

Working Paper 556

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Governance in the Context of  
Select Agricultural Export  
Products – Evidence from India**

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# **Agriculture Value Chain Governance in the Context of Select Agricultural Export Products – Evidence from India**

**Malini L Tantri\* and Sanjukta Nair\*\***

## **Abstract**

*This paper, using the governance framework, investigates the state of the agricultural value chain in India of select agricultural export products. While doing so, we are mapping the existing institutions/regulatory frameworks and their coordination across departments. The analysis, based on primary data, allows us to argue that there appear to be numerous institutions in place to protect the interests of farmers, domestic traders, and those interested in entering the international market. However, the real challenge lies in the coordination of various agencies and also information asymmetry, which results in higher transaction costs of doing trade.*

## **Introduction**

The prominence of global value chains in international trade is gaining momentum, especially in the attempt of developing countries to improve their competitive edge on the global map. This is true in the case of agricultural product, which by definition is perishable. This, prima facie, demands a systematic value chain system in place. This could be related to market access and market orientation, resources and physical infrastructures and institutions (See for literature: Grunert, *et al*, 2005; Porter, 1990; Scott, 1995; Sturgeon, 2001; Nadvi, 2004; Lazzarini, *et al* 2001; Lambert, and Cooper, 2000; Kaplinsky, 2000; Humphrey, 2006a and 2006b; Gwyne, 2008; Gibbon *et al*, 2008; Francis and Bourlakis 2008).

Among the four dimensions of GVC<sup>1</sup> the study of governance in global value chains has gained significance given that there has been a shift in production, with labour-intensive sectors being focused in developing economies, and capital-intensive sectors in developed economies (Gibbon *et al*, 2008). In terms of agriculture, an increasing number of farmers are being contracted with supermarkets or big companies to produce specific standards and conditions. Whether this results in higher returns depends on how competitive the market is; if there is more competition, farmers may receive more incentives. At the same time, certain small farmers, who cannot afford, may be completely out of this system (*ibid*). The study of governance in market chains becomes all the more important because even if developed countries open their markets, they have the power to choose their suppliers from developing countries, which can lead to small farmers being marginalised and left out of the benefits of global supply chains. Value chain governance is also required to ensure sustainability in the value chain (See for detail: Trienekens, 2011; Arfani and Winanti, 2014).

While there are not many studies on value chain governance in the context of agriculture in India, Mishra and Dey (2018) pointed out that Gereffi's definition of governance may not necessarily hold true in informal markets, which play a significant role in the agriculture sector in India. Moreover,

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<sup>1</sup> There are four key dimensions in global commodity chains which is the predecessor of GVC, namely, the input-output structure, territoriality, governance and institutions (Gereffi, 1994).

they spoke about how, unlike European countries, the organised retail sector for agricultural products occupies a small portion of the Indian market, necessitating a focus on attempting to govern informal chains through more civil society organisations and regulators. The supply chains of different agricultural commodities in India, however, are fraught with challenges stemming from the inherent problems of the agriculture sector including the dominance of small/marginal farmers, fragmented supply chains, absence of scale economies, lack of coordination between players, lack of adequate infrastructures such as cold storage and transport, leading to significant wastages in produce and rejection of exports due to lack of monitoring and high levels of pesticide use (MANAGE, n.d.). In general, doing business in developing countries is difficult due to poor physical, social and political conditions, weak institutions and trade relations marked by information asymmetry and lack of transparency (Trienekens and Willems, 2007). Governance in the value chains in these countries is necessary to ensure the efficient transmission of information.

In this context, it is quite interesting to note that the Government of India (GoI) is attempting to strengthen the agriculture value chain, allowing the farming community to increase farm income and become more market-oriented through the recent Agriculture Export Policy, 2018 (AEP). If it is implemented properly, AEP has the potential to improve agricultural output and quality while also strengthening the agricultural value chain with both export and domestic orientation. Surprisingly, there are no studies available to explain the state of governance in the context of agricultural products<sup>2</sup>, particularly exportable commodities. In this context, this paper employs a governance framework to explore the state of the agricultural value chain in India in the context of select agricultural products from a trade perspective. The rest of the paper is organised as follows. Following this, this section outlines the concept and approach employed in the paper to investigate agriculture value chain governance. The third section provides the core discussion and argument. The last section summarises the paper.

## **Conceptual and Methodological Approach and Selection of Products**

The most well-known definition of governance was offered by Gereffi (1994) as the 'authority and power relationships that determine how financial, material and human resources are allocated and flow within a chain'. He classified governance into two: markets, where prices determine transactions, and value chains, where suppliers have different levels of autonomy in supplying products to their customers (Gereffi and Fernandez-Stark, 2016). Agro-food chains have shifted from spot markets where sellers and buyers had no close relationships to value chains and buyers dictate what needs to be produced under what conditions to meet global market demand (ibid). Gereffi (1994) pointed out that as supply chains become more transnational and complex, and product differentiation by lead firms increases, the transaction costs to coordinate these activities will rise. If transaction costs are low, actors in the chain would prefer markets, but if they are high, they would prefer value chains through contracts where costs may be reduced through better governance such as improved infrastructure, usage of long-term over spot contracts to reduce asymmetry and uncertainty, transparency in information, as well as

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<sup>2</sup> The study conducted by Mishra and Dey (2018), which primarily focused on agricultural products with a domestic orientation, is an exception to the argument.

certification (Trienekens, 2011). Humphrey and Schmitz (2000), who defined governance as the coordination of inter-related economic activities through non-market relationships, studied how local and global governance may be interconnected through the formation of clusters where production and processing abilities are upgraded to compete in the global market, and there is knowledge spillover from top to bottom. While Gereffi (1994) focuses on the role of lead firms, Humphrey and Schmitz (2000) identify key players including business associations, technology centres, business leaders and government agencies. However, there can also be external actors who do not directly contribute to production such as NGOs, civil society organisations and regulators, especially if the sector is dominated by informal markets and players (Mishra and Dey, 2018). Governments and NGOs are important players in the supply chain by lowering barriers to trade, improving physical infrastructure, providing subsidies and training as well as a stable economic climate. For businesses, their role is to encourage innovation, enable bargaining power to suppliers, and improve communication (Trienekens, 2011). Since agriculture product sales take place through agents and there is no direct contact between producers and buyers, certifications and grades by governments or government-approved agencies are what convince buyers of the quality of the product.

In the context of Indian agriculture, we argue that governance in the value chain demands mapping the institutions/regulatory framework in place, its coordination across the department and the corresponding transaction costs and time. It is in this context, taking the cue from Kumar (2016) we intend to investigate how governance in the value chain differs across select agricultural products. While doing so, we are mapping the institutions/regulatory framework in place, its coordination across the department and the corresponding transaction costs and time. Meanwhile, we also flag the kinds of vertical and horizontal governance issues reported across products and the way out. For this purpose, we have also adopted the framework proposed by Mishra and Dey (2018) and investigated what level of coordination, control and safeguard (CCS) measures are in place for facilitating agricultural value chain governance in India from a trade perspective.

The data for the study is taken from primary as well as secondary sources such as surveys, databases (FAO, APEDA, Commodity Board, RBI, and other Government sources). The primary unit of observation is exporters, different stakeholders involved in formulating/designing/implementing the policy and also Custom House Agent (CHA). Samples are drawn through both random methods and snowball sampling. Information was gathered through qualitative interviews. To strike a balance in the views expressed by exporters, we choose both small and large-scale exporters across select agricultural products.

A total of 46 exporters and 20 CHA were interviewed. The reasons for limited samples are: One, the number of players (exporters) involved in exporting specific/chosen agri-products is highly skewed, with some of them managing the entire production/harvest from the state. For instance, in the context of Rose onion, the exporter (currently one big exporter) is procuring the entire harvested produce and is exporting the same. Similarly, only a few state-specific exporters are involved in exporting pomegranates from Karnataka. In the present study, we have restricted our sample to state-specific exporters. Nevertheless, we covered them all. Two, leading CHAs in each state are covered to understand the nuances of trade-enabling institutions and related issues. Information gathered from

CHAs and exporters are tallied against each other for further verification. Three, respective state agencies involved in implementing AEP are also interviewed to document the policy-related issues.

### **The selection of product for the study**

The Agriculture Export Policy proposed by the GoI in the year 2018 focuses on promoting India's agricultural exports and ensuring food security by establishing strong value chains between the farmers and the markets. It is meant to be farmer-centric in terms of improving their incomes and minimising their losses along the value chain. Under the Agriculture Export Policy 2018, the Government of India has identified several clusters within each state intending to promote specific product exports within these clusters. Though these clusters cover a wide range of products (Table1), they largely follow main categories: marine products; plantation crops; fruits and vegetables and, Castor oil. However, in terms of the composition of agricultural exports in 2018), marine products (17.63 per cent) followed by Basmati rice (12.22%), oil meals (9.30%), cotton raw include waste (8.58%), spices (7.78%) and misc processed items (5.46%), and exports of buffalo meat are dominating. It indicates that products that have the maximum share in India's total agriculture exports are not covered entirely in the AEP. Thus, while selecting agricultural products for the present study, we have selected (Flow Chart 1) the products that are listed under Agricultural Export Policy (2018) and products that are not included but have a good share in India's total agricultural exports. Within products listed under AEP, we intend to choose products that have a formal institutional structure to facilitate business at various stage visus products that do not have such a systematic institutional set-up. The selected products are spread across Indian states, which enable us to elicit state-specific issues in building value chain process and also doing business.

**Table 1: Clusters identified under AEP**

<b>State</b>	<b>Products under AEP</b>
Assam	Tea
Andhra Pradesh and Telangana	Banana, Pomegranate, Mango, Marine Products, Chili, Turmeric
Gujarat	Banana, Mango, Potato, Marine Products, Cumin
Karnataka	Pomegranate, Rose, Onion, Coffee, Pepper
Kerala	Banana, Turmeric, Pepper, Cardamom
Madhya Pradesh	Pomegranate, Onion, Potato
Maharashtra	Banana, Pomegranate, Mango, Grape, Onion, Orange
Odisha	Turmeric, Marine Products
Punjab	Potato
Rajasthan	Isabgol, Cumin
Tamil Nadu	Banana
Uttar Pradesh	Mango, Potato

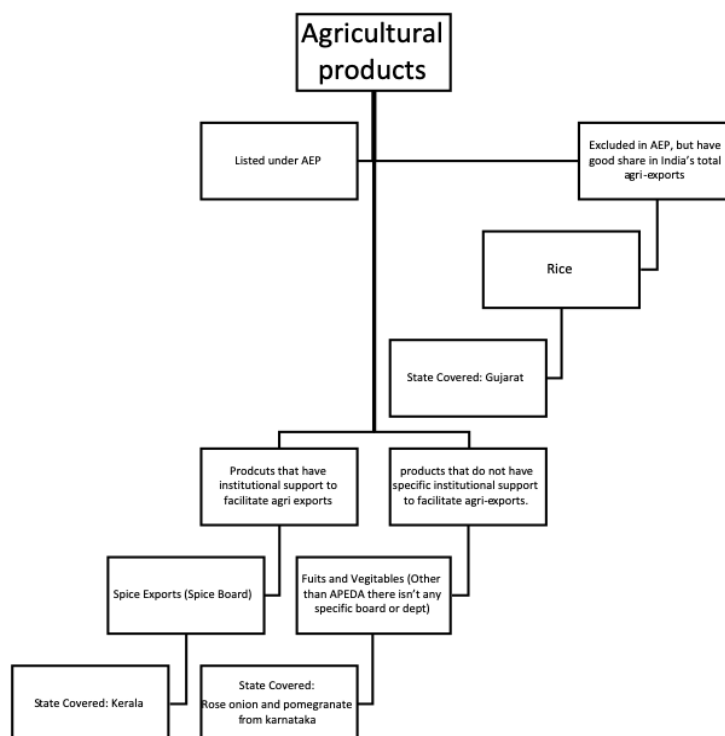
*Source:* Agriculture Export Policy (2018), Press Information Bureau, India (2019)

**Table 2: Composition of India's agro-exports (2009 to 2019) in percentage**

Product	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
1. Marine Products	11.7	10.7	9.3	8.4	11.7	14.3	14.8	17.7	19.3	17.6
2. Plantation										
Spices	7	7.1	7.3	6.8	5.8	6.3	7.8	8.7	8.1	8.6
Tea	3.5	3	2.3	2.1	1.9	1.8	2.2	2.2	2.2	2.2
Coffee	2.4	2.7	2.6	2.1	1.9	2.1	2.4	2.5	2.5	2.1
3. Fruits and Vegetables										
Fresh Fruits	1.8	1.2	1.1	1.2	1.4	1.3	1.9	2.2	1.9	2
Fresh Vegetables	3.6	2.4	1.7	1.5	2.1	2	2.3	2.6	2	2
4. Castor Oil	2.6	2.7	2.6	1.9	1.7	2	2.2	2	2.7	2.3

Source: APEDA (2020)

**Flow Chart 1: The Selection Criteria and Products**



## The AVC Governance in the select Agri-exports in India

To document the governance issues in the context of select agricultural products and subsequently highlight the issues affecting them, we have selected rice, marine products and fruits and vegetables. This represents a multiple-case-study method, which provides greater scope for detailed investigations as argued by Miles and Huberman (1990). Like the earlier study by Mishra and Dey (2018), we have adopted multiple products than a multiple organisation approach. The selected products fairly represent the major category of agricultural products in the country and also have a lot of differences in their basic characteristics.

**Table 3: The Characteristics of Select Agricultural Products in the Context of AVC**

Characteristics/indicator	Rice	Spices	Fruits Vegetables
Nature of Product	Not easily perishable	Not easily perishable	Perishable
Scale of Production	High	High	High
Frequency of Production	Seasonal	Seasonal	Seasonal
Price discovery	Rice is one of the commodities included in the National Agriculture Market (E-NAM).	Spice Board has set up an e-Auction for cardamom in Kerala and Tamil Nadu.  For chillies, commission agents determine prices on an auction basis (Prabhavathi <i>et al</i> , 2013)	At APMC markets, licensed commission agents/traders auction. If APMC is connected to e-NAM, products are auctioned there.
Processing technology	Not high end	High end	High-end and complex
Costs of processing technology	Not high end	High end	High end
Institutional framework	APEDA	Spices Board	APEDA
Type of Goods	Essential (included in PDS)	Included in CPI	Essential (included in CPI)
Contribution to trade of agricultural products (2019-20)	18.2 per cent	10.3 per cent	4 per cent (6.75 per cent if processed fruits and vegetables are included)
Market structure	As rice is included in the PDS, the government controls the market price to a certain extent by acquiring grains from farmers to maintain buffer stock, and by providing a minimum support price, which is usually low compared to what prices farmers would like to sell at given the high cost of production. Rice millers after acquiring the rice are expected to sell a certain percentage to the Food Corporation of India (FCI) (Mishra and Dey, 2018).	The majority of spice produce in India is dedicated to the domestic market due to the high domestic demand. It is generally sold through traders and marketplaces that provide to wholesalers or exporters.  Most spice exporters are family-owned businesses that have existed for generations (Jaffee, 2004)	The fruit trade is dominated by pre-harvest contractors. Vegetables trade by commission agents.  Since states have been amending their APMC Acts, more private players with their retail chains have started contract farming with farmers  Usually, fruit marketing takes place through cooperative marketing. (Pingali <i>et al</i> , 2019)
Actors (Smallholding, medium)	Mostly small and marginal farmers.  Produce is sold to rice millers.	90 per cent of spice production is undertaken by small, marginal farmers (FINCOM, 2020)	Vegetable production is dominated by small landholders, while fruit production is done on small as well as large land holdings. (Birthal <i>et al</i> , 2007)
Geographical Spread	The majority of the basmati rice exports come from the northern states of Gujarat, Haryana, Punjab and Uttar Pradesh.  For non-basmati rice, the	The majority of spices are manufactured in Madhya Pradesh, Gujarat, Karnataka and Rajasthan.	In terms of exports of fruits and vegetables, the leading states are Maharashtra, West Bengal, Uttar Pradesh, Tamil Nadu, Kerala and



	majority of exports come from all four corners; Andhra Pradesh, Gujarat, West Bengal, Maharashtra and Uttar Pradesh.  In terms of production, West Bengal, Punjab, UP and Andhra Pradesh are the leading producers.		Gujarat.  In terms of the production of fruits, Andhra Pradesh, Maharashtra, Gujarat, and Uttar Pradesh are among the leading states.  For the production of vegetables, Uttar Pradesh, West Bengal, Madhya Pradesh and Bihar are the leading states.
Sectoral segment (informal/formal/organised/unorganised)	Mostly unorganised.	Mostly unorganised	Mostly unorganised.  In terms of fruit processing, the organised sector had a 48 per cent market share (IBEF, 2006).
Major exporting destination (2019-20)	Basmati rice: Iran (28.5 per cent), Saudi Arabia (21.8), Iraq (9.9)  Non-basmati rice: Nepal (12 per cent), Benin (9.5), UAE (6.5)	China (21.5 percent) USA (14) Hong Kong (6.5)	Onions: Bangladesh (27 per cent), Malaysia (21.2), UAE (14.5)  Other vegetables: UAE (21), Nepal (18.6), UK (9.2).  Mangoes: UAE (36), UK (17), USA (7.6)  Grapes: Netherlands (36), Russia (12.2), UK (9.4)  Other fruits: UAE (21.8), Bangladesh (19.4), Iran (11).
Export restrictions	From 2008-2011, India imposed a ban on exporting non-basmati rice due to rising inflation.  In April 2020, rice exports were temporarily banned due to the nationwide coronavirus lockdown.	No known restrictions on exports from India	No known restrictions on exports from India
Limitations to growth	Lack of proper infrastructure, higher prices of Indian rice compared to competing countries' prices in international markets, and high cost of production. (Directorate of Rice Development)  Farmers making distress sales due to faulty procurement policies, lack of storage and cash requirements (Mishra and Dey, 2018)  Exportable surplus being kept by FCI. (FINCOM, 2020)	Competition from Vietnam and Indonesia has led to a decline in exports, especially of pepper (Yes Bank, 2018).  Productivity has shown a downward trend. Lack of finances and knowledge amongst small enterprises regarding better technology limits their participation in the supply chain (ibid.)	Post-harvest losses due to inadequate transport and cold-storage facilities, less than two per cent of produce are processed leading to the low value of exports. There is also a lack of uniformity in quality. (CII, 2019)
Level of processing	N/A	For chilly, 19 per cent (FINCOM, 2020)	Less than 2 per cent (CII, 2019)

Source: Authors' compilation from Jaffee (2004), IBEF (2006), BIRTHAL *et al* (2007), Prabhavathi *et al* (2013), Mishra and Dey (2018), CII (2019), FINCOM (2020).

## **Institutions/Regulatory Framework and export procedure in the context of select Agri Products**

The general institutions/ regulatory structures responsible for AVC governance in select agricultural products are listed in Table 4. It shows the presence of too many institutions set up at various levels, which substantially add to the chaos of doing trade in agricultural products. Moreover, many of these offices prefer physical copies over online documentation, which exposes the lack of linkage between different agencies, thereby highlighting horizontal governance issues (field notes). Exporters have to acquire different certifications from different agencies. To probe in detail, how the system in place varies while exporting these products across different countries, we tried to document the typical export procedures (see Flow chart 2, 3, 4).

In the context of Basmati rice, much of the exports happen via Kandla and/or Mundra ports from Gujarat. This is largely because Gujarat port happens to be one of the nearest ports for Basmati rice-growing states (Punjab, Haryana, Rajasthan and some parts of Madhya Pradesh). Basmati rice is exported only in 20 ft containers and its capacity is around 25 metric tonnes. Much of its volume is being exported to Europe – thus, exporters have to compile many documentations and additional export procedures, which substantially add to the transaction costs. Apparently, there exists a proper internal mechanism for facilitating the documentation, however, some of these documentation costs vary across agencies. For instance, health certificate charges vary from Rs 2,500 to Rs 15,000 depending upon whether it is being obtained from EID (Rs 15,000), APEDA (Rs 3,000-Rs 4,000) and if its local authority (Rs 2, 500). Regarding non-Basmati rice, Andhra Pradesh and Tamil Nadu participate in export. However, the farmers are not aware of Maximum Residue Limit (MRL) as a result of which exporters face border rejection issues. During COVID-19, Dubai introduced new regulations/standards about food items, which added to the chaos of doing business.

Concerning Rose onion, much of it is being exported to Malaysia, Singapore, Brunei and Indonesia and these countries do not have very stringent/complicated export processes/procedures. The real problem lies with absence of proper grading and packaging facility within Karnataka as a result of which exporters have to depend on Chennai facilities. To address the issue, currently Karnataka State Agricultural Produce Processing and Export Corporation Limited (KAPEC) has entered into an agreement with FPO and one exporter to bring the facility near the farm and also a CFS is also expected to be based near the packhouse, which may further reduce the costs and hassle of doing trade. A similar export flow/procedure is noticed concerning pomegranate exports from Karnataka. However, as of now, many of the exporters from other states (Chennai) procure products from the Karnataka farmers and export from Chennai port. Currently, KAPEC is in the process of formalising an agreement between farmers and exporters from the state. The majority of pomegranate farmers in the state do not have a Global GAP certificate, which indeed is necessary to export to the European market. Besides this, farmers from Karnataka are not completely aware of the Maximum Residual Limit (MRL), which again makes exporting to European market a risky and weak attempt given the stringent regulations they follow. In this respect, Krishi Vignayana Kendra (KVKs) in each taluk can play a big role in sensitising farmers concerning residual use and its limit. When it comes to spices, the Spice Board is the apex institution for the promotion of spice exports, as spices are not included in APEDA products. Though

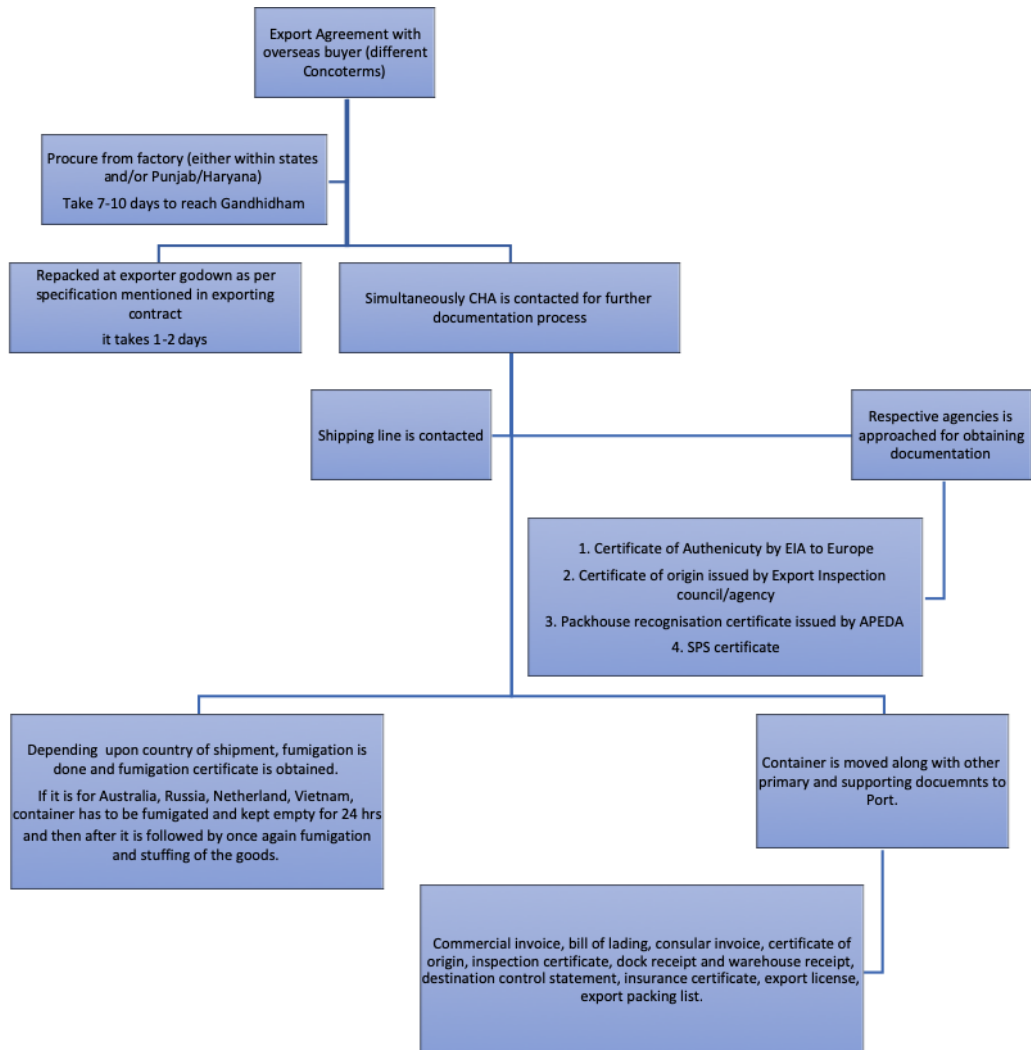
India is a leading exporter and producer of spices, more than 90 per cent of spice production is directed towards the domestic market, the largest globally (Yes Bank, 2018), given the high demand for spices in Indian cuisine and medicinal purposes. Also, Indian spice exports over the years have been facing stiff competition from countries including Vietnam and Indonesia, the former for pepper exports in particular, and from China, whose chilli exports dominate due to better colour (Yes Bank, 2018). Also, India has been importing more pepper as domestic production is insufficient to meet demand (ibid.). Spice exports contributed to more than 10 per cent of total agro exports in 2019-20. Among the top destinations, China, the USA and Hong Kong were leading in 2019-20. Indian spice exports to Hong Kong have skyrocketed from less than US\$14 million in 2015-16 to US\$239 million in 2019-20. Vietnam, which was amongst India's top spice export destinations, has been importing lesser spices from India over the years. More than 65 per cent of India's spice exports are concentrated among 10 countries. Though the Spice Board has more than 100 offices throughout the country, its presence is inadequate in the North East region (Gitau, 2020), which produces a tenth of India's total spices. In this region, in particular, lack of transport, connectivity and cold storage leads to farmers suffering losses of about 20-30 per cent of their produce, and accepting prices 15-25 per cent lower (ibid. Page 11-12)

**Table 4: Institutions/Regulatory Framework of the select Agri and allied Products**

	<b>Rice</b>	<b>Spices</b>	<b>Fruits and Vegetables</b>
Institutions responsible for issuing regulatory certificates/rules	Export Inspection Council National Plant Protection Organisation (Directorate of Plant Protection, Quarantine and Storage). APEDA,	Spices Board National Plant Protection Organisation (Directorate of Plant Protection, Quarantine and Storage).	APEDA, DPPQS, Indian Institute for Packaging
Kinds of certification required, storage and pest control	Certificate of Authenticity by Export Inspection Council for exports to the EU.  Certificate of Origin issued by Export Inspection Council or any Export Inspection Agency  Rice can be exported only from processing units registered by the National Plant Protection Organisation (Directorate of Plant Protection, Quarantine and Storage).  Packhouse Recognition Certificate issued by APEDA  Phytosanitary certificate can be given by any of the registered laboratories under State PSC	Certificate of Registration as Exporter of Spices by Spices Board.  Health Certificate to European Union countries by Spices Board  A phytosanitary certificate by any of the recognised laboratories under DPPQS	Certificate of authorisation by AGMARK, AGMARK grading of produce by Department of Marketing and Inspection.  Certificate of Origin issued by Export Inspection Council or any Export Inspection Agency  Packhouse Recognition Certificate issued by APEDA  Fumigation certificate for wooden packing material issued by the Government of India accredited MBR fumigator as per NSPM-12  Phytosanitary certificate by any of the recognised laboratories under DPPQS
Supporting documents required for export	Commercial invoice, bill of lading, consular invoice, certificate of origin, inspection certificate, dock receipt and warehouse receipt, destination control statement, insurance certificate, export license, export packing list.	Commercial invoice, bill of lading, consular invoice, certificate of origin, inspection certificate, dock receipt and warehouse receipt, destination control statement, insurance certificate, export license, export packing list.	Commercial invoice, bill of lading, consular invoice, certificate of origin, inspection certificate, dock receipt and warehouse receipt, destination control statement, insurance certificate, export license, export packing list.

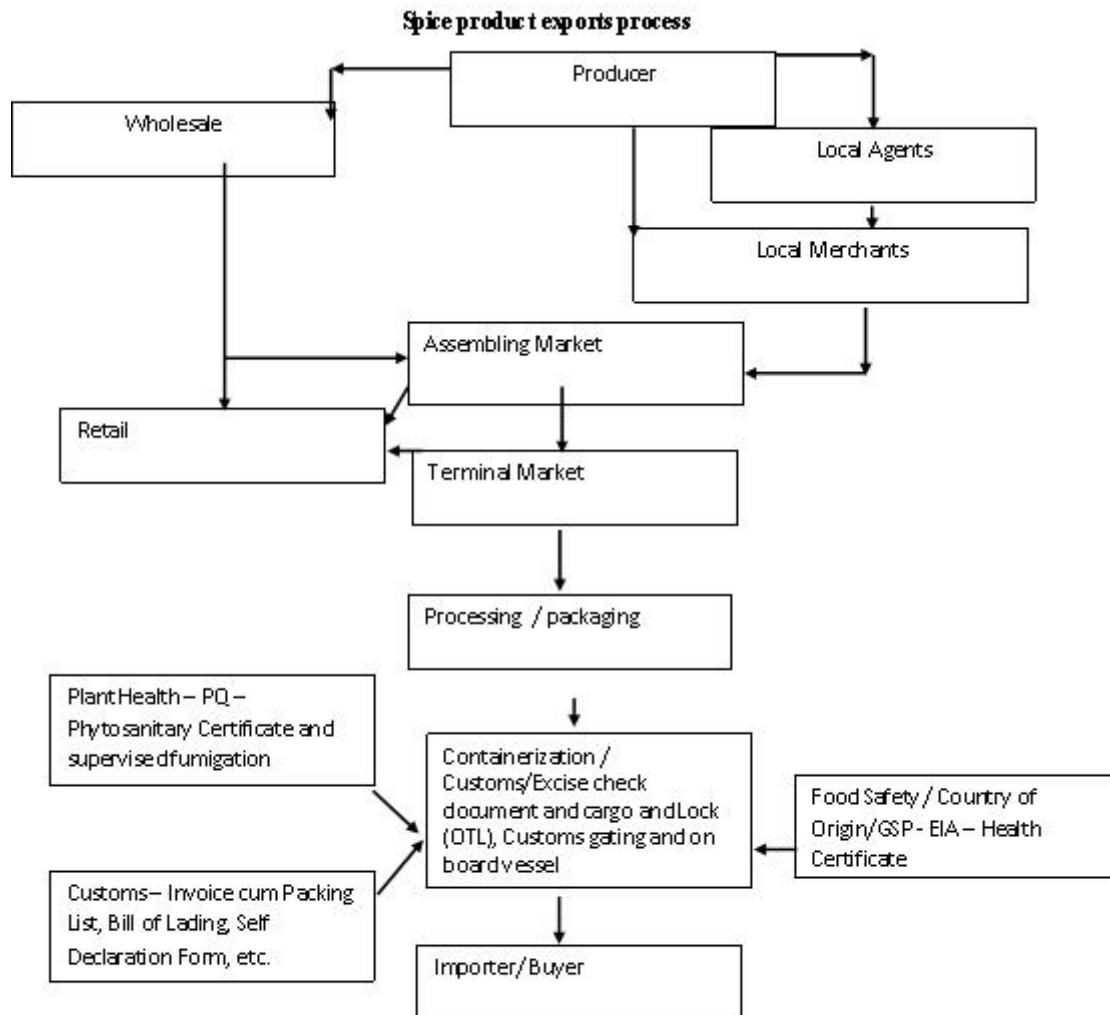
Source: Author's compilation from APEDA, DPPQS.

**Flow Chart 2: Export process and Regulatory framework for Export of Rice from Gujarat To Europe**



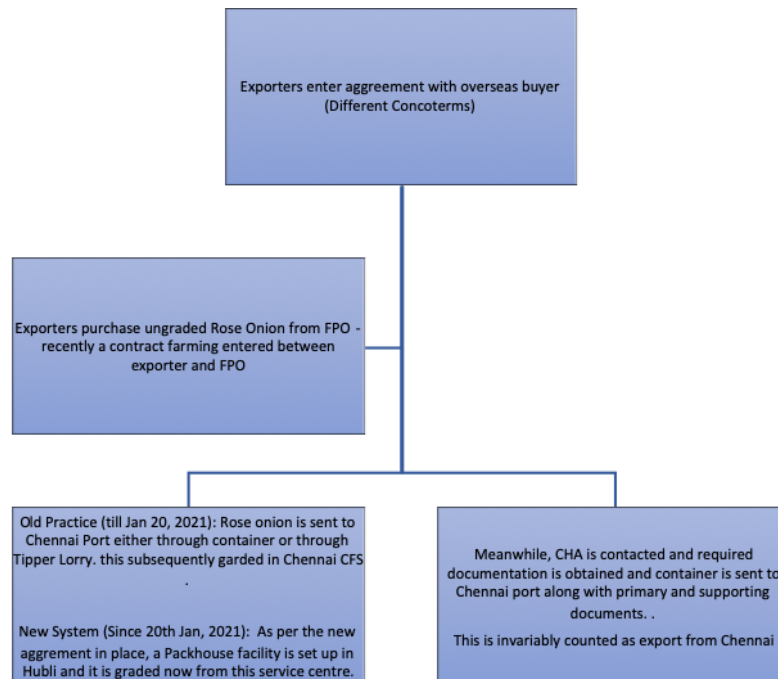
Source: Author field notes

**Flow Chart 3: Export process and Regulatory framework for Export of Spice Export from Kerala To Tiruvananthapuram**



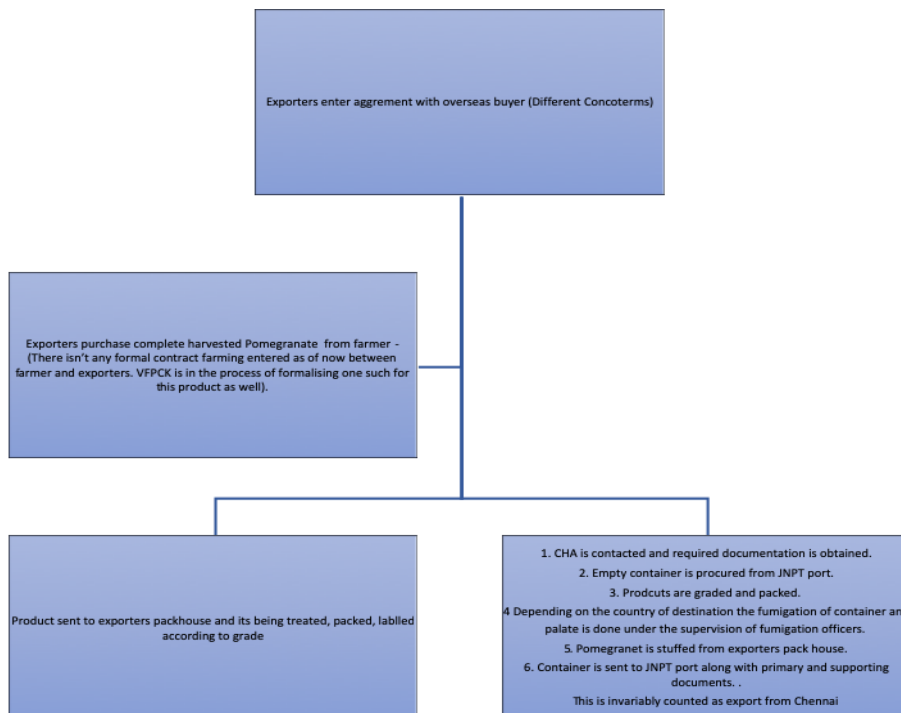
**Adopted from Kumar, 2016**

**Flow Chart 4: Export process and Regulatory framework for Export of Rose Onion from Chikkaballapur to Malaysia (through Chennai port)**



Source: Author field notes

**Flow Chart 5: Export process and Regulatory framework for Pomegranate Export from Karnataka (through JNPT port) to the European market**



Source: Author field notes

## **Coordination, control and safeguard measures in facilitating agricultural value chain governance in the context of select agricultural product**

### **Co-ordination**

Rice production in India is dominated by small and marginal landholders who cultivate using traditional techniques which results in a higher cost of production than competitors. These farmers usually sell to millers and processors but the interactions between them are not frequent (Mishra and Dey, 2018). For instance, in the case of rice exports from Gujarat, the majority of the exporters are having direct contact with the factories that procure and store rice in Gujarat and/or Punjab and Haryana. Big buyers procure rice periodically and store on their premises and rebrand it with their name and export them. As against this, small and medium-size exporters who have a few consignments per month prefer to procure rice from the factory as and when they enter an export agreement with an overseas buyer and then rebrand it and export the consignment. Either case, they (exporters) do not have any direct contact with farmers.

Amongst the three products being studied, spices are the second-biggest contributor with more than 10 per cent of India's agro in 2019-20. Prabhavati *et al* (2013), in their study on the chilli supply chain in India, identified commission agents and processors to be important players in the supply chain along with the producers, wholesalers and retailers. As prices are usually determined on an auction basis in markets, commission agents are responsible for starting the auction process by quoting opening prices, and may even purchase unsold quantities from the farmer at a negotiated lower price. Spice production is usually undertaken by small, marginal farmers (Jaffee, 2004) though exports are usually undertaken by established, family-owned firms. Gitau's (2020) study on spices in the North Eastern Region (NER) of India found that though multiple agencies, including the departments of horticulture, food processing and agriculture, have subsidies and schemes to support spice farming, there is a lack of coordination which makes the schemes ineffective.

In terms of fruits and vegetables, India is a leading exporter of fresh fruits and vegetables, with less than 2 per cent of processing in this sector. The fruit and vegetable supply chains are longer and more complex compared to the marine supply chain. As smallholders are usually far away from markets with poor connectivity, leading them to sell their produce to intermediaries (Pingali *et al*, 2019), with pre-harvest contractors who order from farmers dominating the fruit chain, and commission agents who operate at APMC or other vegetable markets dominating the vegetable supply chain. A farmer's average share in retail prices can range between 28-78% depending on the type of product; for perishables, it is closer to 28% while for oilseeds and spices it is closer to 78% (RBI, 2019). Now as states are making amendments to their APMC Acts, more private firms are looking to enter the fruit and vegetable retail market through contract farming with farmers; the organised sector contributed 48 per cent of all food processing (IBEF, 2006). However, most of the sector remains unorganised with small landholders producing most of the fruits and vegetables (Birthal *et al*, 2007). If farmers were to undertake self-marketing instead of relying on intermediaries, additional returns between 40-85 per cent could be realised (Hegde and Madhuri, 2013). Karnataka State Agricultural Produce Processing and Export Corporation Limited (KAPEEC) in Karnataka and Vegetable and Fruit Promotion Council Kerala (VFPCCK) in Kerala are playing a big role in facilitating coordination between farmers and exporters and

also bridging the gap in infrastructure requirements. Despite this, there is a lack of coordination between farmers and exporters as a result of which MRL continues to be a major problem for exports. Wherever there is noticeable formal/informal agreement/understanding between exporters and farmers/FPO MRL is found below the prescribed norm. Otherwise, it continues to be a major issue.

## **Control**

India is one of the leading exporters of rice, and its exports are government-controlled as rice is considered an essential commodity under the Public Distribution System. It is distributed at subsidised rates to the poor. Though the government offers MSP to rice farmers, there is a significant difference between this price and the market price leading to market distortions (Mishra and Dey, 2018). The government exercises control over the market through its price mechanism, though this does not include premium rice such as basmati rice. However, it is a commodity over which the government has exercised export restrictions in the past; most recently in 2020 during the beginning of the COVID-19 pandemic, to ensure the supply of rice for the population. Also, due to the Food Corporation of India's procurement policies, there is a surplus of non-basmati rice which could be directed towards exports (FINCOM, 2020). However, when it comes to exporting surplus rice, the government almost plays a non-existent role in deciding the price. This largely depends upon the export agreement signed between domestic exporters and overseas buyers based on different concoterms.

For spices, particularly cardamom, the Spices Board has set up two e-auction markets, one in Kerala and one in Tamil Nadu. Though accurate figures on the level of processing in spices exports are unavailable, mint products and spice oils are among India's top five spices exports. The government has not imposed any known restrictions on spices exports, which has allowed exports to grow and continue, even during the COVID-19 pandemic, having crossed the US\$1 billion export mark for the first time.

Prices for fruits and vegetables are also determined on an auction basis, usually by wholesalers operating in markets. The government, in its attempt to stabilise and reduce significant price differences, is trying to move more towards online trading and auctions on government platforms. Since APMCs restrict farmers' ability to market their produce outside the market, States have been amending their laws to give them more freedom and to allow more private participants (Hegde and Madhuri, 2013). In the context of fruit exports from Kerala and Karnataka, the price is decided on its grade and also pre-harvesting. Concerning Rose onion, exporters are expected to buy complete ungraded products from the farm, which are subsequently graded in the packhouse. However, whenever there is price fluctuation in the domestic market for onion and government imposes a ban on their exports. Though it does not have any domestic market it shares the same HS code - as a result, its export gets hampered.

## **Safeguarding**

The government has taken charge of safeguarding the interests of rice farmers through the MSP mechanism and providing subsidised stock under the PDS. This, however, also caused a limitation in that the farmers sometimes make distress sales below the MSP due to faulty procurement systems. The Finance Commission in 2020 has suggested that since APEDA deals with a diverse portfolio of agriculture products, given the export potential of rice, a separate export body must be set up,



especially to deal with rice exports. To protect the interests of exporters, various regulatory institutions are put in place. But the real question lies in their role and scope when an export consignment is being rejected despite having good documentation in place.

The institutional framework for spices is less complicated compared to other products, with the Spices Board taking charge of most of the certification requirements and having more than 100 offices nationwide, though its presence in the North East is inadequate as mentioned earlier. The supply chain is quite unorganised against farmers, as while Indian chillies fetch high prices globally, Indian chilly farmers obtain prices lower than those in South-East Asian countries and Pakistan amongst others (Gitau, 2020). Prabhavathi *et al* (2013), in their study on chilly supply chains, found that unfair practices were prevalent, collection of excess commission and delay in producers receiving payments from agents. Unlike for horticultural produces, there has been no network set up to ensure the traceability of spices produced.

As India's fruit and vegetable exports have been rejected in the past due to lack of uniformity in quality, or too much pesticide residue amongst other factors, APEDA has been set up to ensure that correct and updated information on export requirements is provided to farmers. However, there are different agencies each for certification, grading, fumigation, packaging and sanitation of fruits and vegetables which can create problems in co-ordination and acquiring of necessary certification. APEDA is the nodal agency for fruits and vegetables, as well as rice, but it does not have a physical presence in all Indian states. It has offices only in Maharashtra, Assam, West Bengal, Telangana and Karnataka while in the rest of the states it only has virtual offices – this invariably creates hassle in doing business not just for exporters but also state-specific nodal agencies. Similar to MPEDA, while APEDA may ensure correct information is passed on to exporters, for the fragmented farmers of fruits and vegetables, there are few co-operatives or farmer-producer organisations to ensure the same.

**Table 5: Co-ordination, Control and Safeguard issues of the Select Agricultural Products**

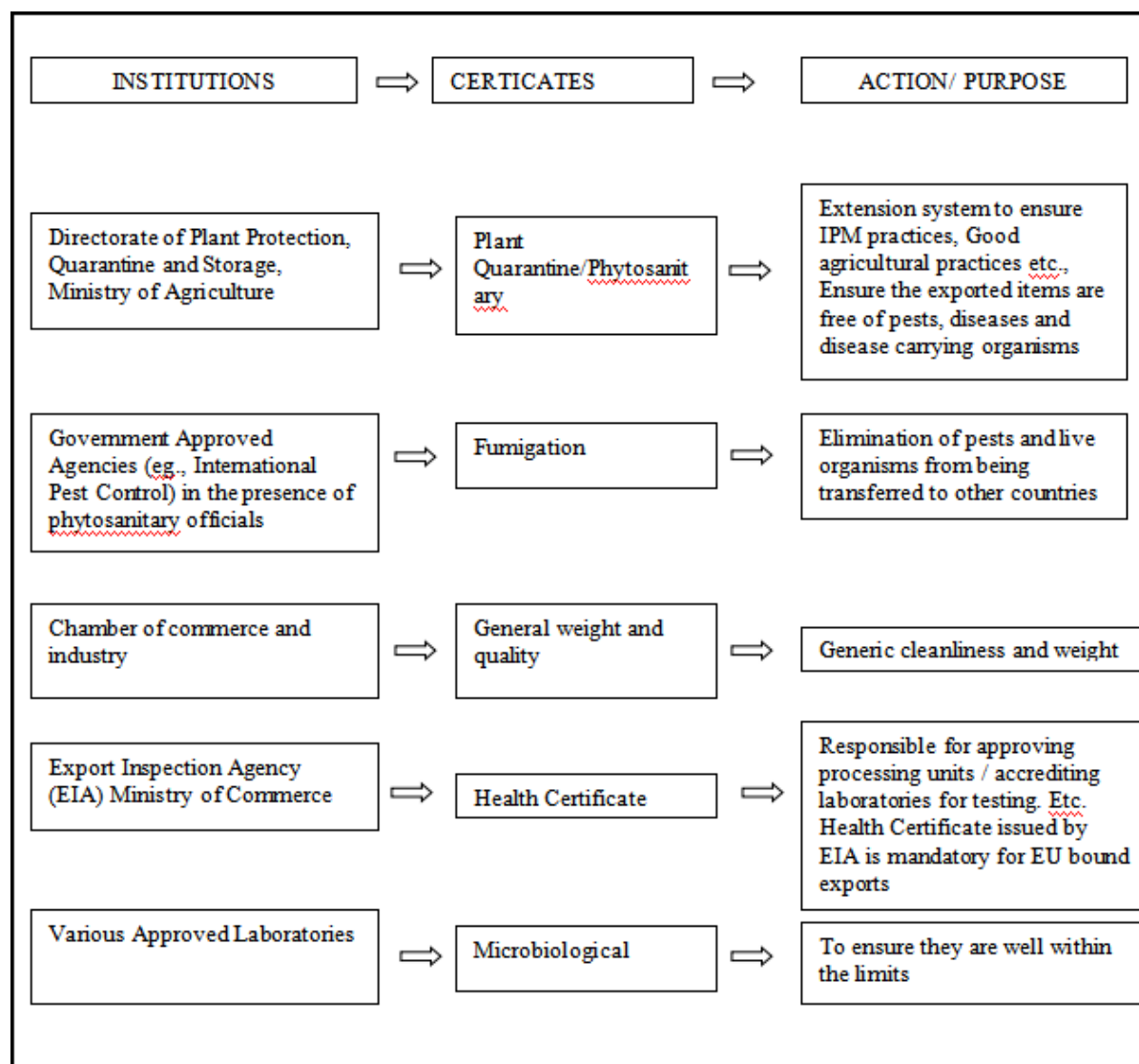
	<b>Co-ordination</b>	<b>Control</b>	<b>Safeguarding</b>
Rice	Mostly small and marginal farmers sell their produce to rice millers who eventually sell it to traders. Interaction between producers and processors is infrequent.	The government exercises significant control over rice, as a certain percentage of produce has to be sold to the government to maintain buffer stocks. The government has also in the past restricted rice exports to maintain domestic supply and prices.	Rice is a product under the MSP, so farmers are assured a certain price for their produce by the government. However, it has been noted that this price does not fully account for the high cost of production. As rice is also a PDS commodity, supply to consumers is assured.  The government has put in place various agencies/regulatory frameworks to ensure doing trade. But the real problem lies in coordination between these agencies.
Spices	Mostly small-scale, marginal farmers cultivating on less than 1 hectare of land	The government has not imposed restrictions on spice exports in the past, and it is a part of the CPI basket. Prices of chillies, the main spice export, are determined on an auction basis by commission agents.	There is no proper safeguarding mechanism to ensure price stability and supply. The study on chilly farmers found unfair practices, excess commission collection and delayed payments.
Fruits and Vegetables	Mostly small-scale farmers who are highly dispersed. Marketing of fruits dominated by pre-harvest contractors, and for vegetables, commission agents.	Prices are determined on an auction basis by wholesalers in markets, though the government is shifting more towards online trading platforms in APMC markets. Farmers being scattered and with a lack of co-operatives, hold low bargaining power.	There is no proper safeguarding mechanism to ensure price stability and supply. States are amending their APMC laws to allow farmers more freedom in marketing their produce.

*Source:* Compilation from IBEF (2006), NFP 2020, Birthal et al (2005), Pingali et al (2019), Prabhavathi et al (2013)

## Summary

India's agriculture exports are yet to gain a globally competitive edge as they suffer from low productivity and are majorly low-valued and unprocessed. From studying the best practices of other countries and within the country, for India to improve the value and exports of its agricultural products, closer attention needs to be paid to the AVCs by strengthening linkages between producers and farmers, increasing traceability of farmer produce, ensuring that information about changing international standards is spread and enforced so that there is less rejection of consignments, and improving infrastructure to reduce wastage. In this context, the present paper, while using the AVC governance framework and also the CCS framework, has found that there are many institutions in place for safeguarding the interest of farmers as well as traders domestically and those interested in entering the international market. But the real challenge lies in the coordination between different agencies and also information asymmetry, which results in border rejection. For instance, during Covid-19, many countries revisited their standards concerning agricultural exports - which were not communicated on time by the competent authorities. As a result, exporters had to face border rejection of many perishable and non-perishable items. Further, the issue of coordination, control and safeguarding are highly product-centric – as agencies involved and corresponding issues flagged by exporters across select agri products.

**Chart 3.2: The food safety and plant health regulatory certification system in export chain**



Source: Kumar (2016)

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