to be part of identification of primary research and development requirements, research goal setting and performance evaluation for each of the research organizations that have been set up for each selected commodity across the country. To start with, this steering committee could focus on benchmarking the quality of seed, planting material and breed stock of India vis-à-vis the benchmarked countries in the world, identify the right planting material that needs to be introduced for each crop and draw out a roadmap for introduction of these genetic stock into India. They could also develop a voluntary private sector contribution fund for export oriented research and encourage relevant private players and associations to contribute to this fund. In addition, a conducive environment for import of good quality germplasm / genetic stock needs to be enabled such that benchmarked varieties can be introduced into India.
- **Promote export oriented farm level extension to meet international market demands:** Various private players acting in a particular commodity can come together, through commodity focused export associations to provide on-farm extension services and market information so as to train farmers to produce exportable produce. This extension could be supported by the government through various incentives such as subsidies and tax benefits. Crop science companies maybe mandated to provide requisite pesticides and trainings to farmers on Package of Practices such that the required MRLs can be delivered. **Out-dated agri chemicals still used in India** to be phased out.
- **Develop export oriented Centers of Excellences (CoEs):** CoEs for various commodities to be set up to provide direction in terms of varietal development, yields improvement, post-harvest practices and directions of pesticide use. These COE to work in a PPP mode to drive the learnings to farm level. These Centers of Excellence (CoE) to be participative / coordinated with developments/ changes in various regulations in destination countries.
- **Promote digitization for extension and information sharing:** Comprehensive digital platform to be developed for accessing state level/district level data on sowing time, practices, harvesting etc. Advanced data analytics tool can be deployed to update and improve package of practices. New digital models could tap into a network of village entrepreneurs, supported by schemes such as the Pradhan

Mantri Mudra Yojna (PMMY). Each of these crop value chain clusters in every state could be anchored by one or more anchor private sector players to provide the transformative impetus required.

- **Identify and develop non-traditional areas for producing export-oriented high quality, high yielding and differentiated products like Organic**– Organic is a growing segment for exports, with profuse potential. Separate zone/s to be identified wherein the reach of conventional inputs needs to be controlled and requisite traceability mechanisms to be put in place.

2. Promote investment in building export oriented post-harvest infrastructure

State of the art infrastructure throughout the value chain is crucial for maintaining quality as well as price competitiveness. Export oriented agro-logistics infrastructure needs to be oriented to match the commodity handling and shelf-live requirements (refer exhibit 11).

Exhibit 11: Types of Agri-Logistics Requirements

Perishables with short shelf life	
Characteristics	Post-harvest requirements
• Require cold chain immediately after harvesting • Less than 30 days shelf life • Example: Mangos, Grapes	• End-to-end cold chain • Transportation time less than 10 days
Perishables with long shelf life	
Characteristics	Post-harvest requirements
• Controlled atmosphere storage and handling • Shelf life of 4 to 6 months under controlled atmosphere • Apples, Frozen produce (shrimps, meat etc.)	• CA Storage • Reefer container transport • Has flexibility for transportation time of upto 4 to 6 weeks.
Long shelf life	
Characteristics	Post-harvest requirements
• Can be stored for upto a year or more without cold chain. • Typically low margin high volume bulk commodities	• Transportation in bulk • Need cost efficient agro-logistics so as to be quality and price competitive

Source: Industry Discussions, YES BANK Analysis

The Government of India is intensively promoting development of cold chain infrastructure through various organizations such as MOFPI, NHB, APEDA and MPEDA among others. However, export oriented bulk handling infrastructure is yet to get the requisite focus. Key enablers for building efficient export oriented post-harvest agri logistics infrastructure include:

- **Continue to promote private sector investment in cold chain development.** Also evaluate the possibility of attracting large integrated logistics players to invest in developing end-to-end export oriented logistics solution specific to perishable commodity value chains.
- **For bulk dry commodities attract private sector investment in developing scientific and integrated bulk storage and transportation infrastructure focused on exports.** The initiative taken up by FCI for wheat and rice for PDS could be extended to exports. Exporters could be allowed to utilize the bulk handling infrastructure already developed for PDS. Specialized large scale integrated multi-modal bulk handling projects, including collection centers, material handling infrastructure for handling bulk quality like silos and wagons could be developed on a PPP model. Replication of Kisan Rail Model for export oriented logistics will help in cost efficient movement from point of production to ports. A wagon design overhaul is required for bulk commodity transport. Designated, clean wagons for agricultural commodities and multi modal logistics could be developed on a PPP mode for intra and inter country trade.
- **Modernize handling at ports to match international benchmarks:** The agri-export policy does identify the need to develop dedicated agri-infrastructure at ports with 24X7 custom clearance for perishables. In addition, port capacities and efficiencies need to be built so as to enable quick turn-around time and efficient quality management. Significant improvement needs to be made on port infrastructure especially Kakinada which is a key port for our Rice exports, in terms of improved berthing facilities, warehousing and roads.
- **Provide for export logistics support:** Recent drastic increase in ocean freights are severely impacting the agri exports. Government intervention necessary in bringing long term rate agreements / negotiations with shippers and liners to ensure better stability and visibility of logistics costs. As a long term solution to the persistent challenges, India should evaluate establishing its own shipping line and container manufacturing unit.

3. Build & revitalise export enabling Quality Assurance capacities & initiatives

Delivering quality as per international requirements is the starting point for seriously addressing export markets. While a number of government initiatives, such as GAP certification and traceability initiatives such as GRAPENET have been taken, there is a need to closely review the quality assurance infrastructure and capacities across commodity supply chains based on which an “export-enabling capacity mapping and revitalization program for quality assurance” could be strategized and launched on a mission mode so as to address the challenge of rejections and phyto-sanitary protocols. Key areas of focus for building quality assurance capacities include:

- **Create a farmer information database** such that exporters can develop procurement plans based on robust data analytics and can also plan their procurement and farmer extension, traceability and quality enhancement accurately. The development of “digital agri-stack”, through the Pradhan Mantri Fasal Bima Yojana for putting up a common database for farmers could be designed to include exporter data requirements as well.
- **Strongly focus on sustainable production and traceability initiatives.** Building institutional and technical capacities to implement sustainable production and traceability systems could be a key

differentiator for enhancing exports – especially to high value destinations. Wherever required, set up commodity specific committees to train and incentivize right production practices among farmers, push the exporters for traceability to farm by promoting backward integration, and an effort to raise up the Indian domestic standards.

- **Identify commodity specific gaps and establish a robust, commodity specific testing and sanitary management infrastructure.** Private players could be invited to set up an integrated quality assurance system for each commodity – with viability gap funding support from Government.
- **Establish a “pre-export quality clearance agency” for each of the main export commodities.** The body could be set up by private sector, with representation from importers as well as exporters and given the authority and power to clear or reject organizations or geographies within the country to export produce. It could be the nodal organization for accreditation of GAP, setting up testing laboratories to test for pesticide residues, aflatoxins and other contaminants and carry out on-site training for growers, exporters and other supply chain actors to comply with safety and quality standards. The agencies may also be given the power to implement strict punitive action on players across the export-supply chain if found deficient in meeting their role in ensuring quality specifications.
- **Develop a framework for use of pesticides such that MRLs are not breached.** FSSAI and Central Insecticide Board (CIB) could work together to develop a pesticide framework, to improve compliance of domestic commodities to Global food safety regulations. Government to work towards incentivizing farmers (direct farmer transfer for meeting quality requirement) to reduce use of chemicals and pesticides and could audit pesticide sellers to prevent inclusion of banned pesticides.
- **Grievance cell to be set up for escalation of any rejections / support** in drastic changes in regulations that can impact exports and the centralized apex body to negotiate with different countries for reducing non-tariff barrier like EU licences for Aqua, facilitation for cargo movement to other destinations, insurance coverage like ECGC etc.
- **Develop tools for accessing changes to SPS standards and export rejections/notifications** by importing countries, similar to the Rapid Alert System for Food and Feed (RASFF).

Unless domestic markets are made to adopt international norms, there is little incentive for farmers to invest in upgrading the quality of produce at the farm-gate. This calls for the 3E approach:



Education

Urgent need to revive the agri extension system (especially in horticulture, fisheries and dairy) to take the best production technologies that generate safe, internationally accepted quality agri produce.



Engineering

Infrastructure at the farmgate to protect food quality - post harvest infra such as pack houses, cold chain, reefer vans, packaging etc.



Enforcement

A combination of technical support at the farmgate (system of testing and sampling, labs, use of blockchain) and strict quality labelling to reward high quality.

4. Continue promotion of private investment in export oriented processing and value addition

The Government of India as well as various state governments have rolled out numerous incentives for promoting value addition and processing targeted towards exports. For instance, the Ministry of Food Processing Industries is strongly focusing on incentivizing export oriented processing. MOFPI's recently announced Production Linked Incentive Scheme for Food Processing aims to create global champions in food processing. In addition, schemes such as Operation Greens and Scheme for Creation of Integrated Cold Chains and Value Addition Infrastructure aim at strengthening post-harvest infrastructure and processing that could address international demand. Export development authorities such as MPEDA, APEDA and Spice Board also provide incentives for export oriented processing infrastructure development. These efforts need to continue, albeit with higher levels of coordination and commodity targeted focus. Enablers include:

- Benchmark incentives being given by competing countries for value addition of specific products and design incentives accordingly. For instance, value addition in Shrimp and Chilies in China.
- Give preferential weightage and ease guidelines for export oriented applicants – in schemes such as Integrated Cold Chain. Consider providing power subsidy for food processing operations.
- Run a grand challenge for export oriented investment – where in grant in aid is given to investments in products and processing innovations / technologies / investments that are specifically oriented to export markets.
- Review customs duty regime and simplify procedures to address re-export opportunities – such that India can become a hub for value addition.
- Develop a targeted approach to promote private investment in products for exports to high premium markets. Countries like USA, EU, Japan provide higher premium, however, our share of exports to these countries is very low. Critically focus on food safety compliance to stringent destinations (EU, USA, Japan) as one of the key strategies to climb the value ladder.

5. Nurture an export-enabling policy and regulatory environment

There is a need to closely study the impact of all the policy and regulatory initiatives being taken by the government across farm production, logistics infrastructure development, food safety and quality, sustainability, export documentation process etc. (and their implementation process) on ease of trading internationally and arrive at clear roadmap to orient them such that they enable exports. Select actionables that could be considered include:

- Ensure predictable, clear and timely communication of policies impacting exports. It is also important to benchmark incentives with that of other competing countries such as China, Vietnam and Bangladesh and convey the final incentives for various products and other detailed nuances in a timely manner through direct interaction with the concerned stakeholders/ exporters. For instance, a study could be done to benchmark the recently announced RoDTEP incentive with those extended to exporters in competing countries.
- Better budgeting and administration of export subsidies is a pre-requisite to create an enabling and encouraging environment for exporters. Delays in payment and sudden changes in policy/regulations hinders pricing and order fulfilment commitments. Any changes in incentive rates, application process or other aspects need to be communicated at least 6 months prior to the implementation of change.
- Digitization of all export related processes on an end to end basis, cutting across all departments including Customs, Banks, DGFT etc. are needed to cut down delays at various levels including release of subsidies and refund of taxes.

6. Invest heavily on navigating trade barriers and enabling market access

In addition to addressing quality, access to international markets could be facilitated through closer collaboration on trade agreements, streamlining maritime transport capabilities and establishing country offices or distribution centers so as to facilitate international trade.

- An increasing number of bilateral agreements and FTAs have been signed over the past decade between India and its trade partners. Equally, concerted efforts and negotiations are required to gain market access as well as to make scientific representations to reconsider stringent conditions imposed by importing nations which are deemed unnecessary.
- A wide variety of protocols need to be followed from the time of sowing and harvesting a crop to storage and processing and finally during transportation to the end destination. The differing norms and requirements of various countries involves variation in some steps of the said protocol. Often, protocols may vary for different varieties of the same crop. It is imperative to scientifically establish protocols and guidelines for export of every agricultural product keeping in mind the target destination. It will be equally important for government officials and private exporters to engage in large scale extension and training activities to educate all stakeholders - from farmers and laboratory testing scientists to customs officers and exporters - about these norms and to ensure their adherence.
- At the Government level, a central agency needs to be set up of taking up issues related to protocols/ MRLs for various commodities with respective countries, such that norms are set in a transparent manner, are universal and scientific evidence is shared. This agency could become the nodal agency for representing and negotiating on stringent non-tariff barriers imposed by importing countries (Taking up MRL issues etc), developing mutually agreed, scientific and transparent protocols (with importers / importing countries) and addressing arbitrary norms / rejections and litigations.
- The maritime transportation requirement of Indian Agriculture produce needs to be studied and innovative models developed to address specific requirements. For instance, a dedicated Kisan Cargo / reefer Ship for supply to Gulf countries.
- Setting up of country offices and distribution hubs in target destination markets would strongly facilitate players address that market. Distribution hubs (including storage/ cold chain/ logistics support) could be established in identified countries, which can act as common infrastructure hubs for usage of Indian exporters who would share the cost of utilization. This country facility could be set up with major investment by private players with viability gap support from Government.

7. Develop & roll out an “addressable international demand led” marketing & branding exercise

The Government of India has set up a number of institutions for promotion of exports. Export promotion councils (EPCs), Export Development Authorities, Commodity boards and destination country trade offices offer a varied range of services for export promotion. The efforts of all these organizations needs to be consolidated and coordinated such that laser sharp focus is brought to promote Indian produce in addressable destination markets. Suggestions include:

- Draw out the export promotion strategy for agriculture and develop a roadmap for reorganizing its governance and implementation.
- Global success stories could be studied in detail to arrive at the best fit model for India.

- Launch an international branding initiative to establish a 'Country Brand' positioning 'Produce of India' in addressable destination markets. Branding needs to be done both by Government at country and commodity level, as well as by Private sector at product and firm level.
 - ✓ Global Brand Campaign: To position India's food produce globally, it is critical to establish a unified 'country brand' image in international markets. This campaign should be conceptualized on the basis of a comprehensive market research study capturing consumer preferences, demographic profile, competitor profile etc. The proposed campaign should take into account target market/ country specific dynamics in terms of communication strategy.
 - ✓ Commodity Campaign: Concurrently with the Country Brand campaign, it is important to create niche positioning for each of the commodities identified for export promotion through individual campaigns supported largely through BTL and some ATL activities.
 - ✓ Incentivize private sector players in their individual branding efforts. For instance the recently launched PLI scheme by MOFPI provides incentives for branding initiatives taken up by private sector. This could be taken up for each export focused commodity.

8. Pave a "Public-Private Co-creation pathway" to export orientation across the value chains

A number of private enterprises carry out focused farm level interventions to generate the right quantity and quality of produce for exports. However, private players act independently and lack a common platform for co-creating and co-implementing their efforts collectively. There is a need to collaborate and co-create interventions (between like-minded private players as well as between private sector and governments) such that an integrated export-oriented ecosystem is developed to address international markets. Given the diversity of agri-export basket, there is a need to study the relevance and role that private sector can play to improve export orientation across export value chain and create pathways for enhancing their role and participation. Potential areas for greater private sector representation and participation:

- Research & Development for introduction of varieties and brood stock
- Collaborative extension
- Active representation in commodity boards, quality control agencies and export promotion agencies so as to channelize resources towards most potential export markets.
- Challenge funding to promote collaborative private investment in a particular direction – such as for specific value addition, integrated export oriented logistics etc.

9. Create a national agri export council to govern entire agri export ecosystem

The Agri Exports Policy has put forth imperative and requisite actionables to enhance India's agri exports, however appropriate governance of the strategy is the key to achieve the desired goal, which in turn is a factor of initiatives from various organizations including central government ministries, state governments, research institutions, think tanks and the industry. A governing body, with representation from all relevant agencies will be extremely beneficial to streamline, administer and facilitate all efforts and resources being put in on various fronts.

Commodity specific councils/committees for key export oriented products to be formed within the umbrella agency to liaise, coordinate and strategize for end to end interventions for boosting exports.

This apex body can also function as an Export Promotion Agency and manage private and public efforts to promote exports. The board of this body needs to have significant representation and funding from

private sector, including farmers and farmer organizations. In addition to branding and marketing, the body needs to be responsible for gathering and disseminating market and price information of destination markets, secure funding assistance for specific export promotion activities, assist companies with foreign trade matters, contracts and legal support for addressing destination markets, promote coordination among stakeholders along the export value chain and represent to government on key policy issues from an exporter perspective among others.

1.5 Role of Center, State and Private Sector

Boosting exports from India, requires establishing a committed partnership between the private sector and government. While the Central government is expected to deliver on trade negotiations, port infrastructure and providing better market access, state governments would have to provide a strong, competitive ecosystem for farmers/farming practices to grow quality produce and for buyers to engage in smooth, efficient procurement. Exhibit 12 depicts an overview of roles of various stakeholder for enhancing agri-exports from India.

Exhibit 12: Role of Central Government, State Government and Private Sector in Boosting Exports

The central government's role includes:

- Providing an overall stable, transparent and positive export policy
- Maintaining exit points and logistics infrastructure
- Trade negotiations to overcome trade barriers and market access issues
- Designing and implementing strong trade incentives
- Market intelligence
- Setting up Research programs including Institutes for crop development and technology

The state government's role includes:

- Providing an overall stable, transparent agricultural marketing system
- Maintaining state relevant exit points, storage and logistics infrastructure
- Build strong linkages and farm extension programs
- Market intelligence

The private sector's role includes:

- Investment in processing facilities and farmer extension programs
- Marketing and branding of products
- Innovating new products and engaging in value addition
- Upgrading infrastructure to ensure quality and safety
- Running extension programs along with the government
- Assessing market demand and supplementing government's market intelligence

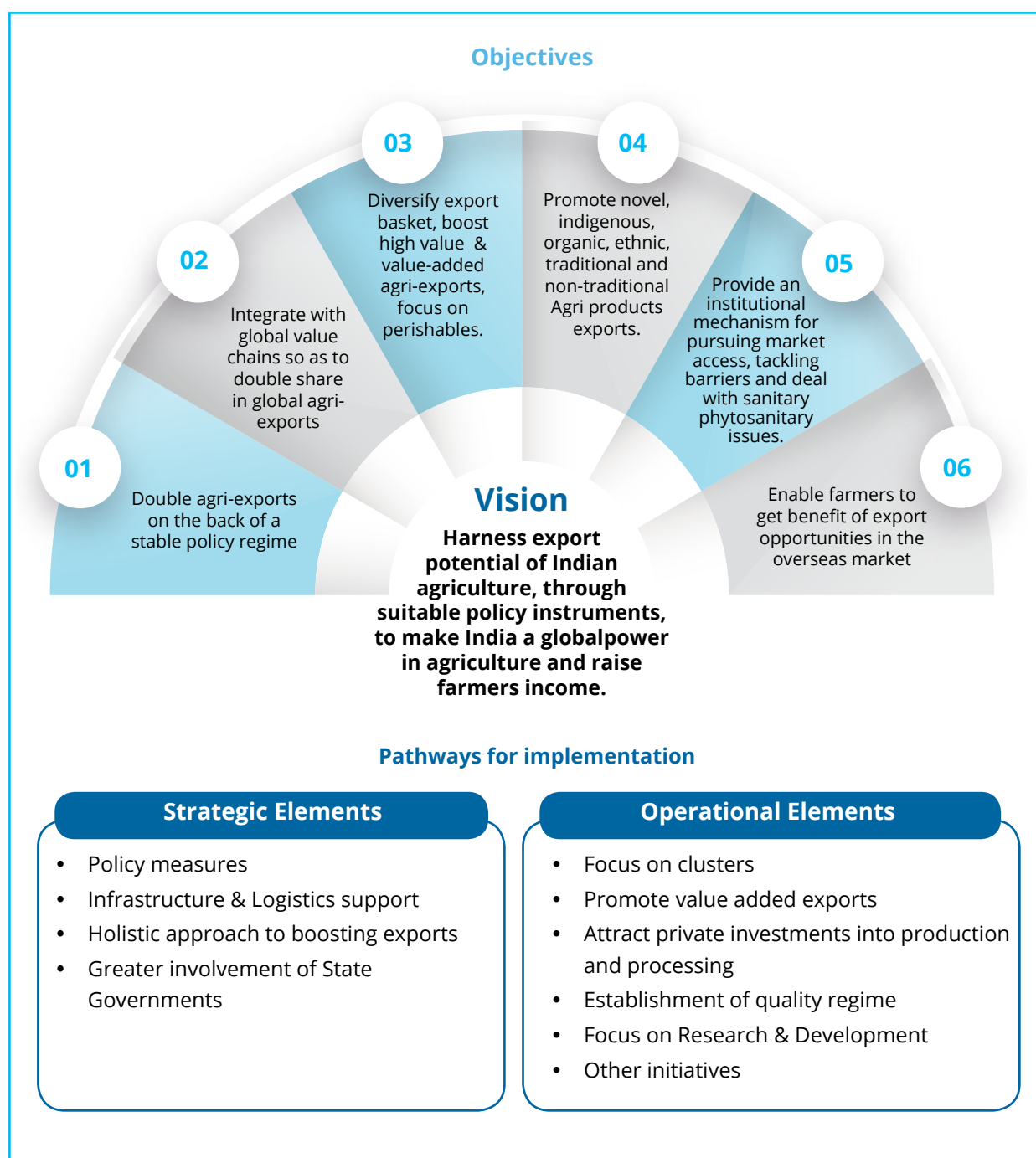
Source: Industry Discussions, YES BANK Analysis

1.6 Government Efforts for Promoting Agri Exports

Enhancing Indian agricultural exports has been identified as a key lever for increasing farmer income. Keeping this in mind, the Government of India approved the nation's first dedicated Agricultural Export Policy in 2018 (refer exhibit 13) - which set an ambitious target of doubling agricultural exports from about

USD 30 Bn in 2016 to USD 60 Bn in 2022 – and reach USD 100 Bn in the next few years¹⁸. Establishing a stable, predictable and transparent agricultural trade policy - to positively signal India's reliability to the global market - while weaning domestic farmers from the low-growth and low-value cereal-dominated agricultural ecosystem is a critical element of the policy. It aims to double India's exports by devising an institutional framework enabling infrastructure reforms; boosting high value and value added agricultural exports and promoting novel indigenous, ethnic traditional and non-traditional categories such as ethnic snacks, medicinal herbs and other forest produce.

Exhibit 13: Overview of India's Agriculture Export Policy (2018)



Source: Ministry of Commerce & Industry, YES BANK Analysis

¹⁸Source: Agriculture Export Policy, Ministry of Commerce & Industry

Profoundly aware of the potential of agri-exports in generating better income to farmers while providing gainful employment in rural areas, the Government of India has been taking up several steps to address key constraints across the supply chain and to build efficiencies that would drive growth in exports. An indicative list of initiatives in this direction are captured in exhibit 14.

Exhibit 14: Key Initiatives/Steps Taken by the Government To Boost Exports

Farm Level

- National Program for Organic Production
- Promotion of Organic Farming by Spices Board
- Formation & Promotion of 10,000 FPOs
- Traceability systems by APEDA- Next generation Blockchain and cloud migration enabled GrapeNet System
- Initiation of farmer registration by MPEDA
- PM Fasal Bima Yojana
- One District One Program

Post harvest/Value addition

- Kisan SAMPADA Yojana (MoFPI)
- Agri Infrastructure Fund
- Animal Husbandry Infrastructure Development Fund
- Production Linked Incentive Scheme
- Post harvest improvement program by Spices Board
- Trade Infrastructure for Export Scheme (TEIS)
- PM Formalization of Micro food processing enterprises scheme (MoFPI)

Enabling Environment

- Setting up/Upgradation of food testing laboratories- FSSAI, MoFPI, APEDA
- NIRVIK (Niryat Rin Vikas Yojana) scheme to provide enhanced insurance cover and reduce premium for small exporters
- Development of Digital Agri Stack- a comprehensive farmer database
- Formation of Ministry of Cooperation for strengthening the cooperative movement in the country

Marketing/Trade

- New Foreign Trade Policy (FTP 2021-2026)
- Remission of Duties and Taxes on Exported Products (RODTEP)
- Brand Promotion scheme by Spice Board
- e-NAM: Provides e-marketing platform at national level and support creation of infrastructure to enable e-marketing

Source: MoAF&W, Spices Board, Coffee Board, MPEDA, APEDA, MoFPI

For decades now, Government of India has been trying to implement reforms in the agricultural sector to boost farmer incomes and address agrarian distress. Two key focus areas have been - deregulating the sector and solving agricultural marketing constraints so as to improve farmers' access to markets. National Commission on Farmers (NCF) was constituted in year 2004, under chairmanship of Professor M.S. Swaminathan to address the nationwide farm distress in India. NCF submitted its report in 2006 and made recommendations including reforms in land holdings, irrigation infrastructure, farm productivity, credit & insurance availability, employment generation etc. Keeping in view farm produce related NCF recommendations, Central Government brought out what have come to be known as "The Three Farm Acts". These acts have been captured in brief along with potential impact on exports in Table 1.

Table 1: The three farm Acts

Act	Application	Potential Positive Impact
Farmers' Produce Trade and Commerce (Promotion and Facilitation) Act, 2020	Allows intra-state and inter-state trade of farm produce outside physical premises of APMC markets, where state governments are not allowed to levy any market fee, cess	Industry can explore direct purchase from farmer hence reducing multiple intermediation and handling costs Savings on mandi related fees and taxes can be used for farmer extension as well as better farm prices.
Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services Act, 2020	Provides a framework for farmers to engage in contract farming with companies	Industry can engage in direct buying arrangements with farmers including conducting extension activities, implementing GAP, assuring sourcing of quality produce as relevant to industry. This is very critical for export oriented commodities
The Essential Commodities Amendment Act, 2020	Allows the central government to regulate supply of certain food items only under extraordinary circumstances, taking away restrictions on stocking	Will lead to surplus for exports

Source: Govt released literature review, Industry

To bring in sharper results oriented focus, Government initiatives taken up by countries such as Vietnam could be studied closely and most suitable and relevant interventions (with the requisite fine tuning to match the Country's context and priorities) replicated in India.

CASE STUDY

VIETNAM- A CASE OF HOLISTIC APPROACH FOR BOOSTING EXPORTS

Vietnam has risen as a key exporter of many commodities including for coffee, shrimp and rice in the last ten years. The country worked upon its yield, infrastructure, logistics as well as policy and regulatory requirement to create an overall export oriented eco-system, which led to tremendous increase in its export volumes.

		Unit	1990	2020	% GROWTH
COFFEE		Mn MT	.09	1.8	1700%
CASHEW		MT	790	414000	52,400%
PEPPER		MT	11000	240000	2,100%
RICE		Mn MT	19	44	230%
SHRIMP		USD Mn	175	8600	4900%

CASE STUDY

Farm Level

- Cluster Development (Coffee- Central Highlands; Rice- Mekong Delta)
- Communication & Training at ground level

Regulatory/ Policy

- Consistent policies and regulations
- EODB-Easy land availability, Customs bonded warehouse
- Ease of import for Re-export
- ASEAN FTA & Bilateral FTAs
- FTAs on Anvil-Korea, EU, Australis
- Easy rules for companies to import for re-export
- Regulations for FDI companies is the same as for local companies

Infrastructure/ Logistics

- Utilities-low electricity cost, uninterrupted supply
- Industrial Parks- one stop shop for land, utilities, manpower etc.
- World class infra with help of foreign compnaies and PPP
- Efficient use of river transport
- Easy availability of registered bonded warehouses

Others

- Tax reliefs for investment in less developed areas
- VAT Exemption for imported equipment provided in all cases
- Chamber of Commerce is very proactive and cognizant of regulations relating to Country of Origin, HS Codes and tariff impacts

Source: Industry Sources

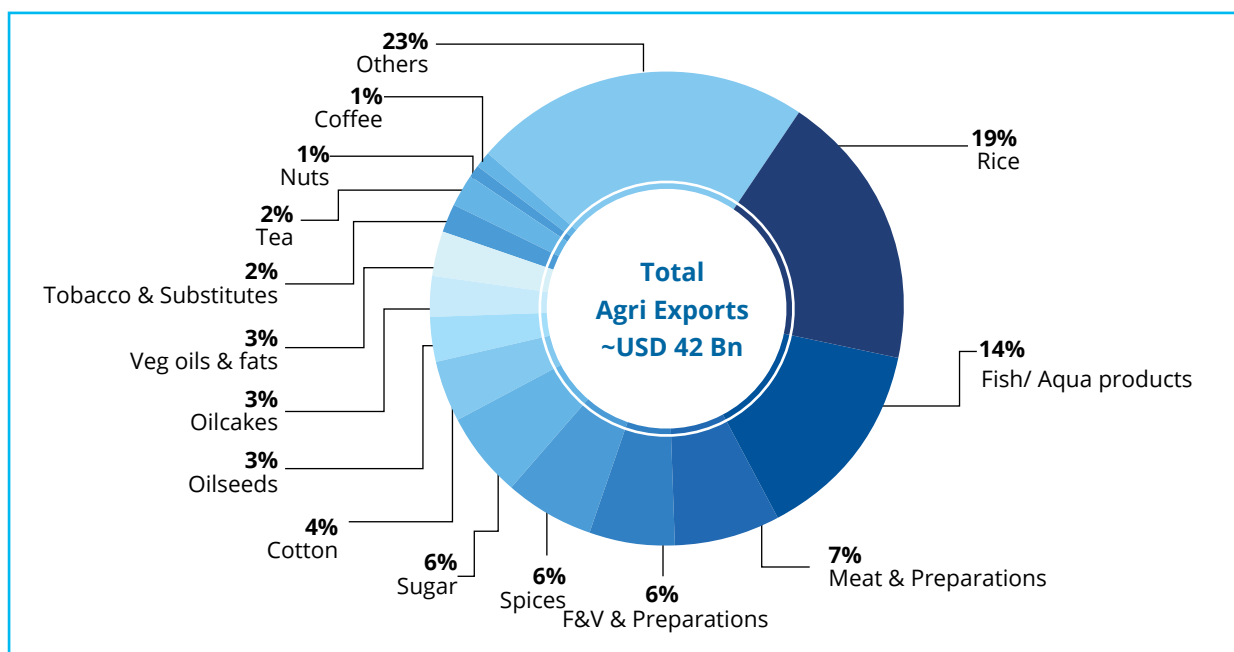
02 Sector Review



The Indian Agricultural export basket is a diverse mix comprising of traditional cereal crops, fiber crops, animal products, horticultural products and mixed product preparations amongst others. In value terms, ten categories namely –Rice, meat & products, fish/shrimp products, spices, sugar, fruits & vegetables (including their preparations), cotton, oilseeds, vegetables oils/fats and oilcakes contribute to ~70% of India's Export basket (refer exhibit 15)¹⁹.

In each of these categories India has retained its position as a key supplier to the world for a select few products (for instance Basmati rice, Groundnuts in Oilseeds, Buffalo meat, frozen Vannamei shrimp in fisheries, mangoes, pomegranate and grapes in fruits).

Exhibit 15: Key Categories and their Contribution to Indian Agri Exports (2020)

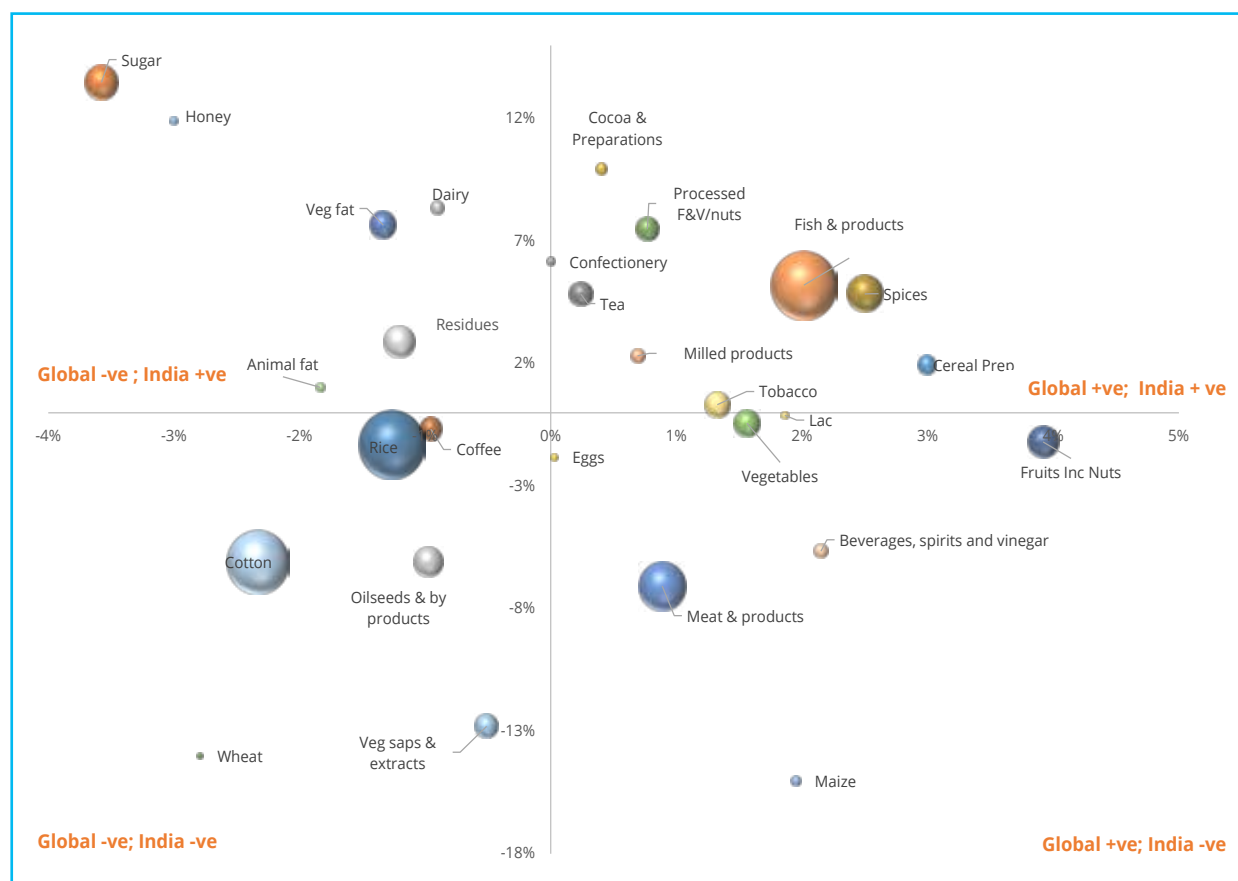


Source: ITC Trademap, YES BANK Analysis

¹⁹ Cotton includes carded & non-carded cotton, Sugar includes beet/cane sugar, oilseeds includes Soybean, groundnut, linseed, sunflower, rapeseed, copra and others HS 1201 to 1207

Exhibit 16 provides a snapshot of key agricultural categories²⁰ exported by India and compares their 5 year Average Annual Growth Rate²¹ with that of global exports. Given the outbreak of Covid in 2020, which has impacted trade incoherently, the analysis was done considering the preceding five year period (2014-2019). The X axis denotes the global exports growth rate, while the Y axis denotes India's growth rate. The size of the bubble is proportionate to the value of exports from India.

Exhibit 16: India's Export Basket and their Respective Growth Trends (Indian and Global)



Source: ITC Trademap, YES BANK Analysis

The X axis denotes the global exports growth rate (AAGR 2014-19)

Y axis denotes India's growth rate (AAGR 2014-19)

The size of the bubble is proportionate to the value of exports from India

The graph evaluates growth trends (Average Annual Growth Rates) over the last five years and classifies agri-commodity categories into four quadrants

- India's and World Trade Growth Positive
- World trade growth negative, but India's exports positive
- World trade growth positive, but India's exports negative
- World trade growth and India's exports negative

Key categories where growth in export has been positive both at global level and for India include fisheries/aquaculture products, spices, tea, milled cereals products and processed F&V. Interventions need to be focused on further building upon the advantages into these products, especially for ensuring consistent high quality supply, value addition and branding activities.

²⁰ HS Code Chapter 01-24 & 52 are considered for agricultural exports. Source: ITC Trademap

²¹ 2014-2019

Categories wherein growth in global exports is negative, while that of India is positive include, Sugar, honey, vegetable fat, residue from food industry and dairy products amongst others. India's current share in majority of these categories is minuscule and efforts need to be made to evaluate the need to enhance our competitiveness and capture a larger pie of global market share. Though, sugar exports fall into this category, India's internal policies/regulations have a significant bearing on export of this commodity.

Categories where growth in global exports has been positive but India's exports have been sluggish, include meat, fruits (especially Mango), nuts, vegetables, eggs and maize. The said de-growth can be attributed to a combination of domestic and international factors including stringent competition from competing nations. However, these products are potential risers, provided concerted efforts are put in for becoming cost competitive and meeting the global standards in terms of quality requirements.

Categories which have shown negative/stagnant growth in exports both globally and from India - include rice, oilseeds, coffee and cotton. For many of these commodities such as rice, oilseeds and coffee, exports as a channel of offtake plays an important role in farmer price realization. Global trade in these categories is vast, opening up ample scope to retain and, if strategically prudent, increase India's share in the overall global market for these categories.

While each bucket requires a different approach to be planned and implemented, every product in the bucket has individual nuances demanding its own strategy. For the purpose of this report, India's entire export basket was evaluated based on the average value of exports for last 5 years²².

The top 12 categories were shortlisted for further detailed assessment and stakeholder consultations. Non-food categories were omitted from the detailed analysis. However, "Cotton" was included in the analysis given its significant contribution to India's agriculture and export basket (~4% contribution²³ to Indian agri-exports in 2020). The shortlisted categories include:



Rice



Fisheries



Meat



Spices



F&V and Preparations



Sugar



Nuts
Focus: Cashewnut



Oilseeds
Focus: Groundnut



Vegetables Saps & Extracts



Tea



Coffee



Cotton

²² 2014-2019

²³ Cotton here includes carded/non-carded cotton

Subsequently focus group discussion and stakeholder consultations were carried out for each product to identify strategic and operational challenges across the value chain. All issues impacting exports including farm level, value addition, infrastructure, logistics, marketing/branding and trade were analyzed for each category. On the basis of the stakeholder consultations, key challenges faced by the sector and critical interventions required to boost exports have been compiled and presented in the report.

2.1 Rice

2.1.1 Global Overview

Production

Globally ~504 Mn MT of rice was produced in 2019, led by China (28%), India (24%), Indonesia (7%), Bangladesh (7%) and Vietnam (6%)²⁴. The production has grown marginally over the last decade (2009-2019) with an average annual growth rate of ~1%, which has been driven by area expansion in Asian countries, in response to ongoing state support and improvements in producer prices. Equally, there is a growing trend towards self-sustainability in production observed amongst African nations, Bangladesh and Philippines.

Trade

Around 10% of world production is exported, making rice a thinly traded and price volatile commodity. In 2020, world trade was pegged at ~47 Mn tons valued at ~USD 25 Bn. India was the largest exporter contributing close to 31% of global exports, followed by Thailand, Vietnam, Pakistan, the USA and more recently China (refer exhibit 17). Rice exports have witnessed growth of 2% in the last 5 years (2015-2020). Rice imports are scattered throughout EU, US, Middle East, Africa, China and SE Asia.

Exhibit 17: International Rice Trade: Top 5 Exporting & Importing Nations in 2020

Exporters				Importers			
Country	Value in USD Bn (2020)	% Contribution	% Change	Country	Value in USD Bn (2020)	% Contribution	% Change
India	7.9	31%	5%	China	1.5	6%	13%
Thailand	3.6	14%	-4%	S.Arabia	1.4	5%	35%
Vietnam	3.5	11%	0%	USA	1.3	5%	10%
Pakistan	2.8	8%	2%	Iran	0.9	3%	-1%
USA	2.1	7%	-1%	Philippines	0.9	3%	0%

Source: ITC Trademap, YES BANK Analysis

% change is the delta increase/decrease over the period 2015-2020

²⁴ FAOSTAT (milled rice considered-not paddy)

In 2021, world rice consumption is set to increase by more than 1% with the largest growth in Asia (primarily India and China) and Sub-Saharan Africa; with the latter showing the highest growth in per capita rice intake. Rice global trade is forecast up by 5-6% given contraction in the past years and pandemic woes. On the back of record carrying stocks, stable production and increasing international stockpiling & demand, India is expected to continue playing the leadership role in global exports. The move from exporting bulk rice to branded rice and rice based products will be critical for the next growth phase of the rice export industry.

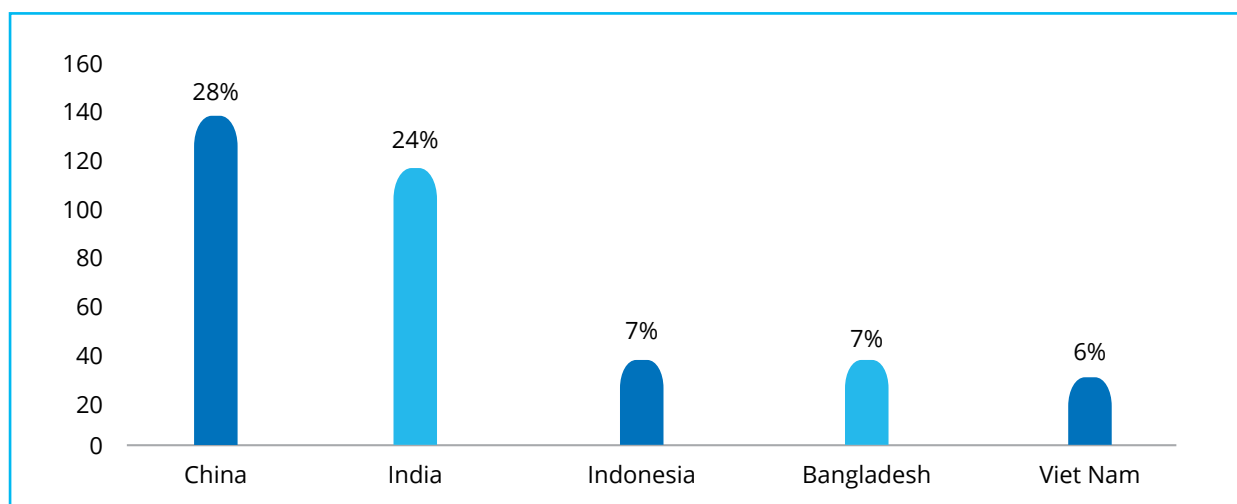
2.1.2 Indian overview

Production

India has the largest acreage under rice in the world. The country is the 2nd largest producer and the largest exporter of rice (refer exhibit 18). With good monsoon coupled with market assurance provided by government procurement, India's 2019-20 production has touched a record high of around 117 Mn MT. Another good monsoon is propelling India to cross 120 Mn MT in 2020-21.

In 2018-19, India's rice consumption stood at ~100 MMT (+1.2% YoY), yielding a comfortable 15 Mn MT surplus. However, the per capita consumption of rice has been stagnant/marginally declining in recent years.

Exhibit 18: India's Position in Global Rice Production



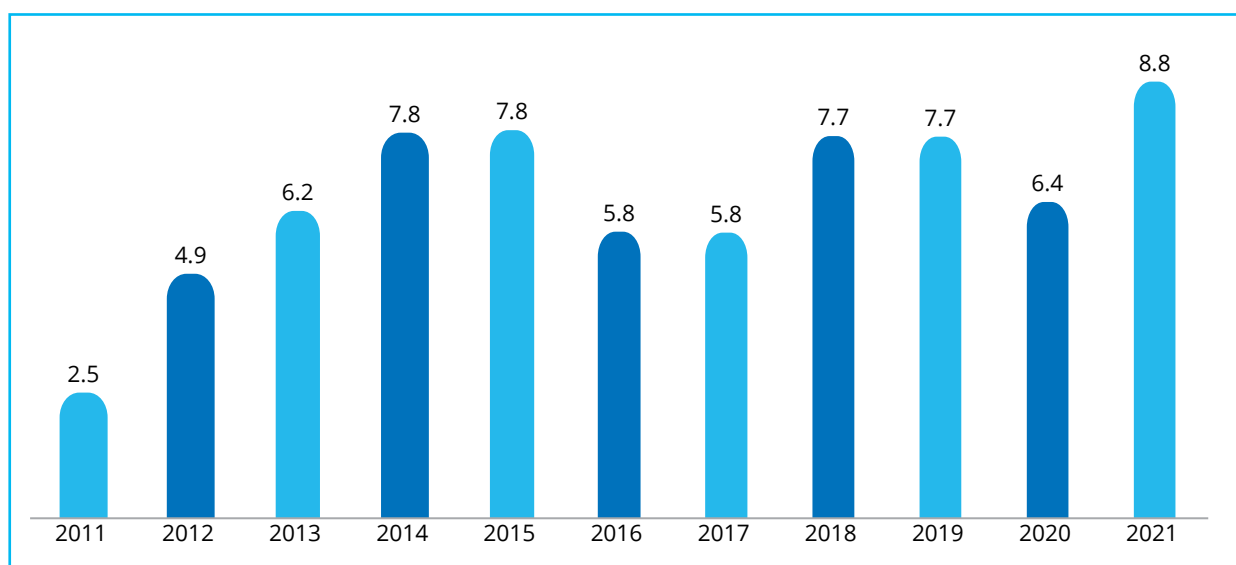
Source: USDA, YES BANK Analysis

Volume in Mn MT for 2020, % indicates contribution to global production

Trade

On average, around 4 Mn MT of Basmati is exported annually by India. Basmati rice has traditionally enjoyed strong global demand with Pakistan being the only other competitor. Top export destinations include Iran, Saudi Arabia, Iraq, Yemen and UAE (refer exhibit 20). India's high dependency on Iran & Saudi Arabia (which contribute more than 60% to rice exports) has led to higher degree of price volatility. This, coupled with rejections due to pesticides residue issue in the EU & the US, has resulted in India's export share declining in these geographies.

Exhibit 19: India's Rice Exports - Ten Year Trend (in USD Bn)



Source: APEDA

India has been the world's leading exporter of non-basmati rice since 2011 when the GOI removed the ban on non-Basmati export. On average, around 6 Mn MT of non-Basmati rice is exported by India annually. However, exports have been stagnant in the last five years (2015-2020), due to being rendered globally uncompetitive. Non-basmati rice has been out priced in the international market in recent years due to higher MSPs, removal of MEIS, Chinese entry into global markets (offloading old public stocks) and lower demand with countries attempting self-sufficiency. However, in FY-21, non-basmati rice exports from India more than doubled (from FY20) on account of food security concerns globally. Top destinations for Indian non-basmati rice include Benin, Nepal, Bangladesh, Senegal and Togo (refer exhibit 20). There is increasing competition from SE Asian exporters, given the heavily subsidized public procurement program run in India which distorts export prices.

Exhibit 20: India's Rice Exports: Top 5 Importing Nations, % Contribution and % Change

Basmati Rice Exports from India				Non-Basmati Rice Exports from India			
Country	Value in USD Bn (2020)	% Contribution	% Change	Country	Value in USD Bn (2020)	% Contribution	% Change
S.Arabia	1.0	24%	2%	Benin	0.4	9%	15%
Iran	0.6	15%	1%	Nepal	0.4	8%	18%
Iraq	0.5	13%	8%	Bangladesh	0.4	7%	28%
Yemen	0.3	7%	21%	Senegal	0.3	6%	5%
UAE	0.2	5%	-16%	Togo	0.3	6%	56%

Source: APEDA, YES BANK Analysis

% change is the delta increase/decrease over the period 2015-2020

2.1.3 Challenges and Way forward for scaling up Rice exports

FARM LEVEL

CHALLENGES	RECOMMENDATIONS
• Low Productivity: Yield of major Indian rice varieties are <3 MT/Ha, half of China's rice yields. • Soil deterioration • Excessive and non-judicious pesticide usage • Diseases outbreaks- such as bacterial blight • Lack of availability of quality seeds • The cost of capital in India makes export uncompetitive, especially for Basmati where ageing is involved. • High water usage by rice and subsequent receding ground water tables	• A strong, continuous and long term farmer extension program to train farmers on GAP and pesticide use. • Align R&D priorities of Indian agricultural research institutions with the global demand for rice. <i>E.g. Sticky & black rice have demand in China but India does not offer a relevant surplus. Such varieties need to be identified and a supply strategy needs to be framed.</i> • Introduction of new varieties like glutinous rice and longer cylindrical varieties through extension institutions, KVKs, agricultural universities for better implementation of Lab to Land programs. • A PPP model, wherein Farmers, Millers & Govt. institutions to come together on a platform to ensure standard farming practices to improve yield and productivity. • An enhanced interest subvention scheme for all Basmati exporters should be considered. • PPP model should be encouraged to grow sustainable rice which meets the specific requirements of US & EU where MRL limits are very stringent. • R&D for developing varieties that are pest resistant, have shorter crop cycle and use less water to be taken up on priority. • Promotion and awareness on practices, techniques & technologies that promote lesser water usage E.g. SRP, Laser land levelling, Direct seeding technique, alternate wetting and drying technique and drip irrigation.

PROCESSING & VALUE ADDITION

CHALLENGES	RECOMMENDATIONS
• There has been limited focus on value added product development and rice is largely sold in bulk. There are few Indian brands sold globally. • The branded rice segment forms about 30% of the world's rice basket, while India largely exports non branded rice, netting lower premium²⁵	• Provide differential incentives for rice based value added products vis-à-vis rice. • Focusing on value added products like fortified rice, RTE/RTD, organic rice & black rice. IIP and CFTRI to be roped in for making cost effective packaging technology- focusing on these Value Added products and branded rice products. • A detailed study to be undertaken by MoC&I to assess and discover new markets for Indian rice based products/byproducts and accordingly frame incentives for establishing processing infrastructure.

²⁵ HLEG report - Growing India's agricultural exports through crop-specific, state-led plans

TRADE

CHALLENGES	RECOMMENDATIONS
- Traceability & Pesticide Residues are the key challenge to penetrating premium US & EU markets and opening new markets for Basmati rice. - Tightening of pesticide residue norms by key importers have led to similar moves by Middle Eastern markets (Jordan, Qatar, Lebanon etc.) which set a bad precedent and could be a long-term risk for the industry. - Many chemicals registered in India are not registered in importing nations or MRLs set are unjustified. - Sanctions ridden Iran remains the key driver of Basmati exports, while key non-Basmati importers such as Bangladesh are heavily investing in domestic rice production. This also leads to payment risks; overdependence on Iran and Africa has stalled payments and blocked significant working capital in the industry. - Non-uniform duties - Higher Import duties imposed by Philippines on India (50%) vs 35% on ASEAN countries. <i>E.g.-Indonesia has preferential Trade Agreement with Pakistan for zero duty while Indian rice attracts US\$ 32/ MT duty.</i> <i>Malaysia: NTB towards rice exists despite high palm oil trade.</i> <i>Korea: Korea has started issuing origin specific tenders, curbing Indian supply of rice.</i> <i>China: Though they have approved a few Indian rice exporters, business is negligible.</i>	- Trade talks, bilateral agreements and preferential trade agreements with critical partners such as Indonesia is critical. - Leverage India's import of Palm Oil to remove inequity in Rice duties. Given its high oil imports, India should engage heavily with Indonesia to boost rice export volumes. - A separate dialogue with Korean government is required to emphasize on Non origin specific tender. - Given our huge imports from China, we should leverage that to have sector specific Rice exports to China. - India needs a concerted strategy to maintain scientific records and make representations in importing nations to accept Indian MRL and other norms backed by science. - Formation of International Standards Adherence Facilitation Body at MOC which works with MEA and negotiate with overseas countries to sign bilateral treaties which accept Indian pesticide norms. - Iraq & Yemen's imports have increased from 1.00 lakh MT to 5.00 Lakh MT in the last 5-6 years. India must focus on these markets along with Latin America, Russia, Far East (Korea, Taiwan, and Japan) to boost exports. It would be prudent to develop a protocol for routing financial transactions through regions like Dubai. - Volume based Market focused incentives for Basmati can be evaluated. We should target current low volume countries in Europe, America and Latin America, as these represent the biggest potential for growth in basmati rice segment. - A short-term transport assistance scheme for non-Basmati to be evaluated, especially for African nations/ CIS under garb of G2G Development program. - Counter-party/ collection risk for exporters needs to be mitigated by creating alternate payment mechanisms in coordination with designated banks for markets such as Yemen, Sudan which either suffer from US sanctions or USD shortages.

LOGISTICS & INFRASTRUCTURE

CHALLENGES	RECOMMENDATIONS
- India's logistics cost is almost 7-8% more than other competing origins like Thailand & Vietnam. - Poor Infrastructure at ports like Kakinada which handles more than 25% of the total export volumes	- A carefully designed RoDTEP scheme will be critical to sustain and boost non-basmati exports. India's Rice exports should receive RoDTEP @ 9-10% to make Indian rice prices at par with other competing origins. - More focus to be given on improving infrastructure to increase efficiency & turnaround time i.e. berthing facilities, warehousing & roads. Key ports such as Kakinada & Kandla need priority - Transport subsidies to overcome higher inland logistics cost, would be required to get parity with Thailand and Vietnam

MARKETING & BRANDING

CHALLENGES	RECOMMENDATIONS
- Most Rice exports are done in Private labels with brands belonging to overseas customers. Maximum value in the chain is captured at the brand end in destination. There are little to no Indian rice brands known globally and white labeling is the predominant mode. - India is not able to access major Rice eating and importing markets like Japan, China, and Korea in addition to US & Europe due to customer preference.	- Need a comprehensive policy for promoting Indian brands abroad and provide support under the FTP policy. - A mix of ATL and BTL strategies need to be outlined targeting China, CIS, Americas, EU, UKandME. - Differential incentives for small packaging/branded products need to be framed. - Registered Indian Brands may also be considered for MEIS benefits such that branded exports may increase. - Govt. may consider subsidizing marketing spends in overseas markets to brands such that they can penetrate markets better. - Indian Non-Basmati Varieties to be classified under Long, Medium & Short grain varieties to bring in more sanity in the trade & at the same time will give buyers / markets more visibility on Indian grades/ pricing. Govt./ APEDA should carry out standardization of each variety of rice giving detailed technical specifications as is being done by other countries - Bulk of Basmati export is in USD 1000/MT price bracket and Non-Basmati is in USD 400 price bracket. There is a need to grow and promote a mid-range standard variety on lines of Thai Jasmine Rice <i>Fine varieties like Sona Masuri / Ponni rice to be developed as Brand (USD 600-650 price band) which can compete with Thai Jasmine.</i>

REGULATORY/POLICY

CHALLENGES	RECOMMENDATIONS
- Increasing MSPs and heavy public procurement have had an adverse impact on non-Basmati exports, as well as on India's image as a reliable supplier. - Government restriction of interest subvention and withdrawal of MEIS support for non-Basmati exports have been a big challenge. Without incentives, Indian non-Basmati rice has been out-priced by Vietnamese/Pakistani rice by around 10-15% in the last two years.	- FCI must procure minimal quantities to maintain buffer stocks only. For rest of the volumes, a price differential scheme (such as Bhavantar yojna) may be introduced where price difference can be credited into farmers account. - Faster release of overflowing FCI stocks at market price under OMSS will be critical to compete globally. The release should happen in the same season as harvest and procurement.

CASE STUDY

VIETNAM- FROM SELF SUFFICIENCY TO A LEADING EXPORTER:

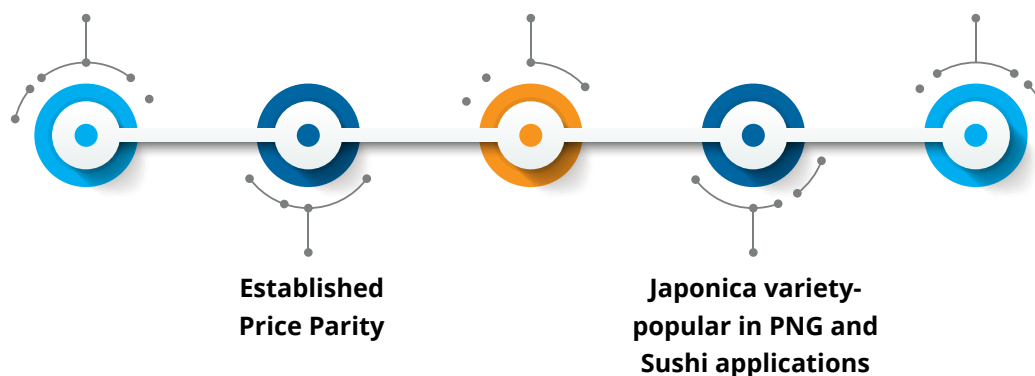
A Case for Product Expansion in Rice

- Vietnamese scientists trained in India for rice seed varieties and rice technology
- Initial goal of self-sufficiency- exports initiated in 1990
- Production reached 40 Mn MT- with one of the best yields amongst the large growing nations

Started as a white rice exporter- alternative to Thailand

Developed fragrant varieties- markets in China, Africa etc.

Glutinous Rice- Festive consumption in China/ Chinese ethnicity



Source: Industry Sources

2.2 Fruits & Vegetables

2.2.1 Global Scenario

Production

Global fruits and vegetables production stood at 2,875 Mn MT in 2019, ~2% higher than 2018. Of this, ~70% was contributed by vegetables and 30% by fruits. With a production of 990 Mn MT, China was the largest producer of fruits and vegetables, followed by India, Nigeria, USA and Brazil. These 5 countries contribute to over 55%²⁶ to the global F&V production.

Global vegetables production in 2019 stood at 1,990 Mn MT with China (740 Mn MT) leading in production contributing about 37% share of global production, followed by India (~9%), Nigeria (~7%), USA (~3%) and Russia (~3%)²⁷. The total production volume increased at an average annual growth rate (AAGR) of 3% between 2009 and 2019.

Global fruit production stood at about 883 Mn MT in 2019, with China leading the production with a share of 28%, followed by India (~12%), USA (~5%), Brazil (~3%) and Mexico (~3%). The global production base has grown at an Average annual growth rate of 2% over the last decade.

Trade

In the year 2020, the value of fruits and vegetables exported globally stood at about USD 232 Bn, of which fruits contributed about 45%, vegetables about 27% and processed F&V about 27%²⁸. As a category, F&V contributes to ~14% of the global agri exports and has witnessed a growth (CAGR 2015-2020) of 4%, led by growth in exports of fruits (7%).

During 2020, export value of vegetables²⁹ across the globe stood at USD 63.7 Bn, higher by 16% over 2015. Netherlands, Mexico and Spain have an export focused vegetables production - and together with China they accounted for more than 50% of global exports in 2020 (refer exhibit 21). While USA, Germany, UK and France were the largest importers of vegetables during 2020, markets such as Vietnam, Thailand, and Hong Kong have increased their vegetable imports significantly over the years. An estimated 50% of total vegetables exports is in fresh/chilled form.

Exhibit 21: International Vegetable Trade: Top 5 Exporting & Importing Nations in 2020

Exporters				Importers			
Country	Value in USD billion	% Contribution	% change*	Country	Value in USD billion	% Contribution	% change*
China	9.2	14%	10%	USA	12.3	19%	39%
Mexico	8.3	13%	53%	Germany	7.5	12%	26%
Netherland	8.0	13%	15%	UK	4.0	6%	0%
Spain	7.8	12%	30%	France	3.5	5%	14%
USA	3.9	6%	47%	Canada	3.2	5%	13%

Source: ITC Trademap, YES BANK Analysis

HS Code 07 (except 0713) taken for Vegetables

*% change is calculated as delta increase / decrease of trade value over five years (2015-2020)

²⁶ Source: FAOSTAT | ²⁷ Source: FAOSTAT

²⁸ Source: ITC, YES BANK Analysis. Note: HS Code 07 (except 0713) taken for Vegetables, HS Code 08 (Except 0801 & 0802) for Fruits & HS 20 (Preparation of fruits, nuts & other parts of plants) for Processed F&V | ²⁹ Includes fresh, dried, chilled

In comparison to vegetables, fruits are more amenable to global trade. During 2020, export value of fruits stood at USD 105.6 Bn, higher by 37% over 2015. USA, Spain, Netherland, Mexico and China are the largest exporters of fruits, together contributing to 35% of global fruit export. The top five importers of fruits are USA, China, Germany, Netherland and UK together contributing to ~43% of global fruit imports.

Over a five year period (2015 & 2020), fruit exports from countries like Peru, Thailand, Philippines and Vietnam have increased exponentially, on account of development of export / re-export focused value chains in these nations. On the import front, China and Vietnam have increased their imports exponentially largely for the purpose of re-exports.

The fruit market also differs from the vegetable market in that a large share of fruit is processed, with juice being a major industry. However, empirical evidence indicates that the demand for fresh fruits is growing at a faster pace as compared to preserved/prepared fruit products due to a shift in consumer preference.

Exhibit 22: International Fruit Trade: Top 5 Exporting & Importing Nations in 2020

Exporters				Importers			
Country	Value in USD billion	% Contribution	% change*	Country	Value in USD billion	% Contribution	% change*
Spain	9.9	9%	22%	USA	17.3	15%	31%
Netherlands	7.2	7%	102%	China	10.0	9%	89%
Mexico	6.9	7%	63%	Germany	9.6	8%	33%
China	6.6	6%	39%	Netherlands	7.2	6%	63%
USA	6.4	6%	-5%	UK	5.8	5%	6%

Source: ITC Trademap, UN, YES BANK Analysis

Note: HS Code 08 (Except 0801 & 0802) for Fruits

*% change is calculated as delta increase / decrease of trade value over five years (2015-2020)

In addition to the above, around USD 63.3 Bn worth of processed F&V products (including juices, jams, jellies, paste, ketchup, preserved etc.) were traded across the globe in 2020. China leads this segment with a share of ~12% to the exports, followed by Netherlands (9%) and USA (7%). USA is the largest importer of processed F&V products (share of 15%), followed by Germany (9%), France (7%), UK (6%) and Japan (6%). This segment has witnessed a growth of 8% in export over 2015 as against 37% in fruits and 10% in vegetables.

2.2.2 Indian Scenario

Production

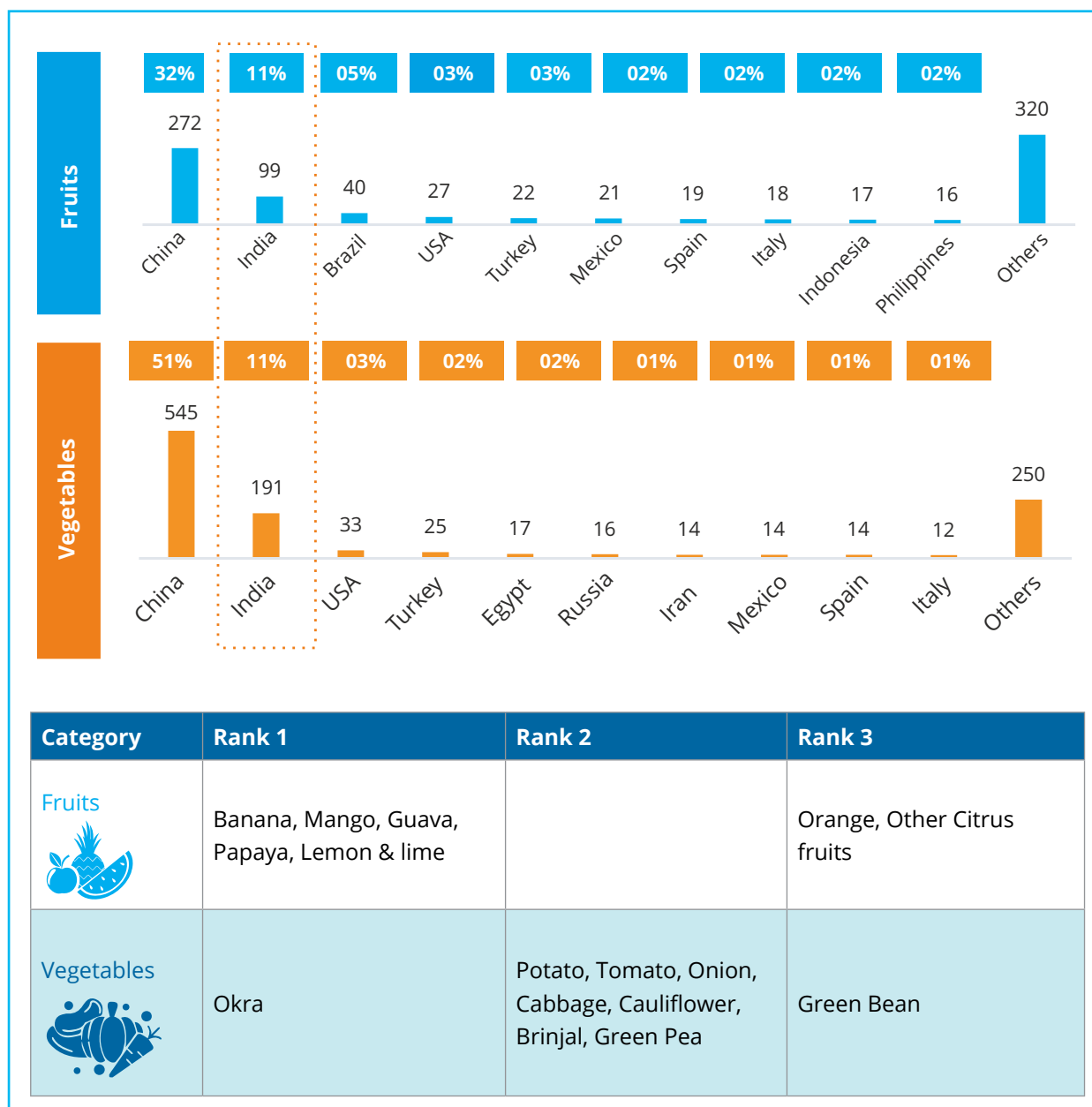
India is the second largest producer of fruits and vegetables after China. The country produces nearly 100 Mn MT of fruits and close to 190 Mn MT of vegetables annually (refer exhibit 23). In 2020-21, India produces 103 Mn MT of fruits and 193 Mn MT of vegetables. India is the largest producer of ginger and okra amongst vegetables and ranks second in production of potatoes, onions, cauliflowers, brinjal, Cabbages, etc. Amongst fruits, the country ranks first in production of Bananas (25.7%), Papayas (43.6%) and Mangoes (including mangosteens and guavas) (40.4%)³⁰.

³⁰ Source: APEDA

Despite its vast production base and varietal diversity, India's presence in the global exports remains nominal. India ranks 15th in terms of vegetable export while it ranks 24th in terms of fruits export³¹. India's share in global exports was just about 1.5% in vegetables, 0.6% in fruits and 1.1% in processed F&V.

Exhibit 23: India's Position in Global F&V Production

Volume in Mn MT, % indicates contribution to global production.



Source: FAO, APEDA, YES BANK Analysis
For India – 2019-20 data-NHB

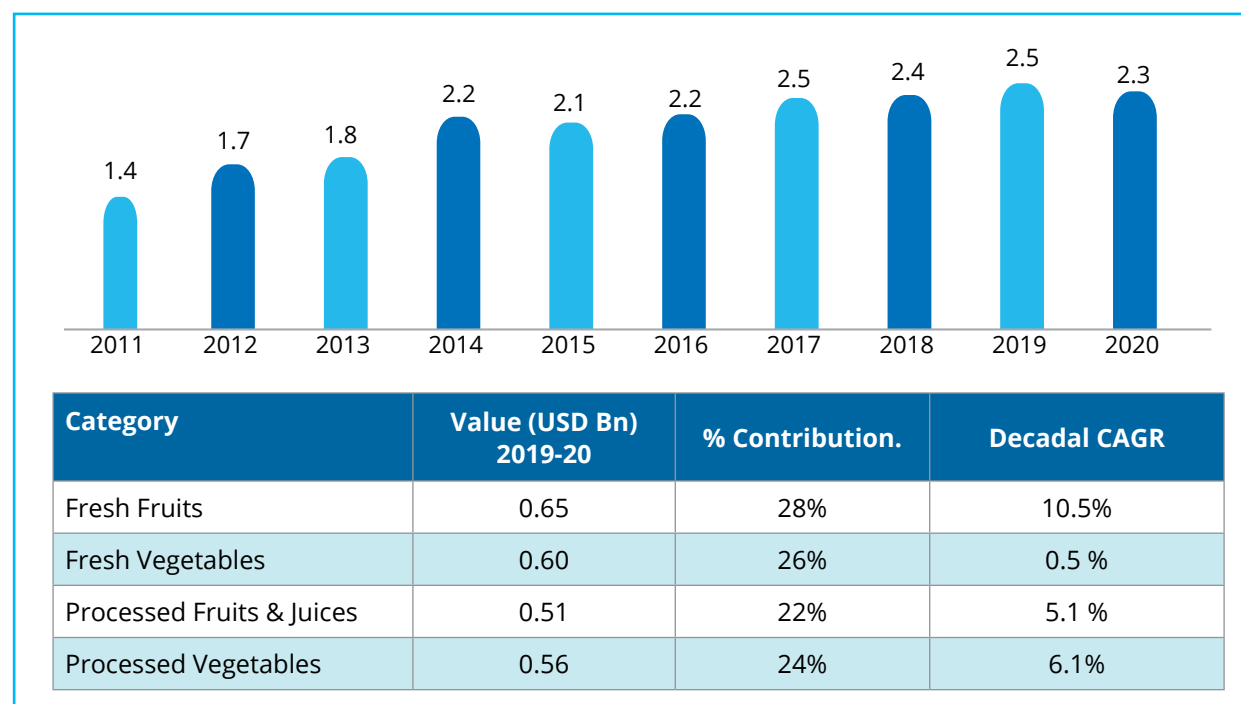
³¹ Source: ITC trademap

Trade

During 2019-20³², India exported about 2.6 Mn MT of fresh fruits and vegetables worth USD 1.3 Bn and 0.9 Mn MT of processed fruits and vegetables worth USD 1.1 Bn. In 2020-21³³ till Feb 2021, export of fresh F&V was 2.7 MT worth USD 1.06 Bn and processed F&V was 0.94 MT worth USD 1.13 Bn. The fresh and processed F&V category has witnessed an average annual growth rate (between 2015-2020) of 0.6% and 13% respectively in volume terms and -0.8% and 16% respectively in value terms³⁴.

F&V was the 5th largest category in the Indian agri-exports basket (after Marine products, Rice, Cotton and Buffalo meat) and contributed about 6% to the Indian agri export basket.

Exhibit 24: India's F&V Exports- Ten Year Trend (Values in USD Bn)



Source: APEDA

In the Fresh Fruits category, Grapes contributed to 48% of total value of fruit exports while Pomegranate and Bananas contributed 16% and 14% each. Mangoes and Oranges are other fruits that account for larger portion of fruits exported from the country. In the fresh fruit's category, bananas are the fast growing sub-category with majority of the shipment going to Iran and UAE.

In the vegetable's category, Onion, Potato, Mixed Vegetable, Green Chili and Tomato contribute to about 88% of total value of vegetables exported in 2019-20. Within the fresh vegetable's category, potatoes have witnessed the maximum growth in the last 5 years. Onions, mixed vegetables and Tomatoes have witnessed a negative growth in the last 5 years.

Preserved cucumber/gherkins, mango jam, dehydrated onions, mango pulp and fruit juices formed majority of the processed F&V export value. Within the processed category mango jam and dried grapes have witnessed the maximum growth in the last 5 years (refer exhibit 25).

³² Source: APEDA

³³ Source: APEDA 2020-21 data available till February 2021

³⁴ Source: APEDA (http://agriexchange.apeda.gov.in/indexp/genReport_combined.aspx#content)

Exhibit 25: Key F&V Produce Exported from India, Contribution of Each Category and % Change

Country	Value in USD million	% Contribution	% Change	Key Export Destination Countries with % exported
Fresh Fruits				
Grapes	298	46%	88%	EU & UK 54%, Russia 12%
Pomegranate	96	15%	100%	UAE 27%, SA 25%, EU 15%
Bananas	91	14%	125%	Iran 34%, UAE 21%
Mangoes	56	9%	20%	UAE 36%, UK 17%, USA 8%
Oranges	35	6%	300%	Bangladesh 85%, Nepal 13%
Fresh Vegetables				
Onion	324	53%	-16%	SA 40%, Malaysia 19%, UAE 13%
Potatoes	82	13%	-43%	Nepal 51%, MEA 13%, SEA 15%
Mixed veg	64	10%	-14%	UAE 20%, Other MEA 30%, UK 8%
Green Chili	36	7%	100%	UAE 63%, UK, 11%, MEA 20%
Tomatoes	31	5%	-57%	Bangladesh 41%, UAE 28%
Processed Fruits & Vegetables				
Gherkins	173	16%	-15%	USA 25%, EU 42%, Russia 9%
Mango Jam	134	12%	30%	Netherland 22%, MEA 20%,
Deh. Onion	111	10%	0.1%	Germany 12%, USA 11%
Mango Pulp	82	7%	-43%	MEA 40%, EU 15%, USA 7%
Dried grape	38	4%	100%	MEA 35%, SEA 15%, Russia 12%

Source: ITC, APEDA, YES BANK Analysis,

% change is the delta increase/decrease over the period 2015-2020

2.2.3 Challenges and Way Forward for scaling up F&V exports

FARM LEVEL

CHALLENGES	RECOMMENDATIONS
- Fragmented supply base - Small and dispersed marketable surplus- resulting in lack of control on quality and supply, hindering exports. - Low Productivity- <i>India's Mango productivity is 9 MT/Ha while Brazil produces 17 MT/ha; similarly India produces around 35MT/ ha of Banana while Indonesia produces around 50MT/ha.</i> - Low levels of mechanization - Old orchards - Losses due to pest & diseases - Lack of wide-scale implementation of traceability - Indiscriminate use of plant health and plant protection chemicals resulting in high MRLs and hence export rejections. - Mismatch in variety/quality between what is produced in India and what is required by the importing countries.	- Formation of crop specific clusters and promoting them for export oriented production by following GAP. - Cohesive approach between Farmer-Exporters- Government: Exporters must engage at farm levels to provide knowhow on export requirements and ensure its implementation till harvest. Government can incentivize such initiatives through various viability gap funding & tax benefits - Rejuvenation of old orchards- as in case of apples. - Farmer registration to establish traceability - Private sector/industry participation in setting research objectives for R&D institutions-which are in line with export requirements - Land leasing framework to be developed to facilitate land consolidation for setting up of Commercial Orchards by the Private sector. This can boost export oriented production and processing and bring in economies of scale along with world class efficiencies.

PROCESSING & VALUE ADDITION

CHALLENGES	RECOMMENDATIONS
- Higher offtake for fresh produce in domestic market limits the availability of raw material for the processing industry at viable prices. - Availability of economically processable varieties of consistent quality is low <i>Indian Orange has a brix content of 11 degree and juice content of 45% whereas the Brazilian Orange has a brix content of 13 degrees and juice content of 55%. Similarly, Indian apple has a brix content of 10 degrees and juice content of 75% whereas Chinese Apple has a brix content of 11 degrees and juice content of 80%³⁵.</i> - Comparatively lower scale of operation, low capacity utilization of processing facilities – due to seasonal production and lack of by-product integration is making processed products globally uncompetitive - Adulteration of processed products like mango pulp with lower grade varieties	- Extension of various support schemes such as Extending TAS and RoDTEP scheme to processed products. India's Processed F&V industry envisages RoDTEP @20% to make it competitive in the global market³⁶. - Detailed study on potential market options for key F&V produce in terms of key markets as well as value added products. <i>In the backdrop of COVID-19, export of Jackfruit based value added products such as Frozen/IQF Jackfruit, jackfruit spray dried powder, shakes and burger patties has seen good growth in the Australian market.</i> India needs to identify such opportunities and align its product development efforts to target markets - Research institutes/ SAUs to import germplasm and develop region-specific processable varieties (for guava, orange, papaya, potatoes etc.)

INFRASTRUCTURE AND LOGISTICS

CHALLENGES	RECOMMENDATIONS
- Lack of adequate post-harvest infrastructure <i>Inadequate infrastructure including packhouses and grading & sorting infrastructure for mangoes make it challenging to distinguish on the basis of quality (for consumption as fresh vs processed). This leads to high raw material cost to processors and non-remunerative prices to farmers.</i> - High operational cost of Cold-storages - primarily due to high cost of power – which forms more than 30% of operational cost – renders cold storage unviable for many fruits and vegetables - Non-availability of dedicated berths/Jetties for perishable produce leads to higher wait time in ports resulting in quality deterioration - Highly Volatile freight rates in the peak season impact profitability severely - Inefficiencies in port infrastructure	- Dedicated green channel for perishable goods to avoid deterioration and congestion. - Priority to and dedicated containers for perishables commodities - Coordination between MoC&I and Ministry of Shipping to dedicate container & off-loading space for F&V. - Hub and spoke model of connectivity to ports needs to be in place. Frequency of cargo flights/ enhanced allocation of space for key fruits like mango, pomegranate needs to be planned along with flights to major markets from nearest airports (Ex: Lucknow for UP Mango).³⁷

³⁵ Source: Industry, YES BANK Analysis | ³⁶ <http://agriexchange.apeda.gov.in/news/NewsSearch.aspx?newsid=32586>

³⁷ HLEG report - Growing India's agricultural exports through crop-specific, state-led plans

TRADE

CHALLENGES	RECOMMENDATIONS
- Tariff Barriers: Various tariff-barriers such as termination of GSP (Generalized System of Preference) by USA, lack of FTAs with EU or ASEAN countries result in higher import duties making Indian crops uncompetitive in the global market. - Perishable crops in developed markets are heavily subsidized while India's Transport Assistance Scheme and MEIS scheme is not extended to all fresh and processed F&V products. - Inability to address diverse phyto-sanitary requirements for different countries – such as irradiation for USA, Hot water treatment for EU, Vapor treatment for Japan etc., hinders growth in exports	- Government needs take strict action to curb substandard exports and promote best industry practices, thereby improving India's image as a reliable exporter. - Negotiating trade terms with target countries (FTA/GSP to lower import duties) - G2G discussions to secure FTA & preferential Agreements. - Some of the lucrative export markets can be accessed by recommended products treatments (Vapor/hot water/Irradiation etc.) E.g. Australian & USA market for Pomegranates & Grapes, Japan, Korea and USA market for Mangoes. - Trainings and workshops by officers from importing nations to be conducted for exporters and other stakeholders

MARKETING & BRANDING

CHALLENGES	RECOMMENDATIONS
- Limited efforts on Branding of Indian Produce- despite producing good quality F&V, India has not been able to build a brand against the key products (mango, pome, gherkins, grapes) as done in case of "Washington Apples"; leading to non-premium pricing. - Exports limited to conventional produce and markets: More than 75% of Indian agricultural export goes to developing nations with less stringent SPS norms. Keeping existing markets open is as important as opening up new export markets. - Currently India's F&V exports are largely limited to Pomegranate, Grapes, Mangoes and Gherkins.	- Strategy towards Right Market-Right Product- <i>E.g. Indian Pomegranates have higher antioxidants which can fetch premium prices in growing European markets.</i> - Building Brand 'India' - On the same lines as Washington Apples or Idaho Potato, India can position itself as the first choice for tropical fruits and vegetables such as Mango, Okra and Pomegranate. - Crops like Okra and Baby Corn which are labour intensive should be targeted for exports, given the comparatively cheaper labor availability in India. <i>Another Super-food gaining recent attention is Jackfruit, a great source of plant protein. Consumers in premium markets like US and EU are replacing animal protein with plant based protein. This opens opportunity for diversification of export product portfolio.</i> - Organizing and participating in International exhibitions like Fruit Logistica to showcase Indian fruits & Vegetables will help in building the country brand.

CASE STUDY

Chile – Aligning State/Territorial Governments for Developing Regional Clusters

Bearing in mind the need for concerted public support to Agro Clusters, Chile has launched a new tool called Integrated Territorial Programs (ITP). This tool aims at aligning the actions of businesses and regional governments to develop projects that raise the productivity and competitiveness of a given productive sector as well as develop the productive potential of a given territory (Cox, 2008). Examples of such ITPs in the agricultural sector are:

- “Frutas de Chile 2010” programme that supports the development of the Maule fruit cluster (apples, kiwis and cherries)
- Valparaíso ITP that aims at fostering the development of the avocado cluster
- O’Higgins ITP that supports the development of the fresh and processed fruit cluster (apples, table grapes and plums) in the O’Higgins region
- Coquimbo ITP (table grape, avocado and citrus fruits)

Chinese Apple Exports boom due to Production Boost and Investment in Infrastructure

Post the market reforms in the 1970s, China realized the importance of diversification and focused their investments on orchard rejuvenation, particularly setting up UHDP apple orchards. This was a matter of policy to ensure supply for the domestic market; however, it ensured China’s leading place in global apple trade. China’s apple production rose from 2.5 Mn MT 1978-80 to 201 Mn MT in 2001-03 (China National Bureau of Statistics). Since the early 1990s, China has overtaken the USA as the world’s largest apple producer and now accounts for more than one-third of world apple production (FAO, 2005). While apple orchard acreage in China has fallen after peaking in 1996, production has continued to increase because of better management techniques and commercialization of orchards (USDA, 2003).

Since 1995, the government has constructed a “green corridor” network of roads designed to connect areas that produce fresh agricultural produce with urban markets and ports. Apart from this, it developed a vast network of rural roads. China’s abundant rural labor supply means that wages and labor costs are low. This is a big factor for both farming and processing industries. On the back of its production side reforms, China has also emerged as a leading supplier of apple juice beating US, Argentina and Chile. China’s apple juice exports grew from USD 5 Mn annually in 1992-94 to USD 251 Mn in 2002-04.

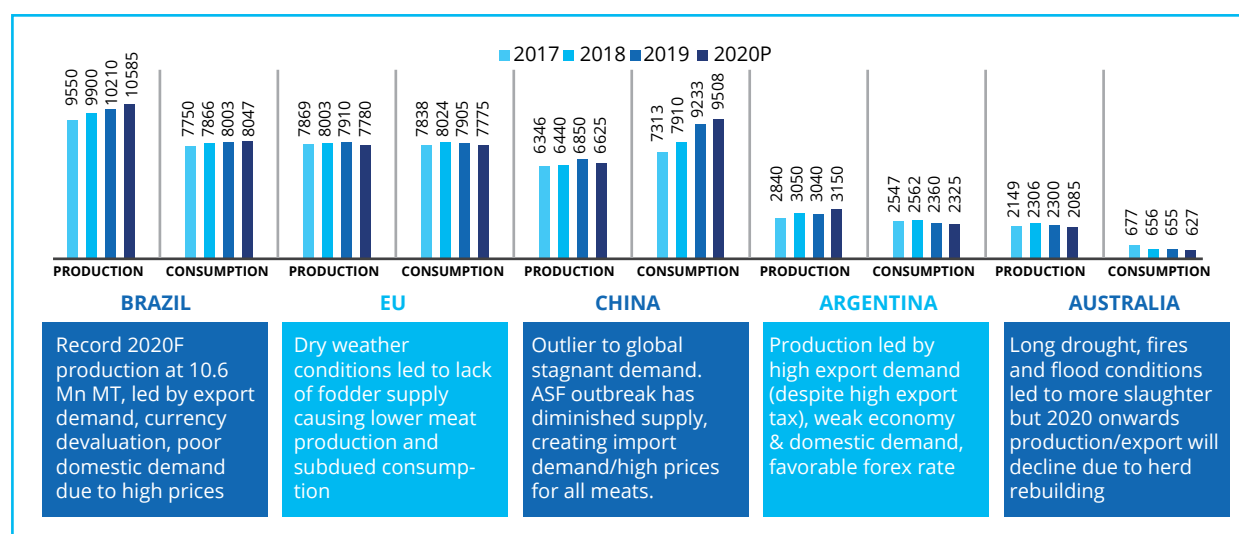
2.3 Meat

2.3.1 Global Overview

Production

The global production of bovine meat (including Indian “carabeef” or buffalo meat) in 2020 was estimated at 60.4 Mn MT³⁸. Leading producers of bovine meat include Brazil (10.1 Mn MT), EU (7.8 Mn MT), China (6.8 Mn MT) and India (3.6 Mn MT). In 2021, production gains in Brazil, the United States and India are expected to offset potential declines in China, Australia and the European Union. Exhibit 26 provides a snapshot of annual production and consumption trends across key producing and trading countries.

Exhibit 26: Beef Production and Consumption (000'MT)



Source: USDA, YES BANK Analysis

Trade

Global trade in bovine meat in 2020 was estimated at USD 50 Bn³⁹, registering a CAGR of 3.9% over the last five years (2015-2020). Leading exporters of bovine meat (including carabeef or buffalo meat) include Brazil, India and Australia while China, Middle Eastern nations and South Eastern Asian countries are the top importers (refer exhibit 27). Majority of the trade consists of high quality cow meat, also known as beef. India, however, is a supplier of low cost, buffalo meat or carabeef.

Exhibit 27: International Beef Trade: Top 5 Exporting & Importing Nations in 2020

Exporters				Importers			
Country	Value in USD Bn (2020)	% Contribution	% Change	Country	Value in USD Bn (2020)	% Contribution	% Change
Brazil	7.4	15%	10%	China	10.0	21%	34%
Australia	6.9	14%	-1%	USA	6.4	13%	0%
USA	6.6	13%	5%	Japan	3.3	7%	3%
India	2.8	6%	-7%	Korea	2.9	6%	10%
New Zealand	2.4	5%	1%	Italy	2.0	4%	-2%

Source: ITC, YES BANK Analysis

% Change is over 5 year period (2015-2020)

³⁸USDA

³⁹HS Code 0201, 0202

2.3.2 Indian Overview

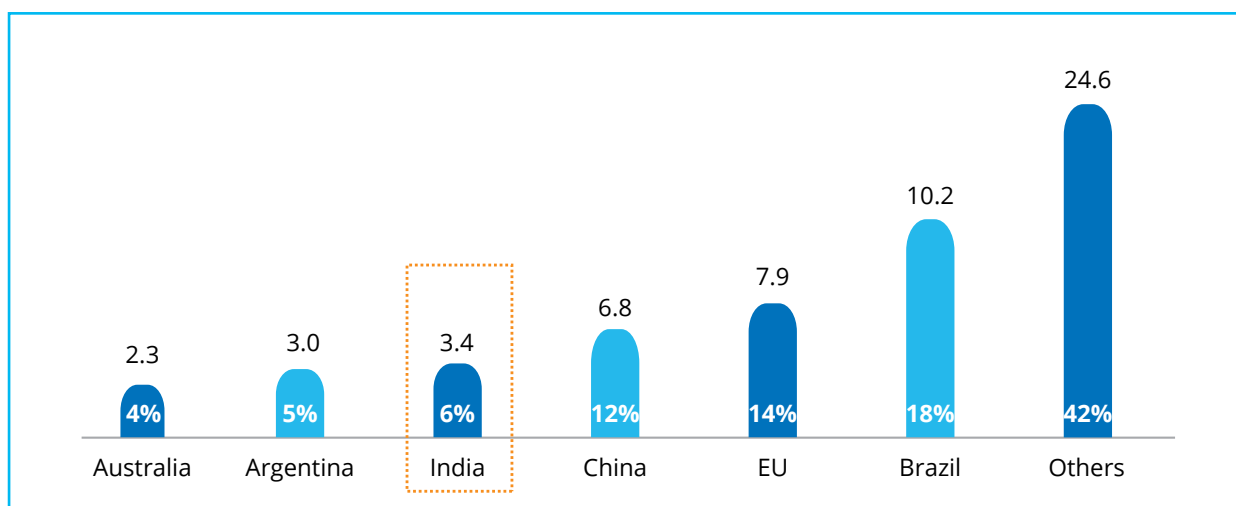
Production

Buffaloes are raised and utilized to their maximum potential by farmers in India. Once the animal is rendered uneconomical, it is considered spent and sold off in livestock markets for slaughtering purposes. Smallholder farmers in India typically possess 1-3 buffaloes as livestock and therefore aggregation plays an important role in the supply chain. Livestock traders aggregate animals from markets across regions and supply to exporters. Exporters have their own modern abattoirs cum Buffalo processing units.

Buffalo meat is estimated by DAHD to contribute about 25% to the country's total meat production. The major meat production centres in the country for exports are Aurangabad; Nanded; Mumbai and Satara in Maharashtra; Goa; Zaheerabad and Medak in Telangana; Derabassi in Punjab; Barabanki, Unnao, Aligarh, Meerut, Saharanpur, Noida and Ghaziabad in UP; Mourigram in West Bengal; and Gurgaon in Haryana.

Globally, India ranks 4th in terms of beef production after Brazil, EU and China. It produces 6% of global beef. Exhibit 28 provides a snapshot of India's ranking amongst leading producers.

Exhibit 28: India's Ranking in Beef Production Globally (2020), Production in Mn MT, % Denotes Share in Global Production



Source: USDA, YES BANK Analysis

Trade

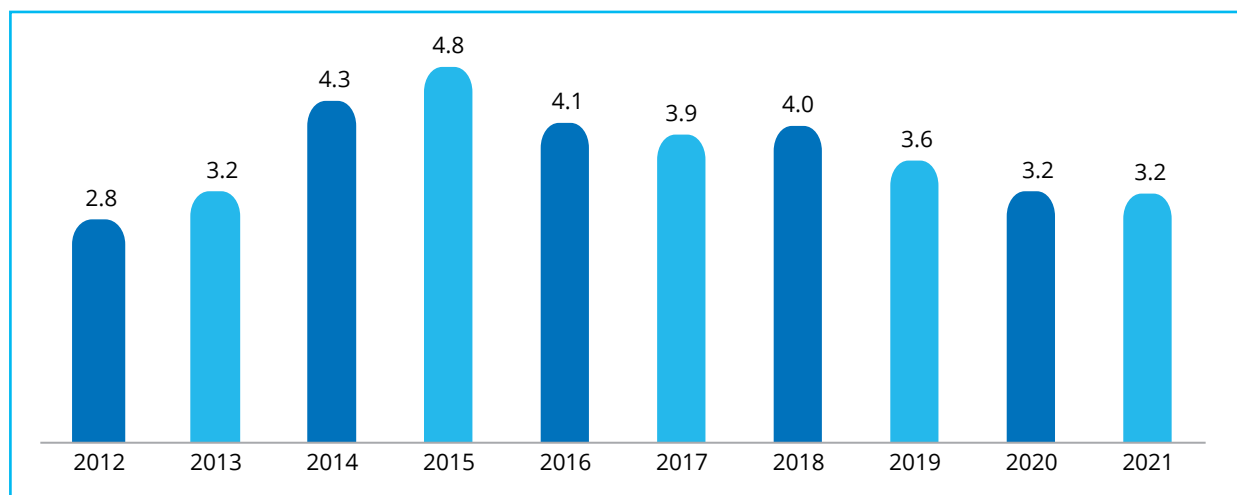
India is one of the largest exporter of Buffalo meat in the world. Buffalo contributes about 25% to the country's total meat production. High demand for low-cost, water buffalo meat (carabeef) from low and middle income nations, coupled with the negligible domestic demand, has propelled India's growth in the global meat sector. Since 2010, India's exports of bovine or buffalo meat have grown rapidly with India becoming the world's largest exporter in 2014. However, over the last few years, India has been witnessing a year on year decline to the tune of 10-15% in terms of value and volumes.

Indian Buffalo meat is preferred worldwide due to:

- Green livestock production system
- No practice of using hormones, medications for fattening of animals
- Free from major diseases
- Low fat and cholesterol
- Slaughtered through "Halal" method
- Blending ability with other meat
- Low cost

The Government of India has laid down standards for export of meat which includes standards for abattoirs and for processing plants. Only buffaloes slaughtered at APEDA recognised slaughterhouses and APEDA registered meat processing plants are allowed for exports. This helps in meeting quality standards, Halal and phyto-sanitary requirements of importers.

Exhibit 29: India's Beef Exports: Ten Year Export Trend (Value in USD Bn)



Source: USDA, YES BANK Analysis

India exports low cost, low fat, blendable Halal meat, with prices ranging between USD/MT 2800-3400, vis-a-vis other exporters supplying their meat at USD/MT 5000-7000. India's top export destinations include Vietnam, Malaysia, Egypt, Indonesia and Iraq. More than 50% of India's buffalo meat exports head to Vietnam, around 80-90% of which are rerouted to China. In effect, China is the leading buyer of Indian buffalo meat. In 2020-21, Hong Kong became the leading destination for meat exports meant for China, overtaking Vietnam. Exhibit 30 provides a snapshot of leading importers of India buffalo meat.

India's exports have recently been declining, largely due to curtailed Chinese demand for their fear of Foot and Mouth disease (FMD) in Indian buffaloes. Another critical factor is the relatively greater depreciation in Brazil's Rial and Argentina's Peso as compared to Indian rupee providing the former an added advantage for meat exports to China. In 2021, the overall Chinese per capita meat consumption is expected to decline by 12-20%. However, the decline in Chinese domestic pork production due to African swine fever will spur higher prices for animal proteins and bovine imports. Vietnamese import prices (reflecting Chinese demand) have been dragging down India's export realizations, despite upward price movement in other destinations.

Exhibit 30: India's Buffalo Meat Export: Top 5 Importing Nations, % Contribution and % Change

Country	Value in USD Bn	% Contribution	% change*
Hong Kong	0.9	27%	469%
Vietnam	0.4	13%	-29%
Malaysia	0.4	12%	-2%
Egypt	0.4	12%	-2%
Indonesia	0.3	10%	589%

Source: APEDA, YES BANK Analysis

*% change is the delta increase/decrease over the period 2015-2020

2.3.3 Challenges and Way forward for Scaling up Meat exports

FARM LEVEL

CHALLENGES	RECOMMENDATIONS
- FMD is the biggest challenge facing the meat industry⁴⁰. Despite much effort and expenditure, India's FMDCP program has not succeeded unlike that of its Brazilian counterpart. - Recently Maharashtra and Telangana were declared FMD free with vaccine. However, majority of India's buffalo meat exports are done out of Uttar Pradesh where challenges remain abound. Also, importers insist on the entire nation being FMD free. - Traceability is expected to become a sine qua non for international trade - making animal tagging critical. - Male Calf Rearing Scheme: Buffalo Meat production from traditional sources in India has plateaued. In order to boost production, one may look at utilizing male buffaloes⁴¹. <i>AHD had launched "Salvaging and Rearing of Male Buffalo Calves" scheme that extends subsidies and/or loans to livestock farmers to encourage them to rear, rather than dispose of, young male buffaloes. However, a number of operational and policy nuances had limited its potential scope.</i>	- Dual RFID tagging of buffaloes meant for slaughter may be made an essential requirement. National program for tagging is already in existence and must be implemented on mission mode. Issues such as failed vaccines and duplicate products need to be dealt with, strictly. - Male Calf Rearing: DAHDF must relaunch its "Salvaging and Rearing of Male Buffalo Calves" with relaxed age norms for slaughtering calves, easing collateral norms and ratings requirements to include NBFCs. - Pre-slaughter fattening may be incentivized to become a viable commercial opportunity. Successful implementation of this scheme can add another 1.5—2 Mn MT of bovine meat to India's production.

PROCESSING & VALUE ADDITION

CHALLENGES	RECOMMENDATIONS
- Majority of exports are in boneless, frozen form with minimal tertiary level value addition being carried out - Utilization of by products is critical to economic viability as well as overall sustainability of exports. The main byproduct of buffalo meat production is raw buffalo hide (8% hides emanate from export abattoirs). <i>However, hide attracts an export duty of 60% in India which is in contrast to 9% in Brazil, 5% in Argentina and Uruguay and 0% in Australia & UK.</i>	- A comprehensive strategy to enable value addition and boost value added exports is required. A critical step to grow exports will need to involve manufacturing value added products (~USD 500 Bn export potential) as per the tastes of buyers including assorted meat balls, sausages, kebabs etc. - Duties on hides must be rationalized in line with the rest of the world.

⁴⁰India is a member country of the International Organization for Animal Health (OIE), and is mandated to report list "A" and list "B" animal diseases to the OIE at regular intervals. Among the list "A" disease of cattle and buffaloes, except for foot and mouth disease, India is free from all other bovine diseases. Foot and Mouth Disease Control Program (FMD CP) in India was initiated in 2004 by the government (DAHD&F) in 54 districts of the country governing 9 states and 1 union territory (A&N islands). As per the government statistics, vaccination was 100% and done twice a year with trivalent (O, A and Asia1) vaccine.

⁴¹A significant number of male calves perish annually as farmers find no use for them. They are costly to rear and do not generate any traditional income for the farmer

CHALLENGES	RECOMMENDATIONS
<i>This duty on hide sets back Indian meat export prices by ~8%⁴².</i> A number of additives & fillers used in meat value added products are not available in the domestic market. Some of the fillers easily available are not suitable for a Halal supply chain.	- Continuation of central and state government grants for value addition in food processing and cold chain will be useful. - It is important take into account viability of imports or to promote domestic production of fillers (required for processed food products), if any long term, sustainable export strategy is to be built to boost value added meat.

TRADE

CHALLENGES	RECOMMENDATIONS
- India's bovine meat exports are highly dependent on the continuation of trans-shipment routes (Vietnam) as prospects for formal opening of key markets (China) look dim. - Indian meat faces high tariffs across countries including: Algeria - 51%, Cambodia - 26%, Vietnam - 12%, Philippines - 10%, Indonesia - 5% and Thailand-50%.	- India must focus on penetrating low cost, developing bovine meat markets including Russia, Jordan, Oman, Thailand, Iran, Georgia, Kuwait, Bahrain, Qatar, Bangladesh which comprise of 25% of India's current exports. This would include strong tariff negotiations and special bilateral trade agreements. - Sustained discussions and bilateral talks are required to reduce tariff barriers, open access to key ports in Indonesia, improve existing quotas and access untouched markets. - The New Foreign Trade Policy in 2021 should offer RODTEP with higher or phased out assistance at ~10%. - Access to China, Philippines, Iran, Turkey and Thailand is critical for boosting Indian exports. Opening direct access to retail export markets will be important for value added exports.

MARKETING

CHALLENGES	RECOMMENDATIONS
China is a critical market for meat, however, the formal opening of this market for Indian meat does not seem a near term possibility. Thus, new markets need to be focused upon to sustain growth.	- A comprehensive marketing program spanning across regions (for deepening market share as well as for opening new markets) is required. - Food bloggers, restaurateurs, chefs and retail consumers of target countries need to be engaged on multiple forums. Indian embassies and consulates in buying countries will be best suited to take up and lead these marketing initiatives. - Launching extensive marketing plans, such as cookery shows and tasting sessions, to develop taste for Indian meat products amongst chefs and retail consumers in importing nations.

⁴²Meat companies are unable to sell hides in the domestic market due to different quality requirements and low price points. Hide factories have been shutting down in the country while import of hide has increased substantially

POLICY/REGULATORY

CHALLENGES	RECOMMENDATIONS
While cultural sentiments are mainly towards cows and not buffalo per se, the overall tone remains averse to cattle trade meant for slaughter purposes. Various states have their own policies which are not amenable to animal transportation and unfavorable to the overall meat trade.	Clear, stable and transparent policy signals to be provided to exporters and importers so that a sense of long term supply stability prevails.

2.4 Fisheries

2.4.1 Global Overview

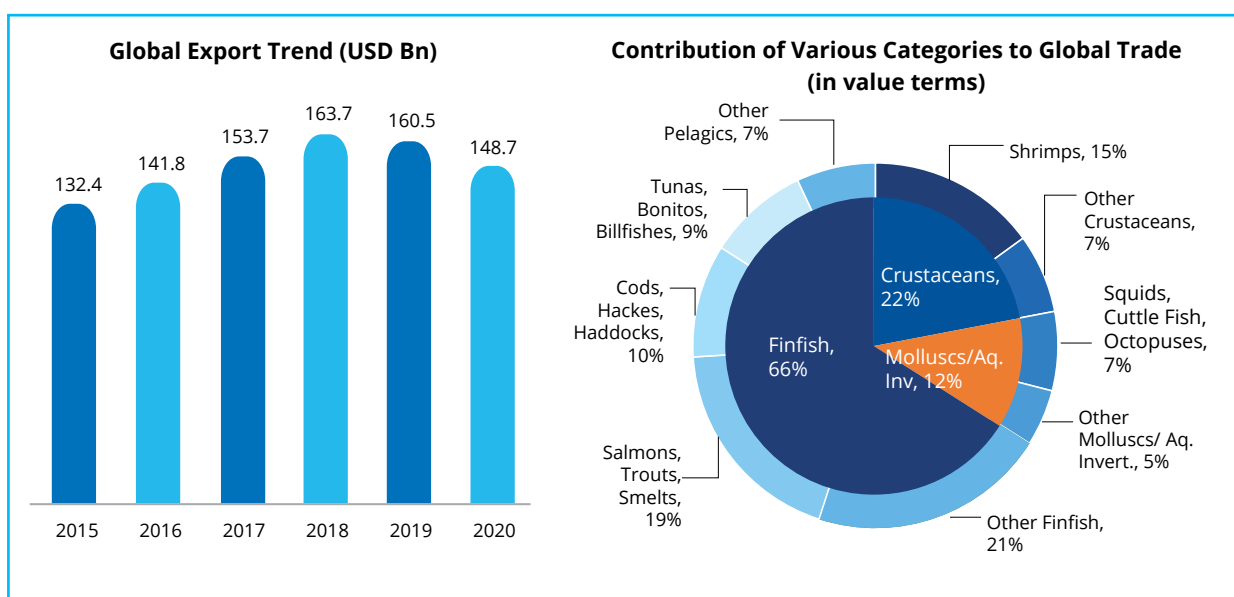
Production

Global fish production was around 175 Mn MT in the year 2020 and is expected to reach around 200 Mn MT by the year 2029. Aquaculture accounted for over 46% of the total production, as against ~ 26% in the early 2000s. By the year 2024, the share of aquaculture is expected to cross capture fish production. China is the leading producer of fish resources, with around 35% of global fish production (2018), followed by Indonesia (7.1%), India (6.9%), Vietnam (4.2%) and Peru (4.1%).

Trade

With the total trade of USD 149 Bn in the year 2020, exports were down by 7.4 from 2019 (USD 161 Bn) due to Covid-19 pandemic as there were restrictions in labour movement, restricted trade and business operations. Global fisheries exports have been growing at a CAGR of ~2.35% over the last five years. Major categories by export value include Finfish (66%), Crustaceans (22%) and Molluscs and other aquatic invertebrates (12%) (refer exhibit 31)⁴³.

Exhibit 31: Global Exports Trend and Contribution by Key Categories



Source: ITC Trade Map, FAO, YES BANK Analysis

⁴³UN COMTRADE and ITC Trade Map, FAO, State of World Fisheries and Aquaculture

Shrimp/Prawns is one of the major value contributor to the global trade, valued at USD 19.5 Bn in the year 2019. Sea Water Frozen shrimp is an important sub-category, with over USD 17.75 Bn of exports in the year 2019. This category has grown by 25% over the last five years as compared to other shrimp categories. The leading countries contributing to the frozen sea water shrimp export are India with over 25% share, Ecuador (21%), Vietnam (11%) and Indonesia (7%) (refer exhibit 32).

Exhibit 32: Global Shrimp Trade Snapshot

Category	Trade Value (USD Billion)	% change*	Leading Exporters
Frozen Shrimp Sea Water	17.75	25%	India (25%), Ecuador (21%), Vietnam(11%), Indonesia (7%)
Frozen Shrimp Fresh water	1.64	-3.9%	Grnland(21%), Canada(17%), Denmark(16%), Ecuador(13%)
Fresh/Salted/Smoked Sea Water	0.034	-91.9%	M'ritiana(42%), G'tmal(33%) Philippines(14%), Mexico(10%)
Fresh/Salted/Smoked Fresh Water	0.007	-99.8%	M'ritiana(42%), G'tmal(33%) Philippines(14%)

Source: UN COMTRADE and ITC Trade Map, FAO

*% change is increase/decrease % between 2015-2020

Shrimps are a major traded commodity with key production regions being Asia and Latin America; consumption mostly happens in developed markets like USA, EU and Japan. China has recently started to evolve into a major consumption center (refer exhibit 33). Ecuador, with their strong focus on sustainable shrimp production and traceability initiatives, has created a niche in the international market.

Exhibit 33: International Shrimp Trade: Top 5 Exporting & Importing Nations in 2020

Exporters				Importers			
Country	Trade Value (USD Billion)	% contribution	% Change*	Country	Trade Value (USD Billion)	% contribution	% Change*
India	3.8	23.4%	9.6%	USA	4.9	30%	6.8%
Ecuador	3.6	22.4%	60.9%	EU 28	4.0	24%	24%
Vietnam	1.9	12%	6.7%	China	3.1	19%	597%
Indonesia	1.4	8.7%	12.4%	Japan	1.3	8%	-15.3%
Argentina	0.8	5.1%	-17.2%	South Korea	0.4	3%	23.6%

Source: UN COMTRADE and ITC Trade Map, FAO

*% change is increase/decrease % between 2015-2020

2.4.2 Indian overview

Production

The total fish production in India stood at 13.75 Mn MT in the year 2018-19⁴⁴. Domestic market accounts for around 70% of the market share while the rest is contributed by exports. Inland fish production contributes ~70% of the total fish production while rest is contributed by Marine production. Marine production has reached a stagnation point, while aquaculture is leading the growth in inland production.

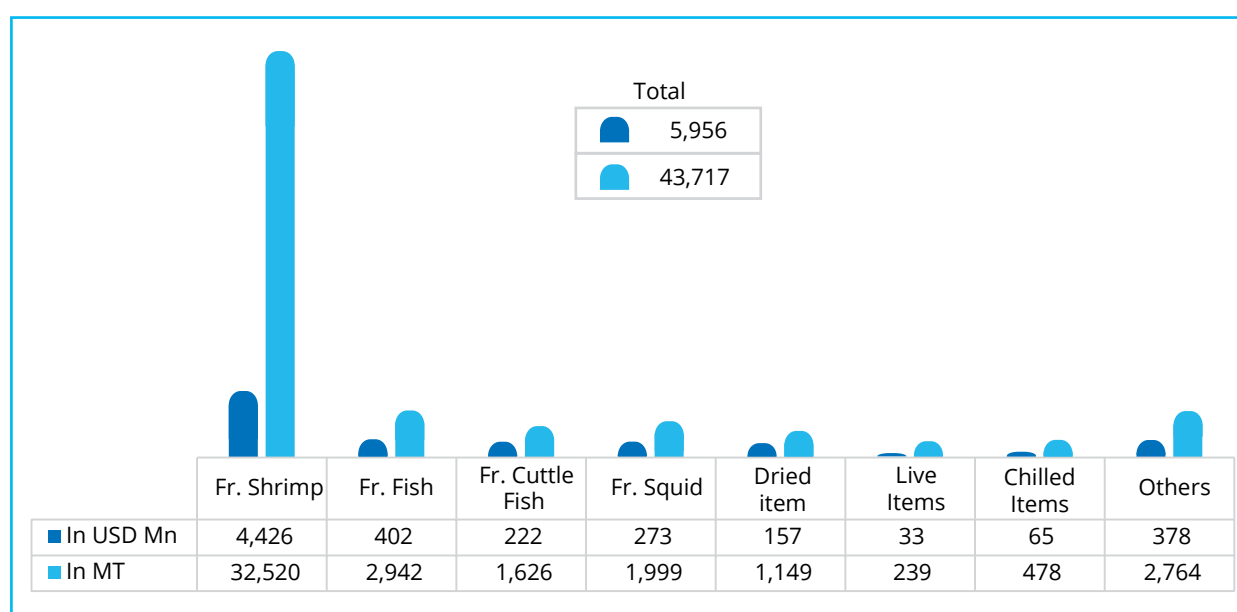
⁴⁴ Ministry of Fisheries

Contribution of freshwater aquaculture to total fisheries production was around 34% in the mid-1980s which has subsequently increased to more than 70% in the recent years. Top five Indian states (Andhra Pradesh, West Bengal, Gujarat, Tamil Nadu and Maharashtra) contribute ~60% to the country's production.

Trade

India exported around 1.1 Mn MT of fish and aqua products valued at USD 5.9 Bn in the year 2020-21 (down from peak of USD 7.08 Bn in 2017-18). India's export basket is primarily dominated by frozen shrimps, cuttle fish, frozen squids and dried fish. Frozen shrimps contributed ~51% to the total export volume and ~73% to the total value (USD 4.4 Bn) of exports in the year 2020-21. Indian exports have been growing at a CAGR of 4.9% over the last five years (2015-16 to 2020-21).⁴⁵

Exhibit 34: India's Export Basket in Terms of Value and Volume Share (2020-21)



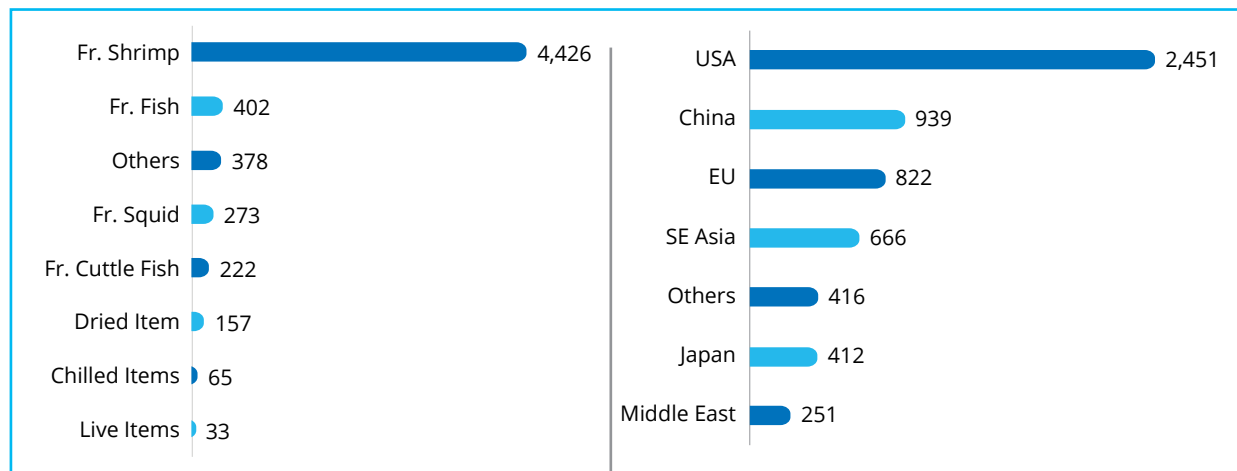
Source: MPEDA

Frozen shrimp is a major category contributing to around 73% value to the total exports, and has grown at a CAGR of 7.4% in five years from 2016-21 (average growth rate since 2016-17). Frozen Fin Fish and Frozen Squid are the next major commodities which contribute around 7% and 5% to the total export value. There has been a de-growth in export value for frozen fin fish, chilled items and live items to the total exports in the last five years.

The top export destinations for India's fisheries exports are USA (41%), China (14%), EU (14%) SE Asia (11%) and Japan (7%). There has been de-growth in the total export value for EU and SE Asia over the last five years by 20% and 61% respectively (average growth rate since 2016-17). There has been phenomenal increase in the average growth in export value (since 2016-17) for USA and China over the last five years by 42% and 365% respectively.

⁴⁵ MPEDA

Exhibit 35: Key Export Products and Markets in 2019-20 (In USD Mn)



Source: MPEDA

Since 2017, India has become the fourth major exporter in the world, boosted by a steep increase in farmed shrimp production. The shrimp exports were only USD 1.7 Bn in the year 2011-12 which has grown to USD 4.42 Bn in the year 2020-21. Going by the trends, the contribution of shrimp going forward will continue to rise as new aquaculture areas are coming under shrimp farming.

2.4.3 Challenges and Way Forward for scaling up Fisheries Exports

FARM LEVEL

CHALLENGES	RECOMMENDATIONS
- Current focus on limited species- Presently, Indian Fisheries export is dependent on only few species (shrimp: <i>Litopenaeus vannamei</i>). Any probable climatic or disease outbreak will lead to losses across the value chain and impact Indian exports. - Low productivity: 4.5 MT/ha vs 10.4 MT in Thailand. - Obsolete farming practices - Availability of poor quality seeds (from unauthorized hatcheries) in the market - Poor access to farm inputs - Lack of strong backward integration leading to low control on quality and traceability (<20% procurement) - Cumbersome and long (sometimes >1 year) process for registration of ponds, leading to many non-registered ponds.	- Diversifying focus from just shrimp to Seabass, Pangasius, Tilapia species, native catfishes, Himalayan trout, freshwater prawn etc. This will require extensive research, provision of pathogen free seeds and a cluster based approach linked with the market. - Government to support private sector for improved genetics and innovations in aqua feed. - Create awareness and support adoption of more efficient and intensive farming technologies like RAS, BioFloc technologies. - New areas need to be developed like inland fisheries, cage culture etc. This may be done in cluster approach, in partnership with a private anchor - Strict actions to be taken against unauthorized hatcheries - R&D to focus on low cost technology for automatic feeders, aerators, real-time information gathering, feedback for farm management, high-quality feed etc. - Simplification of pond registration process and implementing a “Single Window Clearance” can significantly unlock the growth potential of Shrimp.

PROCESSING & VALUE ADDITION

CHALLENGES	RECOMMENDATIONS
- Export of low value-added products- Frozen Shrimp dominates India's seafood export basket and only 6-7% of the category exported are in the form of tertiary value added products as compared to 65% in Thailand⁴⁶ - Indian frozen products are exported to SE Asian countries and China where further value addition is done before re-exporting to developed markets.	- Detailed assessment and study to evaluate the right markets to be targeted through right value added products. - India needs to evaluate and replicate China's incentive scheme for value addition where exporters are supported significantly for moving to valued added seafood products. The recently announced PLI scheme is expected to be an effective step in this direction for shrimp sector. - Skill development of processing employees (mainly females) for making value added product should be taken up on mission mode

INFRASTRUCTURE & LOGISTICS

CHALLENGES	RECOMMENDATIONS
- Lack of hygienic landing centers - Inadequate storage infrastructure and transportation facilities. - Majority of broodstock is imported due to limited BMCs.	- Strengthening of post- harvest infrastructure such as cold storage facilities, ice plants, freezing/processing units, roads and transportation, modern and hygienic wholesale outlets are the key requirements for the development of this sector. - Adequate research and funding in new species development to be taken by government (any specific department/institution) on priority and subsequent development of Nucleus Breeding Centres (NBC), Brood stock Multiplication Centers (BMC) and Hatcheries to be done.

⁴⁶ MPEDA

TRADE

CHALLENGES	RECOMMENDATIONS
- India is unfavorably positioned as compared to other SE Asian countries & Ecuador as import duties imposed on Indian exports are higher than these countries. <i>USA imposes around 1.35% anti-dumping duty on Indian exports as compared to 0% of Ecuador and 0.6% on Thailand. Similarly EU imposed 4-5%, Korea around 20% on Indian exports.</i> - Developed countries like Europe and Japan demand their orders to be contaminants free. Since October 2016, the E.U. has increased the sampling of Indian shrimp consignments to 50% from 10%.	- Enhanced safety measures by importing nations warrant introduction of a strong and robust traceability system for aquaculture, for which farm/farmer registration is essential. MPEDA has taken initiatives in this his respect - On the lines of TRACENET of APEDA, MPEDA could evaluate development of a traceability software for fisheries resources. - Promotion and adoption of technology like block chain can play an important role in achieving traceability and integrate the value chain. - Adequate backward linkages by the private sector, with cluster based farming will lead to reduction in export rejection. - Strengthening of food testing lab infrastructure at farm proximate level will significantly help in avoiding quality rejections at a later stage - Bilateral talks with EU/other target markets like Europe to define trade agreements with well-defined testing protocols.

CASE STUDY

Sustainable Shrimp Partnership, Ecuador

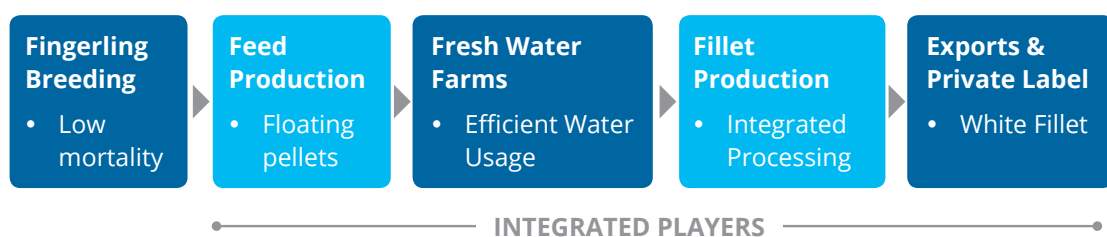
Sustainable Shrimp Partnership (SSP), is a sustainability initiative led by Ecuadorian shrimp producers for traceability that aims to provide consumers with information on their shrimp's movement from farm to fork. SSP's goal is "the highest quality premium shrimp that meets the highest social and environmental standards".

SSP has highlighted Ecuadorian efforts for sustainable shrimp production. SSP members are Aquaculture Stewardship Council certified, with focus on zero antibiotic use, neutral water impact and full traceability. SSP offers consumers with an application, where consumers can scan a QR code stamped on SSP BLUE BOX shrimp packaging to review data including where, when, and how the shrimp was farmed and processed, and trace it through every stage of its growth and processing to ensure they are purchasing a safe, premium quality product. The app is based on block-chain technology offered under the IBM Food Trust platform, and SSP is the first to offer its shrimp products on this platform. SSP has led to premium for Ecuador shrimp, zero exports rejections and no duties.

Source: SSP, seafoodsource.com, IBM

Case study-Integrated approach for pangasius (cat fish)

- Vietnam exports more than USD 2 Bn
- **Natural Advantages** – Hotter temperatures and freshwater availability in Mekong Delta
- Production now is 1.3 Mn MTs ~ 50% of global production. Tremendous potential in India, Bangladesh and Indonesia.



Source: Industry Sources

2.5 Spices

2.5.1 Global Overview

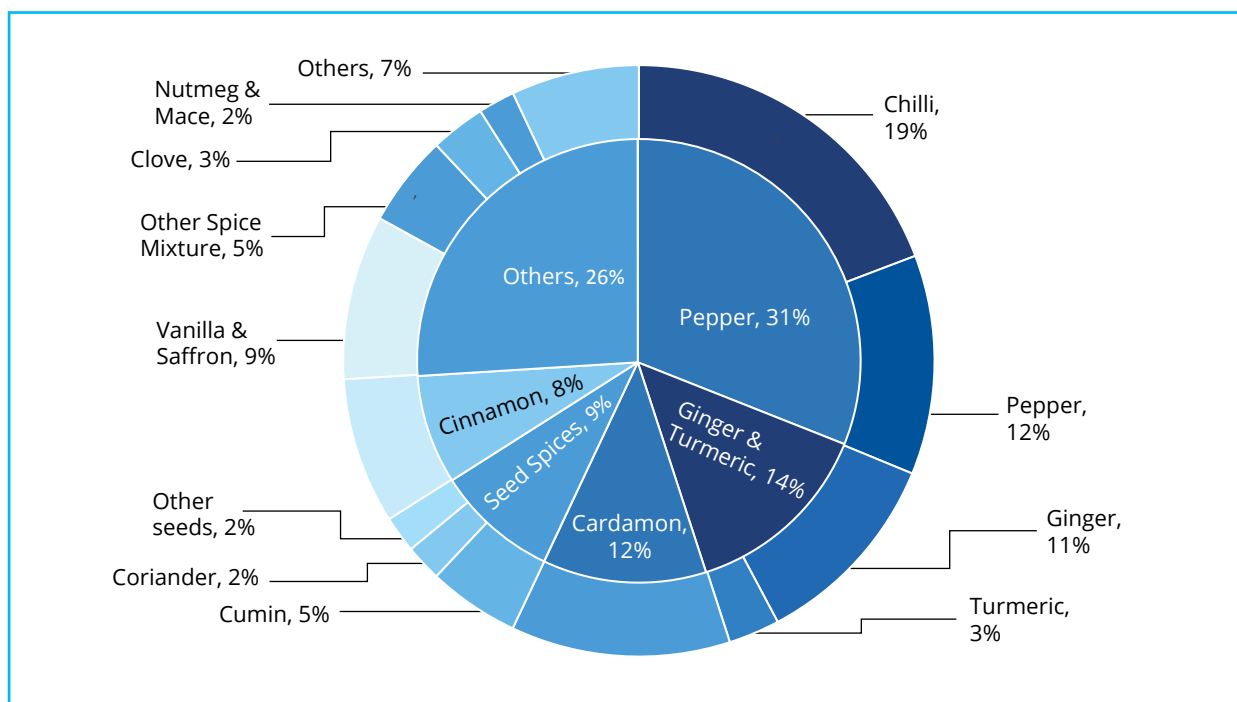
Production

Globally ~2.8 Mn MT of spices were produced in 2019, up by 3.4% (CAGR) from 2.3 Mn MT produced in 2015. The global leaders in spices production include India (50%), Ethiopia (11%), Turkey (9%), Indonesia (9%) and Bangladesh (6%). These top producers together contribute to ~85% of the global production.

Trade

In the year 2020, the total traded value of spices globally is estimated at USD 12.9 Bn. Within the spices category, chili (19%), black pepper (12%), cardamom (12%), ginger (11%) and cinnamon (8%) are the 5 largest traded commodities, contributing to more than 60% of the global spices trade value (refer exhibit 36). The global spices trade has witnessed CAGR of 4% since 2015.

Exhibit 36: International Spices Trade: Contribution of Various Categories to Global Trade (2020)



Source: ITC Trademap, YES BANK Analysis

With a share of ~19%, India is the leading exporter of spices, followed by China, Guatemala (largest producer of Cardamom), Vietnam and Indonesia. These top 5 exporters contribute to over 55% of global spices exports. On the import front, USA (14%), China (5.9%), Germany (5.6%), Saudi Arabia (5%), India (5%) are the leading importers, together contributing to ~35% of the global imports (refer exhibit 37).

Exhibit 37: International Spices Trade: Top 5 Exporting & Importing Nations in 2020

Exporters				Importers			
Country	Value in USD billion	% Contribution	% change*	Country	Value in USD billion	% Contribution	% change*
India	2.5	19%	47%	USA	1.6	14%	-3%
China	1.9	14%	101%	China	0.8	6%	1080%
Guatemala	1.1	9%	364%	Germany	0.7	5.6%	6%
Vietnam	0.9	7%	-28%	Saudi Arab	0.6	5%	66%
Indonesia	0.8	6%	-2%	India	0.6	5%	9%

Source: ITC Trademap, YES BANK Analysis

Total spices exclude Mint products, Oleoresin and Spices paste (Including these Global export was USD 28.6 Bn in 2019-20 and Indian and Chinese export was USD 3.1 Bn and USD 4 Bn in 2019-20.)

*% change is increase/decrease % between 2015-2020

2.5.2 Indian Overview

Production

As the world's largest producer, consumer and exporter of spices, India accounts for almost half of the global spice production. Blessed with diverse agro-climatic zones, the country produces a wide range of spices that are known for their fragrance, flavor and texture. The country produced ~10.5 Mn MT of spices in 2020-21⁴⁷, largely contributed by Garlic, Chilies, Ginger and turmeric (refer exhibit 38). Spices are produced across India, with the largest contribution coming in from Madhya Pradesh (largest producer of Ginger, Garlic, Fenugreek and Coriander), Rajasthan, Gujarat, Andhra Pradesh, Telangana and Karnataka. These six states contribute around 75% of India's total production of spices (2020-21).

Exhibit 38: Spices Production in India, 2020-21, Commodity Share & Growth

Spices	Production in Mn MT	% Contribution	CAGR since 2015
Garlic	3.12	30%	14%
Chili	1.99	19%	6%
Ginger	1.88	18%	13%
Turmeric	1.10	11%	3%
Cumin	0.86	8%	11%
Coriander	0.82	8%	8%
Pepper	0.07	1%	7%
Others	0.64	6%	-1%

Source: Spices Board, YES BANK Analysis

⁴⁷ Source: Spice Board of India

Trade

In terms of exports, India exported 1.2 Mn MT of spices worth USD 3.2 Bn in 2019-20 and 1.56 Mn MT of spices worth 3.6 Bn in 2020-21. Despite the COVID-19 Pandemic, export of spices from India continued its upward trend during 2020-21 and crossed the USD 3.5 Bn. Export of spices attained an all-time record in terms of both volume and value in the year registering an increase of 30% in volume, 23% in rupee terms and 17% in dollar terms of value compared to the previous year.⁴⁸

India's spices export basket is majorly contributed by chili (31%), cumin (16%), mint products (13%), spice oil & oleoresins (12%) and turmeric (6%) in 2019-20 (refer exhibit 39). India exports its spices (over 200 spice products) to about 180 countries, spread across the globe, the largest importers being China (23%), USA (15%), Bangladesh (5%), UAE (5%), Thailand (5%) and Sri Lanka (3%). A major shift is seen in export to China and Vietnam. Spices export to China increased from 14% in 2018-19 to 23% 2019-20, major products exported to China are raw Chili dried, Spices oleoresins and ear mint products. Export to Vietnam has decreased from 9% in 2018-19 to 1% in 2019-20. It is interesting to note that India has captured a fairly diverse market for its spices sub-categories, with over 25 unique names emerging in the top 5 importers for various sub-categories.

For chili, which is the largest exported category, China, Thailand and Sri Lanka are the key exporting nations with a combined share of ~55%. In 2019, China also allowed India to export Chili meals to its market. Chili meal is widely used as an industry input in the manufacturing of chili sauce and other products. This resulted in growth of Chili imports to China from 0.75 Lakh MT in 2018-19 to 1.4 Lakh MT in 2019-20. Export of raw spices products to China is increasing however, there is dip in export of processed products under Spice Oleoresins to China.

The Spices Board has set a target of USD 5 Bn exports by 2025 and USD 10 Bn exports by 2030, which is eminently achievable⁴⁹.

Exhibit 39: India's Spices Exports: Top 5 Categories, Key Importing Nations, % Contribution and % Change

Spices	Exports in USD Mn	% Contribution	% Change	Top Importing Countries in 2019-20
Chili	1.12	31%	14%	China 26%, Thailand 11%, Sri Lanka 7%
Cumin	0.57	16%	13%	China 26%, Bangladesh 12%, USA 11%
Mint Products	0.50	13%	2%	China 19%, USA 3%, Singapore 1%
Spice Oil & Oleoresins	0.22	12%	7%	USA 10%, China 5%, Germany 5%
Turmeric	0.15	6%	13%	Bangladesh 13%, USA 12%, Iran 9%

Source: Spices Board, YES BANK Analysis,

% change is CAGR- from 2015 to 2020; Exports for FY20

⁴⁸ Spices Board

⁴⁹ <https://www.thehindubusinessline.com/economy/agri-business/mission-value-addition-spices-board-eyes-5-billion-exports-by-2025/article33809229.ece#:~:text=The%20Spices%20Board%20has%20set,by%20coordinating%20with%20Indian%20Embassies.>

Besides being the leading exporter, India is also a key importer of spices. India majorly imports Clove, Pepper, Cassia, Ginger, Turmeric, Cardamom, Other spices and Spice Oil & Oleoresins. Most of these imports are limited to raw material, which are subsequently processed, value added and further used as raw materials in spice blends, or other processed food. These are then either exported or consumed within the market.

In terms of value addition, India is far from achieving the actual potential of processed spice products. Value addition is largely limited to crushed, ground, powdered forms and to a very limited extent to extracts and oleoresins. In the crushed, ground and powdered form also, there is a long way to go to enhance our share in the processed category. Considering Chili as an example, for which India is the largest exporter, ~80% of chili exports take place as whole dried chili, in contrast to China and Spain (second and third largest exporters respectively) who export ~70% and 100% chili in processed form.

2.5.3 Challenges and Way Forward for Scaling up Spices Exports

FARM LEVEL

CHALLENGES	RECOMMENDATIONS
- Low productivity <i>India's productivity stands at 1,740 kg/ha, while countries like Indonesia, Mauritius, Sri Lanka, Malaysia have productivity upwards of 10,000 kg/ha.⁵⁰</i> - Low mechanization - Unavailability of high yielding varieties - Lack of precision farming - Production base/varieties not in sync with the market demand - Indian spices exports have been facing significant issues/rejections related to MRLs, raw material authenticity, purity, biphenyl in herbs and spices, presence of aflatoxins and ochratoxins, Mineral oil compounds and unintended presence of traces of allergens in the products. - Unable to tap the premium markets-demanding authentic, certified products. - Indian spices are losing their value and fetching low prices in International markets because the products are not able to trace back to the country of origin	- Development of specialized, custom made farm equipment for Indian terrain - AI and precision farming mechanisms can significantly boost productivity - With increasing compliance levels across countries, India needs to adopt a mission critical approach to implement Good Agricultural Practices on ground and educate farmers on judicious usage of pesticides, integrated pest management and post-harvest management. - India should work with other countries in setting up limits for various pesticides. - Strict regulations to be in place to follow 'source of origin requirements' posed by importing countries. - Research and Development to focus on developing high yielding varieties, varieties/attributes that are in demand by the market (E.g. Chili colour, pungency). Private sector participation in guiding the research objectives is imperative - Regular interactions between the private sector, R&D institutions and Government to discuss on market requirement and streamline R&D. - Lab to Land transfer to be led by private sector -critical role in convincing farmers and bringing the on-ground change.

⁵⁰ FAOSTAT

PROCESSING & VALUE ADDITION

CHALLENGES	RECOMMENDATIONS
- Value addition in spices is largely limited to whole, ground, crushed spices and there has been limited focus on high value product like oils and oleoresins. - In the ground/ crushed and powdered forms also, India needs to move up the value chain from bulk to well-packaged branded products. - Product Innovation - Indian exporters need to look at the market demand in terms of the product being demanded and evaluate processing the same at competitive prices. - China becomes much more competitive to India as its exporters receive incentives to the tune of 10-17%, which is far higher than the MEIS incentive received by Indian exporters (delayed and incessant payment on MEIS is also a concern).	- Need to incentivize processing and value added exports. - RoDTEP scheme to consider incentive on chili/ other spices exports in line with competitors like China (~10% for processed chili). - free & liberalized imports of equipment's of packing material for re-export of value added spice products.

MARKETING & BRANDING

CHALLENGES	RECOMMENDATIONS
Branding and Marketing - India has GI for many spices including Alleppey Finger Turmeric, Cochin Ginger, Erode Turmeric, Lakadong Turmeric, Kumbharaj Coriander and many others, yet we have not been able to monetize this opportunity	- India needs to position origin-based branding of these spice varieties to command price premium, especially in the US and EU markets. - Health and Immunity boosting properties of different spices needs to be marketed

TRADE

CHALLENGES	RECOMMENDATIONS
- Duty Structure-Most of the ASEAN countries impose a duty structure that is lower for whole products and higher for value added products, which impacts exports of processed products. - ASEAN countries have zero duty for China unlike India, making Indian export uncompetitive. - Indian exports to Latin American countries have imposed tariffs. Importers can re-export within Latin America at zero duty. NAFTA creates a competitive advantage for Mexico inhibiting Indian Value Added exports⁵¹.	- Free trade agreements need to be reviewed to give a level playing ground for processed products - FTA's / PTA's to be developed with major spice importing nations. Vietnam is one of the top 3 importers of Indian Chili. It exports the same to China at zero duty under China-ASEAN CEPT scheme. India should engage in discussion for level playing field for Indian Exporters. Discussions on rationalizing import quality specifications with EU and USA. - India to Re-negotiate with USA to keep GSP (Generalized System of Preferences) benefits in place.

⁵¹ HLEG report - Growing India's agricultural exports through crop-specific, state-led plans

TRADE

CHALLENGES	RECOMMENDATIONS
- Internal regulatory norms in some cases pose a hindrance to value addition. Internal norms like completion of processing within 120 days (for the purpose of re-exports) has impacted the value addition industry. - In case of advance licenses, Indian exporters get lesser time (3 months) to fulfil export obligations	- Regulatory norms that impact value addition must be revisited and modified. - Timeline for export against advance licenses can be increased to 12 months to leverage, seasonal procurement

2.6 Vegetable Saps and Extracts

India exports significant volumes of high value, plant derived extracts and health supplements under the broader HS chapter of Vegetable Saps and Extracts. Global malnutrition, micronutrient deficiency, modern lifestyle diseases, changing dietary patterns and exorbitant costs of healthcare have created a favorable, tectonic shift in the global outlook on botanical based consumer products and nutraceuticals. Medical practitioners, modern consumers and healthcare companies are looking at new and innovative ingredients and delivery mechanisms to prevent and cure diseases. This bestows on India a tremendous opportunity for making available its natural, plant-based extracts and nutraceutical products for global consumers and medical patients. These products are used as food supplements for boosting nutrition as well as in preventive healthcare and for curing diseases.

This chapter provides an overview of these challenges and postulates recommendations to enhance Indian exports of saps and extracts.

2.6.1 Global Overview

Modern lifestyle diseases, malnutrition, micronutrient deficiency, changing dietary patterns and exorbitant costs of healthcare have created a favorable, tectonic shift in the global outlook on plant extract based nutraceuticals. Interest in traditional systems of medicine and, in particular, herbal medicines, has increased substantially in both developed and developing countries over the past two decades. The last three decades have seen substantial growth in herb and herbal product markets across the world. In 2018, global trade of value added plants extracts was worth ~US\$ 25 Bn, of which India holds 4-5% share⁵².

There is no international harmonization of nutraceutical regulations and neither is there any global consensus on definitions of herbal or botanical products. However, an estimated 80% of the population in developing countries rely largely on plant-based drugs for their health care needs. Rapidly rising global trade of plant based products during the past decade, currently estimated at US\$ 120 Bn⁵³, attests to worldwide interest in these products as well as in traditional health systems. The global market is expected to grow at a CAGR of 7% while the Indian industry has been growing much faster at a CAGR of 18%⁵⁴. The market is driven by buyers in US, Europe and China. Major importing countries include USA, Germany, UK and Japan. Major exporting nations include India, China, Hong Kong, Egypt, Poland and Mexico. As seen in the table below, the nomenclature for these vegetables saps and extracts varies based on geography.

⁵² Source: SHEFEXIL

⁵³ Source: SHEFEXIL

⁵⁴ Industry estimates

S No	Country	Nomenclature and Definition
1	EU	Known as Food supplements. The definition covers Concentrated sources of nutrients; or Other substances with a nutritional or physiological effect.
2	Canada	Known as Natural and nonprescription health products. The definition covers naturally occurring substances that are used to restore or maintain good health. They are often made from plants, animals, microorganisms and marine sources.
3	US	Known as Dietary supplements. The definition covers products containing vitamins, minerals, herbs, amino acids, and enzymes.
4	Japan	Known as Foods with Health Claims. The products are divided into two categories: 1) Food with nutrient function claims 2) Food for specified health uses
5	Russia	Known as: Biologically active supplements. The definition covers products containing mineral substances, micro and macro elements; some amino acids; some mono and disaccharides; food fibers; microorganisms present in human body & vitamins.

2.6.2 Indian overview

India is home to an immense wealth of plant resources that must be sustainably and equitably accessed. India's plant resources and its ancient system of medicinal knowledge found in Ayurveda, makes it a unique player in the world of plant-based nutraceuticals. India is one of the largest producers, consumers and exporters of medicinal plants. These plants are sourced from both cultivation and wild, and are subsequently domestically traded through a complex system of agents and traders either in whole or in component forms, such as bark, leaves, fruits, herbs, flowers, wood, or roots.

There is natural variability in plants and depending on the degree of neutralization of this variability achieved during processing, these are categorized into: Botanical raw materials (as such); Botanical powders; Crude botanical extracts and Enriched botanical extracts; Purified fractions; and Single compounds. Industry sources indicate that less than ~10% of India's exports are in raw botanical form while the majority is exported after value addition as nutraceuticals based on plant extracts. These plant extracts are standardized, enriched and made bioavailable as capsules for utilization as nutraceuticals and medicines in the healthcare segment. Additionally, some of these value added extracts also act as intermediaries for the manufacturing of final products in destination countries such as medicines, nutraceuticals, ayurvedic and herbal drugs, food products, cosmetics and perfumes. This nutraceutical sector is often referred to as "plant extracts" or "botanicals" sector in general parlance.

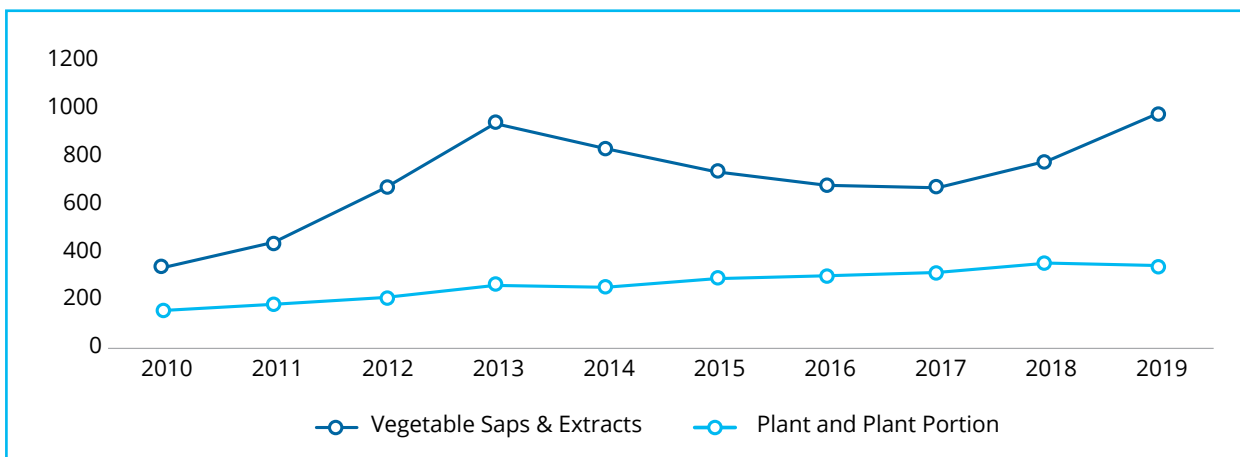
For instance curcumin capsules made from Turmeric are used for anti-inflammatory purposes and treatment of rheumatoid arthritis, Alzheimer's, dementia and osteoporosis; amla extracts are used for cholesterol management; boswellia serrata is used for countering pain and inflammation; ashwagandha contains withanoloids used for anxiety and sleep management; garcinia cambogia is used for obesity and weight management; mango butter and licorice extracts which are then used in nutraceutical and cosmaceutical products. These are a few examples amongst countless hundreds of botanical products that India provides to the world.

A Complex Value Chain

Typically, plants are produced or collected by cultivators or collectors i.e. farmers who cultivate plants or gatherers who harvest from the wild. These plants or plant parts are then sold to village agents who are petty traders that aggregate quantities and further sell to established traders who are wholesalers. These traders engage in wholesale of plants/plant parts to SHEFEXIL's members who are manufacturer exporters. These exporters are players who invest in CAPEX, R&D and process these plants to derive plant extracts and other byproducts. Plant extracts and other products are largely exported to developed nations such as US, Japan, Germany and other Europe countries which demand stringent quality norms and standards. Hence, products must go through a series of advanced tests and certifications before they are exported. Many of these tests can only be conducted in high-tech labs outside India.

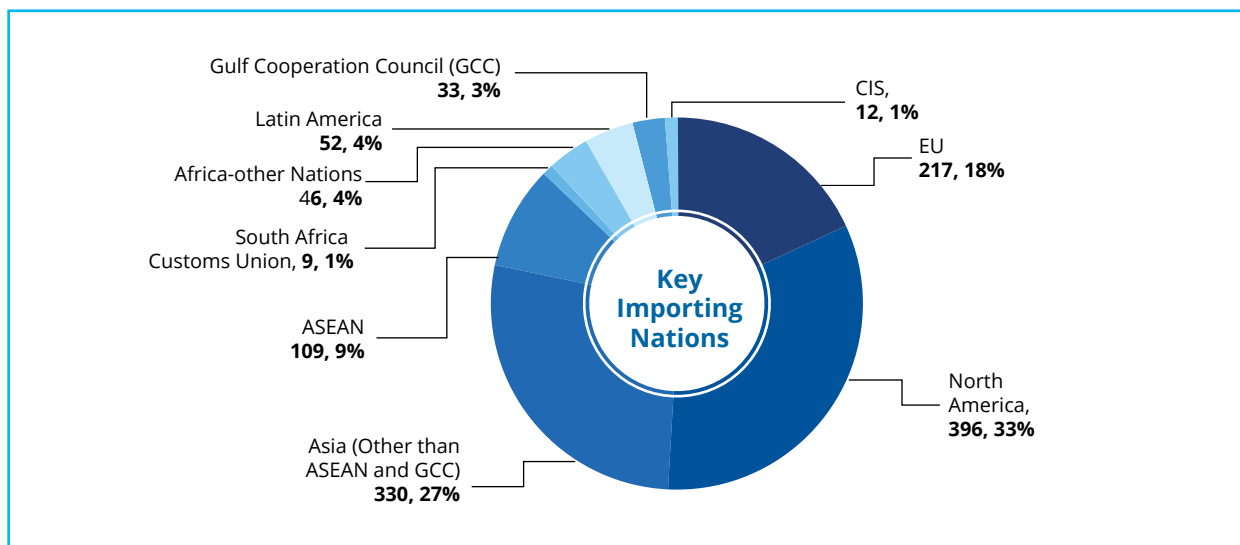
In 2019, India exported USD 993 Mn worth of vegetable saps and extracts. The below exhibits (exhibit 40 & 41) provide a snapshot of the exports trends as well as a breakup of import destinations.

Exhibit 40: Ten Years Export Growth Trend (Values in USD Mn)



Source: SHEFEXIL

Exhibit 41: India's Vegetables Saps and Extracts Exports



Source: SHEFEXIL

Value in USD Mn

% denotes % contribution of the country to India's total exports

2.6.3 Challenges and Way Forward for scaling up Vegetable Saps & Extracts Exports

FARM LEVEL

CHALLENGES	RECOMMENDATIONS
- No formal, institutional system to get precise production data on these herbs and plants whether cultivated or those collected from the wild. - Both cultivated and wild plants pass through multiple legs in the supply chain providing limited visibility on traceability. - Adulteration & poor quality control causes losses to exporters due to non-compliance with import regulations.	- It is necessary to establish a sustainable, reliable base for determining export supply, marketing and to carry out R&D operations. - Promote awareness by organizing farmers into SHGs or cooperatives and providing them training on harvesting, collection, storage and logistics, preservation and primary level processing techniques.

PROCESSING & VALUE ADDITION

CHALLENGES	RECOMMENDATIONS
- R&D and product development is an urgent need for extraction of phyto-constituents and conversion into drugs, health food, cosmetics and supplements. - Moving up the value chain is critical as India needs to graduate from supplying ingredients to final nutraceutical products, ideally under Indian brands. - Lack of credible documentation of the therapeutic values of medicinal herbs, medicines and their formulation is a major constraint in export particularly to countries such as USA, EU.	- The government may constitute a fund for product development providing matching grants to exporters. <i>For e.g. Neem can be used to make pesticides, fertilizers, medicines, cosmetics and personal care; Senna for Slimming tea; Sadabahar, periwinkle or vinca rosea plant has alkaloids and tannins utilised for anti-cancer, gastritis, cystitis and detox</i> - The nutraceutical sector in India must be encouraged to diversify and invent plant based formulations for cosmaceutical segment. <i>For e.g. licorice and neem extracts have well known use in products suitable for sensitive, allergy prone skin in the form of moisturizing and healing gels.</i> - The industry must develop customer focused products that address specific needs of different consumer segments, for example undernourishment in African children; or American obesity in 50+ segment. - It is equally critical for nutraceutical companies to differentiate products from expensive, side-effect laden pharmaceutical drugs by focusing on credibility building, generating consumer awareness and lowering the prices of products.

TRADE

CHALLENGES	RECOMMENDATIONS
- Import Compliance Requirements: Most countries are increasingly becoming strict in regulatory aspects asking for toxicity data equivalent to that of Pharmaceuticals. - There is no harmonization of HS codes leading to these products being exported under multiple, and often incorrect, HS codes. Many products are exported under “others” category with no way to monitor it. Policy must be based on data. - To make strong, effective policies and passing on incentives to exporters, it is absolutely imperative to determine and measure the value and volume of products currently being exported.	- Monographs should be made available and these products should be made generics so that anyone having approved facilities can manufacture them. - Top institutes carrying identification, extraction, biological activity, analytical and toxicity studies of herbs can fill the gaps and publish monographs. - It is suggested that DGFT create separate HS codes for herbal and nutraceutical products at the 8 digit level. In case this not be feasible, then pre-registration of export consignments must be taken up on priority. - The industry may be encouraged to conduct R&D and export branded, value added products for end consumers by offering them a suitable RoDTEP. This could range from 5-10% depending on the amount of value addition.

REGULATORY/POLICY

CHALLENGES	RECOMMENDATIONS
- Given biosecurity and environmental concerns, Indian Biological Diversity Act (BD Act) requires companies seek permission for access to biological resources and pay an access fee/benefit. - The BD Act introduces extraordinary complexity and disclosure norms for exporters in seeking approvals for access to raw material; for conducting R&D; for transferring research; and for filing IP applications. This creates an extra financial and compliance burden on exporters - The lack of clarity and multiple interpretations regarding the provisions of the Act has led to operational confusion and legal uncertainty for all stakeholders. - The Act has impacted exporter's critical R&D investments and future expansion plans, heightening their transaction & compliance costs, affecting IP privacy & security, and scuttling potential partnerships with global players for access to growth capital and technology.	- The MoEF & CC may issue a notification clarifying all value added products (VAP) exports are exempt from the Act as defined in the Act itself. - It may consult stakeholders to include a refined list of plants species which are not 'endangered' in the Normally Traded as Commodities (NTAC) list and clarify that all derivative and value added products arising out of NTAC items must be exempted from provisions of the BD Act.

2.7 Cashew

2.7.1 Global Overview

Production

Cashew often referred to as 'wonder nut', is one of the most valuable processed nuts traded on the global commodity markets and is also an important cash crop. Globally ~3.9 Mn MT of cashew nuts with shell were produced in the year 2019 on ~7.09 Mn Ha of cultivated area⁵⁵. The production of cashew increased at a CAGR of ~3% in the period between 2015 and 2019. Top 5 producers of cashew are Côte d'Ivoire (20%), India (19%), Burundi (7.2%), Vietnam (7%) and Philippines (6%), together contributing to ~60% of the world's total production.

In 2019, the global average cashew nut yield stood at 558 kg/ ha⁵⁶, with highest yields recorded in Philippines (8,447 kg/ ha) followed by Mali (4,189 kgs/ha) and Peru (3,324 kgs/ ha).

Trade

Globally, cashew kernels are traded in two forms- In- Shell (Raw) and Shelled. Around 28% of the world's production is traded in the global market. In terms of in-shell exports of kernel, Tanzania, Benin, Ghana, Guinea- Bissau and Cote d'Ivoire are top 5 countries, accounting for ~61% of the total in-shelled exports (raw) while India and Vietnam together account for 96% of the total imports of raw cashew (refer exhibit 42). Even though African nations are the largest producers of cashew, they process only 8-10% of their total production. On the contrary, processing capacities in India and Vietnam exceed their production volumes, leading to significant imports of raw material from the African region.

Exhibit 42: International in Shell Cashew Trade: Top 5 Exporting & Importing Nations in 2020

Country	Value in USD million	% Contribution	% change*	Country	Value in USD million	% Contribution	% change*
Tanzania	221	17%	-30%	India	1086	81%	-8%
Benin	180	14%	375%	Viet Nam	197	15%	-88%
Ghana	141	11%	-86%	Saudi Arabia	24	2%	116%
Guinea-Bissau	128	10%	-27%	China	15	1%	2081%
Côte d'Ivoire	106	8%	-87%				

Source: ITC Trademap, YES BANK Analysis

*% change is the delta increase/decrease over the period 2015-2020

In terms of shelled (processed) kernels, Vietnam (66%), India (10%), Netherlands, Germany and Brazil are top exporters constituting ~90% of the total exports. Top importers of shelled kernels are USA (29%), Germany (13%), Netherlands, UK and China contributing ~58% to total imports (refer exhibit 43).

⁵⁵ FAOSTAT

⁵⁶ FAOSTAT

Exhibit 43: International in Shell Cashew Trade: Top 5 Exporting & Importing Nations in 2020

Shelled Exporters				Shelled Importers			
Country	Value in USD million	% Contribution	% change*	Country	Value in USD million	% Contribution	% change*
Vietnam	2633	66%	-4%	USA	1103	29%	-11%
India	404	10%	-45%	Germany	490	13%	22%
Netherlands	271	7%	12%	Netherlands	341	9%	3%
Germany	200	5%	50%	China	151	4%	672%
Brazil	90	2%	-30%	UK	149	4%	-14%

Source: ITC Trademap, YES BANK Analysis

*% change is the delta increase/decrease over the period 2015-2020

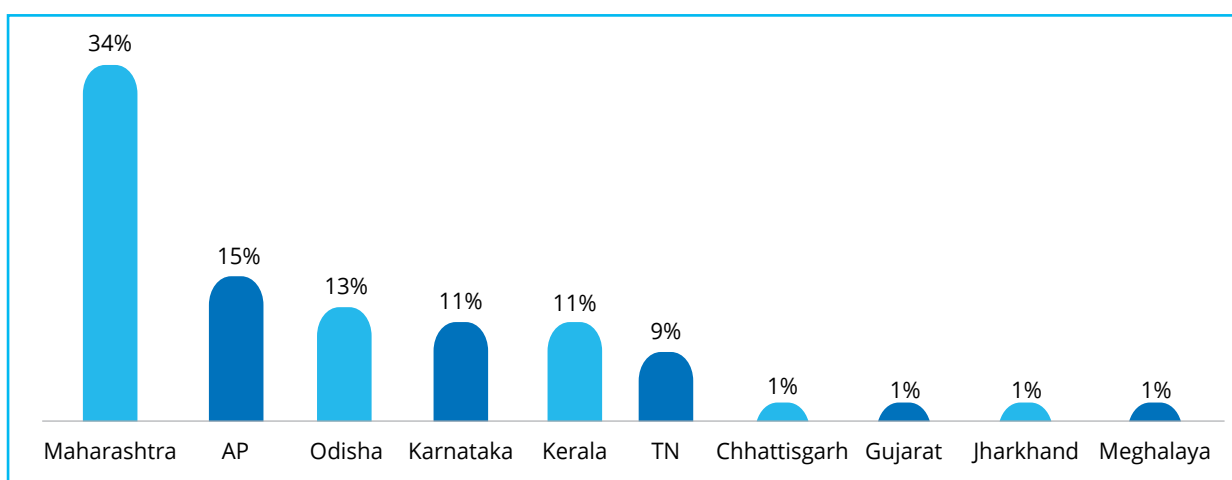
Over the last few years, Vietnamese processors have become more competitive compared to Indian processors, due to the lower cost of production aided by a higher degree of mechanization and proximity to major consumer markets. Despite the significant price competitiveness of Vietnamese processors, Indian exporters could minimize the loss of market share, enabled by the premium quality of India's exports and established client relationships.

2.7.2. Indian overview

Production:

In the year 2019, India produced 743,000 MT of in-shell raw cashew on 1.1 Mn Ha of area with productivity of 672 kg/ ha. India is the 2nd largest producer of in-shell kernels, contributing 19% to the total global production, the largest producer being Côte d'Ivoire (20% of global production). Maharashtra, Andhra Pradesh, Orissa, Karnataka and Kerala are top 5 cashew producing states in India accounting for ~85 % of production (refer exhibit 44). The production and productivity of cashew is highest in the state of Maharashtra.

Exhibit 44: Top Cashew producers in India (% share)



Source: APEDA

Year 2018

Processing

The Indian cashew processing segment is characterized by small-scale and labour-intensive processing units, resulting in a highly fragmented industry spread across various states. While the northern states largely cater to the consumption requirements of the domestic market, export clusters are mainly concentrated in the southern states, especially around the regions of Kollam, Mangalore, Kanyakumari and Vishakhapatnam, where the processors are relatively larger in scale. Other major processing regions include Maharashtra, Goa, Orissa and West Bengal, where the operations are generally on a smaller scale. Traditionally, Indian processors have relied upon skilled labour resources (primarily women) for operations but many processors are slowly catching up with mechanization of operations to remain competitive in the market

Trade

India contributes only 2% to the total in-shell (raw) exports value globally. India exported ~ USD 20 Mn worth of raw cashew kernels in the year 2020 and 99% of the entire exported raw kernels were imported by Vietnam. India exported USD 404 Mn worth of shelled (processed) cashew; contributing ~10% to the total global export.

Exhibit 45: India's Cashew Exports: Top Importing Nations, % Contribution and % Change

In Shelled Cashew Exports				Shelled Cashew Exports			
Country	Value in USD million	% Contribution	% change*	Country	Value in USD million	% Contribution	% change*
Vietnam	20.1	99%	73%	UAE	89	22%	-51%
Others	0.1	1%	-57%	Netherlands	56	14%	48%
				Japan	55	14%	2%
				Saudi	50	13%	-27%
				Spain	23	6%	33%

Source: ITC Trademap, YES BANK Analysis

*% change is the delta increase/decrease over 5 years (2015-2020)

India has the distinction of being the first country to develop the cashew processing industry. It was the leading cashew exporter for several years before being overtaken by Vietnam. India was one of the top exporting countries to USA till a few years back, when it was replaced by Vietnam (~75% of cashew imports by USA is from Vietnam). Procurers have witnessed several issues in their sourcing from Africa, including variations in quality, lower kernel outturn ratio (KOR) and delayed shipments amongst others. With end user markets in export segment being very stringent on quality specification, any adverse situation in raw material procurement may result in a significant erosion of profit margin for the processors.

Also, India is losing out on cost competitiveness to Vietnam, on account of various factors, including a critical one on logistics Supply chain cost in India is USD 25/ MT compared to USD 15/ MT in Vietnam⁵⁷. More than 60-70% of India's cashew demand is met by import from other countries, leading to double logistics cost involved in movement of raw material from port to processing and back to port for re-export of processed cashew.

⁵⁷ Industry sources

2.7.3 Challenges and Way Forward for scaling up Cashew Exports

FARM LEVEL

CHALLENGES	RECOMMENDATIONS
- Insufficient domestic production to meet domestic as well as international demand. - Heavy dependence on import of cashew nuts from the African countries to meet the demand.	- The Directorate of Cashewnut and Cocoa Development must draw an extensive roadmap to identify new states with potential areas for cashew cultivation (program approved). This should be taken up on mission mode for execution. - To enhance productivity of cashew, all senile plantations must be replaced with the latest hybrid variety that can significantly improve the yield- Govt. should provide subsidy to encourage replacement of senile plantations - Focus on high density plantations.

PROCESSING & VALUE ADDITION

CHALLENGES	RECOMMENDATIONS
- Convectional/ manual methods of processing leading to lower efficiency and higher cost <i>Vietnam has completely mechanized cashew processing and can process raw cashew into kernels at about INR 900 per bag of 80 kgs. In sharp contrast to this, cashew processors in Kerala process at a much higher cost of about INR 3,500 per bag (very high labour charges in Kerala). Even in other south Indian states, processing charges amount to about INR 1,400-1,500 per bag, making Indian cashew costlier than the competitors.</i> - Subsidies for establishing /upgrading cashew processing units is inadequate. - Manual grading in, as compared to other countries where it is completely mechanized, impacts cost significantly. <2% of Indian processors (compared to >25% of processors in Vietnam) have basic certification such as British Retail Consortium (BRC), International Featured Standard (IFS), Global Food Safety Consortium (GFSC) etc. required for export in European and American markets.	- Apart from the diligent execution of area expansion under cultivation, government should extensively support processors on capex subsidies and interest subventions on the credit facilities taken from financial institutions. - Capex subsidies to exporters (through CEPCI) should be provided in proportion to the incremental export volumes generated post mechanization of the factory after getting grant from the government. The cap should be extended beyond the current INR 1 Cr level. - Promote and subsidize partial cost of certifications like BRC, IFS and GFSC. - Investment in labour skill development in low wage cost states like Orissa, AP etc.

TRADE

CHALLENGES	RECOMMENDATIONS
- Exorbitant rise in prices of imported raw kernels⁵⁸ (which typically range from USD 2,100 to USD 2,400 per MT) has forced many units to shut down due to unviability - Very high import duty for Indian cashew kernels particularly in S. Korea, Australia and China leads to uncompetitiveness in these markets - Misappropriation of India- ASEAN foreign trade agreement- This pertains to the inclusion of roasted and salted cashews in the list of items qualified for availing duty-free status in FTAs/agreements with ASEAN. - Anti-dumping duties: Large volumes of semi-finished kernels are dumped in India under advance authorization and duty-free tariff preference scheme from African countries by making use of export incentives and reduction in duties and levies. The landed price of such kernels is 50% lesser than the cost of kernels in India. These are mostly broken kernels which are generally not consumed in other countries⁵⁹. <i>According to The Cashew Export Promotion Council of India (CEPCI), 500 to 600 MT of semi-finished or finished kernels are being dumped into the country per month, adversely affecting the cashew processing industry.</i> - Custom officials insist upon 100% inspection and checking of each bag for markings to confirm the source country when cashews are imported from Least Developed Countries (LDCs) of Africa which will be processed and re-exported to other countries.	- India to focus on enhancing production by bringing in more area under cultivation and enhancing productivity (details in farm level challenges) - FTA/PTA need to be relooked at and streamlined. - However, as per the DFTP scheme, only the Country of Origin Certificate issued by the relevant authority, original Commercial Invoice, Bill of Lading and other supporting documents are required to be produced during import. Clarity on inspection and checking mechanism of imported raw material to be brought about and implemented accordingly

CASE STUDY

VIETNAM CASHEW

Vietnam exports have grown by 10% while India's exports have declined by 3%

Innovation & Clusters

- Cashew Industry in Vietnam is clustered in a radius of 100-150 kms. This has led to rapid advances in innovation and mechanization—more importantly strong uptake of new technologies. Government Policy

Government Policy

- Policy to promote exports by making imports duty free (and VAT free). Helped achieve scale by getting access to African crop

Worker Availability

- Lack of unions and ready availability of disciplined women workforce has been very critical

Source: Industry Sources

⁵⁸ India meets over 60% of cashew processing needs from imports from various African nations due to the inadequate indigenous availability of the product.

⁵⁹ Source: Trade Promotion Council of India

2.8 Coffee

2.8.1 Global Overview

Production

In 2019, global coffee⁶⁰ production stood at 10 Mn MT, with Brazil contributing to over 30% of the total production. Vietnam, Columbia, Indonesia and Ethiopia are other key producers of coffee. These five countries together contribute to over 67% of the global production. With a production of 0.3 Mn MT, India ranked 8th in terms of production in 2019.

Trade

The global coffee export was valued at ~ USD 30 Bn in 2020, with Brazil being the largest exporter (16%), followed by Switzerland (9%), Germany (9%), Colombia (8%) and Vietnam (7%) (refer exhibit 46). In 2020 India contributed ~2% to the global coffee exports. The largest importers of Coffee include USA, Germany, France, Italy and Canada. These top 5 importers together contribute to ~50% of total coffee imports. In terms of exports of other coffee products like extracts, essences and concentrates, the global trade stood at USD 5 Bn in 2020, with Germany, Brazil, Vietnam, Spain and Colombia being the key exporters. India's share in the global exports of extracts, essences and concentrates was ~5%.

Exhibit 46: International Coffee Trade: Top 5 Exporting & Importing Nations in 2020

Exporters				Importers			
Country	Value in USD billion	% Contribution	% change*	Country	Value in USD billion	% Contribution	% change*
Brazil	5.0	16%	-10%	USA	5.7	18%	-6%
Switzerland	2.9	9%	41%	Germany	3.5	11%	-6%
Germany	2.6	9%	17%	France	2.9	9%	20%
Colombia	2.5	8%	-2%	Italy	1.5	5%	-16%
Viet Nam	2.0	7%	-18%	Canada	1.2	4%	-3%

Source: ITC Trademap, YES BANK Analysis

*% change is the delta increase/decrease over the period 2015-2020

2.8.2 Indian overview

Production

India is the third-largest producer and exporter of coffee in Asia, and the eighth-largest producer of coffee globally. India's coffee production stood at 0.3 Mn MT during 2020-21 (FE), largely contributed by the state of Karnataka (~70%), followed by Kerala (~20%) and Tamil Nadu (~5%). The country accounts for 3% of the global coffee production.

Trade

Of the total coffee produced in India, 70% is exported and 30% is consumed domestically. The coffee export from India stood at USD 702 Mn in 2020, of which ~35% was contributed by extracts, essences and concentrates including instant coffee. India currently exports its coffee to more than 100 nations, the largest importers being Italy, Germany, Belgium, Russian Federation and Poland (refer exhibit 47). Coffee

⁶⁰ Green coffee production as per FAOSTAT

exports from India have been witnessing a decline post 2017, largely on account of lower production output and severe competition from countries like Colombia, Vietnam and Uganda.

Exhibit 47: India's Coffee Exports: Top 5 Importing Nations, % Contribution and % Change

Coffee Exports				Coffee essence, concentrate, instant coffee exports			
Country	Value in USD Mn	% Contribution	% change*	Country	Value in USD Mn	% Contribution	% change*
Italy	113	24%	-36%	Russ.Fed.	32	14%	-40%
Germany	74	16%	8%	USA	28	12%	33%
Belgium	51	11%	20%	Poland	25	10%	127%
Jordan	27	6%	-4%	Malaysia	15	6%	9%
Kuwait	23	5%	22%	Turkey	13	6%	-55%

Source: ITC Trademap, YES BANK Analysis

*% change is the delta increase/decrease over the period 2015-2020

2.8.3 Challenges and Way forward for scaling up coffee exports

FARM LEVEL

CHALLENGES	RECOMMENDATIONS
- Low Productivity largely on account of dated gene pool <i>Countries like Vietnam and Malaysia produce more than 2500 kg of coffee/ha, while in India the productivity is way lower at 767 kg/ha.</i> - Low adoption of mechanization <i>Vietnam have been able to bring down the cost of production of coffee by 25-30% with introduction of proper mechanization</i> - Other origins like Uganda have posed severe competition to Indian coffee, post their massive rejuvenation program, which has enhanced their productivity significantly. - Indian coffee has been able to create a niche for itself. However, trends are fast changing and consumer countries are becoming more sophisticated, demanding high quality, sustainable produce that is traceable right from the farm level. - Climate change is a serious factor impacting coffee plantations, to which India has not been able to respond adequately.	- Urgent need to take up replantation activity; replacing the existing gene pool with sturdy indigenous varieties that are high yielding, pest resistant and suited to Indian weather conditions. - Coffee board needs to develop a roadmap to initiate the re-plantation activity in collaboration with the respective state governments and work out an incentive based plan for the planters. - Novel plantations need to be looked at in states like Andhra Pradesh and North Eastern region of India, where some of plantation activity has been initiated. - Invest in research and development to develop farm machinery and equipment suited to the Indian terrain. In addition, financial assistance will be required for small growers to adopt farm machinery. - Adoption of water management techniques - Coffee board to play an aggressive role in imparting scientific knowledge to planters for productivity enhancement and traceability - A governance mechanism to be put in place, such that trade follows rules and fly by night exports that hamper India's image as reliable supplier are penalized.

PROCESSING & VALUE ADDITION

CHALLENGES	RECOMMENDATIONS
- Value addition in coffee takes place at the consumption country level. Processors in the producing countries are restricted by technology and access to varieties and knowledge of local tastes, which limits their abilities to create blends in accordance to the consumption centers' demand. - Globally, specialty coffees are largely Arabica based, while Indian production is largely robusta. Indian coffee production, at one point in time was led by Arabica, however due to pest infestation, many planters had to shift to robusta.	- Understanding the end user taste and preference holds a key to gaining direct access to user or supplying processed/value added coffee to the importing nations. - The way forward for India in such a competitive market is the aspect of differentiation. Attaining competitiveness in terms of price is difficult to attain in the near future, however, avenues need to be explored and a comprehensive strategy by the industry is required to position Indian coffee as specialty coffee.

INFRASTRUCTURE & LOGISTICS

CHALLENGES	RECOMMENDATIONS
- Due to stagnant coffee prices in the international market, and increasing input prices, coffee plantations have become less remunerative. This had led to limited investment in activities such as rejuvenation of plantations, creation of adequate irrigation facilities and drying yards, which in turn has impacted productivity and quality. - Availability of containers at the port and inconsistent freight rates are impacting trade considerably	- To make coffee plantation more remunerative, yields need to be enhanced through measures including extension activities and re-plantation drive. - The government needs to intervene on the freight rates hike (announce a capping on rates) and needs to make containers available at the port.

BRANDING & MARKETING

CHALLENGES	RECOMMENDATIONS
- Indian Coffee is considered to have exceptional quality, since India is the only country to have all of its coffee grown in shade and has made a niche space in the world market. - Indian coffee is slowly losing its edge as a premium coffee (robusta) over other origins such as Uganda, as Indian coffees are must costlier.	- Significant potential to create a brand for "Made in India" coffee. - Creating a brand with a story of sustainability, quality and exceptional taste will drive the demand for Indian coffee in global markets. - Using digital marketing platform for marketing and branding of Indian coffee needs to be further improved by the board. - The share of digital/social media over conventional marketing media need to be enhanced.

TRADE

CHALLENGES	RECOMMENDATIONS
Countries like Brazil and Vietnam are much more competitive in terms of trade, especially for instant coffee (which is a manufactured product) as their exports are focused on countries where they enjoy tariff benefits. <i>Vietnam enjoys tariff benefits from ASEAN countries which is a major growing market for instant coffee. Brazil has signed an agreement with EU for tariff benefits. India is unfavorably positioned as compared to Vietnam and Brazil to sell instant coffee to these countries.</i>	Give that coffee is an important forex earner for the country, wherein we have had a competitive edge for many years, which is unfortunately at a decline, the Government needs to look at negotiating pacts with key nations/regions to build competitiveness, which other countries have already done.

REGULATORY/ POLICY

CHALLENGES	RECOMMENDATIONS
- Inconsistent and delayed MEIS Benefits- Coffee exporters have been facing serious challenges in terms of dipping exports due to high prices of Indian coffee and subsequent pandemic. Inconsistency in MEIS rates (initially @ 5% which was later reduced to 3%) and delay in reimbursements of MEIS claims furthers the challenge of coffee exporters, leading to price crisis. - RODTeP: The recently announces RODTEP scheme is a transformed version of the MEIS scheme, However, the scheme guidelines, including the benefits are not very clear to the industry, which impacts the planning process and bargaining power.	- MEIS claims need to be settled as early as possible. This would come as a big relief to the exporters. In case where claims cannot be settled, a clarity on the timeline of settlement would help exporters plan better. - Detailed stakeholder awareness/consultation program to be run, preferably industry wise, to impart clarity on nuances of RODTeP scheme. - Any subsequent change in the incentive or eligibility criteria needs to be implemented post a requisite time frame such that exporters can negotiate deals/contracts in accordance.

CASE STUDY

Vietnam's Market Driven Regional Production Structures

Regional changes in the structure of production in Vietnam played an important role in the Doi Moi era. Market forces brought about an increasing tendency towards regional specialization, especially in non-rice cash crop production. The most rapid development for fisheries, for example, has been in the Mekong Delta region and southern central coast. Also in the Mekong Delta, areas specializing in rice, fruit and poultry have appeared. Coffee and other perennial crops are concentrated in the Central Highlands; the southeastern region (to the north and east of Ho Chi Minh City) grows rubber, sugar cane, peanuts, cashew nuts and fruit; rice

and vegetables are grown extensively in the Red River Delta; tea and timber in the northern highlands; livestock and aquatic products in the central coastal region (Goletti and Minot 1997). Among the major export crops, about 90% of rice comes from the Mekong Delta, 80% of coffee from the Central Highlands, and cashew & 85% of rubber from the southeastern region.

The process of regional specialization allows the building up of better large-scale infrastructure such as the anti-flood irrigation project for rice production in the Mekong Delta. Commodity production in specialized areas also allows for more effective capital and technology investment and leads to the possibility of contract farming, linking producers to local processors and traders. Specialization also aids in the development of large-scale farming through land concentration. This has already happened in, for example, the Dong Thap Muoi-Long Xuyen Quadrangle, where farmers specializing in rice may cultivate dozens of hectares. In the northern mountains and Central Highlands, there are also commercial farms specializing in perennial crops, such as fruit trees, and cattle raising.

Source: FAO

CASE STUDY: UGANDA COFFEE REPLANTATION DRIVE

In 2013, Uganda Government along with the Ministry of Agriculture and Coffee development authority set a target to increase Coffee production in the country through the national Coffee Policy (2013).

The key objectives of the drive included:

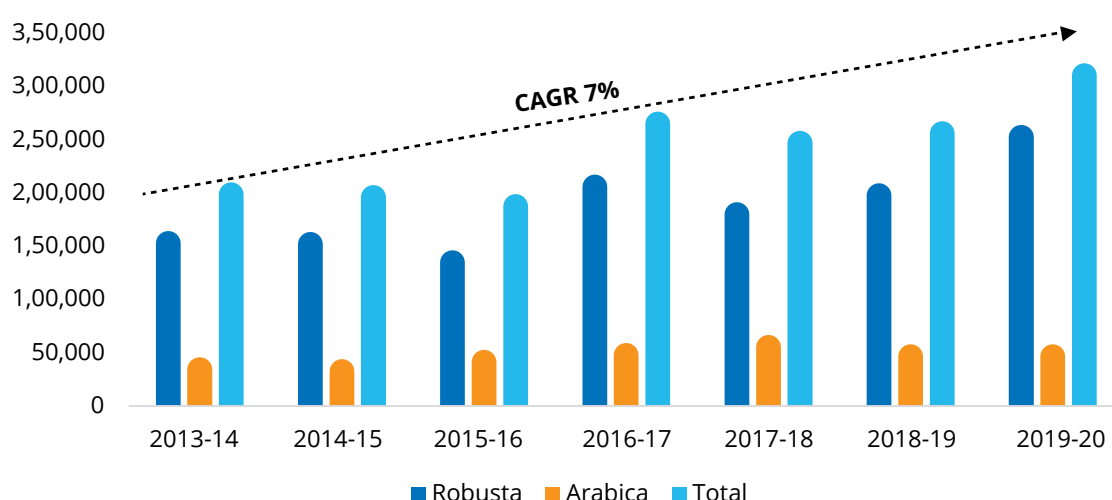
- Increase production & productivity through free provisions of high yielding & disease resistant seeds to households and farms and also rejuvenate old trees (stumping and pruning)
- Expansion of the coffee planting area (Est. 900 Mn seedlings in the next 5 years across 98 coffee growing regions and new districts in Uganda thereby increasing coffee production by 12.5Mn (60kg bags) and attaining 20 Mn bags under 535,011 Ha by 2020/21.
- Promotion of sustainable production system, value addition, increasing domestic consumption & improvement of research capacity along the value chain through the private-public sector partnerships.
- Deliberate service delivery unit under the office of the Prime Minister (OPM) and agencies (NAADS, UCDA) to implement the Govt. directives, generate, distribute and plant million seedlings (planting-window) earmarked.
- Promotional Investment by the government and agencies in the sub-sector through mass/social media (sensitizations, trainings, workshops) using local approaches at farm-level aimed at capacity building.

Implementation

- Govt funded the distribution of coffee seedlings to farmers for free for over 5 years
- Local govt. officials, respective area members of parliament and UCDA rep. were part of the inspection and monitoring
- Research wing carried out numerous experiments to develop disease resistant and more productive varieties
- Operation Wealth Creation (mainly manned by soldiers) which took over most of NAADs roles, has been on the forefront of distributing coffee seedlings.
- Private sector coffee companies also invested funds, time and efforts in coffee nurseries and quality seedling distribution to their member farmers.
- In Central region, Buganda Kingdom complemented the efforts by promoting coffee farming through its radio and TV station. The Katikkiro (P.M) visited coffee farmers and promoted coffee production in the area.
- After the end of the war in the Northern part of Uganda, efforts to promote coffee growing in Acholi and Lango started and all these have had an impact of increasing coffee production.

IMPACT

- The above efforts have resulted in increasing the yields in Uganda to 0.6 MT/Ha
- With all the above efforts Uganda has been successful in producing 2,54,088 MT of Coffee in 2019 which is historical high production*
- Exports have witnessed a growth of 7% (CAGR) over 2013-2020



Source: Industry Sources

There is no formal data on Acreage/Productivity maintained by the Uganda Coffee board as Production is based on guestimates of No. of trees as agri sector is highly informal/fragmented in Uganda. Best proxy for Production is Exports.

2.9 Sugar

2.9.1 Global Overview

Production

In 2020-21 global production of Sugar from sugarcane stood at around 180 Mn MT. Brazil was the leading producer of Sugar in the World, followed by India, EU, China and Thailand. Together, they contributed to more than 60% of the world's sugar production. Brazil and India contributed 23% and 18% of global production respectively in 2020-21⁶¹.

Consumption

India, EU, China, USA and Brazil are the top five consumers of Sugar in the world. These countries together contribute around 48-50% of the global sugar consumption. India is the largest consumer of Sugar in the world, contributing around 15-16% to the global sugar consumption. Total global consumption of sugar was around 172 Mn MT (2020-21).

Trade

Around 36% of the global production of sugar was traded in 2020-21. The world trade of Sugar has remained almost constant with no major fluctuation in trade demand. The overall export in FY 2020-21 was 64 Mn MT. The global sugar industry continues to be mostly a captured market. Brazil remains the leading exporter, exporting 50% of total quantity traded in 2020-21. While Brazil primarily exports sugar to the America; China, Thailand and Australia have captured the markets of Asia and Africa (refer exhibit 48). High prices of sugar in India is the key hurdle for Indian sugar to gain market share in the USA, China and African market⁶².

Exhibit 48: Global Sugar Trade: Top 5 Exporting & Importing Nations in 2020

Exporters				Importers			
Country	Value in USD Bn	% Contribution	% change	Country	Value in USD Bn	% Contribution	% change
Brazil	8.7	38%	14%	USA	2.1	8%	14%
India	2.5	11%	110%	Indonesia	1.9	8%	54%
Thailand	1.7	8%	-33%	China	1.8	7%	0%
France	1.0	4%	-8%	Italy	0.8	3%	10%
Guatemala	0.6	3%	35%	Malaysia	0.7	3%	7%

Source: ITC Trademap, YES BANK Analysis

% change is the delta increase/decrease over the period 2015-2020

Value wise trade trend of 2020 showed that top five exporters contributed 65% of the total export. However, import of sugar was widely diversified across countries with USA, Indonesia, China, Italy, and Malaysia contributing to 30% of the total import of sugar in FY 2020. Out of five top exporters, India showed highest CAGR growth of 16% in exports value from 2015 to 2020.

⁶¹Niti Aayog Taskforce Report on Sugar industry, May 2020, Directorate of Sugar and Vegetable Oils, Dept of Food and Public Distribution, GoI

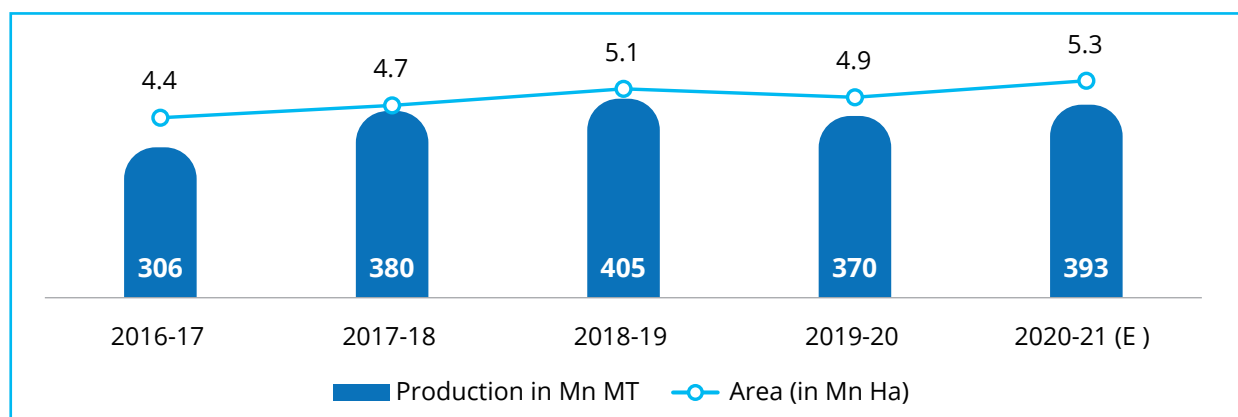
⁶²ITC Trade Map, USDA Sugar: World Markets and Trade Report, May 2020

2.9.2 Indian overview

Production

India is the largest consumer and the second largest producer of sugar in the world. Sugar plays a significant role in the economy of India. Average annual production of sugarcane in India is around 355 Mn MT which is used to produce around 30-34 Mn MT of sugar with 9-10% recovery. In FY 2020-21, total sugarcane production in India was around 393 Mn MT which resulted in sugar production of 34 Mn MT.

Exhibit 49: Area and Production of Sugarcane in India

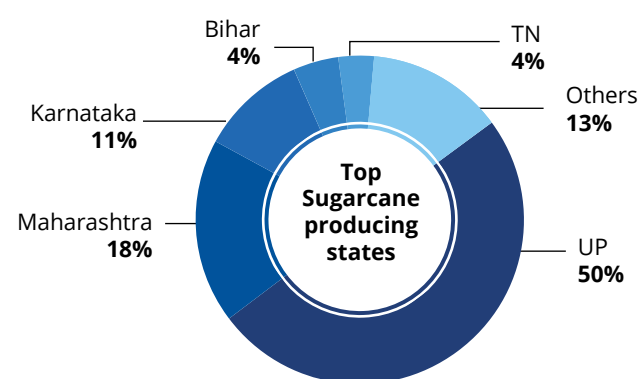


Source: Directorate of Economics and Statistics, Ministry of Agriculture,
https://eands.dacnet.nic.in/Advance_Estimate/Time%20Series%20Series%203%20AE.%202020-21%20English.pdf

The area under sugarcane cultivation has been on the rise over the past five years. The major reason of this is good and assured income realization from sugar cane cultivation to farmers in India. The returns

on cultivating sugarcane are estimated to be 60%–70% more than most other crops. Sugarcane farmers also get assured price fixed by the Government, which is not the case for most other crops and since there is no middleman between a sugar mill and sugarcane farmer, the sugarcane farmers continue to be keenly interested in growing sugarcane, even though payments get delayed. Despite payment delays, in most cases, sugarcane farmers receive at least two thirds of their payments for their produce in a timely manner. UP, Maharashtra and Karnataka are the largest sugar cane producing states in India.

Exhibit 50: Top Sugarcane producing States in India (2019-20)



Source: Directorate of Economics and Statistics, Ministry of Agriculture
https://sugarcane.dac.gov.in/Mis/Docs/636988050947079153_GlimpsesofSugarcaneCultivation_2020.pdf

Consumption

The domestic consumption was estimated to be around 28 Mn MT in 2020-21⁶³. However, the per-capita consumption of India is still slightly lower than countries such as in the European region at 20 kg as opposed to the latter's average of 50–65 kg. In India, 35% of sugar is used in household consumption and 65% goes for industrial uses, including beverages and food manufacturing.

⁶³Source: USDA, APEDA

Trade

With export of around USD 2.5 Bn of Sugar in 2020-21, India was the second largest sugar exporting nation after Brazil. India contributed around 11% to global sugar trade in value terms. The major export destinations for India were Sudan, Iran, Indonesia, Sri Lanka, and Somalia (refer exhibit 51).

Export of Sugar from India is highly regulated as every year Government of India announces Export Quota for sugar export and for same subsidy is provided to the exporters. Production based assistance (Minimum Indicative Export Quota (MIEQ)), or marketing assistance (Maximum Admissible Export Quota (MAEQ)) is announced based on the overall sugar production and existing stock availability and after adjusting domestic Sugar demand. In 2018-19, MIEQ was announced to export 5 Mn MT of Sugar, while in 2019-20, MAEQ was announced to export maximum of 6 Mn MT of sugar. In 2019-20, Gol announced INR 3500 Crore subsidy for exporters to export 6 Mn MT of Sugar under MAEQ.

Exhibit 51: India's Sugar Exports: Top 5 Importing Nations, % Contribution and % Change

Country	Value in USD Bn	% Contribution	% change*
Sudan	0.4	14%	69%
Iran	0.3	14%	1588%
Indonesia	0.2	8%	NA
SriLanka	0.2	8%	104%
Somalia	0.2	7%	33%

Source: ITC Trademap, YES BANK Analysis

*% change is the delta increase/decrease over the period 2015-2020

Barring a few exceptional years of shortage, India structurally has become a sugar-surplus nation. However, India does not have export competitiveness of sugar at global level. The basic factor hindering export competitiveness of sugar are the difference between the cost of sugarcane and cost of producing sugar in India vis-à-vis other major sugar-producing countries of the world. Currently, India's competitiveness is higher in markets, where share of white sugar imports as percentage of cumulative imports is higher. With the increasing emergence of destination refineries, major markets are importing higher share of raw sugar, and India's competitiveness for raw exports is relatively lower.

Impact of India's Ethanol Blending Policy on Sugar Export:

The Government of India notified the National Policy on Biofuels – 2018 (NPB-2018) on June 2018 wherein, under the Ethanol Blended Petrol (EBP) Program, an indicative target of 20% blending of ethanol in petrol by 2030 was laid out. The current ethanol production capacity in India of 426 crore litres derived from molasses-based distilleries, and 258 cr. litres from grain-based distilleries is proposed to be expanded to 760 cr. litres and 740 cr. litres respectively. To meet the ethanol production target 60 lakh MT⁶⁴ of excess sugar apart from domestic consumption will be utilized by 2024-25. In the current sugar season 2020-21 more than 20 LMT of sugar is estimated to be diverted. The utilization of excessive sugar for ethanol production will negatively impact Indian sugar exports. This decision was taken by the government of India considering concerns of Sugar exporting countries against export subsidies on sugar provided by Government of India and also competition in international prices of sugar.

⁶⁴NITI Aayog Report 2021, Roadmap for Ethanol Blending in India, USDA

FARM LEVEL

CHALLENGES	RECOMMENDATIONS
- Low productivity - Fair and Remunerative Price (FRP) and Minimum Selling Price (MSP) of Sugar: the MSP of Sugar at INR 31/kg, does not cover the cost of manufacturing, given the Fair and Remunerative Price (FRP), is at a reasonably high floor price of INR 275 per quintal. <i>In 2017-18, the production cost for sugar was INR 3,580 per quintal (ISMA data). At the same time, the comparable international prices were averaging INR 2,080 per quintal.</i>	- Effective regulation of MSP of sugar prices keeping both farmers and millers' margin in consideration. - Use of micro irrigation techniques and introduction of newer varieties shall help in productivity enhancement and water use efficiency.

INFRASTRUCTURE & LOGISTICS

CHALLENGES	RECOMMENDATIONS
- Currently, the port infrastructure issues including lack of port connectivity, congestions, poor cargo handling, high transaction costs etc., challenge the market access and competitiveness of sugar. - In FY 2020-21, exports of Sugar dropped by 10-12% because of Logistics issues alone.	- The priority should be upgrading and developing world class infrastructure in India's airports, seaports, railways in terms of warehouses, silos, railway siding, advanced cargo handling etc. - Increasing efficiency of mills through usage of advance crushing technologies. - Enhancing logistics capability across sugar producing geographies especially Uttar Pradesh, Maharashtra and Karnataka. This will help facilitate smoother exports.

TRADE

CHALLENGES	RECOMMENDATIONS
Uncompetitive rates of Indian Sugar make it difficult for Indian sugar to compete in the international market without Government support. <i>Cane prices on average account for about 70%-75% of the cost of sugar⁶⁵. In Brazil, Thailand and Australia, the cane price per ton was USD 25.11, 27.45 and 24.05, respectively, while in India it was USD 42.30 (in 2017-18 sugar season). This makes nearly a 65% difference in cost price. As a result, the total cost of producing sugar in India turns out to be INR 36 per kg as compared to INR 18.50 globally. As of June 2019, white sugar prices in India were 60% higher than comparable international prices.</i>	- India would need to build the capability to produce raw sugar and refined sugar of international quality standards at competitive price, in order to leverage the export opportunity. This can be achieved through productivity improvements and alignment of cane and sugar prices in the domestic market. - Focus on emerging African markets. - Long term Tie-ups with major importing countries, forming year long contracts through tenders. This can include countries such as UAE (3.6 LMT), Afghanistan (4.3 LMT) and Indonesia (12.17 LMT)

⁶⁵Niti Aayog's Task force report on the Indian sugar industry

POLICY/REGULATORY

CHALLENGES	RECOMMENDATIONS
- Export subsidies for sugar benefit Indian exporters, but this has resulted other sugar-exporting countries raising their concerns to the World Trade Organization (WTO) against excessive Government support being provided to export sugar from India. - Although under special and differential treatment provision of the Uruguay Round Agreement on Agriculture, India can provide reductionist export subsidies in a way to gradually phase them out by 2023 but for improving sugar exports, support by the Government will have to be designed differently so that it does not affect exports on ground of WTO norms.	Government support needs to be designed differently so that it does not affect exports on ground of WTO norms. One possible way is exploring other provisions of WTO Agreement on Agriculture (AoA) to notify Actual budgetary support so that FRP/ SAP is based on price gap instead of market price support methodology.

2.10 Tea

2.10.1 Global Overview

Production

In 2020, global tea production stood at 6 Mn MT, of which approximately 30% was exported. The tea sector generates employment for around 13 million people, 9 million of whom are smallholders. Major tea producing countries include China, India, Kenya, Sri Lanka, together accounting for more than 80% of global tea production.

Trade

Top 7 countries account for more than 90% of global tea supply. The largest tea-exporting countries in 2020 in terms of volume were Kenya (26%), China (19%) Sri Lanka (15%) and India (13%) while the largest importing countries were Pakistan, Russia and the United States (refer exhibit 52).

Exhibit 52: International Tea Trade: Top 5 Exporting & Importing Nations in 2020

Exporters				Importers			
Country	Value in USD million	% Contribution	% change*	Country	Value in USD million	% Contribution	% change*
China	2037	29%	37%	Pakistan	589	9%	20%
Kenya	1108	16%	-10%	USA	473	7%	-2%
Sri Lanka	712	10%	-43%	Russian Fed	412	6%	-25%
India	692	10%	5%	UK	348	5%	-4%
Poland	264	4%	36%	Saudi Arabia	243	4%	-5%

Source: ITC Trademap, YES BANK Analysis

*% change is the delta increase/decrease over the period 2015-2020

2.10.2 Indian overview

Production

India is the second largest tea producer and the world's fourth largest exporter. The industry offers direct employment to 1.2 Mn people and supports more than 3 Mn dependents of tea garden workers, with women accounting for 50% of the employment. India produced 1,390 Mn Kgs of tea in Calendar Year (CY) 2019 which was 7% higher than 2018 (refer exhibit 53). In comparison, it is expected that annual tea production will be down by 15% mainly on account of Covid-19 and adverse climatic conditions.

Exhibit 53: Indian Tea Scenario (2015-2020)

	2015	2016	2017	2018	2019	2020
Production (Mn. kg)	1209	1267	1322	1338	1390	1258
Exports (Mn. kg)	229	223	252	256	248	210
Auction Price (INR /Kg)	129	136	135	138.6	140.7	184.69

Source: Tea Board of India

Trade

In year 2020-21, India exported ~200 Mn Kgs of tea worth USD 0.7 Bn. The key importing nations of the Indian Tea included Iran, Russia, USA, UK and UAE, which together accounted for over 50% of India's exports (refer exhibit 54).

Exhibit 54: Exports of Tea from India, % Contribution, % change (%)

Countries	Values in USD Mn	% Share	% change
Iran	132	19%	33%
Russian Fed	87	13%	-15%
USA	59	9%	13%
UK	40	6%	-19%
UAE	39	6%	-15%

Source: ITC Trademap, YES BANK Analysis
% change is the delta increase/decrease over the period 2015-2020

2.10.3 Challenges and Way Forward for Scaling up Tea exports

FARM LEVEL

CHALLENGES	RECOMMENDATIONS
High labor cost <i>Raw material accounts for 50-55% of operating costs for a Bought Leaf Factory's (BLF) costs. Labour costs account for another 10-15% of total cost. In contrast, labour costs account for a substantial 55-60% of total costs for tea planters (driven by minimum wage norms under Govt. regulations), while pesticides and fertilizers account for 8-12% of the costs. Thus, overall more than 70% of operating cost is on account of labour thus impacting the profitability of tea plantations. On the other hand BLFs are still able to sustain profits. This dual economic structure is impacting the industry.</i>	- There is an urgent need to take up replantation activity; replacing the existing gene pool with sturdy indigenous varieties that are high yielding, pest resistant and suited to Indian weather conditions. - Tea board needs to develop a roadmap to initiate the re-plantation activity in collaboration with the respective state government and work out an incentive-based plan for the planters. However, cost of rejuvenation and replantation is very high (up-to INR 2.5 lakh/ha).

CHALLENGES	RECOMMENDATIONS
- Ageing of Tea Bushes & Stagnant Productivity: Existence of high proportion of ageing tea bushes. This impact both productivity as well as quality. <i>Ideally, the age of tea bushes that is required for good yield of crops is 5 to 40 years. However, except in Darjeeling, around 70% of Indian tea bushes, on an average, are between 50 to 70 years old. The re-plantation exercise is high cost, coupled with the time taken to undertake this exercise thus impeding the re-plantation exercise.</i> - Climate change is a serious factor impacting tea plantations, to which India has not been able to respond adequately	- Manpower cost in Tea plantations cannot be reduced easily because of several labour laws prevalent in India. Mechanization and automation of farm operations can bring about reduction in the labour cost and therefore should be embraced to improve quality, consistency and hygiene as well as efficiency - Financial assistance will be required for small growers to adopt farm machinery

INFRASTRUCTURE & LOGISTICS

CHALLENGES	RECOMMENDATIONS
- Competitive tea prices in the international market combined with higher domestic/ auction prices have resulted in a drop in exports demand. This had led to limited investment in activities such as rejuvenation of plantations, capacity expansion (orthodox tea) thus impacting the productivity and profitability of tea plantations. - Availability of containers at the port particularly post Covid 19 and inconsistent freight rates are impacting trade considerably.	- To make tea plantation more remunerative, yields need to be enhanced through measures including extension activities and re-plantation drive. - Grant/Subsidy schemes oriented towards infrastructure development including packaging of orthodox tea/other value added tea segments. - Addition of Plantations sector under Production Linked Incentive Scheme (PLI Scheme) of Govt. of India. - The government needs to intervene on the freight rates hike and needs to make containers available at the port.

PROCESSING AND VALUE ADDITION

CHALLENGES	RECOMMENDATIONS
Traceability: Traceability Standards are on the rise globally due to heightened awareness of policy / advocacy groups and demand from consumers. India currently doesn't have any robust traceability mechanism particularly from factory till end user specifically for Small Tea Growers/Bought Leaf Factories	- The high throughput in Indian tea exports necessitates a robust traceability platform which is currently not integrated in India. - Traceability solution need to be deployed on ground to meet the growing demand of sustainably sourced traceable products: A number of Startups have emerged in the county, who are working on providing traceability solutions across the commodity value chains.

POLICY/REGULATORY

CHALLENGES	RECOMMENDATIONS
The Indian tea industry is highly regulated, and government policies influence key aspects from raw material availability up to end-product sales. The industry is classified both as plantation and food product, and hence, subject to dual sets of regulations including: - The Tea Act, 1953-being a plantation industry it is subjected to regulations including: ✓ Plantation Labour Act, 1951 ✓ Land Reforms Act, 1950 ✓ Forest Conservation Act, 1980 - Being classified as a food product it is governed by the following acts: ✓ Essential Commodities Act, 1955 ✓ Prevention of Food Adulteration Act, 1972 - Packaged Commodities Order, 1975 - RODTeP: The scheme guidelines of the recently announced RODTeP Scheme, including the benefits to be accrued are not very clear to the industry, which is putting the exporters into tremendous pressure - Increased imports of tea during Jan-Sept 2020 of around 22 Mn kgs impacting overall demand.	- MEIS claims need to be settled as early as possible. In case where claims cannot be settled, a clarity on the timeline of settlement would help exporters plan better. - Detailed stakeholder awareness/ consultation program to be run, preferably industry wise, to impart clarity on the new RODTeP scheme. - Close monitoring of imports as per the provisions of the Tea Export Distribution Control Order by the Government.

2.11 Oilseeds

The diverse agro-ecological conditions in the country are favourable for growing nine annual oilseed crops, which include seven edible oilseeds (groundnut, rapeseed & mustard, soybean, sunflower, sesame, safflower and niger) and two non-edible oilseeds (castor and linseed). In the edible oilseeds segment, from export perspective, groundnut holds immense value and potential and hence the crop has been captured in detail under this segment.

2.11.1 Global Overview

Production

The global production of groundnut (with shell) stood at 48.7 Mn MT over an area of 29.5 Mn ha during 2019. Amongst the major groundnut producing countries, China ranked first with 36%, followed by India (14%), Nigeria (9%), Sudan (6%) and the USA (5%). While India recorded the highest acreage under the crop (4.7 Mn ha), it reported low productivity (1,422 kg/ha) as compared to USA (4,426 kg/ha) and China (3,893 kg/ha), and the world average (1,647 kg/ha).

Trade

In 2019, world trade was pegged at USD 4.11 Bn, of which India accounted for ~19%. Groundnut imports are scattered throughout China, Netherlands, Indonesia, Germany and Russian Federation, while groundnut exports are concentrated in Argentina, India, USA, Brazil and Sudan as shown in Exhibit 55 below:

Exhibit 55: International Groundnut Trade: Top 5 Exporting & Importing Nations in 2020

Exporters				Importers			
Country	Value in USD million	% Contribution	% change*	Country	Value in USD million	% Contribution	% change*
Argentina	860	21%	164%	China	835	20%	165%
India	750	19%	4%	Netherland	534	13%	25%
USA	575	14%	-2%	Indonesia	336	8%	74%
Brazil	318	8%	165%	Germany	211	5%	10%
Sudan	303	8%	2249%	Russian Fed	189	5%	28%

Source: ITC Trademap, YES BANK Analysis

*% change is the delta increase/decrease over the period 2015-2020

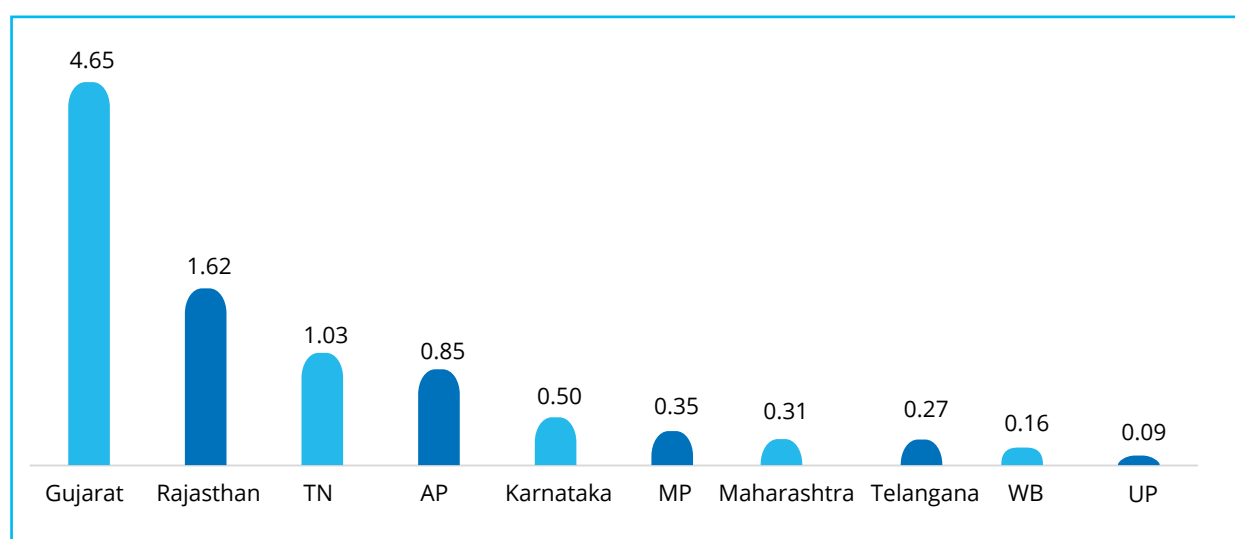
2.11.2 Indian overview

Production

In India, groundnut is considered as the “king of oilseeds”. India has the largest acreage under groundnut and is the second largest producer and largest exporter of the commodity. In 2019-20, India produced ~10 Mn MT of groundnut, with majority of the crop coming in the kharif season.

The importance of groundnut as an oil source has diminished vastly in recent times. Till the mid-seventies, groundnut accounted for over 50% of India’s edible oil consumption. But today, more than half of the country’s groundnut kernels are used for table consumption or exported, leaving little for oil extraction. As per Solvent Extractors’ Association of India (SEA) estimates, annual groundnut oil consumption at 0.4 Mn MT, which is hardly 2% of the country’s edible oil demand and lower than other indigenous oils such as cottonseed and rice bran.

Exhibit 56: Key States Producing Groundnuts in India 2019-20 (Mn MT)



Source: Ministry of Agriculture and Farmers Welfare Department of Agriculture Cooperation and Farmers Welfare Directorate of Economics and Statistics

Trade

Indian groundnuts are available in different varieties: Bold, Java and Red Natal. Apart from raw edible peanuts, India also supplies blanched peanuts, roasted salted peanuts, dry roasted peanuts, peanut butter and a variety of peanut based products. India's five-year export trends are depicted in the Exhibit 57.

Exhibit 57: Exports of Groundnut from India, % Contribution, 5 yr change (%)

Countries	Values in USD Mn	% Share	% Change
Indonesia	132	34%	18%
Viet Nam	87	20%	32%
China	59	10%	216%
Philippines	40	7%	-19%
Thailand	39	5%	-41%

Source: ITC Trade Map, YES BANK Analysis
% change is the delta increase/decrease over the period 2015-2020

2.11.3 Challenges and Way Forward for scaling up Groundnut Exports

FARM LEVEL

CHALLENGES	RECOMMENDATIONS
- Raw groundnut is unable to compete with cheap African exports. Africa exports at ~ USD1000/MT whereas India can export at ~ USD 1350/MT. - Government's intervention through constant increases in MSP leads to higher costs for exporters making Indian exports uncompetitive. - There is lack of focus on quality control and GAP, leading to rejections.	- There is need to form clusters/FPOs and incentivize farmer via exporters to participate in capacity building, quality control and extension activities. - Incentivizing exporters (to the tune of 10-15% over MSP provided by Government) would make India competitive vis-a-vis African exports which are dominating the market for fair quality groundnuts.

PROCESSING & VALUE ADDITION

CHALLENGES	RECOMMENDATIONS
Lack of focus on value added groundnuts which can provide 1.5-7x price realization. Majority of exports are in raw form. Competitors like Vietnam do minimal salting to Indian groundnut and re-export it for higher realizations.	There is need to provide 35% subsidy to set up ~10 units engaged in value addition. Of the 5 lakh surplus for exports, target conversion of 1 lakh MT into value added products such as blanched, salted, coated, peanut butter and defatted flour.

LOGISTICS

CHALLENGES	RECOMMENDATIONS
- Unavailability of containers of desired quality at ports is hampering trade significantly. - Due to constrained availability of vessels, shipping lines have made steep increase in freight rates. This has severely impacted exports from India.	Government needs to look into the demand supply gap and make containers available at reasonable prices to the exporters.

TRADE

CHALLENGES	RECOMMENDATIONS
- Russian requirement of additional declaration of striga free area in phyto sanitary certificates. <i>Russian export market is worth 1,00,000 MT and India hardly exports ~5,000 MT due to this challenge.</i> - EU is a high premium market. However, EU has been insisting on uniform and consistent quality groundnuts which are being hampered because of inferior and spurious seeds being used by farmers.	- Negotiations with Russia on relaxing the norms with respect to phyto sanitary requirement. - Stringent regulations required in terms of usage of certified and genuine seeds by the farmers. - Government should provide ~10% incentive on groundnut and groundnut DOC under the RoDTEP scheme to boost the exports to China and European Union.

2.12 Cotton

2.12.1 Global Overview

Production

Globally ~121 Mn bales of cotton were produced in 2019-20, 2.3% higher than the previous year. This was largely on account of increased production and yields in USA and India. Globally the largest cotton producers are India, China, USA, Brazil and Pakistan. Together, these countries account for more than ~80% of global production. As per USDA reports, global cotton consumption is expected to outpace the production in 2020-21, leading to an expected fall of 2.5 Mn bales from the global cotton stock. Global consumption is expected to resume growing, and China is expected to resume expanding its imports.

Trade

Globally, USA is the largest exporter of cotton⁶⁶, followed by Brazil, India, Benin and Greece (2020). These top 5 countries together contribute to ~80% of the global exports (refer exhibit 58). USA's contribution to cotton exports in 2020 stood at ~40% which was largely to China and Vietnam.

The global cotton exports have witnessed a growth of ~9% over the period 2015-2020.

On the import front, China, Vietnam, Bangladesh, Turkey and Pakistan were the key importers in 2020. China is the largest importer of neither carded/combed cotton, while is one of the largest exporters of yarn and woven fabrics.

Exhibit 58: International Cotton Trade: Top 5 Exporting & Importing Nations in 2020

Exporters				Importers			
Country	Value in USD billion	% Contribution	% change*	Country	Value in USD billion	% Contribution	% change*
USA	5.9	43%	53%	China	3.6	26%	39%
Brazil	3.2	23%	150%	Vietnam	2.2	16%	35%
India	1.4	10%	-22%	Bangladesh	1.8	13%	-19%
Benin	0.5	3%	72%	Turkey	1.7	12%	34%
Greece	0.5	3%	38%	Pakistan	1.3	10%	142%

Source: ITC Trademap, YES BANK Analysis

*% change is the delta increase/decrease over the period 2015-2020

⁶⁶For the purpose of trade HS 5201 (cotton, neither carded nor combed) has been considered

2.12.2 Indian Overview

Cotton is a significant contributor to the agricultural economy of India and plays a major role in sustaining the livelihood of an estimated 5.8 Mn cotton farmers and 40-50 Mn people engaged in related activities such as cotton processing and trade.

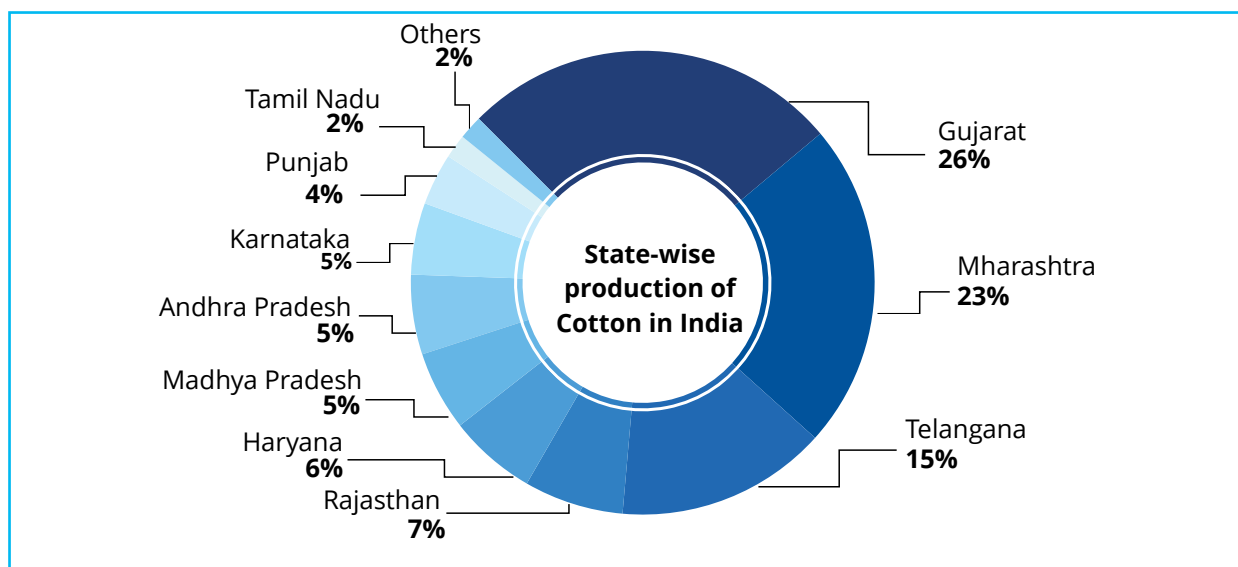
Unlike other countries, India produces all four species of cultivated cotton *Gossypium arboreum*, *Gossypium herbaceum* (Asian cotton), *Gossypium barbadense* (Egyptian cotton) and *Gossypium hirsutum* (American Upland cotton). *Gossypium hirsutum* represents 88% of the hybrid cotton production in India and all the current Bt cotton hybrids are *G. hirsutum*.

Production

In the year 2019-20, India produced 360 lakh bales of cotton on an area of ~12.6 Mn ha. Approximately 62% of India's Cotton is produced on rain-fed areas and 38% on irrigated lands. In terms of productivity, India ranks way behind its competitors including USA (955 kg/ha) & China (1764 kg/ha). During 2009-10, India's productivity was at ~500 kg/ha⁶⁷, which has been on a decline and has reached ~ 486 kg/ha in 2019-20.

Gujarat is the largest producer of Cotton in India, followed by Maharashtra, Telangana, Rajasthan and Haryana (refer exhibit 59). These states together account for ~ 70% of India's total cotton production.

Exhibit 59: State-Wise Production of Cotton in India



Source: ITC Trademap, YES BANK Analysis

One of the key value additions which the cotton industry has been able to offtake is to grow organic cotton. India is one amongst very few countries that grow and supply organic cotton. Of late, the premium on organic cotton has increased significantly, reaching upto 35-40%. Bangladesh is a key importer of India's organic cotton.

On the consumption front, the Indian textile industry is one of the largest industry in the country and has witnessed a phenomenal growth in the last two decades in terms of installed spindlage and yarn production. India has become one of the largest consumer of cotton with a share of ~25% in the World Cotton Consumption⁶⁸.

⁶⁷Cotton Corporation of India

⁶⁸Ministry of Textiles

Trade

Exhibit 60: Exports from India, % Contribution, 5 yr change (%)

India is the third largest exporter of cotton after USA and Brazil, retaining a share of 10% in the global exports. India's key trade partners include Bangladesh, China, Vietnam, Indonesia and Turkey. In 2020, India exported cotton worth USD 1.4 Bn, of which 55% share was contributed by the aforementioned countries (refer exhibit 60). Until 2018, Pakistan was amongst the top three importers of Indian Cotton. Besides exporting raw cotton, India also exports cotton yarn, cotton fabrics, thread, and cotton waste. In total these exports were worth USD 5.8 Bn in 2020

Country	Value in USD million	% Contribution	% change*
Bangladesh	699	48%	3%
China	461	32%	57%
Vietnam	150	10%	-17%
Indonesia	65	4%	9%
Turkey	19	1%	-16%

Source: ITC Trade Map, YES BANK Analysis

*% change is the delta increase/decrease over the period 2015-2020

While the global export trend over the last 5 years (2015-2020) witnessed a growth, exports from India saw a major contraction (-5%) (largely on account of demand contraction from its trading partners (China, Pakistan and Vietnam). The Indo-Pak trade restriction has also impacted the cotton industry severely. In 2015, India's share in Pakistan's total cotton⁶⁹ imports was ~90%, which reduced to ~5% in 2020.

2.12.3 Challenges and way forward for scaling up cotton exports⁷⁰

FARM LEVEL

CHALLENGES	RECOMMENDATIONS
- Low productivity - Pest and disease attacks- India has been battling with infestations/attacks from pink bollworm and whitefly, leading to severe crop damage - Availability of spurious seeds in the market - Extensive use of poor quality and adulterated insecticides and pesticides - India is the largest & cheapest source of cotton, globally. Despite this, India has not been able to attain numero uno position in exports. This is largely because of low quality, high contamination levels and improper packaging. <i>Countries like China (which is also the largest importer of cotton globally), have a preference for contaminant free cotton, which we have not been able to cater to due to high contamination levels in our produce.</i>	- Seed companies need to be encouraged to produce next gen seeds. - Favorable legal/research environment needs to be put in place to protect the interest of seed companies in terms of royalties. - Extensive extension activities to be undertaken for educating farmers on good agricultural practices for growing Contaminant Free Cotton. - On ground implementation of Insecticide Resistance management strategies, Integrated Pest Management, Integrated Nutrient Management besides scientific methods of weed control and water management have to be percolated to the grass root level. - Restrictions on use of plastic packaging of cotton seeds and other farm inputs will help reducing contamination levels in cotton.

⁶⁹Neither carded nor combed cotton

⁷⁰This segment largely captures the challenges and way forward of cotton commodity and not yarn/fabric

INFRASTRUCTURE & LOGISTICS

CHALLENGES	RECOMMENDATIONS
- Significant increase in freight rates has led to increased costs to destination markets. This results in preference being given to cotton of other origins which are of better quality and available at a small premium as compared to Indian cotton. - Unavailability of containers at the exit points builds up to the logistics problem.	The Government needs to intervene to make containers available to the exporters and partially regulate the freights such that the increase is not manifold.

PROCESSING & VALUE ADDITION

CHALLENGES	RECOMMENDATIONS
- Trade of organic cotton is being hampered by fake organic products reaching the destination market, impacting the credibility of other traders. - Ginning in India is of very low quality and same is the case with packaging. Indian cotton is also one of the poorly packaged/marketed fibers globally. - Lack of standardization results in loss in terms of higher weight losses & also lowers value of Indian Cotton. - China has limited quota for imports and it chooses the best quality cotton at higher price first.	- A strict regulatory mechanism needs to be put in place to monitor organic production and exports, so that India's image as a reliant organic cotton exporter is retained. - Immediate need to define and set standards of export worthy packaging and setting up rules/laws making it compulsory for all exporters to follow the standards. - Ginners who produce sub-standard products should be penalized by regulatory authority or Ginner who adhere to the standard need to be encouraged and highlighted, so that the demarcation between good and bad is clear and out in the public. - A ranking matrix may also be developed for ginners and published on the website of concerned ministry and to be made available to customers

BRANDING & MARKETING

CHALLENGES	RECOMMENDATIONS
India does not take up any branding/marketing activity at the government or industry level. <i>Brazil, as an exporter of cotton to India, recently conducted country specific webinar and highlighted its sector/industry by showcasing way and means of its production, harvesting and packaging and connected to the Indian buyers</i>	A Government- Industry driven/funded Marketing Program needs to be curated and implemented in the key markets of USA, Australia, Brazil, such that the buyers get a platform to engage with the Indian Cotton exporters.

TRADE

CHALLENGES	RECOMMENDATIONS
• Trade of organic cotton is being hampered by fake organic products reaching the destination market, impacting the credibility of other traders. • Ginning in India is of very low quality and same is the case with packaging. Indian cotton is also one of the poorly packaged/marketed fibers globally. • Lack of standardization results in loss in terms of higher weight losses & also lowers value of Indian Cotton. • China has limited quota for imports and it chooses the best quality cotton at higher price first.	• Trade restrictions with Pakistan have impacted both countries. The government needs to take a relook at the restrictions been imposed and may consider opening up cotton for trade as for pharma products. • Bilateral talks need to be initiated by the government (with EU/ China) to attain preferential treatments for Indian produce. • Discussions to be held with CIQ (China inspection and Quarantine) to Standardize the Quality specifications (like moisture, Trash etc.) on which the quality needs to be offered. • A challenge mechanism needs to be worked out which is independent & transparent. • High level delegations to represent India's interests to Turkey/ Vietnam/China • Stagnation of existing markets warrants opening up to new markets Like Turkey and Egypt. Currently, Egypt does not allow imports from India. Turkey implements strict quality protocols and restricts cotton which has high presence of seed/ fragments.



03

Impact of Covid on Agri Exports

The COVID-19 pandemic outbreak in 2020 impacted the global economies severely, taking a toll on the supply chains including for food and agriculture. While the overall agribusiness was adversely impacted during the period, trade of certain agricultural produce rose on account of food security concerns.

In India, Covid crisis brought about unprecedented short term & long term challenges for the entire agribusiness fraternity. The entire value chain from farm producers to urban consumers to exporters was disrupted, with many areas facing acute distress. The perishables supply chains like milk, poultry, fruits and vegetables witnessed critical demand supply disruptions.

While logistics constraints, labor migration and shortage of inputs impacted the production side; restrictions on trade (inter country), closure of HoReCa segment and lesser spending on grocery and food, impacted the demand side of supply chains.

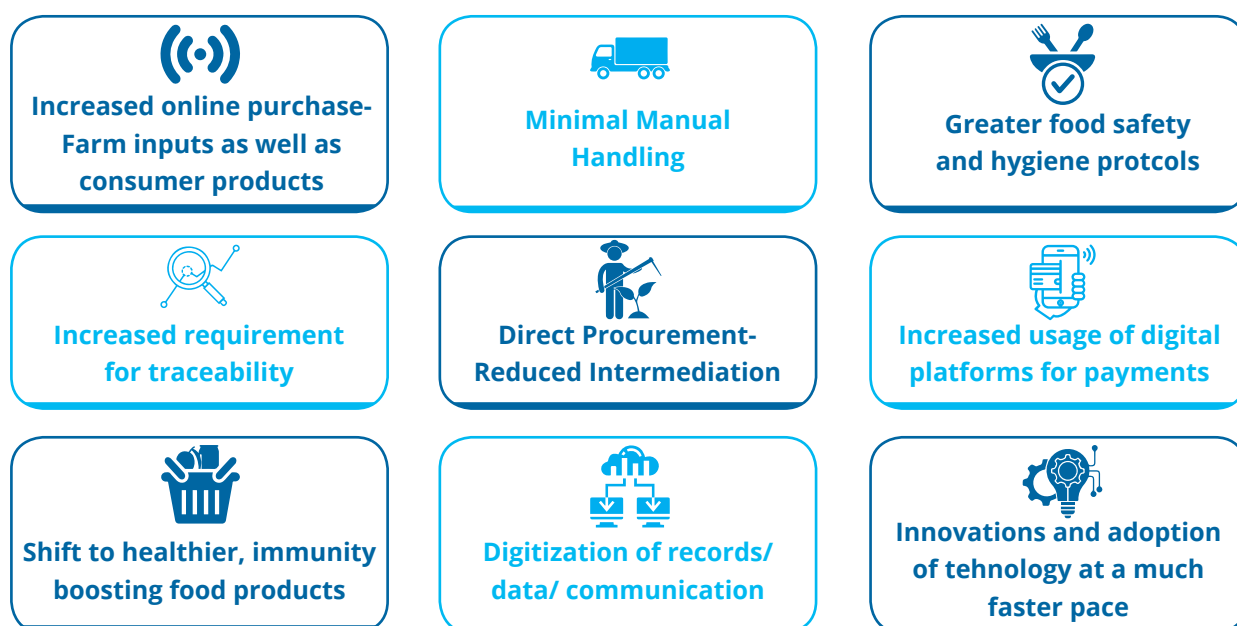
The Government of India announced a host of incentives for the agricultural sector, which covered not only monetary incentives, but also policy reforms, which were long pending, and much required during these exceptional circumstances. **A total of INR 20 lakh crore (USD 266 Bn) Covid stimulus package was announced for India, of which 1 lakh crores (USD 13 Bn) was specifically dedicated to the food and agriculture sector.** The announcement of Atmanirbhar package including PM Matsya SAMPADA Yojana, TOP to TOTAL, Animal Husbandry Infrastructure, Development Fund & Agri Infrastructure, Fund along with policy reforms on Essentials, Commodities Act and agricultural marketing, shall definitely be transformative and shall pave the way forward for India's self-reliance and boosting the competitiveness of our agriculture sector.

The recent COVID-19 pandemic has clearly exemplified the robustness and resilience of Indian Agriculture and its importance to the rural economy. A recently released data by the Government of India highlights that India's cumulative value of merchandise exports during April-March 2020-21 has been estimated at USD 290.63 Bn compared to USD 313.36 Bn during April-March 2019-20, which is a negative growth of (-)

7.26%. However, many food and agri commodities witnessed a positive growth during the same period. These included rice (~37%), other cereals (~219%), oil meals (~88%), spices (~10%), fruits and vegetables (~9%), cereals preparations and miscellaneous processed items (~21%)⁷¹.

Growth in agricultural exports, despite pandemic disruptions, has been driven by numerous factors including enhanced global demand due to stockpiling on account of food security issues, Indian government's policy-level interventions as well as the expansion of products into new markets.

While the pandemic has brought about a lot of disruptions, it has also presented great opportunities for streamlining and rethinking on our domestic and global supply chains. The key transitions that have been witnessed include:



⁷¹<https://pib.gov.in/PressReleasePage.aspx?PRID=1712892>



04 Conclusion

The capacity and diversity of India's Agricultural produce and its potential to make an impact in the global markets cannot be undermined. However, the current value chains are not holistically aligned to the global requirements, putting forth critical challenges that need to be addressed effectively so as to enhance their global competitiveness.

India's agri exports are currently close to USD 42Bn (2020), with a share of 2.5% in the global agri exports. Enhancing our exports and increasing our share in the global trade can be brought about through 2 approaches – 1) A Generic approach or 2) A Commodity Focused transformation approach. These approach look at resolving the current challenges at various degrees and timeframe.

The Generic approach aids the default growth rate trend – by focusing on agri-exports as a whole, boosting it to a certain extent with a consideration that key common challenges are identified at the farm, infrastructure and policy levels and are smoothened and resolved. This is a conservative approach without any appreciable transformation taking place. With this approach in place, Indian agri-exports is expected to cross ~USD 50 Bn mark in the medium term.

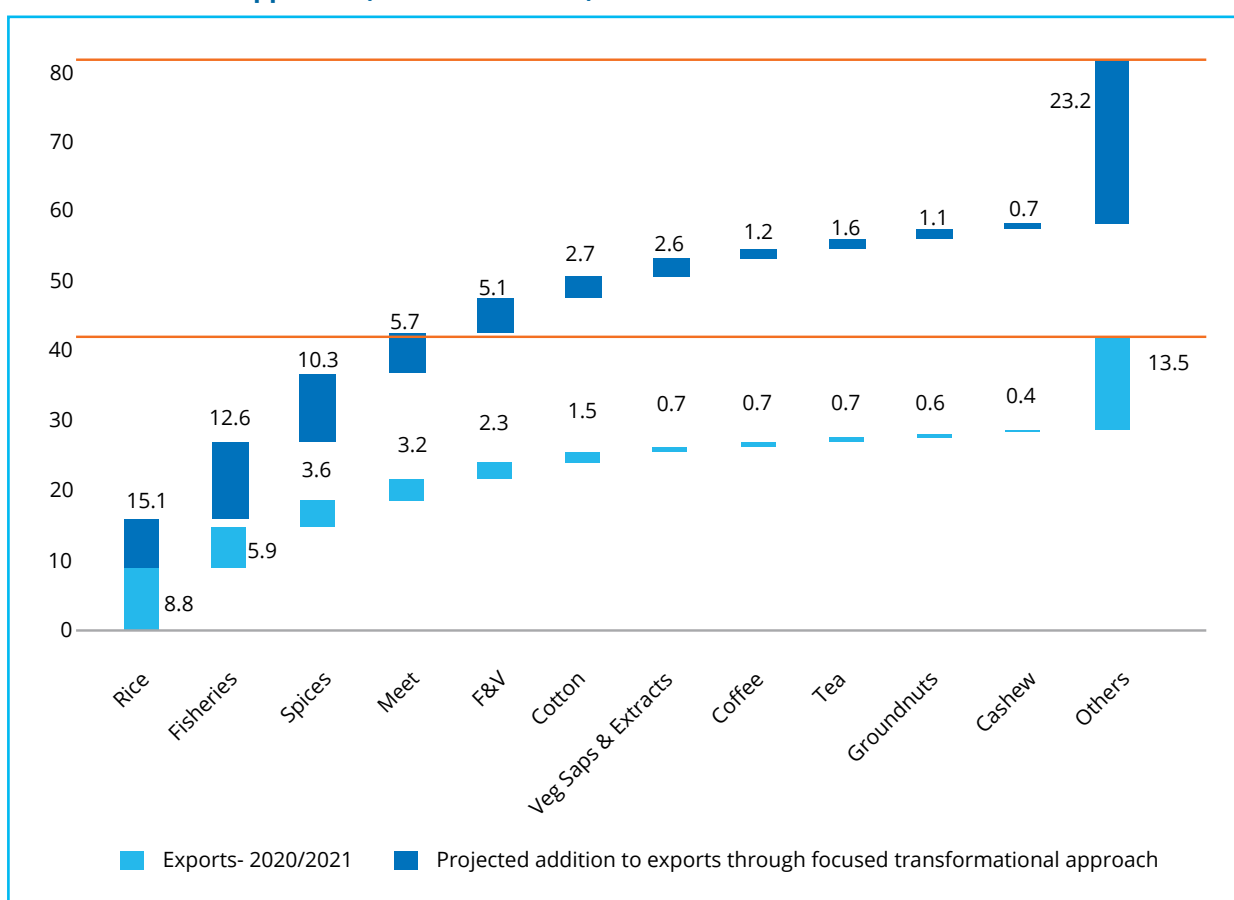
The Commodity focused transformational approach on the other hand will need to identify critical categories or commodities from the exports perspective, assess in detail all challenges impacting exports for each commodity and develop focused interventions to address each challenge. In this approach, growth is strategically planned and focus is towards time bound, action oriented implementation plans that focus on category or commodity specific incentives & support for productivity & quality improvement, logistics and supply chain efficiency development, digital interventions, research & development, value addition as well as branding/marketing. This approach needs to include radical, large-scale and high impact measures that are fine tuned to each commodity value chain – addressing challenges each leg with laser sharp focus.

This transformational approach needs to be action oriented and time-bound, with focus on convergence of efforts by the central government, its agencies, state governments and the private sector. Other categories, which are currently small but have an intrinsic potential to grow (e.g. Organic food, Indian traditional food, Nutraceuticals etc.) need to be identified and built upon. This approach needs strong buy in and

involvement from the private sector for addressing each challenge impacting exports - with all relevant stakeholders standing accountable for the key actionable and results in terms of export enhancement. Through this focused transformational approach, each category is expected to grow by an additional 5-12% annually and is expected to take the value of India's Agri exports to USD 70-80 Bn in the medium term (probably 7 to 10 years).

The potential indicative contribution to this transformational growth through key sectors including Fisheries/Aqua sector, Rice (basmati as well as non-basmati), Meat, Spices, Cotton, F&V (fresh and processed), Vegetable saps and extracts, Plantation crops and other key categories is captured below.

Exhibit 61: Indicative Contribution of Key Categories to India's Agri Exports Through Focused Transformational Approach (Values in USD Bn)



Source: APEDA, MPEDA, Spices Board, USDA, SHEFEXIL, ITC Trademap, YES BANK Analysis, Industry Discussions

An indicative list of key actionable in focus sub-sectors is provided in the table below:

Exhibit 62: Indicative List of Key Actionable in Select Focus Sub-Sectors

(Detailed interventions provided in respective chapters)

Product	Focused Transformational Approach: Key actionable
Rice 	- Traceability - Shift to Branded/Value added products - Enhanced focus on non-basmati and specialty rice (including organic)
F&V 	- Increased acreage - Value addition/branded products - Varietal change - Market/Demand driven R&D - Orchard rejuvenation
Meat 	- Additional volumes from salvaging 50% male buffaloes - Complete access to Philippines, Iran & Russia - Duties on hides to be rationalized - Launching extensive marketing plans, such as cookery shows and tasting sessions, to develop taste for Indian meat products
Fisheries 	- Value addition - Traceability - Species diversification
Spices 	- Value addition - Traceability - Marketing and Branding - Demand driven R&D
Veg Saps & Extracts	- High growth on account of health awareness/preventive healthcare - Long term R&D program - Exploring pharmaceutical, nutraceutical, cosmetics and F&B industry
Cashew 	- Orchard rejuvenation /productivity enhancement - Focus on high density plantations - Partial support for certification costs like BRC, IFS and GFSC
Coffee 	- Plantation rejuvenation - Productivity enhancement - Value addition - Regional Trade agreements (e.g with ASEAN)

Product	Focused Transformational Approach: Key actionable
Tea 	• Traceability • Replantation drive • Branding/Marketing • Enhanced focus on specialty tea/organic, herbal tea
Cotton 	• Pakistan was a major market, which has been shut recently • Issues regarding contaminants are critical to be resolved • Stringent packaging/quality norms to be implemented
Groundnuts 	• Value added products offer very high returns. Target conversion of 1 lakh MT into value added products such as blanched, salted, coated, peanut butter and defatted flour • Negotiations for relaxation of phyto-sanitary requirements
Others	• Focus on organic products, RTC/RTE, bakery products, ethnic Indian food, superfood etc.

Source: YES BANK Analysis, Industry Discussions

India holds immense potential to position itself strongly on the global trade map. However, concerted efforts are required from the Government as well as the Industry to overcome the existing challenges and build strong export-oriented value chains. With the Government playing a catalytic role in encouraging agri exports the increasing readiness of the Indian agri industry to explore and innovate has the potential to take India on a greater growth trajectory to penetrate deeper into the existing markets as well as explore new markets for India's diverse food and agricultural products.

05. Abbreviations

AAGR	Annual Average Growth Rate
AEP	Agriculture Export Policy
Agri	Agriculture
APEDA	Agricultural and Processed Food Products Export Development Authority
APEDA	Agriculture Products Export Development Agency
APMC	Agricultural Produce Marketing Committee
ASEAN	Association of South East Asian Nations
ATL	Above The Line
BMC	Brood stock Multiplication Centers (BMC)
Bn	Billion
BRC	British Retail Consortium
BTL	Below The Line
CA	Controlled Atmosphere
CAGR	Compound Annual Growth Rate
CAGR	Cumulative Average Growth Rate
CAPEX	Capital Expenditure
CEPCI	Cashew Export Promotion Council of India
CEPT	Common Effective Preferential Tariff
CIB	Central Insecticide Board
CNSL	Cashew Nut Shell Liquid
CPC	Centre for Perishable Cargo
CSIR	Council of Scientific & Industrial Research
DAHDF	Department of Animal Husbandry, Dairying and Fisheries
DARE	Department of Agricultural Research and Education
DAY NRLM	Deendayal Antyodaya Yojana

DFPD	Department of Food and Public Distribution
DFTP	Duty Free Tariff Preference
DGFT	Directorate General of Foreign Trade
DGFT	Director General of Foreign Trade
DOC	DeOiled Cake
DoC	Department of Commerce
DoCA	Department of Consumer Affairs
EFSA	European Food Safety Authority
EIC	Export Inspection Council
E-NAM	Electronic National Agriculture Market
EPC	Export Promotion Council
EU	European Union
EU	European Union
EU	European Union
EVFTA	EU-Vietnam Free Trade Agreement
FAOSTAT	Food and Agriculture Organization Statistics
FDI	Foreign direct investment
FIEO	Federation of Indian Export Organizations
FMDCP	Foot and Mouth Disease Control Programme
FOB	Free on Board
FOREX	Foreign Exchange
FPO	Farmer Producer Organizations
FSSAI	Food Safety and Standards Authority of India
FSVPS	Federal Service for Veterinary and Phytosanitary Surveillance (Rosselkhoznadzor)
FTA	Free Trade Agreement
GAP	Good Agricultural Practices

GCC	Gulf Cooperation Council
GDP	Gross Domestic Product
GDP	Gross Domestic Product
GFSC	Global Food Safety Consortium
GI	Geographical Indication
GoI	Government of India
GSP	Generalized System of Preferences
GST	Goods and Services Tax
GVA	Gross Value Added
Ha	Hectare
HPMC	Himachal Pradesh Horticultural Produce Marketing and Processing Corporation Ltd.
HSN	Harmonized System of Nomenclature
IARI	Indian Agricultural Research Institute
IBEF	India Brand Equity Foundation
ICAR	Indian Council of Agricultural Research
ICD/CFS	Inland Container Depots / Container Freight Stations
IDMF	Integrated Development and Management of Fisheries
IFS	International Food Standard
INR	Indian Rupee
IP	Intellectual property
IQF	Individual Quick Freezing
IT	Information Technology
ITC	International Trade Council
ITP	Integrated Territorial Programs
Kg	Kilogram
KVK	Krishi Vigyan Kendras
LDC	Least Developed Countries
MARKFED	The Punjab State Coop Supply & Marketing Federation Ltd

MEIQ	Minimum Indicative Export Quota
MEIS	Merchandise Exports from India Scheme
MEP	Minimum Export Price
MIDH	Mission for Integrated Development of Horticulture
MMT	Million Metric Tonnes
Mn	Million
MoC&I	Ministry of Commerce and Industries
MoFPI	Ministry of Food Processing Industries
MPEDA	Marine Products Export Development Agency
MRL	Minimum Residue Limit
MSME	Micro, Small & Medium Enterprises
MSP	Minimum Support Price
NABL	National Accreditation Board for Testing and Calibration Laboratories
NAFTA	North American Free Trade Agreement
NBC	Nucleus Breeding Centers
NBFC	Non Banking Financial Companies
NHB	National Horticulture Board
NPOP	National Programme on Organic Production
NTAC	Normally Traded as Commodities
NTB	Non Tariff Barriers
ODOP	One District One Product
OECD-FAO	Organisation for Economic Co-operation and Development
OIE	International Organization for Animal Health
OMSS	Open Market Sale Scheme

PDS	Public Distribution System
PMK-SAMPADA	Pradhan Mantri Kisan Scheme for Agro Marine Processing and Development of Agro
PPPIAD	Private Partnership for Integrated Agriculture Development
R&D	Research and Development
RAS	Recirculatory Aquaculture System
RFID	Radio Frequency Identification
RoDTEP	Remission of Duties and Taxes on Export Products
SE	South East
SEZ	Special Economic Zones
SHEFEXIL	Shellac and Forest Produce Export Promotion Council

SHG	Self Help Group
SPS	Sanitary and PhytoSanitary
TBT	Technical Barriers to Trade
TIES	Trade Infrastructure for Export Scheme
UAE	United Arab Emirates
US	United States of America
US FDA	United States Food and Drug Administration
USD	United States Dollar
USDA	United States Department of Agriculture
VAP	Value Added Product
WTO	World Trade Organization

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07. Credits (List of Stakeholders Consulted)

Programme Head:

- Mr. Sanjay Sacheti, Co-Chair, FICCI National Agriculture Committee & Country Head & Executive Director, Olam Agro India Ltd

Expert panel:

- Dr. M. Angamuthu, IAS, Chairman, APEDA
- Ashok Dalwai, CEO, NRAA, Ministry of Agriculture & Farmers Welfare, Government of India
- Dr. Sudhanshu, Secretary, APEDA, Ministry of Commerce & Industries, Government of India
- Mr. T R Kesavan, Chairman, FICCI National Agriculture Committee & Group President, TAFE Ltd
- Mr. Irfan Allana, Chairman, Allana Group
- Mr. Pravesh Sharma, Co-Founder and CEO, Kamatan Farm Tech Pvt Ltd
- Mr. S Sivakumar, Group Head - Agri & IT Businesses, ITC Ltd
- Mr. Vivek Chandra, CEO, Global Branded Business, LT Foods
- Mr. Hemendra Mathur, Chairman, FICCI Task Force on Agri Startups & Venture Partner, Bharat Innovation Fund
- Mr. Khalid Khan, Head- Procurement & Supply Chain, ITC Ltd.
- Mr. Sanjeev Bisht, Business Head- Spices & Aqua, ITC Ltd.
- Dr. Hema Yadav, Director, VAMNICOM

Panel – Cross cutting Issues

- Mr. Vipin Gupta, CEO – India, Louis Dreyfus
- Mr. Amrendra Mishra, MD, ADM
- Mr. Geemon Korah, Chief Executive Officer, Kancor Ingredients Ltd

Sugar

- Mr Anup Kumar, India Head Trader , Sucden India
- Mr. Vamsi Krishna Nanduri, Sugar Trader, Louis Dreyfus
- Mr Vipin Gupta, CEO, Louis Dreyfus
- Mr Roshan Tamak, Executive Director & CEO-Sugar, DCM Shriram Ltd

Fisheries

- M. V.N. Sesha Chary, Executive Director, Growel feeds
- Mr. Rajmanohar, Co-founder & CEO, Aquaconnect
- Ms. Devleena Bhattacharjee, Founder & CEO, Numer8
- Mr. Sanjeev Bisht, Business Head- Spices and Aqua , ITC Limited
- Mr. Ramesh Mohapatra, Chairman, Magnum Group of Companies and President, Utkal Chamber of Commerce, Odisha
- Mr. Rajarshi Banerjee, President WB, Seafood Exporter Association of India
- Mr. Venkat Nekkanti, Managing Director, Nekkanti Sea Foods Ltd

Rice

- Mr. Nitin Gupta, Vice President, Rice & Grains Biz, Olam Agro India Pvt. Ltd.
- Mr. Rajiv Kumar, ED, TREA
- Mr. Himanshu Agrawal, Director, Satyam Balaji Rice Industries
- Mr. Vinod Kaul, ED, AIREA
- Mr. Vivek Chandra, CEO, Global Branded Business, L T Foods
- Mr. Vijay Setia, ED, Chaman, Lal Setia Exports
- Mr. Rajesh Khera, Vice President & Global head for Rice Operations, Mewah Group

Spices

- Mr. Sanjeev Bisht, Business Head Spices, ITC Limited - ILTD, Guntur
- Mr. Chandrasekar S, Head-Spices, Olam Agro India Pvt Ltd
- Mr. Rajiv Palicha, Director, Nedspice Processing India Pvt. Ltd.
- Mr. Kartik, CEO, Asian Spices & Secretary, Federation of Indian Spices Stakeholders
- Mr Rajeev Mittal, CEO, Suminter Organics
- Mr. Ravipati Peraiah , Managing Director, Vijaykrishna Spices Ltd
- Mr. Milan Shah, Director, Virani Food Products Limited

Coffee

- Mr Sudheendra, CEO, M/s NKG India
- Mr Amit Pant, Commercial Head, Tata Coffee Ltd
- Mr Mayank Shah, Business Head – Coffee, ITC Ltd
- Mr. Anuj SAgarwal, Business Head, Coffee, Louis Dreyfus
- Mr Srikanth Ambati, Business Head – Coffee, Olam Agro India Pvt Ltd

Cashew

- Mr Rahul Kamath, Owner, M/s Bholu Surendra Kamath (BSK)
- Mr Harikrishna Nair, Owner, M/s Western India Cashew
- Mr Bhooches, Owner, M/s Prashanthi cashew
- Mr Narayanan Renganathan, Business Head – Cashew, Olam Agro India Pvt Ltd

Cotton

- Mr. Sumeet Mittal – India Cotton Head, Louis Dreyfus
- Mr. Mohit Shah – Owner, Gill & Co.
- Mr. Kushal Patel – MD, Axita Cotton Ltd.
- Mr. Vinay Kotak –Director, Kotak Commodities
- Mr. Naveen Chaurasia – VP(Cotton), Olam Agro India Pvt. Ltd

Fruits & Vegetables

- Mr. Pradipta Kumar Sahoo, Chief Strategy Officer & Head International Business, Mother Dairy
- Mr. Pankaj Khandelwal, Chairman & Managing Director, INI Farms
- Mr. Sopan Kancham, Executive Director, Mahagrapes
- Mr. Priyatham Garu, CEO, Samagritech
- Mr. Vivek Vijayan, Director of Sales and Marketing, ABC Fruits
- Mr. Kaushal Kakkar, CEO, Kaybee Exports
- Mr. Chaitanya Rajwade, Director, Mahindra & Mahindra



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