Commodity Derivatives and Risk Management
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Lecture 16
Agri Commodity Price Risk Management (Part 1)

Welcome to the next session on Commodity derivatives and risk management and today we will start the commodity price risk associated with agricultural commodities. Now, before we go into understanding how farmers commodity producers, agri commodity producers and agri commodity consumers and all value chain partners like wholesaler, traders etc, how they can use commodity derivatives market to mitigate their risk. it is very important to understand what fundamental factors influence agri commodity price.

Only when these agri commodity producers or consumers and the value chain partners understand the fundamental factors, which affect the commodity prices then only be they will be able to make a view or decision regarding whether price is going to go up or price is going to go down and accordingly they will be able to take the commodity hedging decision. One of the very important understandings with respect to agri commodity is that we must understand what a crop year is and what is kharif and rabi farming seasons in India.

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So let us go to our discussion on Indian agricultural farming season. Indian agricultural farming season can be categorized into 2 broad categories that is, your kharif season and rabi season. And kharif season starts with the onset of monsoon that is from June-July and it goes up to October-November, so many agri commodities are predominantly farmed or produced during this period of time and which are these commodities, these commodities are rice, maize, groundnut, soybean, sugarcane, arhar etc.

And these agri commodities are start getting the sowing season, planting season starts around June July or August and harvest coincides during October, November months. Now, the second season is the rabi season. Rabi season, all of the meaning of rabi is sun so those our agri produce which require abundant amount of sun ray these kind of agri commodities are produced or farmed during this period of time so this rabi season starts in during October month and ends during month of March.

And which are the predominant commodities which are farmed during this period of time? Wheat, barley, chana, moong dal, urad dal, mustard are major agri produces, which are produced during this period of time. And harvest season for these rabi rabi commodities coincides with during April to May. In fact if you recall many states celebrate their harvest festivals during month of April and May coinciding with the post harvest completion of post harvest activities of rabi season commodities.

Now also another important aspect which all of us, we must understand is a concept called a Crop year. All of you all of us we know what is a financial year, it starts from let us say financial year 2014 to 15 starts from 1st April 2014 to March 31st 2015. Similarly for a crop year, crop year for a particular crop starts with the plantation or sowing period, a plantation activity or sowing activity and it goes up to or completes during the harvest period, and it varies from crop to crop and for example, with crop year starts from may be a July which crop year is from July 1 to June 30 and soybean crop year, it starts from September 1 to August 31.

So that is 1 year period, September 1st to 31st August is the soybean period. One thing I would like to mention here wheat crop July 1 to June 30. Even if wheat is predominantly treated as a rabi crop, but because of the agricultural advances, now many states are having planting wheat twice a year so that is the reason why wheat crop year always coincides with July 1 to June 30th.

Now, why are we talking about kharif, rabi or a crop year because understanding of this time period is of paramount importance for getting an idea about what is going to be the what is the pre harvest period for a a pre plantation period and post harvest period for a particular agri commodity because we know most of the agri commodities are seasonal in nature and pre plantation period, commodity prices, agri commodity prices tend to go up more and post harvest period, agri commodity prices tend to go down.

So this is the time period where the commodity prices tend to exhibit greater degree of volatility and this is the time period where commodity producers, consumers and value chain partners are keener on entering into price risk management aspects. Now, continuing with the our discussion on crop year, the crop year is also another very important aspect which we must understand for a given agri commodity, because the quality of a agri commodity which is produced in one crop year varies from the another crop year depending upon the weather condition and depending upon pest the infliction of pest and various other parameters which can have a impact on the quality of the agri commodity produced during 1 crop year versus another crop year.

In fact if you recall in the session 3rd or 4th when we were discussing about the commodity contract specification, exchanges very clearly mention which crop year can be delivered. If you recall, in the cotton contract specification, a multi commodity exchange had very categorically the contract specification indicated that only the cotton which has been produced in the current crop year can be delivered as part of the futures contract. So understanding what is farming season that is rabi and kharif as well as what is the crop year associated with a particular commodity is of extreme importance to a person who is interest to enter into any kind of hedging or enter into futures options on agri commodities.

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Now let us go to understanding of what has been the traditional price risk management for agricultural produce. That MCX, NCDEX etc came into picture only year from 2003-2004 onwards so prior to that how a agri commodity producer or a farmer was mitigating the price risk. Was there any avenue for them or they were let to the mercy fluctuation of the a fluctuation of market prices and some year they will be having windfall gain and some year they will be incurring substantial amount of losses.

Yes, they did not Indian farmers and producers, agri producers did not have access to futures trading but there were some other mechanism which were available to Indian farmers for mitigating a price risk and what are these traditional price risk management have been used for Indian farmers, these are crop insurance, contract farming and minimum support price mechanism of government of India.

All of you must have heard something called MSP, so MSP stands for minimum support price mechanism of government of India. So now next 4, 5 to 10 minutes, let us understand different aspect of what is a crop insurance, what is contract farming and what is minimum support price mechanism of government of India and how these 3 mechanisms were used or used by Indian farmers to mitigate the price risk.

And all of you must be knowing or most of you may be having or your family members may be having different kinds of insurance, life insurance, health insurance and medical insurance so or even travel insurance so many we protect we take insurance, we pay a premium and in case of any untoward activity happens, the insurance company pays us the sum insured. Similarly, Indian farmers have been taking crop insurance for considerable number of years. Let us go to little more or understanding a little more on crop insurance.

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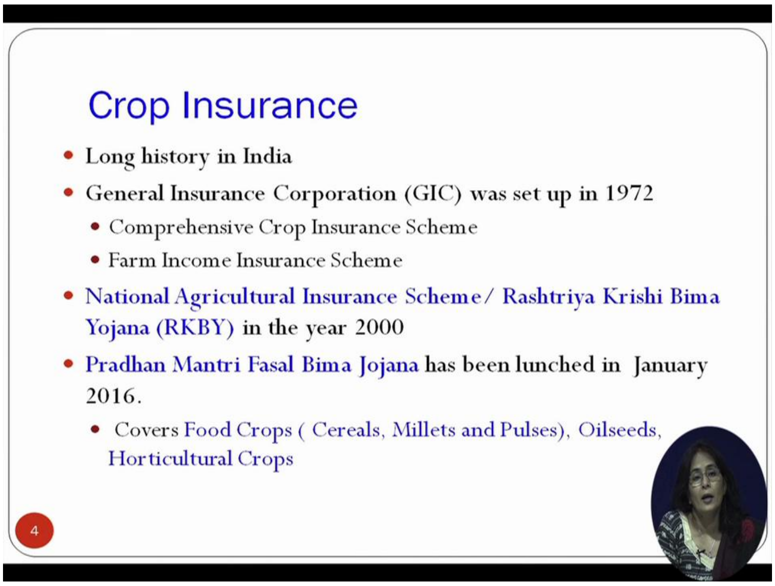

The crop insurance has been a very long history of India in India and General Insurance Company, I am sure most of you have heard a company called GIC was set up in the year 1972 with the exclusive objective of providing farm insurance to farmers and at different point of time a General Insurance Company and other insurance companies in India have offered different kinds of crop insurance so some of the I mean 2 of the important ones is the comprehensive crop insurance scheme and the second one is the farm income insurance scheme.

And in the year 2000 also National Agricultural Insurance Scheme came into, it was also known as Rashtriya Krishi Bima Yojana. I am not going into the detail of each of these insurance schemes, however the bigger picture, what I want all of you to appreciate is that the crop insurance has been one way of mitigating price risk by farmers.

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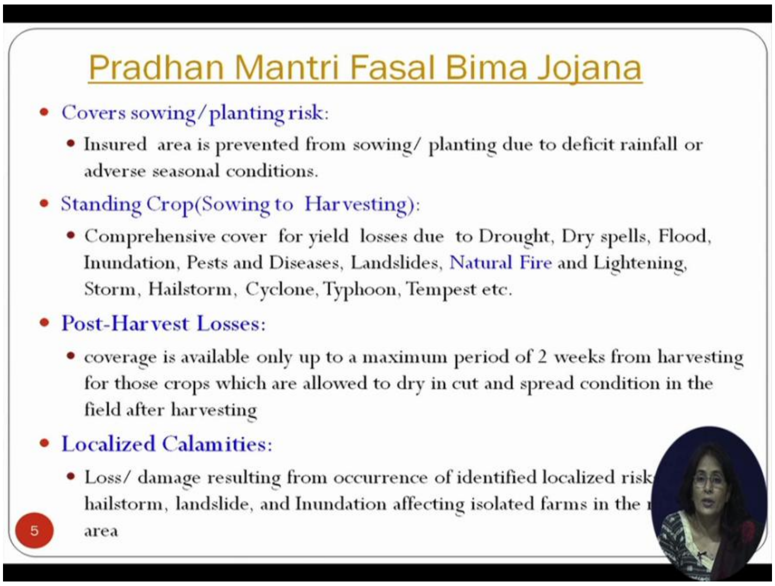

In fact recently Mr. Narendra Modi has initiated his during his tenure Pradhanmantri Fasal Bima Yojana. This has been launched during January 2016 and it covers a wide gamut of agricultural produce from different kind of cereals, millets and pulses, oil seeds and different kind of horticultural crops like pomegranate and grapes, etc. So this Pradanmantri Fasal Bima Yojana is a very comprehensive insurance plan and this Pradhanmantri Fasal Bima Yojana, it covers the old risk a farmer faces during sowing or planting period to the risks faced by standing crop that is during sowing to harvesting period.

So when the standing crop is in the field, if there is a any natural calamity drought, dry spell, flood, etc, and this insurance is going to cover, it also covers the post harvest losses that the and it is the period of post harvest losses is only 2 weeks and if you I mean why it is 2 weeks because many times farmer leave after cutting the harvest, they leave the harvest in the open field for drying so if any natural calamity happens during that period of time, this comprehensive insurance plan is supposed to take care it.

And also certain localized calamities may be some calamity happened at a very small place also that is covered in during this Pradhanmantri Fasal Bima Yojana. So this has been one of the in crop insurance has been one of the interesting one of the traditional avenues of the price risk management for Indian farmers. Here on a lighter note, I would like to share some interesting insurance behavior by people who take insurance.

If you see if you can I am not sure whether you are able to see the screen, if you see the natural fire, I have color coded with blue giving a little importance. My question to all of you can there be manmade fire? Yes, there can be a manmade fire, many times the party which has taken a insurance have started the fire on their own for their for insurance claim, so in this context I will like to share a joke with all of you.

That joke is, 2 men meet at a beach and they started talking and one person, the first man asked the second man what brought you I mean why have you come to this beach, so the first man answers that there was a major flood in my locality, I was in office and in that flood, my family member all my family member got swept away however because I was in office, I I was saved and the insurance company gave me substantial amount of money. I have lot of money but I don't have anybody to share to this money and I am very sad but what to do, I have come to this sea beach to spend some time and I have money but I don't have anybody to share this and I am being lonely.

Then this person who says that his family member got swept away then he asked the other person what made you come here alone to this beach without family member. The second person says yes exactly our fate seems to be very similar. I was away and there was a major fire in my house and all my family members perished and however insurance company gave him me a lot of money and I have come here alone to spend some time.

Then after a pause, the second person asks the first person, can you please tell me how you caused the flood. I hot you have got a gist of the joke and so what basically I am driving at is that many a times many a times because of the various reasons the insurance company may underpay or may delay in paying to the farmers what they deserve or what the amount of loss they have incurred, so though insurance has been has can be treated as a a price risk litigation mechanism but it has it is not enough to cover all risk suffered by a farmer. Now, let us go to another second avenue traditional risk management avenue which Indian farmers have used. Let us go the second one that is called your contract farming.

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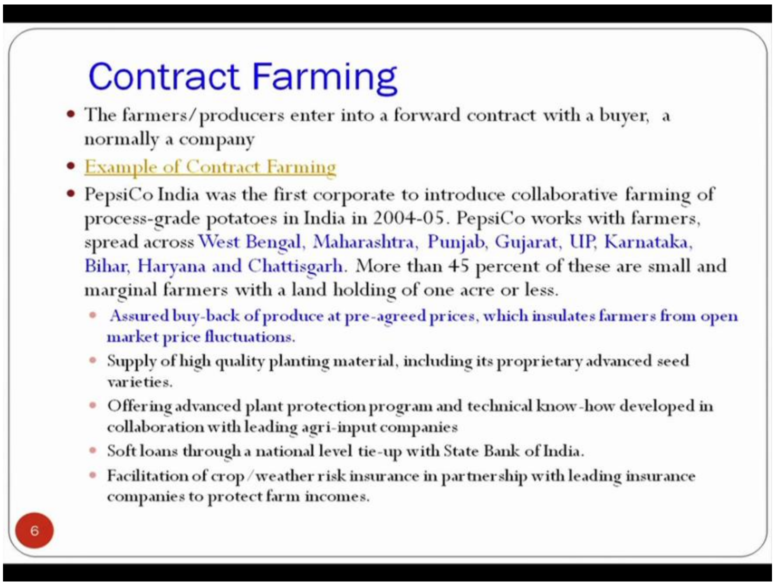

In case of a contract farming the farmer or producers entering to a forward contract with a buyer, normally a company. So that farmer or producer or cooperative society, if they are producing let us say potato or wheat or let us you now it could be any agri commodity or tomato, they enter into a forward contract where they this farmer or producer group fix the price before hand and the company who is the counter party buys the produce at a fixed price at a later point of time. And does contract farming quite a prevalent, yes to certain extend contract farming is quite prevalent in Indian context so this is the hyperlink, just give me a minute please.

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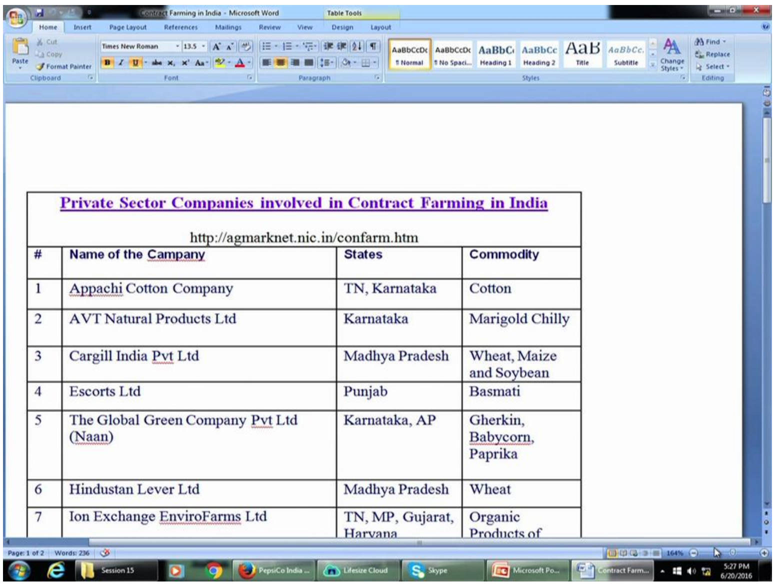

Private Sector Companies involved in Contract Farming in India

http://agmarknet.nic.in/confarm.htm

#	Name of the Campany	States	Commodity
1	Appachi Cotton Company	TN, Karnataka	Cotton
2	AVT Natural Products Ltd	Karnataka	Marigold Chilly
3	Cargill India Pvt Ltd	Madhya Pradesh	Wheat, Maize and Soybean
4	Escorts Ltd	Punjab	Basmati
5	The Global Green Company Pvt Ltd (Naan)	Karnataka, AP	Gherkin, Babycorn, Paprika
6	Hindustan Lever Ltd	Madhya Pradesh	Wheat
7	Ion Exchange EnviroFarms Ltd	TN, MP, Gujarat, Haryana	Organic Products of

So this is the list of companies, please I hope you are able to see the screen properly. So these are the private sector Indian companies which have entered into contract farming in India. This particular detail, I have downloaded from government of India website Agmarketnet.nic.in, so if you see, these are the almost 25 companies which have entered into a contract farming for different kind of commodities so you have cotton, you have marigold and okay there is coma, marry coma chilly so you have wheat, mace soybean, Escorts India buys basmati rice from Punjab, then there is a company called Global Green company which buys gherkin, baby corn and paprika.

So you have Saffola then you have milk, Nestle India has entered into counter farming with Punjab in Punjab for milk. So tomato, chilly and the list can vary widely many different kind of a agri commodities has been entered into the contract farmers have entered into contract farming. And all of you or many of you may have heard about Pepsico India entering into contract farming for potato, its potato requirement for one of its popular brands of potato chips.

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I am sure of most of you must be enjoying a packet of potato chips available on the in the road side so it is one of the largest selling consumer snacks in India, 10 rupee or 5 rupee potato chips pack packet, so Pepsico is the first Indian company which has entered into collaborated farming for potatoes and it has a this contract farming it has entered into for with farmers from Bengal, Maharashtra, Punjab, Gujrat, UP, Karnataka, Bihar, Haryana and Chhattisgarh and we see this first bulleted point.

Uhh as part of the contract farming assured buy back of produce at a pre agreed price which insulates farmers from open market price fluctuation. So whenever a farmer or a farmer's cooperative enters into a contract farming agreement, they are assured of the price at which they will be selling potato and also they are assured of the quantity of take, so not only the farmers enter into price fixation they also enter into a quantity, how much quantity they will be delivering to Pepsico.

In the academia in the in a public domain there has been lot of has happened whether contract farming is doing harming the farming community or not, that's not the agenda today. What is we what we are discussing is that if a farmer decides to go for a contract farming, that farmer is not exposed to the price risk, he is able to take care of the risk associated with the price which he would otherwise would have got it without the contract farming.

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Now, all of you must have heard about the minimum support price program of government of India, in fact this is nothing but a contract a government of by a government. In the contract farming, tradition in the contract what we discussed just now, the private companies are the counter parties with the farmers and here in case of a minimum support price, the government is the counter party, so minimum support price is the price at which government purchases crops from the farmers to safeguard the interest of the farmers.

And before the before a crop year, this minimum support price is announced by the government of India so that the farmer get to know what is the minimum support price they are going to get and accordingly they will start their they will start taking the farming decisions so MSP is announced by government of India and there is a body called CACP, Commission of Agricultural Cost and Prices, so this CACP keeps or announces what is going to be the price at which government of India is going to buy some of the agricultural commodities.

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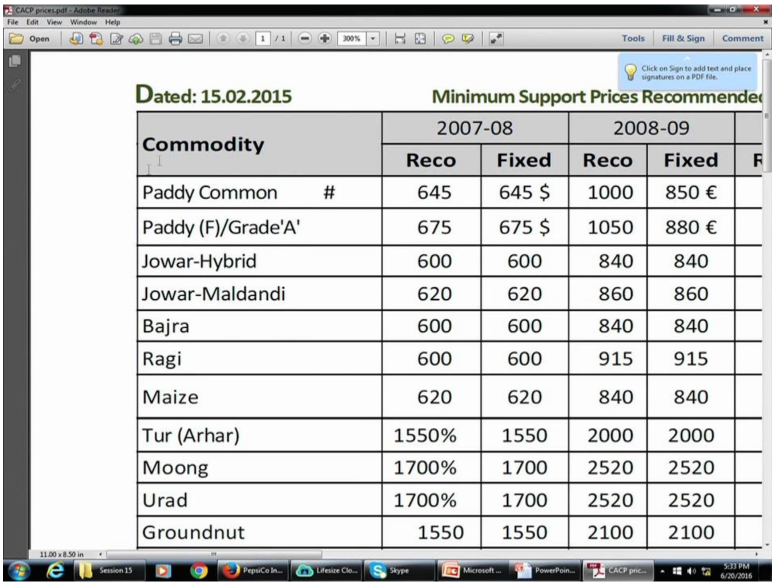

Dated: 15.02.2015 Minimum Support Prices Recommende

Commodity	2007-08		2008-09	
	Reco	Fixed	Reco	Fixed
Paddy Common #	645	645 $	1000	850 €
Paddy (F)/Grade'A'	675	675 $	1050	880 €
Jowar-Hybrid	600	600	840	840
Jowar-Maldandi	620	620	860	860
Bajra	600	600	840	840
Ragi	600	600	915	915
Maize	620	620	840	840
Tur (Arhar)	1550%	1550	2000	2000
Moong	1700%	1700	2520	2520
Urad	1700%	1700	2520	2520
Groundnut	1550	1550	2100	2100

So let me just show you let me increase the size, if you see, this is this is an announcement which is done on 15th February 2015 and which are the commodity which are the covered by the CACP. You have a paddy, you have jawar, you have bajra, you have ragi, maize, tur, moong, urad, groundnut, Saffola, soybean and wheat, barley, gram, lentil, all these and jute, sugarcane, copra, copra ball, all these are mentioned and this particular PDF file, again I have downloaded from government CACP website.

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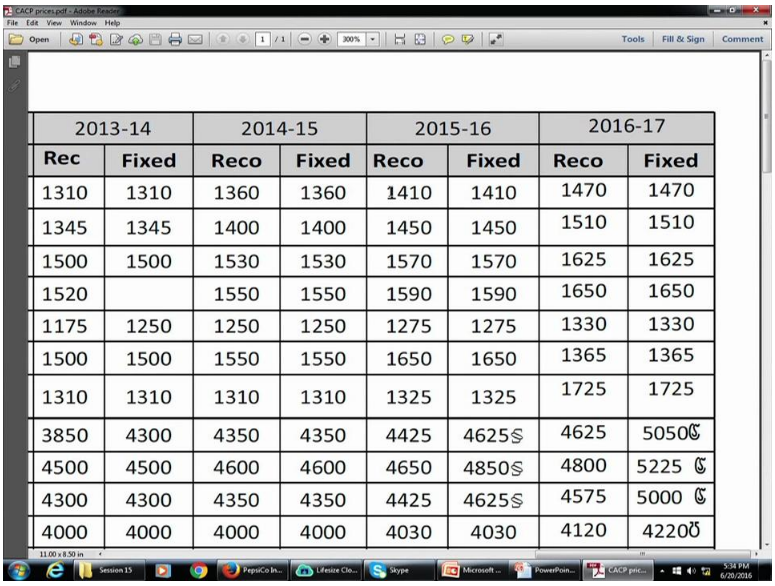

2013-14		2014-15		2015-16		2016-17	
Rec	Fixed	Reco	Fixed	Reco	Fixed	Reco	Fixed
1310	1310	1360	1360	1410	1410	1470	1470
1345	1345	1400	1400	1450	1450	1510	1510
1500	1500	1530	1530	1570	1570	1625	1625
1520		1550	1550	1590	1590	1650	1650
1175	1250	1250	1250	1275	1275	1330	1330
1500	1500	1550	1550	1650	1650	1365	1365
1310	1310	1310	1310	1325	1325	1725	1725
3850	4300	4350	4350	4425	4625§	4625	5050
4500	4500	4600	4600	4650	4850§	4800	5225
4300	4300	4350	4350	4425	4625§	4575	5000
4000	4000	4000	4000	4030	4030	4120	4220

If you see which is a different year, 2007, 2008, 2009, so and so forth. During 2015 only government of India has announced how much is going to be the minimum support for these commodities which is going to be produced during 2015-16 and 2016-17. So this is and how CACP decides what price it is going to pay, it takes into consideration quite a lot of factors. Some of the important factors which it takes into consideration is the cost of production so if the seed cost, fertilizer cost and all that has gone up so it take into cost of production.

It also takes into consideration the market price in previous year and also ensures that inter crop price parity so whatever last year price they had it had paid, it also tried to maintain some kind of a parity with the last crop year production. So with this, we come to an end of our discussion on what has been the traditional price risk management avenue for Indian farmers so it has been the crop insurance and it is contract farming and the third is the minimum support price program of government of India. So with this we will be ending this session, we will be continuing with the remaining part of agricultural price risk management in the next session, looking forward to meeting you all and thank you.