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Deutsche Gesellschaft für
Internationale Zusammenarbeit
(GIZ) GmbH

A2/18 Safdarjung Enclave
New Delhi-110029 India

T: +91-11-49495353
E: nrm@giz.de
www.giz.de/India



Guidebook for Farmer Producer Organisations (FPOs) to participate in Commodity Derivatives Market



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Registered Offices:
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Umbrella Programme for Natural Resource Management
A2/18, Safdarjung Enclave
New Delhi - 110 029, India.
T: +91 11 4949 5353 | F: + 91 11 4949 5391
E: info@giz.de | I: www.giz.de

Responsible
Mohamed El-Khawad
Programme Director and Cluster Coordinator,
Environment, Climate Change and Natural Resource Management
Email: mohamed.el-khawad@giz.de

Mr. Rajeev Ahal
Director, Natural Resource Management
Email: rajeev.ahal@giz.de

Technical Partners
NCDEX Institute of Commodity Markets & Research (NICR)
Akruiti Corporate Park, 1st Floor, Near G.E. Garden, L.B.S. Marg,
Kanjurmarg (West), Mumbai - 400 078, India.
Tel: +91-22-66406789 | Fax: +91-22-66406899 | Toll Free No.: 1800 26 62339
Email: askus@ncdex.com

Content Review
Aleen Mukherjee
Chief Operating Officer
NCDEX Institute of Commodity Markets & Research (NICR)
2nd Floor, Jeevan Vihar Building 3, Parliament Street, New Delhi - 110001, India.
Tel: +91-11-66114804 | Fax: +91-11-66114849
Email: aleen.mukherjee@ncdex.com

Mr. Deepak Chamola
Technical Expert, UPNRM, GIZ
Email: deepak.chamola@giz.de

Editor
Niraj Shukla
Agricultural Economist and AVP,
NCDEX Institute of Commodity Markets & Research (NICR)
Akruiti Corporate Park, 1st Floor, Near G.E. Garden, L.B.S. Marg,
Kanjurmarg (West), Mumbai - 400 078, India.
Tel: +91-93236 14626
Email: niraj.shukla@ncdex.com

Design and Layout
Jaala Bhagatjee
Create My Kind
Email: createmykind@gmail.com

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Section 1: Introduction

Hello/Namaste,

Dear farmers, will it not be great if you can sell your produce at a price which is already known than getting a price after going to the Mandi? How good it will be if a market can provide you with a price when you plant your crop.

In the summer of 2013 farmers from Dewas district of Madhya Pradesh were facing a difficult situation. They had planted Soybean crop on their fields and were waiting for the crop to ripen and get ready for harvest. All this while, everyone was concerned about the prices in the coming months. It wasn't any pleasant news. Everyone was talking about prices to fall by the time they would harvest their crop. Usually, farmers don't have any say in price discovery as there are large supplies in mandis immediately after harvest and most farmers want to sell their produce as early as possible.

And this situation provides intermediaries with an opportunity to take advantage by offering lower prices to farmers. However, there were a handful of farmers connected to a FPO¹ who were thinking differently. They discovered a ray of hope in the commodity derivatives market. While most of the farmers didn't know anything about it, few of them who knew a little bit, wanted to give it a try. Through their FPO, they decided to sell 400 tonnes of Soybean at the prevailing price of around Rs. 4500 per quintal. As time passed the talks about falling prices became a reality. Soybean prices in local market crashed by more than 30% during the arrival season. However, the farmers who sold the produce using commodity derivatives market were able to avoid losses of nearly Rs. 40 lakh. Bingo! It was a huge reward to their courage of taking an unconventional decision and using different market than mandi to sell their Soybean crop.

Figure 1: FPOs are in better position to take advantage of regulated markets

Activity	Individual Farmer	FPO Using Futures Market
Sowing	Sows the crop Does all the crop practices and waits for the crop to get matured	
Growth	Doesn't know what price will prevail after the crop is harvested	Take help of Futures market as a guide of prevailing price in harvesting months. Hedge their price risk using commodity Futures
Harvest	Take the crop to mandi and participate in auction. Prices are often suppressed during that time due to arrival pressure.	Enjoys multiple options to offload his crop. Can deliver at the Exchange or close his position in Futures market, sell in the mandi.
Selling	Sold in Mandi @ 3100	Delivered at Exchange @ 4500

Key Notes

- Post-harvest supply pressure in mandis is a natural phenomenon and usually, farmers face the situation of selling the produce at a lower than expected price resulting in a loss in realised value of their produce.
- A smart move to avoid the losses could be the use of commodity derivatives market to sell the produce much before it is harvested. We shall learn the same in detail at later stages.

Section 2: Why do prices fluctuate so much?

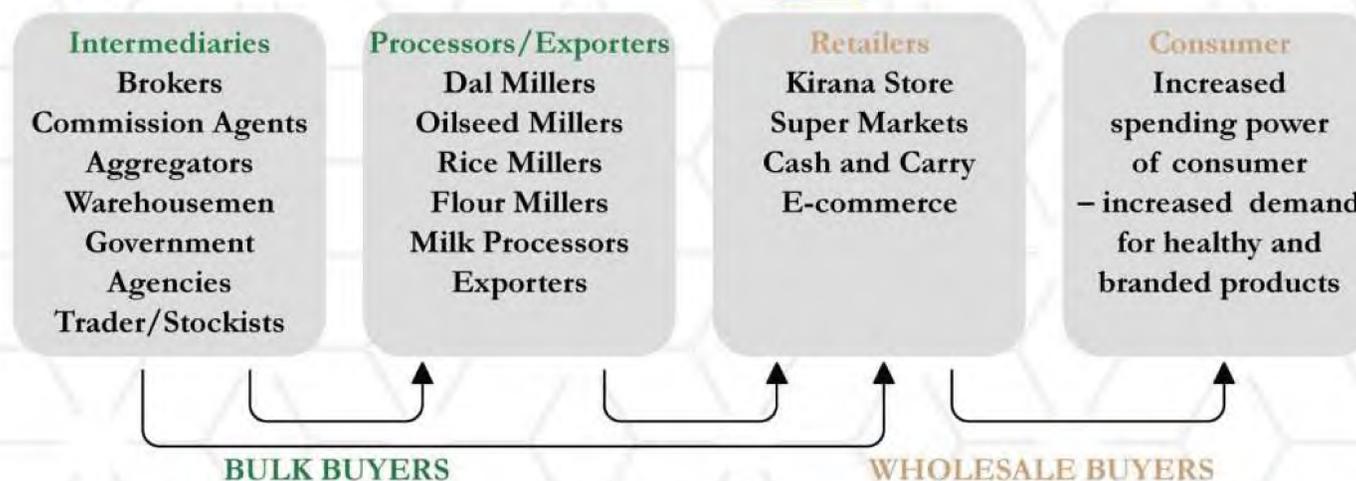
Commodity prices are governed by the fundamentals of demand and supply. If there is a higher demand than supply, prices rise and if the supply is higher than the demand, it falls. It can be understood from the example below:

Suppose there is a bumper harvest of Soybean crop in a particular year. Most of the farmers bring their produce in the nearest mandi. While the demand for Soybean remains almost the same, the supply increases and stockists don't want to buy and stock/hold the produce at a higher price. The higher supply and lesser demand situation lead to a decline in prices. The combined impact of all the buyers and sellers suppresses the prices to a certain level and farmers realise lower than expected value of their produce.

Figure 2: Post-harvest scenario - more number of sellers than buyers



Figure 3: Agri-commodity supply chain



Is there any solution to this uncertainty?

The answer is YES. There are alternative markets available where farmers can find buyers for their produce in advance and lock in the price. Commodity derivative market is one such market that provides a solution to this uncertain situation. Farmers can sell their produce using Futures Platform in advance, even a couple of months before harvesting. Doesn't that sound good? Definitely yes!

The duration between sowing and before harvesting of a commodity, normally is a lean season and prices remain steady during this period. However, as harvest time approaches, the rainfall progress, sowing progress, disease incidences and government announcements start impacting prices. Farmers can make use of this opportunity of locking in prices during the lean period using commodity Futures market. For this, all they need is to sell commodity Futures on the NCDEX platform. How to sell on Futures, will be explained in later sections.

¹The FPO was Ram Rahim Pragati Producers Cooperative Society

Key Notes

- Commodity prices at any point of time are affected by the demand and supply of the commodity at that time. This leads to uncertainty. A fall in price can reduce the realisation by farmers.
- Commodity derivatives can be used to lock in the price and remove the price uncertainty.
- Commodities can be sold in the derivatives market well in advance before harvesting.



²Usually prices remain higher in this lean period and start falling down once arrivals are in full flow. However, exceptions cannot be ruled out. In case the market expects a lower production ahead, prices may not fall in arrival season.

Section 3: What is commodity derivative and where is it traded?

Commodity derivative contract is an agreement whose value is derived from the underlying commodity. These derivative contracts have well-defined specifications regarding quality, quantity, delivery types, when and where to deliver, etc. These are called contract specifications (will be discussed in detail in section 6).

The main purpose of commodity derivative is to – i) provide a platform for an efficient and transparent price discovery, and ii) reduce risk of future price uncertainty for the farmers and other participants. We will discuss these concepts separately in later sections.

Table 1: Major commodities traded on domestic exchanges

1. Agricultural commodities

- Grains
- Pulses
- Oil Complex
- Fibers
- Spices
- Sweeteners
- Other commodities

2. Non-Agricultural commodities

- Precious Metals
- Base Metals
- Energy Complex

Oilseeds	Soybean RM Seed Castor
Oils	Degummed Soy Oil Refined Soy Oil Crude Palm Oil
Grains & Pulses	Wheat Barley Maize Chana
Spices	Coriander Chilli Jeera Turmeric
Fibers	Cotton 29mm Shankar Kapas Kapas V797
Meals/Oil Cake	Cotton cake RM cake Soymeal
Others	Guar Seed Guar Gum Sugar
Non-Agri. Commodities	Precious Metals - Gold Silver Base Metals - Copper Nickel Zinc Energy Complex - Crude Oil

Commodity Derivatives Exchange

Commodity Derivatives Exchange is an electronic centralized marketplace in which commodities are bought and sold in a transparent manner. In commodity derivatives exchange, producers/ farmers/ processors/ traders etc. can buy or sell their commodities online.

While in physical mandi, commodities are transacted based on the price of today (the date of transaction), on an exchange platform, a commodity is transacted based on expected price on a future date. Here the buyers and sellers aren't required to have the commodity at the time of the trade. The delivery of that commodity can be done at a future date.

Key Notes

- Commodity derivative contracts derive their value from the underlying commodity.
- These derivatives have fixed contract specifications.
- These derivatives are traded on a centralized marketplace called Exchanges.
- The buyers and sellers aren't required to have the commodity at the time of trade and the delivery of that commodity can be done at a future date.



Section 4: Type of commodity derivatives

Futures and Option are two financial instruments commonly used to hedge against commodity price risk.

Futures Contract

A commodity Futures contract is an agreement between two parties to buy or sell a commodity at a certain time in the future at a certain price. These Futures contracts are standardized and exchange traded. A Futures contract may be offset before maturity by entering into an equal and opposite transaction.

A Futures contract is a standardized contract in terms of the following:

- Quantity of the commodity
- Quality of the commodity
- The date and the month of delivery
- The units of price quotation and minimum price change
- Delivery center

If a farmer wants to sell his crop after sowing and before harvesting using a Futures contract, he can sell it without having the crop in his hand. That means he can lock the price of his crop even a couple of months before the crop is harvested. The expected prices of the crop are known to him through an electronic platform called as Futures market platform. This platform is provided by exchanges such as National Commodity and Derivatives Exchange Limited (NCDEX), Multi Commodity Exchange (MCX), Bombay Stock Exchange (BSE) etc. These exchanges offer various commodity Futures contracts through their platforms. Farmers can sell their commodity on any of the exchanges providing the Futures in those commodities. The availability of Futures contracts on the exchanges provides the farmer with the option to choose the market he wants to sell his produce. While for selling in a mandi, the farmer needs to take his crop to the mandi that is possible only after the crop is harvested, for booking/locking the price in Futures market doesn't require the crop to be in hand. We will learn about the Futures contract in details in later section.

Option Contract

Commodity Option is also an agreement between two parties to buy or sell a commodity at the agreed price (called the exercise price) at a given point in the future BUT the buyer of the Option contract has the right, but not the obligation or commitment, to buy or sell the commodity. Contrary to this, the seller has the obligation (and not the right) to sell or buy the commodity to/from the buyer.

Commodity Options give participants greater flexibility. The use of Options by farmers ensures that the farmer does not have to involve himself on a daily basis as no daily mark-to-market or margin is required.

There are two basic types of Options: Call Option and Put Option.

Call Option: A Call Option gives the buyer/holder the right but not the obligation to buy an asset by a certain date for a certain price.

Put Option: A Put Option gives the buyer/holder the right but not the obligation to sell an asset by a certain date for a certain price. Farmers, as a seller of the produce, would mostly be interested in Put Option.

We will understand it through an example.

Ramesh buys a put Option for one lot of Soybean on NCDEX at a strike price of Rs. 4000. Ramesh now enjoys his right to sell the Soybean at Rs. 4000. In a situation when the price falls down (say to Rs. 3500) lower than Rs. 4000, then he will be benefitted by exercising his right to sell at Rs. 4000. If he sells it in a mandi, he will realise only Rs. 3500. Unlike Futures, the buyer of the Option is not obliged to exercise (sell or buy) the contract. So if price rises to Rs. 4500, Ramesh doesn't have any obligation to sell at Rs. 4000. Instead, he will sell it in physical mandi and realise Rs. 4500.

Let us see what happens to the seller of the Option. Suppose Ms. Kavita has sold a Put Option at Rs. 4000. If price falls to Rs. 3500, still Kavita is bound to buy it at Rs. 4000. Therefore, she will be making a loss in case of price fall.

Here the question arises that why Kavita will accept this type of risk. For assuming this risk, Kavita charges a premium called the “Option premium” from the buyer. The amount of premium depends upon the time remaining to expire the contract.

Options as an insurance policy

In many ways, Option contracts act like insurance policies. When a farmer buys a PUT Option, his downside is limited to the Option premium paid, while his upside can be unlimited. It enables him to lock his selling price, however, if there is any upward price movement at the time of harvest, he can take advantage of the same by selling his produce in the open market, simply by forgoing the small premium which he had paid earlier. In other words, buying put Option insure buyers (here farmers) against falling price of a commodity while the seller of a put Option acts like an insurer by offering a price guarantee to buyers. Just like an insurance company, the seller of put Option charges a premium whether the contract is exercised or not.

It is important to note that the buyers of Option contracts have a smaller risk than sellers. Contrary to this, in a Futures contract, both the buyer and seller are exposed to unlimited losses.

In an Option contract, the buyer’s risk is limited to the premium paid upfront plus commissions to brokers and exchange fees. Besides, there are no margin calls for Option buyers till the time buyer exercises Option contract. They know the exact amount of payment and the maximum risk involved in buying Options at the outset.

But in the case of Option sellers, the potential losses are theoretically limitless as the prices of underlying Futures contracts can rise or fall indefinitely. An Option seller has to meet margin requirements (cash or securities deposited with the brokerage firm as collateral) until the contract is exercised or expires on the expiry date.

But in the case of option sellers, the potential losses are theoretically limitless as the prices of underlying futures contracts can rise or fall indefinitely and, therefore, the value of an options contract can also rise indefinitely. An option seller has to meet margin requirements (cash or securities deposited with the brokerage firm as collateral) until the contract is exercised or expires on the expiry date.

Table 2: Difference between Futures and Option

FUTURES	OPTION
Buyer has the obligation to buy the commodity.	Buyer has the right to buy/sell the commodity at a predetermined price. There is no compulsion on them to execute.
Seller has the obligation to sell the commodity.	Seller has the obligation to sell/buy the commodity.
High risk for both the buyer and the seller	Limited risk for buyer (maximum upto the margin’s amount); Unlimited risk to the seller.
Requires advance initial margin payments	Requires advance premium payment.
There is daily M2M settlement	Exercised at the end of the fixed period (expiry) or before that.
Compulsory settlement	No settlement if buyer does not exercise the Option.

Benefits of Commodity Derivatives

Price discovery: Price discovery is the process whereby buyers and sellers congregate at a market place and trade based on their views on expected supply and demand fundamental, leading to the discovery of prices. While in a physical market these trades happen on a designated market place called mandi, in a derivatives market, buyers and sellers place their bids and offers on an electronic exchange platform, which are then matched on the trading system leading to centralized price discovery. The prices are freely and competitively derived. Futures prices are therefore considered to be superior to the administered prices or the prices that are determined privately. Further, the low transaction costs and frequent trading encourages wide participation in Futures markets lessening the opportunity for control by a few buyers and sellers.

As a result of free flow of information, the market determines the best estimate of futures prices and it is considered to be the reflection of the supply and demand for the underlying commodity.

Price risk management

Commodity price risk is the uncertainty that stems from changing prices. Producers can protect themselves by taking offsetting positions on commodities derivatives exchanges. This will help them lock in the price of the produce and thereby protect their margins.

Reducing information asymmetries

Through Futures prices, farmers become more informed about market and pricing information. They get a better price by intermediaries because of the neutral and authoritative reference price. This increases return to farmers as it enables them to hold until the price level is good.

Empowering farmers to make better cropping and selling decisions

Futures are helping farmers to take informed cropping decisions. For example, a shortage of wheat will push up the Futures prices which will carry signals to the farmer for allocating more acreage to the crop for coming season. More accurate price signals avoid shortages, gluts and other distortions or anomalies that lead to mismatch of demand-supply. Local price discovery provides better price guidance to farmers because it reflects the domestic industry rather than foreign fundamentals.

Enabling access to cheaper sources of finance

Reliable product grading, warehousing and market mechanisms help producers not only access finance but also at reduced costs of borrowing by reducing risks to borrower and lender. On one hand it helps avoid distress sales by farmers, it also enables financing become more organised and predictable leading to growth and performance upgrade in the agri-sector.

Key Notes

- Commodity Futures contract is an agreement to buy or sell a commodity at a certain time in the future at a certain price.
- Commodity Option is an agreement to buy or sell a commodity where the buyer has the right, but not the obligation, to buy or sell the commodity at a known fixed price (called the exercise price) at a given point in the future.
- Farmers can buy Put Option which eventually gives them the right to sell their commodity at a fixed price by paying a premium.
- Option buyers are exposed to a limited loss which is limited to premium paid by them. However, Option sellers get exposed to unlimited losses.
- Price discovery and price risk management are the two major benefits/functions of commodity derivatives.

Section 5: How FPOs can use commodity Futures to lock in the price of their produce?

Farmers are exposed to price risks. They sow a crop and do all cultivation practices for a couple of months. By the time they harvest the crop, prices get depressed and often they are not able to recover even the cost of production.

Individual farmer often finds it difficult to know the technical know-how of mechanism of trade or meet the requirements of account opening procedures, taxes, grading of crop at warehouse etc. However, these operational issues can be overcome by aggregating agencies such as Farmer Producer Organization (FPO), Farmers societies or Co-operatives. FPOs who want to trade in commodity Futures contracts on an exchange need to register with the members (or with commodity brokers) of the exchange as a client and complete the Know Your Client (KYC) formalities. Once registered as a client, the FPO becomes eligible to sell or buy any of the commodity Futures available on the exchange platform. To sell or buy, the FPO needs to deposit the requisite margins (mostly in the range of 5% to 10% of total value of the produce). For example, FPO wants to sell Soybean Futures. The minimum quantity the FPO can trade (sell/buy) is one lot. For Soybean Futures at NCDEX, one lot equals to 10 Metric Tonnes (MT). Therefore, FPOs can trade with minimum of 10 MT or multiple of 10 MT i.e., 20 MT, 30 MT, 40 MT and so on. Let us assume that the price of Soybean is Rs. 3500/quintal. To initiate the trade, the FPO has to deposit the margin. This margin would be 5-10% of the value of the commodity. For simplicity, let us assume that the margin is 10%. Now, FPO has to deposit 10% of value of 10 MT Soybean which is trading at a price of Rs. 3500 per quintal. The value of 10 MT of Soybean becomes Rs. 3.5 lakh (10 MT X 10 quintals/MT X Rs. 3500/quintal). Therefore, the margin that the FPO has to pay would be 10% of Rs. 3.5 lakh equaling to Rs. 35,000. He can deposit Rs. 35,000 through his broker and initiate the sell position in Soybean Futures. Once the trade is initiated, the position remains in the system till it is squared-off (set off by taking opposite position) or delivered on the exchange. FPO can select a delivery center from the given basis centre or additional delivery centres which falls near to his location.

Till now we have already understood that commodity derivatives market provides opportunity to sell a commodity on the derivatives platform and lock in the prices even before harvesting. Farmers can utilize this to lock in the price of their produce. This fixing of price is also called as **Hedging**. And the farmer who is selling his/her produce on the derivatives market platform will be known as the **Hedger**.

There are basically two types of hedging i.e., **Long Hedge (or Buy Hedge)** and **Short Hedge (or Sell Hedge)**.

Farmers are producers and are concerned about prices declining at the time of harvest. Therefore, farmers would mainly be interested in selling the produce. Short hedge is a process of initiation of a sell position (short position) in derivatives (say Futures). However, this will mostly be a temporary substitute and farmers would be selling the commodity in local market at a future date. Why is this so? We will understand this with an example below.

The other type of hedge, long hedge, is usually initiated by participants who intend to purchase a commodity in the Futures market, known as long or buy position, which is a temporary substitute for the eventual purchase of a commodity in local market at a future date. This is mainly used by processors/millers who wants to buy the commodity as raw material in later months so as to run their processing plant.

Farmers, through FPOs, can aggregate their produce, hedge on the Exchange and liquidate at an appropriate time rather than distress sale at harvest.

For better understanding of how the farmers can sell using commodity Futures (short Futures hedge), let us take an Example of Mustard Seed.

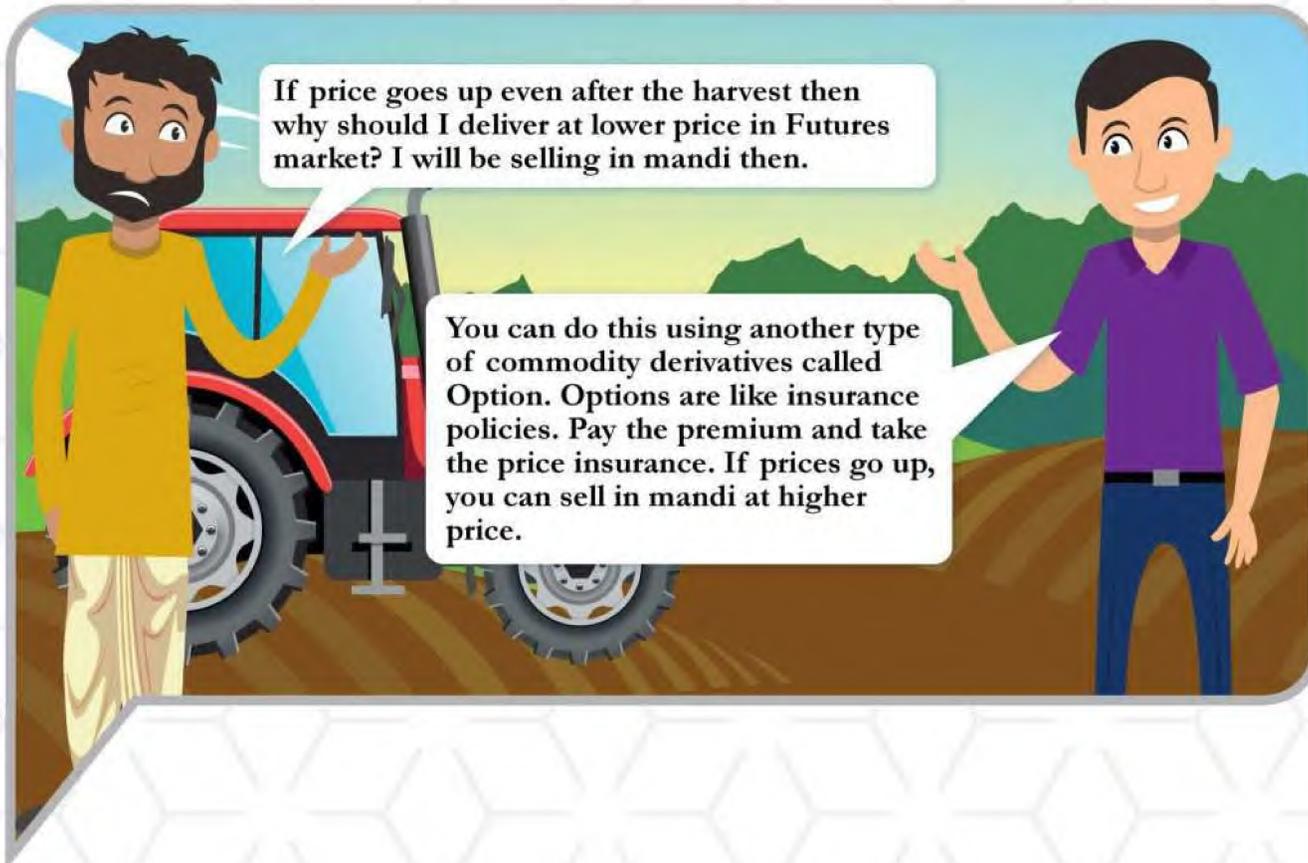
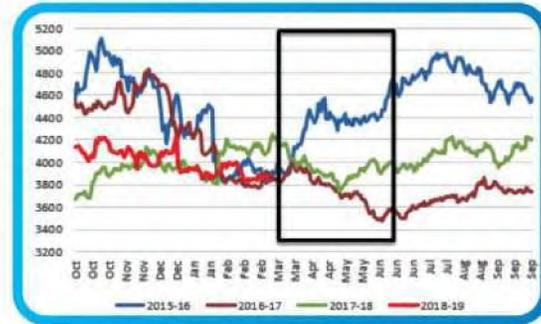


Figure 4: Post harvest dilemma of a farmer

A FPO wants to sell Mustard seed

- ABC FPO can aggregate 30 MT RM Seed
- FPO wishes to sell their RM Seed before the harvest
- FPO wants to lock their sell price at the earliest
- They decide to use NCDEX RM Seed Futures contract for hedging their price risk.
- Sells 30 MT @ Rs. 4200/quintal in NCDEX Apr-19 expiry contract on 10-Nov-18.



In November month, the ABC FPO estimates that it can aggregate 30 MT of Mustard Seed at harvest in April next year.

At what price the FPO will sell the procured quantity is not fixed as of now. It makes it vulnerable to price risk. Therefore, the FPO wishes to sell the procured quantity before the harvest and wants to lock in the sell price at the earliest.

By Selling Futures in Deferred Months, the FPO can reduce its price risk and adopts a short hedge strategy.

Now, FPO decides to use NCDEX RM Seed Futures contract for hedging their price risk.

On 20th November 2018,

Spot price = Rs. 4050 per quintal

NCDEX April-2019 expiry = Rs. 4200 per quintal

FPO creates sell position of 30 MT at Rs. 4,200 per quintal in NCDEX April-2019 expiry contract on November 20, 2018.

On April 20, 2019, the day of expiry of contract, two scenarios may arise.

Scenario 1:- Decrease in Spot price

Suppose on April 20, 2019, spot price decreases to Rs. 3850 per quintal from Rs. 4050 per quintal reported on November 20, 2018. Here FPO sells the produce in mandi at prevailing price Rs. 3850.

Therefore, on final settlement, the Mark to market profit is Rs. 350 per quintal (i.e. 4200 – 3850 = 350).

Thus, in case of hedged position, even after fall in market prices, the actual selling price remains Rs. 4200 per quintal (i.e. Effective price = Rs. 3850 + Rs. 350 = Rs. 4200).

Scenario 2:- Increase in Spot price

Suppose on April 20, 2019, spot price increases to Rs. 4500 per quintal from Rs. 4050 per quintal reported on November 20, 2018. Here FPO sells the produce in mandi at prevailing price Rs. 4500.

Therefore, on final settlement, the Mark to market loss is Rs. 300 per quintal (i.e. 4500 – 4200 = 300).

Thus, in case of hedged position, even after rise in market prices, the actual selling price remains Rs. 4200 per quintal (i.e. Effective price = Rs. 4500 – Rs. 300 = Rs. 4200).

Cost of Hedging

Contract Value = 30 MT or 300 Qtl at Rs. 4200/Qtl = Rs. 12.60 Lakh

Margins @ 6% = Rs. 75,600

Table 3: Cost of hedging

Particulars	Calculation	Amount (Rs.)
Interest Cost for Margin in Futures (6% Margin)#	Interest cost (12% per annum for 5 months)	3780
Interest cost assumed as 12% per annum		
Risk management fee (Rs. 400/ crore)		50.4
Exchange transaction charges (Rs. 1200 per crore for both side)		151.2
Brokerage (0.02%)		252
Total Cost		4233.6

We see that the total cost incurred in hedging is merely Rs. 4234 i.e. 0.33% of contract value. Further, there might arise a question that farmers will lose when price rises after the harvest. To understand this better, we need to see the price trend of previous years' post-harvest. By seeing the trend, we can easily observe that prices generally fall down during harvesting periods. There are more chances of prices falling than rising. Therefore, it is better to lock in the price and sit peacefully rather than remaining in dilemma everyday as what price I would receive when I will take my produce to the mandi.

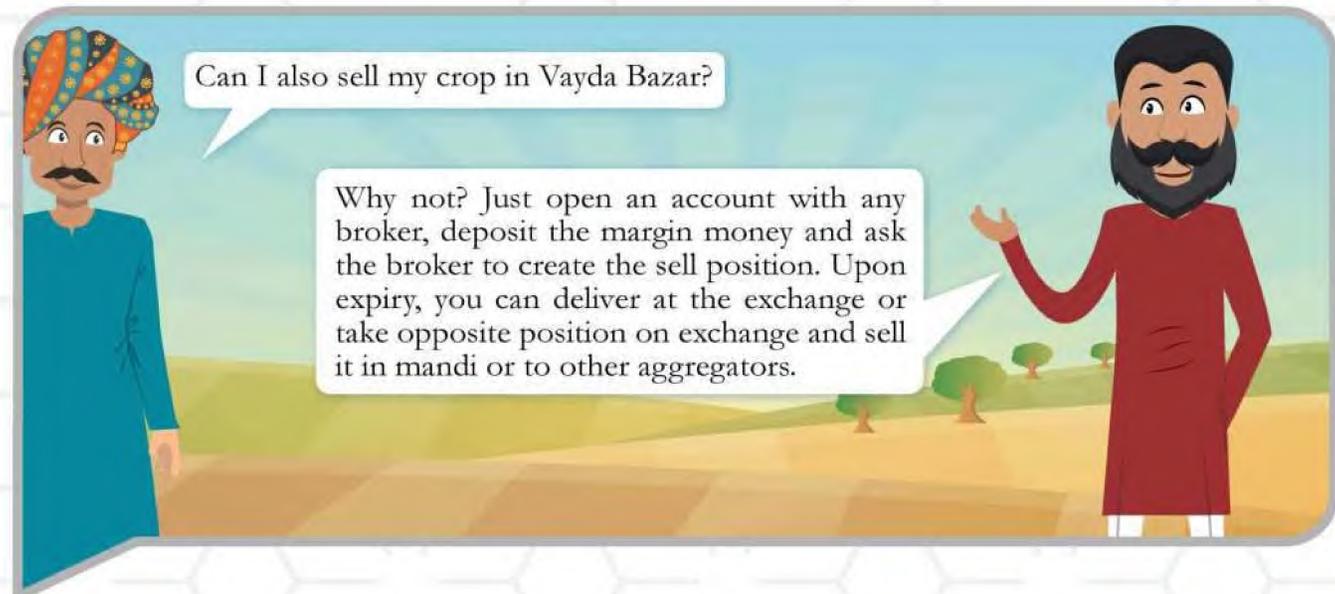


Figure 5: A decision making tree while hedging on the exchange

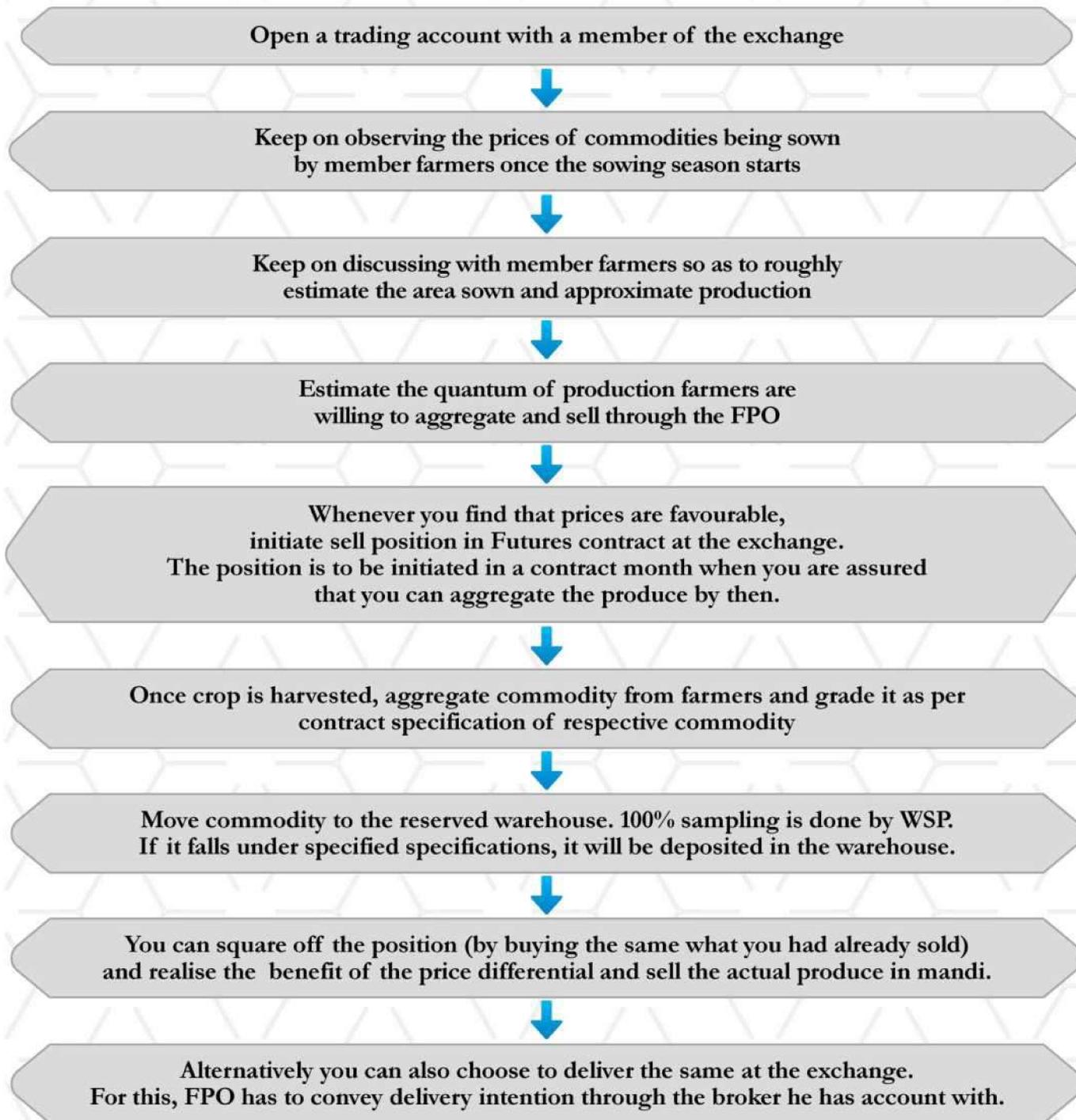
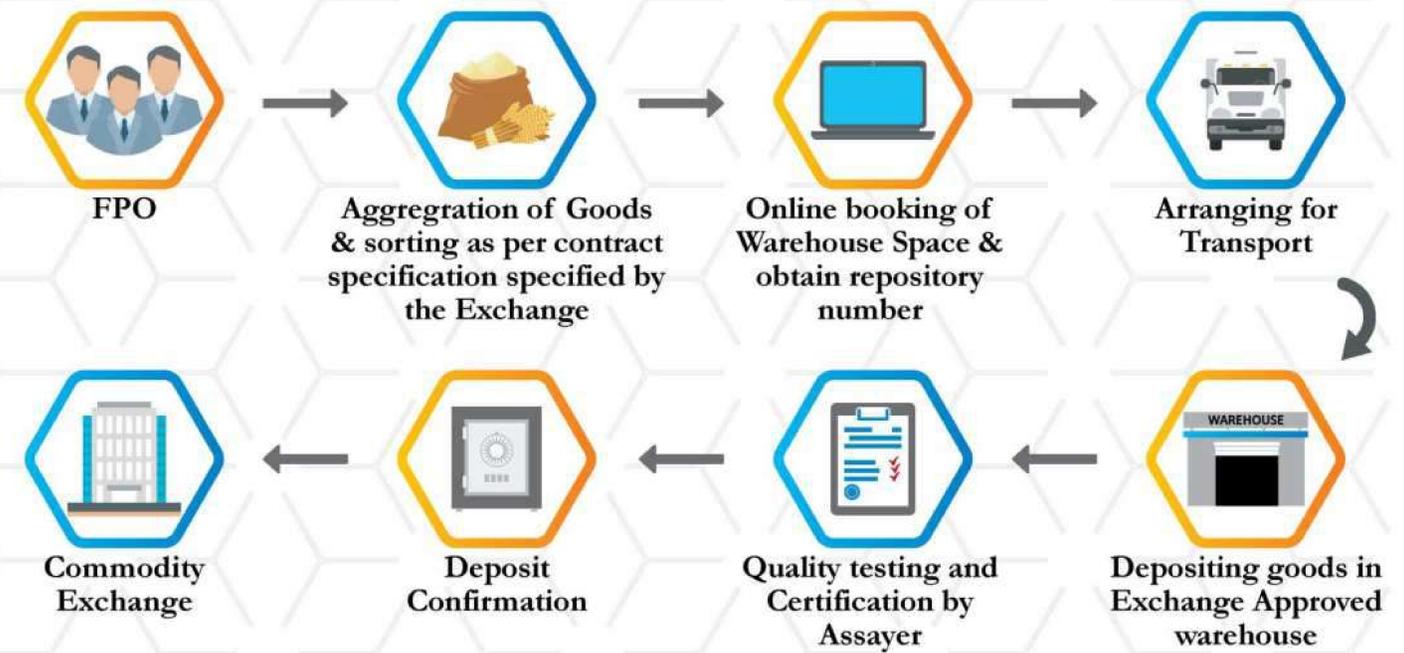


Figure 6: Steps in depositing goods in Exchange after the crop is harvested



Documents required to open a trading account

Before selling, FPOs need to open trading account with a member. Following documents are required for opening of account:

- 1] Pan card of FPO
- 2] Pan card of all Directors
- 3] Address proof of all Directors
- 4] Photographs of Authorized Directors (8/Director)
- 5] Photographs of all other Directors (4/Director)
- 6] Bank Statement (last 3 Months)
- 7] Income Tax Return (last 2 Years)
- 8] Audit Report of FPO (last 2 Years)
- 9] MOA and AOA
- 10] GST Registration
- 11] Board Resolution*
- 12] Shareholding pattern*
- 13] Banker's attestation for signature of Authorized Directors*
- 14] List of Authorized Directors*
- 15] List of all other Directors*

* Required to be produced on FPO's Letterhead.

Why the FPO has to bring the produce to the warehouse?

Warehousing forms the basic platform of delivery in commodity Futures. Delivery happens through these warehouses. Participant who wants to give delivery of any commodity through the exchange platform needs to bring his produce to the warehouse. Before bringing it to the warehouse he must have to reserve a space in that warehouse. Otherwise there might be a chance that warehouse is full and there is no space left. In the absence of warehouse space, the farmer will not be able to store the produce there and he has to take back his produce. This will unnecessarily increase the transportation cost to the farmer.

Once farmer has booked the warehouse space, he has to bring the produce on the given date. Once arrived at the warehouse, samples would be collected and will be sent to the laboratory for quality testing. If sample confirms the required specifications, the good will be accepted and kept in the warehouse.

FPOs can store commodities in line with required grade specifications and validity period. Once the commodity is accepted at a warehouse, they are issued a receipt of the same. This receipt is called Warehouse Receipt. Warehouses charge a fee for the services provided by them. The fee constitutes charges towards storage, insurance, assaying, handling charges or any other incidental charges. However, FPOs are currently offered a 50% discount of warehouse rentals.

All the exchange approved warehouses are registered by WDRA and hence they are well regulated by the government.

Figure 7: Settlement of trade by delivery on exchange platform

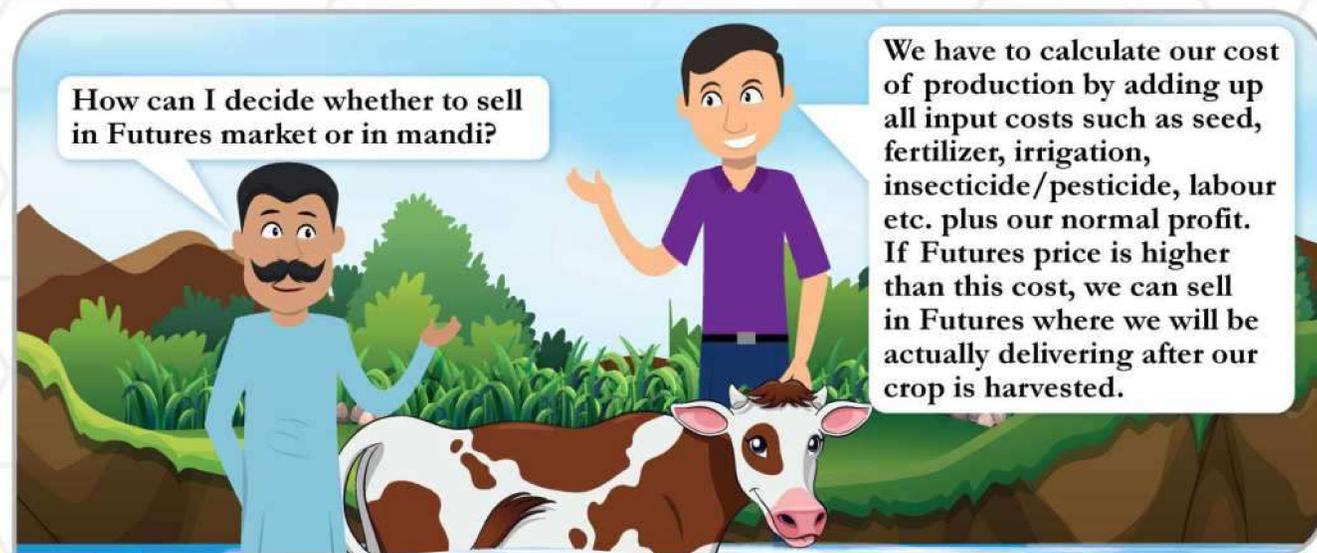
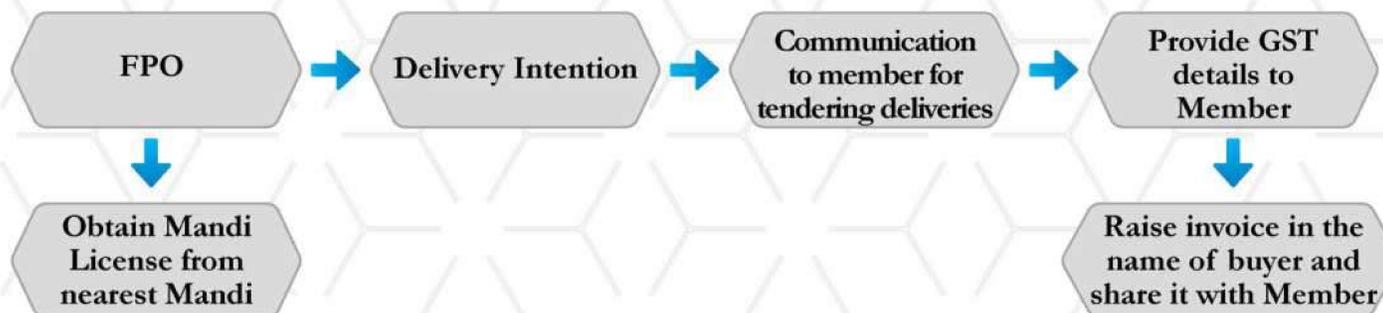
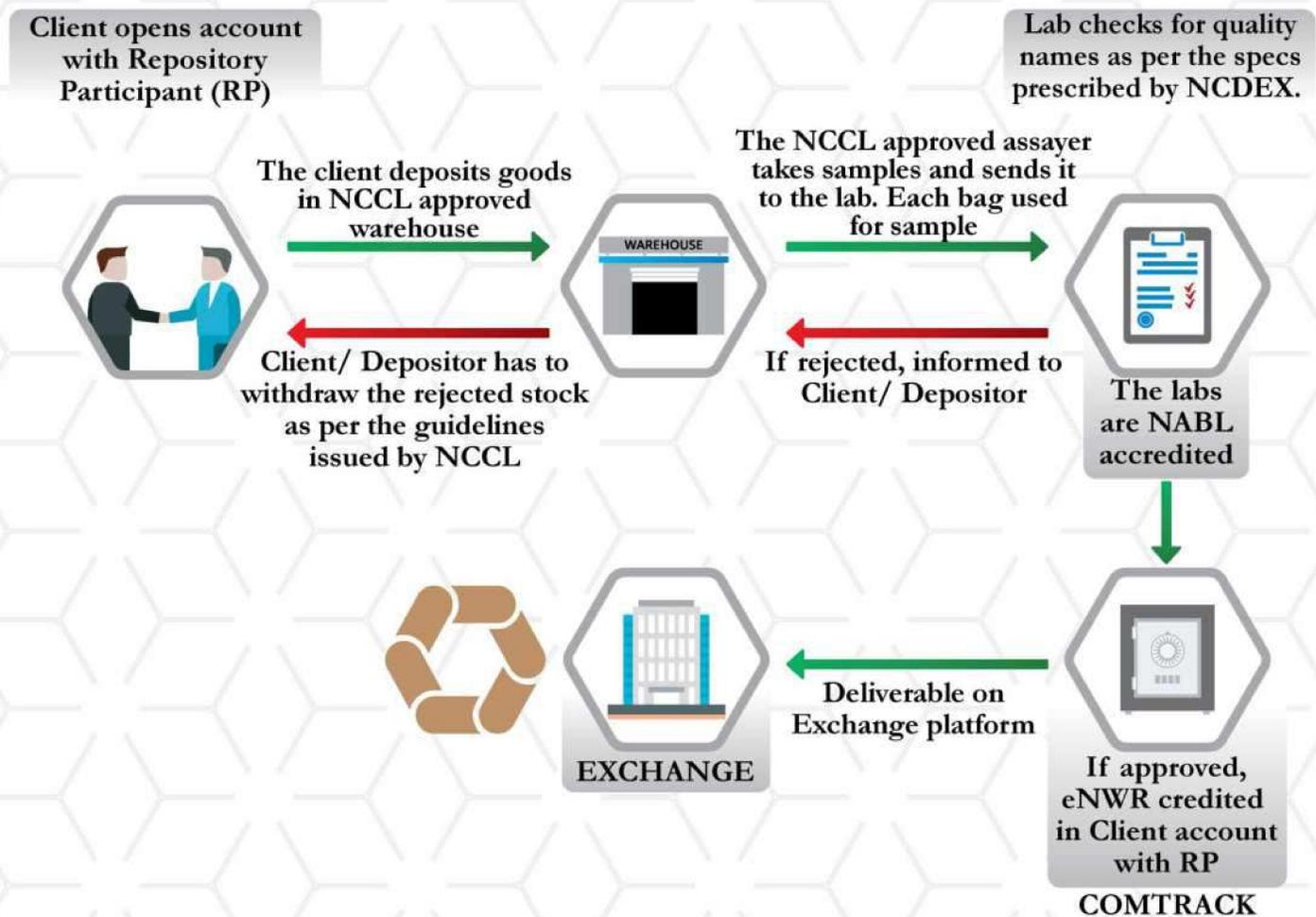


Figure 8: Process of depositing goods at Exchange



Key Notes

- Long = Buy
- Short = Sell
- Commodity futures contract is an agreement to buy or sell a commodity at a certain time in the future at a certain price.
- Commodity option is an agreement to buy or sell a commodity where the buyer has the right, but not the obligation, to buy or sell the commodity at a known fixed price (called the exercise price) at a given point in the future.

Section 6: Contract specification

Every commodity Futures contract has an underlying commodity, the quantity of that commodity, delivery location, and delivery date among others. When a party (e.g., a farmer) enters into a Futures contract, he is agreeing to exchange the commodity at a defined time in the future. In order to ensure the quality of the same, the exchange stipulates the acceptable grades of the commodity. These grades are defined with respect to certain set of quality parameters. All commodities traded on Futures have to comply with specification norms with respect to different parameters prescribed by the exchange from time to time. These contract specifications are fixed before the launch of the contract and cannot be modified during the contract period.

A sample contract specification (few major parameters) of RM seed (mustard seed) Futures contract is given below:

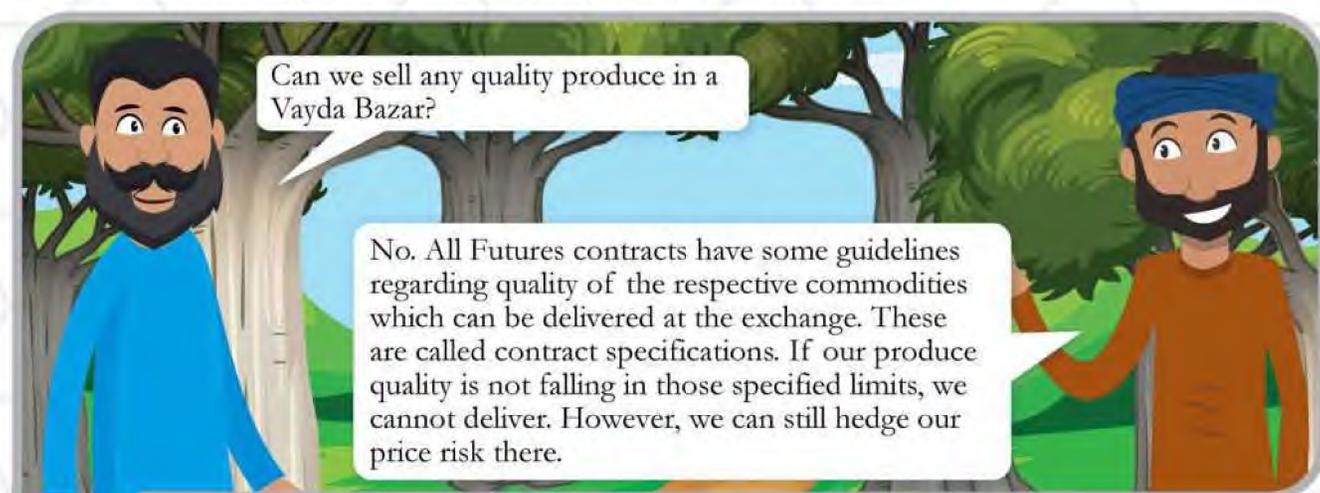
Table 4: Contract specification of Mustard seed

Ticker Symbol	RMSEED
Basis center	Ex-Warehouse Jaipur, exclusive of GST
Unit of trading	10 MT
Price quotation	Rs. per Quintal
Quality specification	Moisture 5% basis Oil Content (at 5% moisture) 42% basis FFA 1% max Foreign Matter 0.5% basis Damaged & Shriveled or Discolored Seeds 0.75% max Insect Damaged Matter 0.75% max
Delivery centers	Alwar, Kota, Sri Ganganagar, Bikaner, Jodhpur, Tonk, and Agra

Ticker symbol is given to every Futures contract in order to identify the same from the list of all available contracts. Basis center is the location with reference to which the price of the commodity is quoted. In the example above, the price of mustard seed is quoted for Ex-warehouse Jaipur. That means the seller has to bring the commodity to an exchange approved warehouse in Jaipur and bear the transportation cost.

The unit of trading refers to the minimum quantity that can be traded in a single lot. In case of Mustard seed in above example, minimum trading size is 10 MT (100 quintals or 10000 kgs). Further, quality specifications are the quality parameters (such as moisture content, Oil content, Damaged seed, etc.) which a seller delivering the good has to adhere with. Farmers can bring their produce to any of the exchange approved warehouses located in delivery centers prescribed in the contract specifications.

For detailed contract specification, please refer to the exchange website.



Section 7: Mark to Market (M2M) calculation

First of all, let us understand that a seller will always try to sell at a higher price whereas a buyer will try to buy at a lower price. Suppose a farmer sells 10 MT of Chana at a price of Rs. 5000 per quintal 2 months (60 days) before harvesting. The price of Chana in Mandi is ruling at Rs. 5100 per quintal. Prices keep on fluctuating during the period. However, as the harvesting time approaches, the price starts declining and on 60th day the price becomes Rs. 4700. Suppose this is the last day (i.e., expiry day) of Futures contract. By this day, Futures price and spot price converge to a single price say Rs. 4700. Now the farmer who had sold at the exchange at Rs. 5000 has two options. One, he can deliver the commodity at the exchange, and two, he can close his position in Futures and sell the commodity in the mandi. In order to close the position in Futures, he has to take an opposite position in the same Futures contract. Therefore, if initially, he had sold in Futures market using a particular month's expiry contract, he has to buy equivalent quantity in the same contract. Once he buys the same quantity in the same expiry contract, the net position becomes zero. That means he is out of the Futures market and doesn't have any liability/responsibility to deliver the commodity in Futures market. Now he can take his produce to mandi and sell as usual.

Before proceeding further, let us see what happens to the farmer's portfolio as the time proceeds towards the expiry of the Futures contract. Here, for the simplicity, we can assume that the expiry of the contract coincides with the harvesting of the produce as well as it also includes the days required to bring the produce to an exchange approved warehouse and deposit it there.

The farmer has initiated a sell position on Rs. 5000 on day one. For the sake of simplicity, we are assuming that prices closed at Rs. 5000, the same at which sell position was initiated by the farmer. Now from next day onwards, any price movement will lead to profit or loss to the farmer. Let us see how this profit or loss is computed? (Please refer to the table given below). Say for on day one, price falls down by Rs. 30 and closes at Rs. 4970. A Rs. 30 fall in price will result in a decline of Rs. 3000 in the value of the commodity sold on the exchange. However, as the farmer is having a sell position at a higher price, he will realise a profit of Rs. 30 per quintal (i.e., Rs. 3000 on the value of the traded quantity). Now on very next day (on Day 2) price falls down by another Rs. 40 per quintal. Again the farmer will realise a profit of Rs. 4000. So, on day 2, the farmer's total realisation would be Rs. 7000 (Rs. 3000 + Rs. 4000). Now on Day 3, price increases by Rs. 50. Here, the value of the commodity will increase but this situation is unfavourable for farmer's Futures position as the realisation would shrink by Rs. 5000. At the end of Day 3, his cumulative gain would be Rs. 2000 (Rs. 3000 + Rs. 4000 – Rs. 5000). On Day 4, price increases by another Rs. 60 leading to a situation where farmer's realisation from Futures position would further shrink by Rs. 6000. At the end of Day 4, his position will observe a cumulative loss of Rs. 4000 (Rs. 3000 + Rs. 4000 – Rs. 5000 – Rs. 6000). Now suppose the farmer delivers the produce at an exchange approved warehouse on Day 60 which is also the Futures contract's expiry day. By this day, the price has fallen down by Rs. 300. The current price is Rs. 4700 per quintal and the cumulative M2M gain to the farmer becomes Rs. 30,000.

Table 5: M2M computation process

Days	Futures price	Price in mandi	Price change	Lot size	Multiplier	M2M	Cumulative
0	5000	5100	0	10	100	0	0
1	4970	5070	-30	10	100	3000	3000
2	4930	5030	-40	10	100	4000	7000
3	4980	5060	50	10	100	-5000	2000
4	5040	5120	60	10	100	-6000	-4000
5	5070	5140	30	10	100	-3000	-7000
15	4995	5040	-75	10	100	7500	500
30	4930	4955	-65	10	100	6500	7000
45	4840	4850	-90	10	100	9000	16000
60	4700	4700	-140	10	100	14000	30000
TOTAL			-300			30000	

Now the farmer has two options. One, he can deliver the produce (deposited in an exchange approved warehouse) at the exchange. In this case, he will realise the price of Rs. 5000 at which he had already sold his produce 60 days ago. In second situation, he can close (square off or buy) the same quantity in same expiry contract before the expiry of the contract and go to the mandi and sell the produce in the mandi. If the farmer opts for this, he will be able to square off the commodity at current prevailing price of Rs. 4700. Now the farmer goes to the mandi and sells the produce at current mandi price which is also Rs. 4700. However, the farmer has already realised a M2M gain of Rs. 300 per quintal (Total Rs. 30,000 = Rs. 300*100), his effective realisation would be Rs. 5000 (Rs. 4700 from mandi + Rs. 300 from M2M in Futures market).

This way farmer secures the price of the produce to Rs. 5000 even if the price falls down to Rs. 4700 in the harvesting season.



Section 8: Status of FPO participation in commodity derivatives market

The focused efforts of exchanges towards connecting farmers to regulated markets have generated quite encouraging results over the last couple of years. In NCDEX alone, since January 2016, 98 FPOs from 13 states have made judicious use of Futures market as a tool to hedge their price risk and protected their realisations in 17 different commodities. As on 31 October 2019, over 5.2 lakh farmers belonging to over 249 FPOs are already engaged with NCDEX.

NCDEX has been able to play a crucial role in providing farmers access to the new age markets and to help them make informed decisions. Farmers have started analyzing their price risks and comparing the profitability between traditional and Futures markets and then selling part or whole of their produce in Futures market. Farmers across the country have started changing habits of selling all their produce in traditional mandis and are now increasingly getting connected to regulated markets.

The results of the same are being well recognized by government, policy makers and other institutions. In 2017, Jamwa Ramgarh FPO from Rajasthan was awarded the Mahindra Samridhi award by the Agriculture Minister, Shri Radha Mohan Singh, for using the NCDEX platform to get better prices. Maharashtra Agriculture Commissioner has also been encouraging farmers in the state to participate on NCDEX.

Figure 9: The journey of FPOs participating in Futures

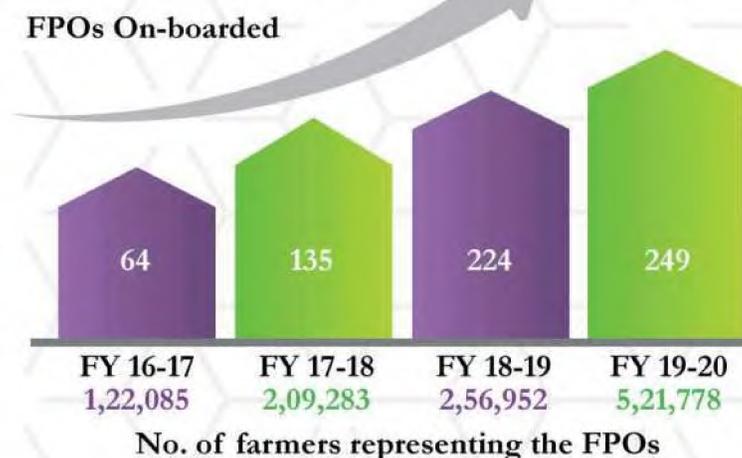


Figure 10: State-wise status of FPOs participating on commodity Futures platform

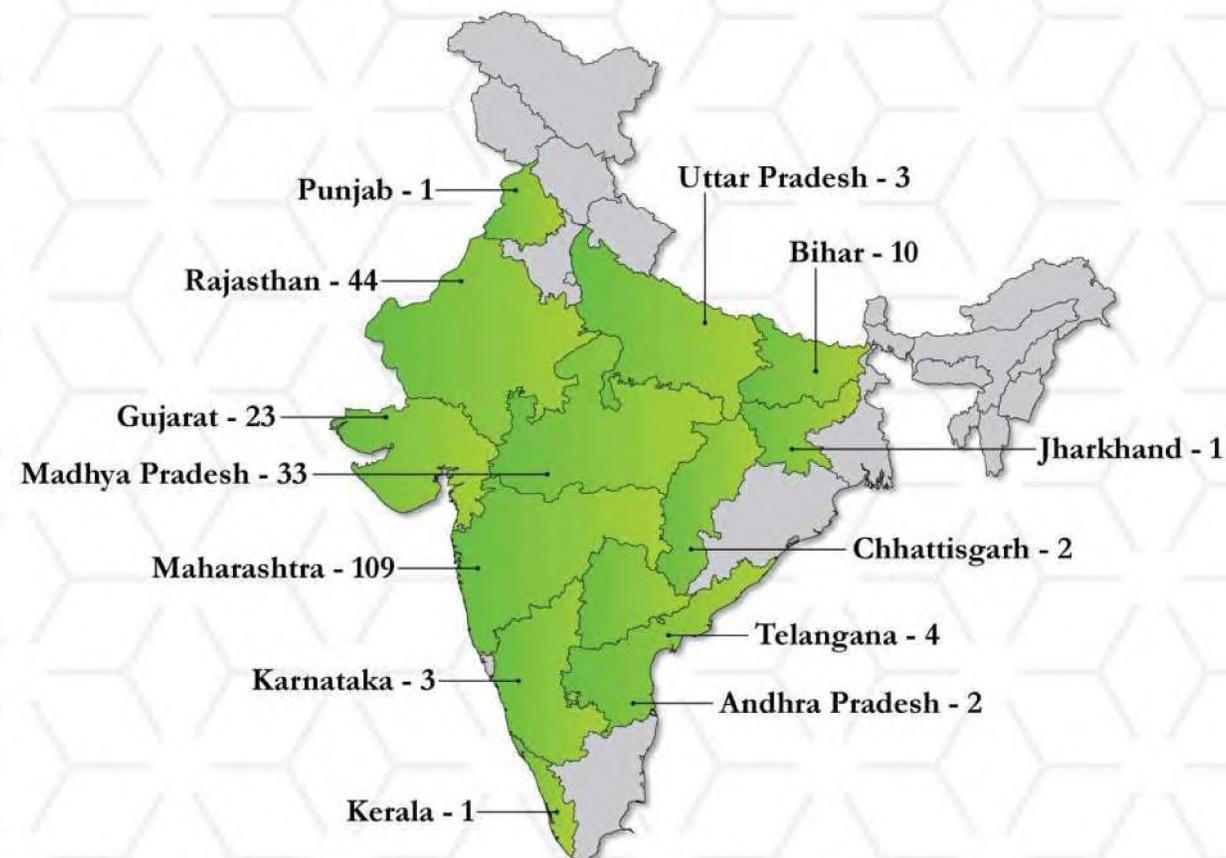


Figure 11: Commodity-wise participation by FPOs (2016- till date)

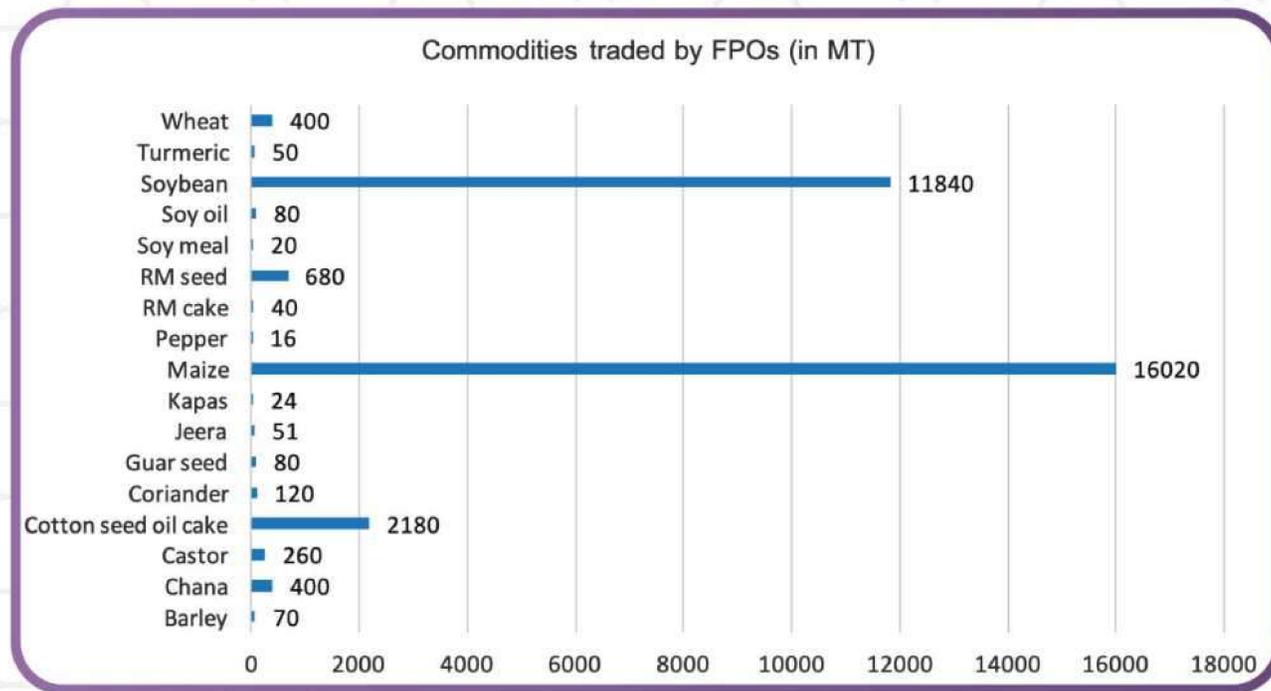
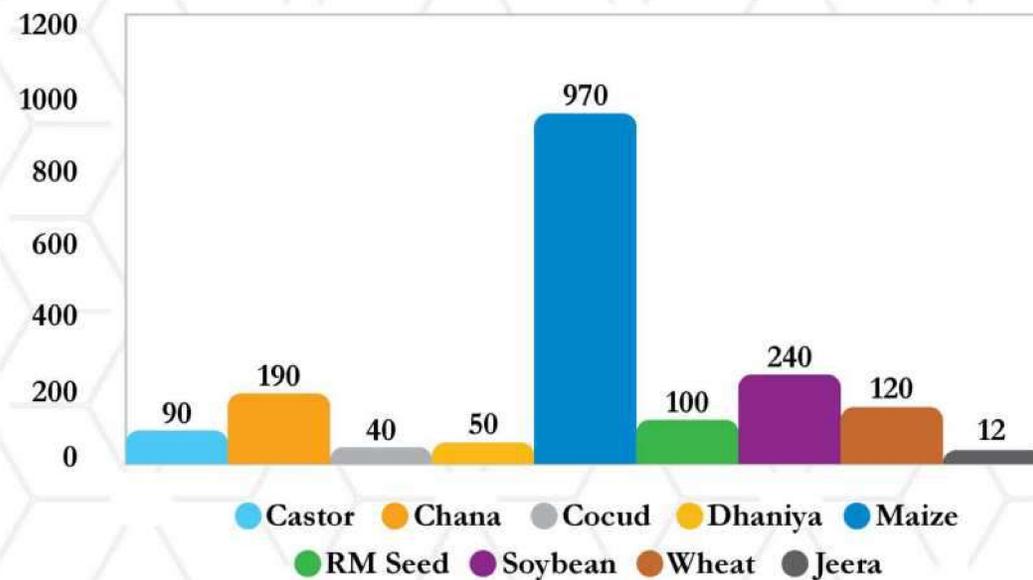


Figure 12: Commodity wise Total Traded Quantity (MT) FY 19-20

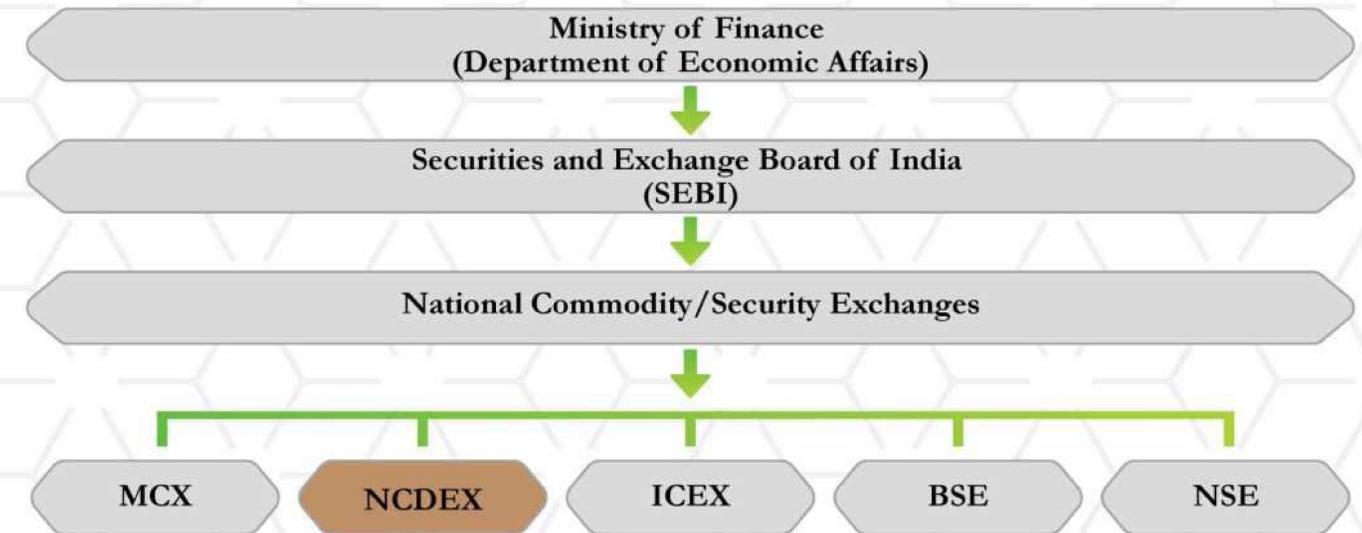


Section 9: Regulation of commodity derivatives market

In 2003, Forward Market Commission (FMC) was formed to regulate Indian commodity exchanges. In 2015, FMC was merged with the Securities and Exchange Board of India (SEBI). A stronger regulatory system with stringent regulatory guidelines and frameworks infuses the transparency in the market and prevents or reduces the chances of malpractices. The current Indian commodity derivatives market follows a 3-tier structure where the SEBI, headquartered at Mumbai, acts as an intermediary regulatory body between the Ministry of Finance, Govt. of India and commodity exchanges.

Currently, there are five national level exchanges offering commodity derivatives though NCDEX and MCX remain the leading commodity exchanges.

Figure 13: Regulatory structure of commodity derivatives market



After taking over the regulation of the commodities market, SEBI has initiated numerous progressive steps to strengthen the commodity derivatives ecosystem in the country.

Few of them are:

- New norms for exchange approved warehouse service providers (WSPs), warehouses and assayers to strengthen the delivery infrastructure
- Revised the criteria for eligibility, retention and re-introduction of derivative contracts on Exchanges
- Issued guidelines w.r.t. providing additional position limits for Hedgers
- Issued norms on the Settlement Guarantee Fund
- Prescribed the framework for staggered delivery, early delivery, early pay-in facility
- Issued norms for delivery default penalty, fixing of the final settlement price (FSP) and change in expiry dates of Futures contracts
- Allowed introduction of safer products such as commodity Options to provide alternative hedging instrument to farmers
- Allowed hedge funds to invest in commodity derivatives
- Allowed participation of Mutual Funds in commodity segment
- Allowed banks to offer commodity services through their bank broking arms
- Allowed commodity exchanges to offer equities and securities exchanges to offer commodities. NSE and BSE have already started offering few of the commodities to their members
- SEBI issued detailed norms with regard to the Investor Protection Fund (IPF) and related matters

With these progressive initiatives, the SEBI is trying to reduce the risks in the commodity ecosystem, widening the participants base and products to further deepen the commodity derivatives segment and bringing it at par with securities market. It has produced positive results in increasing investors' confidence and attract participation from hedgers.

How to approach the regulator with a complaint?

There might be occasions when you have a complaint against an intermediary registered with SEBI. At first you are advised to approach the concerned intermediary against whom you have a complaint. However, if you are not satisfied with their response, SEBI has initiated a centralized online system for lodging and tracking complaints. The system is called SCORE which stands for Sebi COmplaints REDress System.

Here's the process/steps how to redress your grievances.

1. For registering a complaint, access <http://scores.gov.in> and click on the 'Complaint Registration' tab under 'Investor Corner'.
2. Enter your personal details, select a category and then enter the specific details of the complaint in the specific category.
3. Supporting documents can be attached in the pdf format with maximum size of 1MB. In case the data to be loaded for each category is more than 1MB, it can be sent by post to any of the SEBI offices.
4. On filing the complaint, a unique registration number will be generated, which can be used for future correspondence. An e-mail acknowledging the complaint with the complaint registration number will also be sent to the e-mail ID entered in the complaint registration form.

Further, if you want to send a reminder for the lodged complaint, click on 'Send Reminder' under 'Investor Corner' on the home page. Provide details like registration number, reminder details and the security code.

Also, if you are not satisfied with the response, you can file a fresh complaint, send a mail to the officer entrusted with the complaint, take up the complaint with senior officers, or initiate legal proceedings against the entity.

You can also call up **Sebi's toll-free helpline service number 1800 266 7575 or 1800 22 7575** (available in 14 languages) for any guidance.

Section 10: Farmers' education and training

National exchanges are working with FPOs to help them understand how they can make the best use of the commodity derivatives market. Being the largest agricultural commodity exchange of the country, NCDEX has always been trying to connect to the farming community not only through innovative product and services but also to support them with appropriate education and guidance towards using regulated markets to improve their realisation.

NCDEX is working with hundreds of FPOs and NGOs to provide knowledge about the nitty-gritty of the derivatives market such as warehousing, grading etc. and how farmers can hedge their price risk using Futures market. The exchange has partnered with educational institutions and State agencies for aggregation and training of these FPOs. Exchange in association with DD Kisan is airing a weekly television named "mandi.com" and is educating farmers on a variety of topics from organic farming to farm technologies to post-harvest management etc. A Kisan call center, managed by IFFCO Kisan Sanchar Limited and supported by NCDEX, is a dedicated desk for mandi.com to resolve farmers' queries coming through its toll free numbers.

Further, in its endeavor to spread awareness about commodities derivatives among farmers and other stakeholders, SEBI partnered with various entities to facilitate the awareness and education on Futures/Options contracts, hedging, risks etc. in commodity derivatives market. Over the last couple of years, it has introduced several progressive reforms in the commodity derivatives market to make it safer and friendly for farmers to help them realise better prices of their produce.

SEBI, along with various exchanges, is spearheading various education and awareness programmes to provide farmers with knowledge about various financial instruments and hedging tools like Futures and Options to hedge their price risk; improve the price realisation for their produce and enhance their income. SEBI's efforts towards empowering farmers through education, enabling them easier access to regulated, safer derivatives market through appropriate reforms and in turn contributing towards improving their price realisation through informed post-harvest marketing of their produce are being recognized widely among farming community as well as other stakeholders. SEBI has also gained greater recognition among producer farmers.

The events such as Global Rajasthan Agritech Meet (GRAM)-Udaipur and Krishi Darshan Expo-Hissar, with massive farmers' footfalls, have been a great success. Such initiatives are not only accelerating the efficacy and efficiency of farmers' education but also helping enhance farmers' confidence in the derivatives market to a great extent.

While the government is doing its bit with a steadfast resolve of 'doubling of farmer incomes', the transformation on such a gigantic scale cannot be achieved overnight and will undoubtedly call for hard work and collective efforts from every enabling institution involved in the Agri supply chain. This, apart from aiding towards much-needed integration of various markets, would also offer farmers the freedom to sell their produce across time, grades and locations.

DOs

- ✓ Read SEBI/ Exchange circulars available on the Exchange website.
- ✓ Trade only through Exchange registered member.
- ✓ Fill KYC mandate unique client code (UCC).
- ✓ Insist on rights and obligations and risk disclosure statement.
- ✓ Insist on bill/ contract notes for every settlement.
- ✓ Register your mobile number and email id with the stock broker, to receive trade confirmation alerts/ details of the transactions through SMS or email
- ✓ Ensure that the contract note contains all relevant information, such as - member registration no., order details, trade no., trade rate, quantity and arbitration clause.
- ✓ Cross check trade genuineness through trade verification facility available on Exchange website.
- ✓ Pay required margin and MTM obligation in time and understand consequences on non-payment.
- ✓ Be aware of risks associated with dabba trading.
- ✓ Reconcile the statement of transactions from the member & holding statement of the depository participant post every transaction. In case of any discrepancy, voice the same immediately.
- ✓ Issue account payee cheque/ demand draft in name of the broker as it appears on the contract/SEBI registration certificate.
- ✓ Insist on periodical statement of accounts of funds and securities from broker.
- ✓ Check accounts and notify brokers if any discrepancies
- ✓ In case you wish to execute Power of Attorney (POA) in favour of the Stock broker, authorizing it to operate your bank and demat account, please refer to the guidelines issued by SEBI/ Exchanges in this regard.
- ✓ Funding from unauthorised intermediaries aren't covered under settlement guarantee mechanism of the Exchange, hence beware.

DON'Ts

- ✗ Don't fall prey to market rumours.
- ✗ Don't simply go by any explicit/ implicit promise made by analysts/ advisors/ experts. Analyse yourself.
- ✗ Don't simply go by the reports/ predictions made by various print and electronic media.
- ✗ Don't deal with unregistered intermediaries. The list of members is available on the Exchange website.
- ✗ Don't undertake off-market transactions.
- ✗ Don't get carried away by alluring advertisements, rumours, hot tips or any promise of assured returns.
- ✗ Don't accept unsigned/ duplicate contract notes.
- ✗ Don't start trading before understanding risk disclosure clause.
- ✗ Don't let risks against positions accumulate beyond your capacity to bear.
- ✗ Don't miss on keeping track of your financial and contractual obligations against your positions.

