

Integrated Agri-Supply Chain and Impact of Latest Farm Bills in India

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Abstract

A variety of procedures must be completed before agricultural products can reach the market, including harvesting, threshing, winnowing, bagging, shipping, storage, processing, and exchange. Numerous nationwide studies have demonstrated that there are considerable agricultural productivity losses at each of these stages. The Ministry of Food and Civil Supplies, Government of India, most recently calculated the total avoidable post-harvest losses of food grains. 20 million Mt of post-harvest losses each year are a major, avoidable waste in a country where 20% of the population is undernourished. According to World Bank research, post-harvest losses of food grains in India account for 8–10% of overall production from farm to market and 4.5-5% of the total at the market. It is evident that post-harvest losses have an impact on the macro and local levels of the economy. This article provides a critical assessment of the state of agriculture supply chain management today. Topics covered include the role of agriculture supply chain management, Agri-food supply chain management, elements of the Agri-supply chain, Agri marketing, the emergence of coordinated supply chains in India, and the effects of farm bills. These actions will speed up the growth of the agricultural sector by giving farmers access to more marketing and storage tools, like cold storage networks. The creation of new jobs will increase as the economy grows. Initiatives are being taken to prevent food waste as the government comes to recognise the worth of farmers and agricultural produce. The farm legislation have additional advantages.

Keywords: Agri-Supply Chain, Supply Chain, Food- supply chain, Farm bills, Agri food supply chain, supply chain management

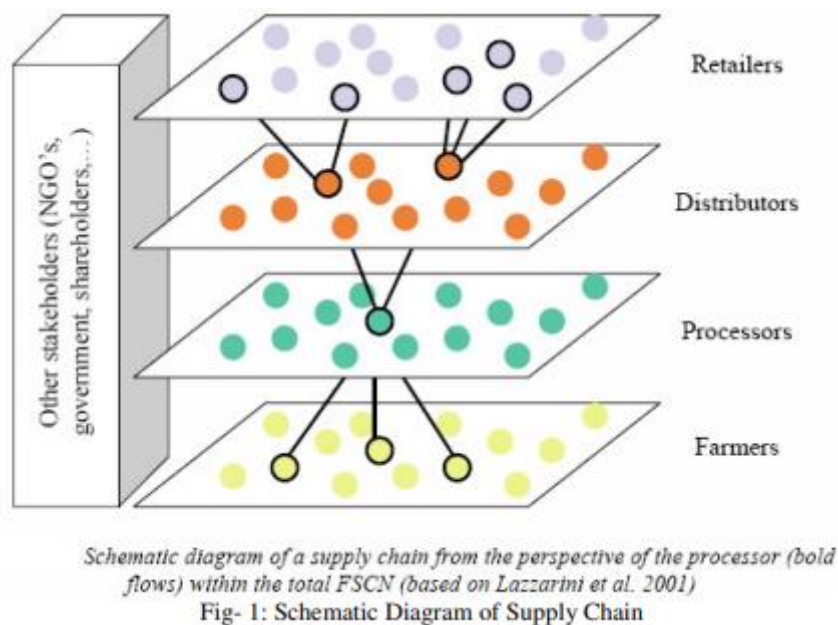
INTRODUCTION:

The procurement of raw materials, their transformation into finished items, and their distribution to final consumers are the primary concerns of supply chains. They also involve the transfer of information and goods among their member companies. Today's information-driven, integrated supply chains benefit businesses by lowering costs, enhancing the value of their goods, making better use of their resources, accelerating time to market, and retaining customers. [11] The supply chains of different agricultural commodities are problematic in India because of the problems that are inherent in the agriculture sector. The country's Agri supply chain system is hampered by a number of key issues, such as the prevalence of small/marginal farmers, poor levels of processing/value addition, inadequate marketing

facilities, etc. Early processing-based supply chain management achievements included improved links between warehousing and transportation within organisations due to decreased stocks and quicker response times for customer demands for goods and services. [3] [4] In order to successfully compete in the market, many company functional divisions come together during the logistics stage of supply chain management to integrate manufacturing, procurement, transportation, distribution, and marketing. This stage was made easier by the development of telecommunications, electronic data interfaces, and other technological breakthroughs that improved the transparency of information mobility within organisations. [9]

FOOD SUPPLY CHAIN NETWORKS

An organised, processing-based supply chain for agricultural products functions as a part of a very intricate network. Figure 1 portrays a general supply chain at the organisational level within the context of a larger supply-chain network. Since every organisation is located in a network layer and participates in at least one supply chain, it frequently has a number of (varying) suppliers and customers at once. [12]



CONSTITUENTS OF AN AGRI SUPPLY CHAIN

Managing the interactions between the organisations in charge of the efficient production and distribution of goods from the farm level to the customer is known as supply chain management (SCM) in the agribusiness industry. This is done in order to consistently satisfy customer demands for quantity, quality, and price. This typically entails overseeing commercial interactions and processes between organisations as well as horizontal and vertical alliances. Players in agri-supply chains share risks and rewards in these economic frameworks. To ensure that production and delivery commitments are completed on time, supply chains implement internal controls and offer chain-wide incentives. [7] [13] They are connected and linked as a result of shared information, reciprocal scheduling commitments to transaction volume, and guarantees of the product quality. Individual participants must coordinate their operations and

increase the value of agricultural products in order to be a part of a continuous improvement process and process links. The costs spent in the first link are significantly influenced by the actions taken or not taken at links further along in the chain. [1][3] Extensive pre-planning and coordination are required up and down the entire chain in order to affect crucial control operations like forecasting, buy scheduling, production and processing programming, sales promotion, new market and product introductions, etc. [2]

AGRI MARKETING AND THE EMERGENCE OF COORDINATED SUPPLY CHAINS IN INDIA

As a result of the current wave of globalisation and other internal changes, such as an increase in consumer disposable income and a shift in the consumer's food basket toward high-value items like fruits, vegetables, and animal protein, the management of India's agri supply chains is currently changing. In response to the nation's new agricultural economic issues, the government agencies are currently pursuing various legal reforms to permit and attract private investment in agricultural marketing infrastructure, lowering entry barriers to encourage coordinated supply chains and traceability. [4] The various Indian states are implementing the new APMR Act, the country's primary agricultural marketing law, which now includes enabling provisions to promote contract farming, direct marketing, and the establishment of private marketplaces. These steps will significantly increase small enterprises' access to economies of scale and foster direct relationships between farmers and exporters, retailers, and other stakeholders. The strategy would thus provide both backward and forward connections in order to build integrated supply chains for various agricultural goods in the country. [5][6]

AGRI SUPPLY CHAIN AND FARM BILLS

Not only farmers will spend more money in 2022 due to the increase in fertilizer prices. Additionally, greater food prices are expected the following year. Just the first half of next year alone, according to researchers, food prices will increase by 5%. The causes are rising inflation and disruptions in the supply chain. The largest price hikes will be found in basic items including dairy goods, bread, fruit, snacks, and alcohol. Higher labor, packaging, shipping, and logistics costs for supermarkets are further factors driving up costs. This continues the year's pattern, which saw a price increase of about 6% for food that was eaten at home. [11]

The number of hogs in the US is declining. Just over 74 million head were counted nationwide as of December 4 percent decrease from December of the previous year. 68 million market hogs and about 6.2 million breeding animals are included in the breakdown. With almost 24 million head, Iowa continues to produce the most hogs, followed by Minnesota with little under 9 million. In Wisconsin, there are still 370 thousand hogs on farms across the state, the same number as last year.[9][10]

Even though a new agricultural law isn't expected until 2023, Congress will start to pay attention to the Farm Bill in 2022. Tom Vilsack, the secretary of agriculture, will provide an update on farm bill oversights at one of the House Agriculture Committee's first hearings in 2022. Glenn Thompson, the top member of the House Agriculture Committee, claims one of these oversights is the current Farm Bill's failure to provide additional disaster aid for farmers.

The farm bill is a set of laws that is generally passed every five years and has a significant impact on the livelihoods of farmers, the methods of food production, and the types of foods that are farmed. The farm bill lays the groundwork for our food and agricultural systems by addressing programs such as crop insurance for farmers, healthy food availability for low-income families, support for sustainable farming techniques, and training for aspiring farmers. It is our responsibility to ensure that this significant bill is beneficial to farmers, consumers, and the environment in our capacity as a leading voice for family farmers and sustainable agriculture. [13] [14]

IMPLICATIONS OF NEW FARM LAWS

Promotion and Facilitation of Farmers' Produce Trade and Commerce Act of 2020 (FPTC Act) The FPTC Act, which was established by the Central government, gives individuals the freedom to buy and sell agricultural products at any site inside the country, including those that are not APMC mandis. In an effort to promote e-commerce in agriculture, the new law also authorises the creation of an electronic platform for the sale and/or purchase of farm products. The Act also includes a provision that details the steps that must be taken in order to register as a trader and carry on business in defined trade areas. Therefore, if the new system does not operate as intended, the government may intervene to regulate it. The mandis sells more than half of the marketable surplus. [9] [10]

Every day, our farm is getting smaller. Our farmers require a price guarantee and a place to sell small lots of their products if we want them to diversify and grow high-value commodities. Fresh fruit and vegetables are collected in small batches over time since they do not develop all at once. As is the case with dairy products across the nation, this necessitates a collecting facility or sale opportunity close to the farm. The development of the necessary ecology for small farm diversification will be facilitated by FPTC. Between the point of production and the point of usage, traditional supply chains typically comprise six to seven transactions (farm to fork). [5][6]

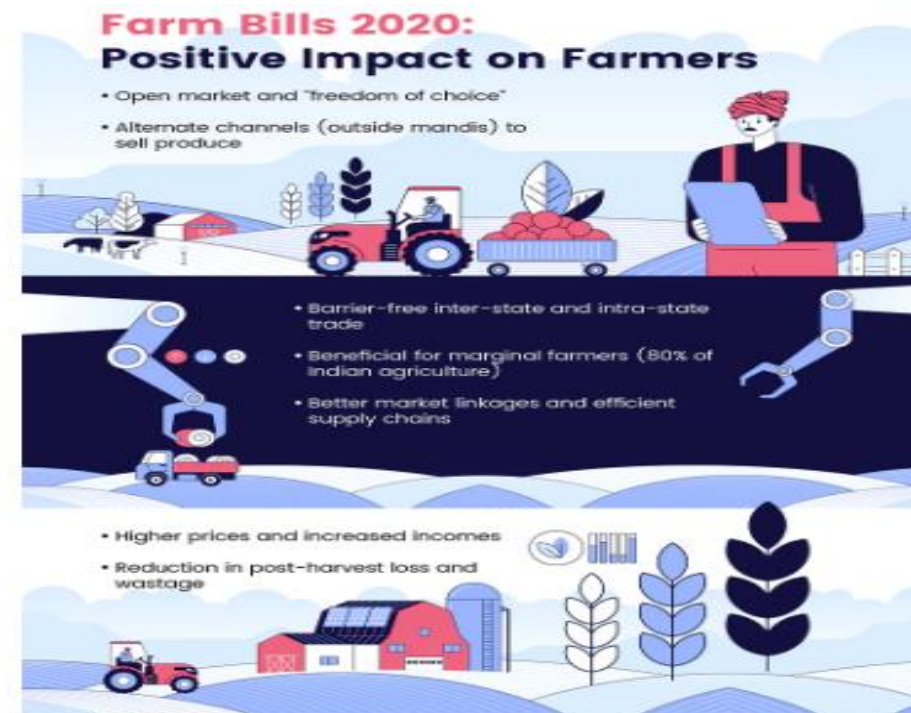
Between producers and consumers, there is a large price differential because of the cost and margin associated with each transaction. Because of FPTC, value chains will be compressed and extra middlemen will be eliminated. Farmers will frequently be able to sell their goods to consumers directly through these organisations. The new policy environment will provide economic opportunities for rural youth, especially farmers' children, in agriculture trading, as demonstrated in the denotified crops and the dairy business. [2][3]

IMPACT OF FARM BILLS ON AGRI-SUPPLY CHAIN MANAGEMENT

In September 2020, the Union government updated the 1951 Essential Commodities Act to include agri-food products and passed two new farm legislation. The new regulations have won accolades for being revolutionary, significant, and emblematic of the "1992 movement" in agriculture. Experts and other stakeholders, however, have expressed serious worries about how these policies would impact farmers and the agricultural sector. A narrative based on ideological and false arguments is being produced to build opposition to the new laws and pressure on their adoption by ignoring the goal, content, and implications of the new policy

reforms. Some people have expressed worry about the potential reduction of the role of a small number of middlemen in agricultural marketing while neglecting the benefits for millions of farmers. Effects of the three acts on agricultural producers, APMCs, the MSP regime, consumers, the future of agriculture, agriculturists, and related [4][7]

Agriculture policy updates have been a major topic in the media for the past 20 years. Academic experts, stakeholders, and farmer groups have pushed for reforms during pre-budget talks and meetings with NITI Aayog and the previous Planning Commission for many years. Both the Congress and the BJP made the promise to liberalise the agricultural market as part of their electoral platforms in order to free farmers from the constraints of APMC regulations. This had an extremely obvious cause. When it came to addressing agrarian distress, giving rural youth opportunities for lucrative employment, raising farmers' income to meet their aspirations, and fostering a new generation of agriculture that can compete with global agriculture while also being sustainable, the "business as usual" strategy was only yielding incremental changes. What was needed for agriculture was quite obvious, and the Central government showed political fortitude by implementing it across India. Farmers have the choice of selling their goods inside or outside of APMC marketplaces, through private channels, integrators, FPOs, or cooperatives, as well as through a 17-point plan to intervene in the market to control pricing, according to the Farmers' Products Trade and Commerce Act. This is made abundantly evident by the government's plan to restrict onion stock levels beginning on October 23, 2020, the date the Essential Commodities Act was changed. As a result, it is utterly untrue to claim that stock brokers and market manipulators have been given carte blanche. ECA has previously been utilised to reduce the expensive food prices for customers. This obviously has a negative impact. [9] [11]



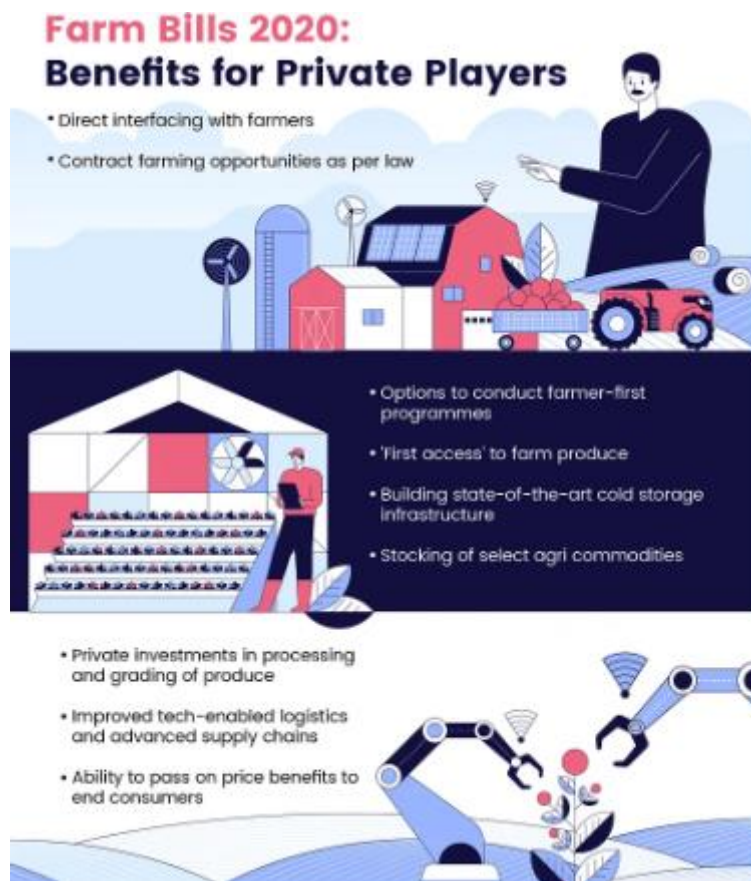
The adjustment to the ECA has not affected agricultural products like seeds and fertilizer. Surprisingly, however, agitating farmers' groups are opposed to the change. directly at the farm

or anyplace else; at a physical market or online. It has no intention of altering or weakening MSP and does not by itself represent a danger to APMC markets. Excessive and arbitrary fees imposed by states in these markets pose a true threat to APMC mandis and their company. The new FPTC Act will only heighten competition in APMC marketplaces. According to discussions with mandi officials, maintaining and operating mandi operations only requires a maximum of 1.5 percent of all fees, including market fee and commission for arthiyas. As they will profit from the mandi infrastructure, have access to bulk produce in one location, and avoid the costs associated with conducting individual transactions outside of the markets, this will not drive traders away from the APMC marketplaces. States that are genuinely concerned about the welfare of farmers should eliminate excessive and unreasonable mandi fees and keep them at or below the appropriate level of 1.5 percent including commission, etc. [13] [14] This would ensure healthy competition between APMC mandis and other channels permitted under the new Act, with significant benefits for farmers. The Farmers' Empowerment and Protection Agreement on Price Assurance and Farm Services Act deals with two issues: (a) the provision of a guaranteed price; and (b) the provision of inputs and technical services to farmers by registered people, firms, companies, cooperative societies, etc., in accordance with a previous agreement. [9] [12]



The purpose of this Act is to safeguard interested farmers particularly small farmers from market and pricing worries so they may concentrate on raising high-value crops without worrying about the market or low prices during harvest. If a farmer is interested, they can also ask the sponsor for supplies and technical support. There is nothing more in the Act but these

two clauses. The decision to enter into this arrangement is entirely up to the farmer; it is not required by the Act. The Act prohibits the transfer, sale, lease, or mortgage of a farmer's land or property in a farming arrangement. Corporate farming, which is entirely distinct and not authorised in any Indian state, is the only issue with this Act. [6][9] It favours farmers, according to the PAFS Act. No side is required to keep up with the agreement after the predetermined time frame. The Act will encourage diversification, premium-priced, high-quality production, export, and direct sales of products to interested consumers. Additionally, it will advance farmers' participation in the 18 value chain by bringing new resources and expertise into the agricultural sector. The two statutes retain flexibility in case some sections need to be changed. The third Act modifies the Essential Commodities Act to include a set of agricultural and food products. Instead of relying on the whims of bureaucrats to enact the Act, the change sets transparent criteria for the price trigger for imposing ECA. As seen by the decision to impose a stock restriction on onions following the amendment to the ECA, the government's authority to impose the ECA is still intact. This update contains no discrimination towards farmers. [7] [11]



Instead, the change imposes a far higher threshold for producer price increases before the government regulates stock restrictions. The ECA change will bring in much-needed private capital for post-harvest and input activities in agriculture. The Act has only these two clauses and nothing else. The Act does not mandate this agreement, so it is entirely up to the farmer whether to enter into one. In a farming agreement, the Act forbids the transfer, sale, leasing, or mortgage of a farmer's land or property. The only problem with this Act is corporate farming, which is completely different and not permitted in any Indian state. There is hope that the

changes will help India become more important in agriculture and the production of the world's food supply. The changes sow the seeds for more farmer prosperity and a change in the rural economy, which will aid India's economic growth. Effective supply networks are practically necessary because post-harvest losses in India average 40% annually. Perishables are the category that has been the most negatively impacted, with losses staggering at Rs 13,400 crore. The Farm Bills will provide affluent private actors the chance to solve this issue with state-of-the-art infrastructure and cutting-edge farm-to-table practises. [5][7] [12]

CONCLUSION

About 15% of our GDP is derived from agriculture. These three recently passed farm legislation by the government are steps in the direction of creating a larger and better marketplace for farmers to sell their goods. By giving farmers greater marketing and storage infrastructure, such as cold storage chains, these bills would accelerate the growth of the agricultural sector. The economy will grow and this will undoubtedly create jobs. Although it is the government's responsibility to protect farmers because they are the backbone of the country and helped to maintain GDP even when other industries struggled during the first two quarters of the fiscal year 2020–21 when the Covid-19 outbreak occurred, on the other hand, the government should closely monitor that farmers are not overly exploited by the entry of private players into the industry.[11] The option to sell their produce to APMCs or directly to a private player outside of a specified market space is now up to the farmer. The passage of this three legislation does not ensure that farmer income would rise. Farmers in Bihar received prices that were far below the MSP when APMCs were founded. In order for APMCs to help farmers boost their revenue, we must enhance them rather than allowing private players to enter the system. The Bills also offer a wide range of benefits for Agri tech start-ups and established players who connect farmers with agribusinesses, food processors, and exporters; Agri warehousing companies and providers of cold storage; supply chain and logistics operators that ensure transparency and promptness; and pretty much anyone in the Agri value chain who works to eliminate inadequacies in "farm-to-table.

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