

Project Dissertation Report on

**A STUDY ON SUPPLY CHAIN DISRUPTIONS
CAUSED BY FARMERS' PROTEST**

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CERTIFICATE

This is to certify that Deeksha Yadav, student of Masters of Business Administration at Delhi School of Management, DTU has completed the Major Research Project on “A study on supply chain disruptions caused by farmers’ protest”, in Partial Fulfillment of the Requirement for the Degree of Masters of Business Administration under my guidance.

The report has been checked for plagiarism and it is acceptable.

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DECLARATION

This is to certify that I am a student of Masters' of Business Administration program of Delhi School of Management, Delhi Technological University, Bawana Road, Delhi 110042.

I am hereby declaring that this project dissertation report titled "A study on supply chain disruptions caused by farmers' protest" is an original work and the same has not been made or submitted to any other institute for the award of any other degree.

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Executive summary:

This exemplary study will provide more information on farmers' protests in India. With the help of secondary resources, data is collected online such as journal articles, videos, and news. The study aims to conclude why Indian farmers are protesting against three farm debts, so-called Indian farmers' debts over how long the protests lasted and the supply chain disruptions caused by the Indian protests. After the Indian Parliament passed the new farm rules in September 2020, protests erupted across the country, especially in the Punjab, Haryana, and western Uttar Pradesh farmers' union with the slogan "Delhi Chalo" which means we are headed for Delhi, the capital of India. Indian farmers are struggling through the cold winters and hot summers on the outskirts of Delhi, protesting and insisting that the government cancel new farm debts that they feel are against farmers and favor big corporate entrepreneurs. This case study will answer why farmers are upset with the three new farm debts and their reasons for protesting against the Indian government to cancel the three farm debts. The objective of this case study is to seek reasons why Indian farmers are against three farm loans, why farmers are upset about these three farm loans, why the Indian government has introduced such types of loans, and how much the economy has lost in the SCD (supply chain disruptions). The motive is mainly to answer these questions and information shared with the people of the world and to make them aware of why Indian farmers are protesting against the Indian government about the three farm debt and its negative impact on the economy and supply chain. Therefore, detailed information will be provided about the protest and a solution will be provided at the end which is likely to be a solution.

The term "transport disruption" refers to a distribution halt that has a negative impact on SC performance and consumer safety. The model includes hazards and vulnerability as risk sources. The entire supply chain has been severely disrupted by disruption events such as the COVID-19 epidemic. Vulnerability referred to a system's vulnerability to the point that mitigation mechanisms are compromised. Transportation disruption risk management required decision-making at every level of the process, including risk and vulnerability assessment, risk analysis, and risk mitigation measures. Farmers' unrest has

produced supply chain disruptions, which will have an impact on the economy in the coming days and may threaten the current recovery from COVID-19's economic crisis. The farmers' protest, which lasted from December 2020 to November 2021, caused traffic jams and road blockades at a number of checkpoints across the northern states of Delhi-NCR, Punjab, Haryana, Uttar Pradesh, and Rajasthan, as well as to a lesser extent in many other areas. The already stressed supply system has been further strained as it recovers from the pandemic-induced closure. In this study, the effects of ongoing Farmer protests in response to the Farm Bills that were converted to the Farm Act last year are being investigated. The focus of the case will be on the supply chain disruptions caused by the incident. In addition, the overall impact of the event on India's economy, including GDP ramifications, will be investigated.

TABLE OF CONTENT

Chapter no.	Name	Page no.
1.	Introduction	9-11
2.	Background	12-19
3.	Case Evaluation	20
4.	Protest and Initial Government response	21-25
5.	Supply Chain Disruptions	26-34
6.	Proposed Solution	35
7.	Conclusion	36

TABLE OF FIGURES

S.No.	Name	Page no.
1.	Farmer's Protest	10
2.	Indian Agriculture and its importance	12
3	MSP (minimum support price)	14
4.	Understanding the three new laws	16
5.	Government vs Farmers	18
6.	Who and Why?	19
7.	Farmers marching towards Delhi	21
8.	Violence Erupts at Indian Farmers' Latest Protest Against Agricultural Law Changes	22
9.	Supreme court suspends the implementation of farm laws and form committee	23
10.	Happiness and joy as farmers return home after over a year of protest	25
11.	Supply Chain disruptions	26
12.	Farmers Protest Impacts Economy by Disrupting Supply Chain	34

Chapter-1

INTRODUCTION

The Indian farmers' protest of 2020–2021 was a response to the Indian Parliament's approval of three farm acts in September 2020. Many farmers' organisations have called these acts, known as Farm Bills, "anti-farmer policies," while opposing party politicians have said they will leave farmers with "corporate mercy." Farmers have also called for the establishment of a minimum support price (MSP) to ensure that prices are not manipulated by corporations. However, the union government said that the laws would make it difficult for farmers to sell their produce to large buyers, and that the protests were based on false information. Farmer suicide and low agricultural earnings are two related inheritance issues. Despite India's independence from grain production and social programmes, hunger and malnutrition remain severe issues, with India classified as one of the world's worst countries for food security limits.

Unions began conducting local protests soon after these measures began, particularly in Punjab. Farmers' unions — mostly from Punjab and Haryana — established Dili Chalo (translate: Let's Go to Delhi) after two months of protests, and tens of thousands of new farmers' union members marched for the nation's capital. To prevent farmers' unions from invading Haryana first and then Delhi, the Indian government has instructed police and law enforcement agencies from various provinces to strike demonstrators with water cannons, sticks, and tear gas. Thousands gathered at several border crossings on the route to Delhi in November 2020 to support farmers during a countrywide strike. Between 14 October 2020 and 22 January 2021, eleven conversations took occur between the central government and farmers represented by agricultural unions; they were all incomplete in agreement by only two small points in comparison.

Despite the protests of some farmers' unions, the Indian government claims that some unions have come out in support of farm rules. By mid-December, a number of petitions had been filed in the Supreme Court asking for the removal of obstacles erected by protestors in Delhi. Farmers have stated that if they are told to back off by the courts, they

will not comply. Suspending farm restrictions, according to their leaders, is not the solution.

Fig 1.1 Farmers protest



Source: <https://abcnews.go.com/International/indias-government-rejects-celebrity-support-ongoing-farmers-protest/story?id=75657648>

In January 2021, the Supreme Court of India halted the implementation of agriculture restrictions. The settlement order, which is still in effect, was accepted by farmers' representatives. On March 19, 2021, the Supreme Court Appointed Committee delivered its confidential report to the court. Six provinces (Kerala, Punjab, Chhattisgarh, Rajasthan, Delhi, and West Bengal) have approved anti-farming legislation, while three provinces (Punjab, Chhattisgarh, and Rajasthan) have introduced anti-farming legislation in their state meetings. There is no opposition law that has been approved by the governors of the several provinces.

On India's Republic Day, January 26, 2021, tens of thousands of farmers attended a farmers' show, and a fleet of tractors entered Delhi. Protesters who turned away from routes previously permitted by Delhi police resulted in police violence. Farmers' union flags and religious flags were afterwards placed on the Red Fort by protesters.

The federal government agreed to repeal the restrictions on November 19, 2021, and on November 29, both houses of Parliament passed the Farm Rules Repeal Bill, 2021. Farmers' unions have continued to demand lower guaranteed prices (MSPs) following the publication of agricultural rules, reminding the government of its promise to quadruple farmers' income by 2022; and recommendations from the 2004 National Farmers Commission, chaired by MS Swami Nathan. On March 21, 2022, a member of the High Courts' appointed committee released the committee's report.

Chapter-2

BACKGROUND

In terms of food production, India is self-sufficient (including wheat and rice, as well as other categories such as fruits, vegetables, milk, and meat, among others). Despite this, it suffers serious problems including starvation and malnutrition. In 2021, India was ranked 101st out of 116 countries on the Global Hunger Index. "India bears a fourth of the world's hunger burden," according to the United Nations. This is true despite the fact that India has extensive food rationing and charity programmes.

Due to restricted land holdings, India's Agriculture Census in 2014 revealed that the country is unable to meet its needs. Two-thirds of the country's land is less than one acre in size. Part-time farming is unusual in the country. Farmer suicides and the state of India's economy are two more subjects that are linked. Between 1995 and 2015, 296,438 farmer suicides were reported in India. In 2019, 10,281 agricultural workers committed suicide, or 28 individuals each day. Punjab's economy, particularly its agricultural sector, is thought to have slowed, which has fuelled the uprising. Topics such as paddy-wheat monoculture and desertification warnings are included.

Figure 2.1 Indian Agriculture and its importance.



Source: https://utkarsh.com/blog/blog_en/agriculture-in-india-information-about-indian-agriculture-its-importance/

2.1 History of India agricultural system

After the Independence in 1947, Indian farmers used to sell their products directly to consumers but because of the mandarin system, many Indian farmers were in debt because farmers needed input and borrowed money, therefore. lenders were charging high interest rates on loans taken from farmers. Lenders buy farmers' produce at very low prices when farmers are unable to pay off their debts. Also, for the next product farmers borrow money from landowners. Thus, this cycle was in existence at the time and farmers were the victims of that debt default process and this is how Indian farmers were first exploited. To protect farmers from exploitation, the government at that time intervened and introduced the APMC (Agricultural Commercial Market Committee) Act. Thus, the practice stated that farmers should not sell their products to a consumer and that no one should buy products from farmers directly. All sales must be done only by MANDI or the market established by the APMC Act. The so-called "Mandis", were run and controlled by the government of the country. Each provincial government had its own APMC and the division of the mandis was made according to its location and each area had its own specific Mandi. The merchant had to get Mandi's license to buy things from Mandi. Similarly, local farmers were allowed to sell their produce in the Mandi area. Thus, it was a mandatory scheme for both traders and farmers to sell and buy goods from certain Mandi. Farmer products are sold at auction in two ways namely MSP (low support price) determined by the Indian government and the other price acquisition is determined by the demand and supply of the product on the market. The minimum support price is not available for all crops and includes only 22 plants the Indian government has determined a small number of them for sale. The MSP states that the auction price may not decrease from that minimum and the MSP will be the initial product value at which the auction will begin. In the acquisition process, the price of a crop other than 22 crops is determined by the supply and demand in the market. Therefore, the plan was that farmers had to sell their produce at APMC Mandi, which assured the farmers that the minimum support for their product was determined by their national government, but the problem with the APMC Mandi program was that farmers had to sell their produce at a much lower price and there were consultants. many among farmers and consumers

causing the market price to rise. For example, a pound of potatoes sells for 3 rupees at Mandi by farmers, while a buyer buys it for 35 or 40 rupees on the market.

Figure 2.2 MSP (minimum support price)

Box 2: Minimum Support Price: In detail

The Central Government currently fixes MSPs for 23 farm commodities — 7 cereals (paddy, wheat, maize, bajra, jowar, ragi and barley), 5 pulses (chana, arhar/tur, urad, moong and masur), 7 oilseeds (rapeseed-mustard, groundnut, soyabean, sunflower, sesamum, safflower and nigerseed) and 4 commercial crops (cotton, sugarcane, copra and raw jute).

The MSP is meant to “to incentivize the cultivators to adopt modern technology, and raise productivity and overall grain production in line with the emerging demand patterns in the country”.²¹

The Agricultural Prices Commission, now the Commission for Agricultural Costs & Prices (CACP), was set up in 1965 to recommend to the Central Government what crops the MSP should apply to and at what price. However, it is the Government who has the final decision on how to set prices after consultation with the CACP and state governments.

This process is not set out in law, nor is the CACP a statutory body set up through an Act of Parliament. The Government is not compelled, therefore, to procure crops at the MSP. The Government cannot force private individuals or companies to pay the MSP either.²²

There are two mechanisms the Government could use to make the MSP legally binding. Firstly, ban private buyers from paying below MSP prices. Secondly it could mandate that the Government buys sufficient quantities of the crops to ensure prices don't drop below the floor price.²³

The Indian Express argues that giving the MSP legal guarantees would be “hugely challenging, fiscally and otherwise”. The paper also says “economists increasingly are in favour of guaranteeing minimum “incomes” rather than “prices” to farmers”.²⁴

Source: <https://researchbriefings.files.parliament.uk/documents/CBP-9226/CBP-9226.pdf>

The second mistake of APMC Mandi was that, most of the people in the middle were those people who had relations with the government of the country. However, the APMC Mandi program protected farmers from the low price at which their products were sold, so farmers were at least satisfied with this program even though it had its potential. Some regions soon abolished the program, such as Bihar, and farmers in those regions lost their livelihoods to farmers. The Indian government is now planning to end the APMC program in all provinces by approving three new farm loans, and thus a major farmers' protest is taking place in India especially in Delhi, the capital of India.

2.2 The three new farm bills

1. The Farmers Produce Trade and Commerce (Promotion and Facilitation) Ordinance, which will go into effect in 2020. Farmers can sell their food wherever they like under this regulation because they were previously required to sell their produce only to an authorized Mandi. Farmers can now sell their goods outside of Mandi, including within the region, outside of the region, and even online, without paying any taxes.
2. Farmers' directive (agreement on empowerment and farm assurance) Companies can set the price, quality, and qualifications of a product by having a written contract with the producers.
3. The Essential Commodities (Amendment) Ordinance, 2020, specifies that foodstuffs such cereals, pulses, seeds, onions, and potatoes will be removed from the list of essential commodities, and stockpiling limitations would be lifted, save in extraordinary circumstances such as war.

Fig 2.3 Understanding the three new laws

Understanding the three new laws 
1st law: Farmers' Produce Trade and Commerce (Promotion and Facilitation) Act 2020 - Farmers can sell their produce anywhere outside the state-regulated mandis without the burden of taxes or fees.
2nd law: Farmers (Empowerment and Protection) Agreement of Price Assurance - Farmers can enter into direct contracts with companies, even prior to the production of crops.
3rd law: Farm Services Act, 2020 and The Essential Commodities (Amendment) Act, 2020 - No restrictions in production storage movement & distribution of major crops unless under extraordinary circumstances (read war and famine). Stocks limits may be imposed on produce only if there is a steep price rise.

Source: <https://timesofindia.indiatimes.com/india/farmers-protest-explained-in-5-charts/articleshow/79494336.cms>

2.3 The reasons for the agitation of the farmers against the bill:



Indian farmers are angry and dissatisfied with the new farm laws that were 'passed by the Indian parliament in September 2020.' As new farm loans have not benefited farmers in any way, farmers say the law is against farmers. laws because these farm debts put farmers at risk as it did not say anything about guaranteeing a small amount of support (MSP), which is why farmers protested and opposed the bill, which is why farmers protested. they want the Indian government to cancel these three farm debts.

- The first bill that requires farmers to 'produce trade and commerce (promotion and facilitation) is a law that gives farmers freedom to sell their agricultural produce without' the Mandi of the agricultural products committee, but farmers oppose it because 85% of Indian farmers own less land. two hectares making poor farmers vulnerable to exploitation by big companies and corporations as these big companies have the power to negotiate with many resources. In addition, there are two other reasons for the opening of tax-free

APMCs, which will eventually lead to the closure of APMCs in the Major Protest Legend region as it lives on taxes levied on individual trades from middlemen and farmers. And the last reason is that poor farmers will have to struggle to sell their produce because they have to travel to a designated area to sell their produce even though the price of diesel has gone up which makes import costs more expensive. Under the farm bill, the government aims to eliminate farmers and farmers' taxes. This sounds good but the question here is how effective and smooth the system will be and how it will benefit farmers, which is why farmers are skeptical of the bill.

- The second bill is a farmer's law (agreement to empower and protect against price and farm services), which allows farmers to contract with any seller or companies with pre-agreed prices on the product. However, farmers are opposed to the bill because 'there is no mention of minimum support price (MSP)' and government involvement which is a major threat to farmers as the Government has not yet assured farmers the guaranteed value of their produce, and the price will be determined and adjusted by major consumers.
- The third and last bill is Essential Commodities (Amendment) Ordinance which allows economic traders to have unlimited food without fear of persecution for money laundering. The unlimited supply of food provided to traders and companies paves the way for price volatility and enhances their negotiating power to farmers. Therefore, farmers are more likely to find themselves selling their produce at a much lower price.

Fig 2.4 Government vs Farmers

 Govt says that ...	 Yet farmers fear ...
<p>Farmers will be free to choose their markets and the MSP system will continue</p>	<p>The new laws will eventually end MSP support unless there's a legal guarantee that no procurement will happen below MSP anywhere in the country</p>
<p>Farmers have equal say in setting sale price. They can withdraw from the contract at any stage without penalty but corporate buyer will have to pay agreed price and penalty for breaching contract.</p>	<p>Corporates will have an upper hand in fixing prices and resolving disputes in courts</p>
<p>10,000 Farmer-Producer Organisations (FPOs) set up across country will enable small farmers to deal with corporates</p>	<p>Small farmers will be left in the lurch as corporates wouldn't want to deal with them</p>
<p>Mandis will be forced to become more competitive</p>	<p>The mandi system will eventually collapse</p>
<p>Direct marketing of produce will save them agents' cut and they won't have to pay cess or levy nor bear transport costs</p>	<p>Case in point: Some farmers say they were forced to sell their produce directly at throwaway prices (lower than MSP) during lockdown restrictions</p>

Source: <https://timesofindia.indiatimes.com/india/farmers-protest-explained-in-5-charts/articleshow/79494336.cms>

2.5 Farmers' union criticism on the three farm bill:

- 1) The first criticism of farmers on these three farm loans is that the loans are more profitable for companies than for farmers. Debts favor companies, and empowering farmers seems uncertain about these loans.
- 2) The minimum support price (MSP) is not specified in any of the 23 crop crop loans, which farmers have previously received.
- 3) The removal of the agricultural commodity market committee (APMC) puts the movement of farmers' businesses at risk. Farmers were benefiting from APMC because of the low support price even though it had loopholes.
- 4) Removal of middle class people, farmers who considered them as a bridge between the government and them.
- 5) Investments should be made from the government side of the agricultural sector, not from the private sector.

Fig 2.5 Who and Why?

Who all are protesting and why?
* Farmers: They say that new laws will leave them at the "mercy" of corporates and pave way for the end of Minimum Support Price. (MSP is the rate at which the government buys crops from farmers in case they fail to sell it to middlemen.)
* Commission agents: Their monopoly and fat profits are at stake
* State governments: Stand to lose sizeable revenue from mandi fees, especially in the 'Green Revolution belt' of Punjab Haryana and western UP
* Political parties: Ruling parties in states don't want to lose mandi revenues. Besides, commission agents prop up local netas in both ruling and opposition camps with funds

Source: <https://timesofindia.indiatimes.com/india/farmers-protest-explained-in-5-charts/articleshow/79494336.cms>

Chapter-3

CASE EVALUATION

Important highways, including the National Highway connecting Haryana, Himachal Pradesh, Punjab, and Jammu and Kashmir to the national capital, have been closed as a result of the farmers' protest, disrupting supply networks across north India. According to the Confederation of All India Traders, farmers' protests have disrupted commerce and other economic activity worth Rs 5,000 crore in the last 20 days (CAIT). The rallies, according to a statement, have impacted 30 to 40 percent of merchandise arriving in Delhi, affecting commerce activities.

Food processing and dairy goods, as well as tractors, auto components, bicycle parts, light industrial items, metals and alloys, chemical products, and textile-based businesses such as yarn and readymade clothing, are all important sectors in Punjab. Figure 2 shows auto parts and chemical suppliers in Ludhiana and the adjacent areas, whereas life sciences and health care suppliers are more prevalent in Chandigarh, the capital of both Haryana and Punjab states. Similarly, areas including automotive, agro-based industry, technology, textiles, oil refining, biotechnology, and petrochemicals are found in Haryana. Although no supply shortages or logistics issues have been reported at manufacturing plants as of this writing, the upcoming power outage may provide a difficulty for the aforementioned enterprises. Punjab's coal stocks are at an all-time low, threatening to halt manufacturing production. The Punjab State Power Corporation Limited (PSPCL) has already begun two-hour power cuts in the agricultural sector, providing six hours instead of eight. If the situation worsens, PSPCL has stated that it will consider shutting down energy supply to homes and businesses.

Chapter-4

PROTEST AND INITIAL GOVERNMENT RESPONSES

In June 2020 legislation was proposed after the announcement of the plan to reform the agricultural sector by the Central Government of India. The Bills were introduced and passed soon in Parliament, becoming law by the end of September. However, the proposal did not receive adequate support from parliament.

4.1 Protests begin

Fig 4.1 Farmers marching towards Delhi



Source: <https://www.deccanherald.com/opinion/modi-should-hold-firm-against-protesting-farmers-943479.html>

4.2 Mass protests begin in November 2020

Anti-reform protests erupted in late November 2020, focusing on the capital, New Delhi. Farmers' organisations, as well as those from the Punjab region, have been among the most outspoken in their condemnation of the reforms, given Delhi is near to the Haryana region. These are the two largest agricultural producers, and they are thought to be among the most significant beneficiaries of the present agricultural subsidy and price-control regime. Haryana police have set up border gates to prevent demonstrators from entering

the city. Protesters attempting to enter Delhi were reportedly met with gas and a water rifle by police. By 27 police officers allowed demonstrators to enter the city with farmers who were protesting. Thousands of protestors were trapped on the outskirts of the capital in early December after police prevented their access. A countrywide strike was announced for farmers' support at the beginning of December, causing massive traffic and rail problems.

4.3 Protests continue into 2021, with increasing violence

Protests persisted into the new year, turning violent in some situations. During the Republic of India's annual march on January 26, 2021, outraged farmers with tractors smashed into police barracks and stormed the Red Fort in Delhi. One protester was killed and around 300 police officers were injured when police collided with each other. They stated that they would not put an end to the protests. The BBC reported on January 30 that the government had attempted to prevent demonstrators' access to the Internet, and that some of them were on hunger strike.

Fig 4.2 Violence Erupts at Indian Farmers' Latest Protest Against Agricultural Law Changes



Source: <https://www.wsj.com/articles/violence-erupts-at-indian-farmers-latest-protest-against-agricultural-law-changes-11611664480>

4.4 Government offers concessions, December 2020

At the beginning of December 2020 the government was reportedly giving a number of agreements to farmers. It has asked for amendments to some areas, although it has said it will not repeal it as many farmers have demanded. Without any legal guarantee to continue MSP regime assurance was given to farmers. The ANC, on the other hand, had backed them in their demands for a complete repeal of the laws. Mr. Gandhi echoed the opposition's claims that he was not consulted on the Bills as they proceeded through parliament. 42 The BBC reported on January 21 that the administration had promised to put the law on hold for 18 months. The idea was rejected by farmers' unions, who requested that the rules be repealed.

4.5 Supreme Court suspension

Fig 4.3 Supreme court suspends the implementation of farm laws and form committee



Source: <https://m.economictimes.com/news/politics-and-nation/supreme-court-suspends-implementation-of-three-farm-laws-forms-committee/articleshow/80226707.cms>

4.6 Bills are passed into law in months

In June 2020, India's central government first outlined its objectives for agricultural reform and proposed legislation. The Bills were quickly introduced and passed in Parliament, and they were signed into law by the end of September. The plan, however, did not get enough support in parliament.

4.7 The Supreme Court enacted laws in January 2021

The Supreme Court of India ruled on January 12, 2021, that the three bills should be stayed and that a four-member committee should be created to investigate farmers' objections. The judges expressed their dissatisfaction with the outcome of the talks between the government and the activists. Chief Justice Sharad Bobde informed the Court: "This is news. of life and death." Judges also expressed worry over not negotiating with farmers while passing the statute. The rules are causing us concern. We are worried for the lives and property of those who have been impacted by the disturbances. We make every effort to find the best solution to the situation. Legislation is one of our abilities.

4.8 Government proclamation of repeal of laws

Narendra Modi miraculously stated in a nationwide broadcast speech on November 19, 2021, that his government will remove the farm laws. Mr. Modi claimed that the regulations were intended to help small-scale farmers, but that "despite many attempts to explain the benefits to farmers, we have failed." He pleaded with farmers to "return to their homes, farms, and families" and to "restart."

4.9 Answer

The announcement brought relief to many demonstrators, but they voiced disappointment that it had taken so long. Some farmers have stated that they will not return home until additional demands, such as the MSP, have been addressed.

4.10 Farmers agree to return home in December 2021 after further reassurance to the Government

Despite the repeal of the rules, many farmers remained camped outside Delhi. The farmers' unions leading the protests have said they will not end their actions until the government agrees to many demands; These include legislation guaranteeing the MSP, revocation of legal proceedings 'against farmers, and compensation for families of farmers who lost their lives during the' turmoil. However, protesters claimed that they would now return home after receiving assurances from the government on December 9. It is reported that the government has written 'a formal letter to farm leaders, accepting many of the demands,' including compensation. The case is being re-assigned to January 2022, and farmers' organizations are being invited to submit immediately. The case may be postponed, but once the protests return, legal action may be held.

Fig 4.4 Happiness and joy as farmers return home after over a year of protest



Source: <https://web.statetimes.in/happiness-and-joy-as-farmers-return-home-after-over-a-year-of-protest/>

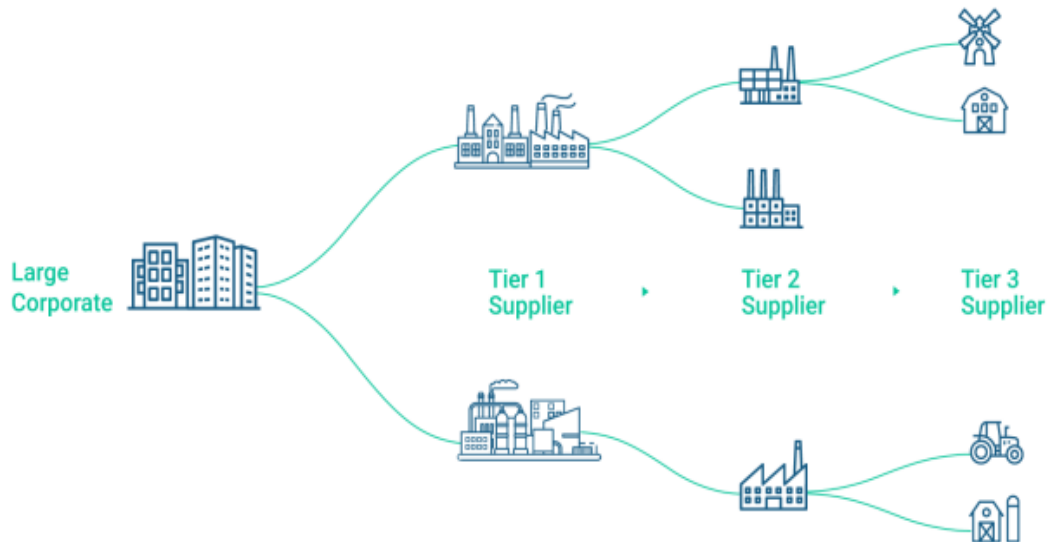
Chapter-5

SUPPLY CHAIN DISRUPTIONS

Before we get into the matter, we need to understand what a supply chain disruption is

A supply chain is a system of people, organizations, and services that transports goods from their origin to their final destination. Any sudden change or problem, whether local or worldwide, that has a negative influence on the process is classified as a supply chain disruption. Supply chains, such as chains, are made of related materials. In complex design, a few sections of the supply chain can be shown as a pyramid. The apex of the pyramid is a manufacturer of 'original equipment (OEM). Phase 1 providers are the final stage before reaching OEM (or sometimes the distributors themselves). They are the final stage before the OEM market and spread the product to' eliminate consumers.

Fig 5.1 Supply Chain disruptions



Source: <https://www.bigcommerce.com/blog/supply-chain-disruptions/#what-is-a-supply-chain-disruption>

Phase 2 providers form and distribute components to Phase 1 providers. It is usually small firms, but they play an important role in the supply chain. To ensure that their goods are approved by Category 1 firms, they must comply with strict safety regulations and regulatory rules.

Phase 3 suppliers serve as the basis for the supply chain by supplying immature materials such as steel and polymers where other suppliers can make special goods. Regardless of where the disruption occurs, this interconnected chain may experience delays and inefficiencies. These effects are exacerbated when a single provider is the sole source for that part of a supply chain, or when one site has multiple opportunities.

5.1 Types of Supply Chain Disruptions

As we know there are several type of supply chain disruptions, but our focus will be on two main disruptions in the supply chain: epidemic and political.

Politics - The global supply chain is more than just a raw material supply and demand. Political risks, such as political instability, regulation, defense, and violence, affect the ability to acquire resources and components, to process them, and to bring goods to market. The increase in global trade, as well as the result of the fragmentation of production systems, requires a better understanding of these mixed connections between political unrest and supply networks. With the changing political landscape, civil unrest and protests are likely to break out, resulting in severe disruptions to property purchases.

Epidemic - A new coronavirus epidemic has impacted worldwide networks. Because of the number of people, countries, and businesses around the world involved, the ‘effects of global epidemics or other public health emergencies may have significant effects on the supply chain, increasing normal performance at all levels of the production line.’

5.2 Risks of supply chain disruption

Natural disasters, man-made disasters (epidemics), and major legal (political) disruptions are the most common causes of supply chain management. These disruption events may

produce fluctuations in supply chain structure and ‘ripple effect, which refers to the distribution of supply chain disruptions and the scope based on the error of changes in supply chain design structures.’ As a result, controlling the ripple effect is important ‘to reduce the impact of supply chain disruption on supply chain members.’ The four most important components of the ripple control effect are strength, durability, durability, and flexibility.

The flexible ability of chains to provide planning and / or response to SCD events is referred to as robustness. Redundancy, tied tightly to tightness and flexibility, is often used to build strong supply chains. In order to improve the strength of supply chains, an effective strategy (e.g., risk reduction list and supporting resources) is often used in the design and planning phase ‘to maintain the intended performance and performance of the supply chain.’ An effective strategy (e.g., parameter acquisition and real estate acquisition) is often used to redistribute stocks and strengths (indirect use of unemployment) while assessing the recovery potential in the event of unexpected SCD events to improve supply chain flexibility.

5.3 Impact of SCD

Side effects of supply chain disruption:

- ✓ loss of productivity
- ✓ Increased staff costs due to, among other things, the search for new providers
- ✓ complaints from consumers
- ✓ declining income

5.4 How the farmer’s protest is affecting supply chain?

The raw material supply chain in Delhi-NCR has been severely disrupted, hurting factory operations. Prices are soaring due to a scarcity of supplies. The high cost of raw materials has had a negative impact on sectors that were already struggling financially because to the corona outbreak. Because of the protests, large trucks are unable to enter, raising the

price of raw materials. The twin shocks of Covid-19 and the farmers' protest have had a significant impact on Delhi's industries. Due to the farmers' unrest, businessmen are hesitant to transport their finished goods because they are concerned about whether they will arrive safely.

The agitation is believed to be costing almost Rs 3,500 crore each day, according to industrial associations. Farmers' protests have disrupted supply chains, affected the economy and potentially jeopardized the ongoing recovery from COVID-19-related economic recession. Farmers' protests have resulted in traffic jams and roadblocks in the 'northern states of Delhi-NCR, Punjab, Haryana, Uttar Pradesh, and Rajasthan, as well as in smaller amounts in many other states.'

The already wrecked supply network, which was only just getting back on its feet following the pandemic-induced closure, has been put under great stress. In Punjab, Haryana, Rajasthan, and Delhi-NCR, around two-thirds of consignments in transit take 50 percent longer to reach their destinations. Furthermore, transport vehicles must travel up to 50% longer to reach Delhi from warehouses in Haryana, Uttarakhand, and Punjab. This could result in an increase in logistical costs of up to 8% -10%. Many businesses in the industrial belt surrounding Delhi are experiencing labour shortages as individuals struggle to access production facilities in neighboring towns.

In Himachal Pradesh, Uttarakhand, and the steep districts of Jammu and Kashmir, the migration has a significant impact on businesses that rely on items transported by road. The conveyance of farm products to Delhi-important NCR's markets is similarly unreliable, putting the farm industry in these states at risk of significant losses. Tourism, which is a major source of revenue and jobs in these states, is expected to be hurt at a critical time when the sector is seeking to regain pace after the economy reopened.

As a result of the farmers' agitation, the closure of major routes, such as the National Highway connecting Haryana, Himachal Pradesh, Punjab, and Jammu and Kashmir to the national capital, has had a significant impact on supply chains across north India, which has had a significant impact on businesses. The farmers' farm bill protest has had a significant impact on the hosiery business in Ludhiana, Punjab's industrial capital.

The textile business was struck hard by the coronavirus outbreak, and the farmers' agitation has wreaked havoc on the industry. Sales dropped during the summer season because to the corona epidemic, and now sales in the winter season have come to a halt due to farmer agitation. They must rely on Delhi for transportation and courier services to move goods from Punjab to Bihar, Odisha, and other regions of the country, as the GT Road, which is North India's lifeline, has been closed.

5.5 Indian logistics and transport sector affected by farmer's protest

5.5.1 Freight Transport by Road

The road network in India covered 5.89 million kilometers, conveying 64.5 percent of cargo and 90 percent of passenger traffic. Between FY2016 and FY2019, highway development grew at a compound annual growth rate of 21.44 percent (CAGR). Between 2019 and 2025, the US\$1.4 trillion National Infrastructure Pipeline is expected to invest 18 percent of its capital in the roads sector. Since FY2017, road infrastructure investment has been sporadic. By 2022, India plans to invest US\$741.51 billion in the development of 65,000 kilometers of national highways. 'The National Highway Authority of India (NHAI)' will be completely digital by the mid-2020s, due to a cloud-based, AI-powered big data analytics platform. India intends to invest \$545.26 billion in expanding and modernizing its road system by 2032.

5.5.2 Rail Freight

The rail network in India spanned 123,236 kilometres, with 9,146 freight trains transporting 3 million tonnes of cargo per day. Figure 3 shows an increase in rail freight flow of 2.28 percent from 1104.2 MT in FY2016 to 1208.34 MT in FY2020. The COVID-19 pandemic has given India's railways an opportunity to expand their freight capacity. In FY2021, rail freight traffic climbed to 1145.68 MT, with a forecast of 2024 MT by FY2024. The income growth of Indian Railways has remained consistent throughout time. Rail freight revenue grew from FY2018 to FY2019 before declining dramatically in FY2020, accounting for 65.1 percent of overall rail revenue. Passenger earnings were US\$24.78 billion in FY2020, while freight earnings were US\$16.24 billion. Rail freight

traffic has skyrocketed as carrying capacity, cost-effectiveness, and service quality have all grown. Due to COVID-19-induced road transport constraints, rail freight loading increased to 108.16 million tonnes in October 2020, up from 93.75 million tonnes in October 2019, and freight revenues increased to US\$1.40 billion, up from US\$1.28 billion in October 2019. By 2032, India would require \$545.26 billion to increase and enhance its capacity. In FY2021, the dedicated freight lanes will convey 182 MT, up from 140 MT in 2016–2017. Indian railways aim to double freight traffic from 1.1 billion tonnes in 2017 to 3.3 billion tonnes by 2030.

5.6 Controlling measures to manage risks associated with SCD due to farmer's protest

5.6.1 Strategies for Short-Term Risk Management

A crisis response team and contingency planning, a backup route, third-party logistics (3PLs), a transport cost structure, transport event management, outsourcing transport, transportation audit, supplier collaboration, and a flexible contract are all examples of short-term risk management techniques.

5.6.2 Crisis Response Team

A crisis response team should aid businesses in detecting transportation system planning flaws, as well as the internal and external resources required for a better response. Analyzing reaction capabilities and vulnerability assessments can help determine the negative consequences of supply chain interruptions and respond quickly.

5.6.3 Contingency Planning

Contingency planning should highlight the financial impact of a lack of vehicle components and supplies due to disruptions in internal and external transportation systems. Researchers are devoting increasing attention to contingent rerouting, which is a contingency plan that leverages multiple providers.

5.6.4 Backup Route

Diversification strategies in transportation and logistics required major investments in advance of possible interruptions such as the COVID-19. If a disruption occurs, companies must face the direct and indirect transportation costs associated with the backup supply route strategy. The backup supply route strategy should take into account the utilization of resources as well as the possibility of an interruption. Similarly, if a company's regular mode of transportation is disrupted, an emergency mode can be used to lessen the risk of a lead time interruption. The researchers also looked into how "backup transportation" can aid in the resolution of transportation issues.

5.6.5 Third Party Logistics

Businesses must adjust to unexpected conditions, such as the COVID-19 epidemic. In the case of an interruption, 3PLs have the potential to support supply networks. 3PLs used to provide shipping and warehouse services, as well as new and inventive solutions to reduce the distance between suppliers, manufacturers, and customers. 3PLs may assess and tailor solutions to a company's needs regardless of the mode or volume of freight by gathering transportation and logistics data to forecast accurate demands, influence supply chain choices, and ultimately improve process efficiency and customer experience.

5.6.6 Structure of Transportation Costs

In order to weather the pandemic in the short term, businesses should focus on conventional transportation management and cost structure. Transportation costs were broken down into two categories: unit costs and manufacturing charges. The transportation network will become unstable if it focuses on unit prices or carrier rates. The opportunity cost of a disruption is the productivity costs. This can help firms understand the importance of transportation cost structure in order to prevent transportation disruptions and improve supply chain transportation responsiveness and visibility.

5.6.7 Outsourcing and Transportation Event Management

It's critical to concentrate on daily event management and waste detection and minimization on an hour-by-hour basis. A daily transportation plan should be completed, as well as its execution in light of the existing scenario. Any detected waste should be documented and followed using problem-solving procedures such as creating daily route designs, completing a real-time track, and tracing and generating real-time metrics to complete daily problem-solving. Transportation outsourcing should be indicated if necessary.

5.6.8 Audit of Transportation

A comprehensive transportation audit should be carried out across all forms of transportation and regions. A transportation audit can help carriers and regulatory compliance by identifying cost-cutting opportunities upstream in the areas of procurement, planning, and execution. In a supply chain, a transportation audit can be used to look at current carriers, shipping requirements, and transportation processes.

5.6.9 Collaboration with suppliers and contract flexibility

With diverse domestic suppliers, strong collaboration and cooperation are required. Firms that operate with suppliers in different parts of the country should find and cultivate backup suppliers. When there was a transportation disruption, the firms' existing contacts may have given them an advantage over their competitors who were also affected by the disturbance, as well as reducing the disruption's impact. This can lead to the inclusion of flexibility in transportation contracts, as well as the ability to switch between land, air, and sea delivery methods in the event of potential interruptions.

Fig 5.2 Farmers Protest Impacts Economy by Disrupting Supply Chain



Source: <https://m.facebook.com/cnnnews18/videos/farmers-protest-impacts-economy-by-disrupting-supply-chain/2463115783990074/?depth=1>

Chapter-6

PROPOSED SOLUTION

Commuters have been advised to take alternate routes through Anand Vihar, DND, Chilla, Apsara, and Bhopra borders. The administration characterised the three agricultural regulations approved in September as "fundamental changes" in the agriculture industry, abolishing middlemen and allowing farmers to sell anywhere in the country. At the Gazipur border, both carriageways of traffic heading to Ghaziabad through Murga Mandi and Gazipur R/A, route no. 56, Vikas marg, Anand Vihar IP Extention, NH 24 are closed. As an alternative, commuting from several places of entry is suggested. Diversification approaches in transportation and logistics necessitated significant investments ahead of potential disruptions like the COVID-19. If a disruption occurs, companies must face the direct and indirect transportation costs associated with the backup supply route strategy. The backup supply route strategy should account for both resource use and the potential of a disruption.

Chapter-7

CONCLUSION

Farmers protesting against three farm loans approved by the Indian parliament is a good decision made by farmers because when the government already fails on the old farm system, how can they try to think of a new system and this is why farmers are skeptical of new loans and oppose them. The farmers' union is insisting that the government cancel three farm debts, but the Indian government rejects the farmers' proposal, and now there is a massive 'ongoing protest of the farmers' union outside the suburbs of Delhi, India's capital. The country should have a sense of unity but the situation in India is slowly changing as the government and the people oppose and fight for their rights. Neither the government nor the farmers are planning to back off. The farmers' union will not close the protest until the government repeals the three farm rules, and the war between them continues in September 2020. one of the poorest. Supply chain had a major impact on protest and blockade. Yes, it did affect the government and eventually the government was forced to reverse the laws. On the other hand, the number of 'farmers who lost their lives during the protests' was high, losses caused by a few industries, economic losses, and a few other factors that existed against them. The only reason for this protest was to force the government to reverse the laws without any disruption or problems created by ordinary people. Unfortunately, the protest was long and faced many incidents that turned it into brutality and violence. Victims of both sides have been recorded, and the government using its armed forces against civilians is extremely cruel and unacceptable in a democratic country. Indian farmers have said it will be a protest to do or die until the government cancels three farm loans, while on the other hand the government has made the debts permanent and ignore the voices of the people. As a democratic country, the voices of the people should be heard and respected, but the current Indian government has failed to do so by harming its innocent citizens by using force.

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