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5 FEASIBLE SUGGESTIONS TO RESOLVE THE STANDOFF OVER FARM BILLS

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In the recent kharif procurement regime, till 11 Dec the percentage of procurement from Punjab is a staggering 55%, even though Punjab ranks 3rd in paddy production. **The procurement of cereals continues to be asymmetric, with top producing states in paddy like West Bengal (First) and Uttar Pradesh (Second) witnessing nil and 8% procurement respectively in the current procurement season**. Andhra Pradesh, that ranks 3rd in production, has seen procurement of only 1%. Punjab and Haryana have seen procurement of around 70%. It is thus surprising that states like West Bengal and even Delhi are protesting against the new farm bill (for the record, Delhi does not even produce paddy!) and we believe it more political than economics!

If for example, we consider buying of cereals at MSP a mandated one for buyers, in essence making procurement a public good, this will drive down the prices at which it is bought to zero. **Specifically both buyers (in the simplest of cases) cooperating cannot be a Nash equilibrium in economics terminology as both the buyers will have an incentive to defect and get a much better payoff as the market has many small farmers / sellers** who are willing to sell their produce but unable to do because of lack of market outside APMC. Since the situation is same for everyone, both the buyers will thus decide to defect and receive a nil payoff as they will not buy. The bottom line is, however, it is an outcome that the Government will never want. On a lighter note, this reminds us what happened to King Akbar once. One day, Emperor Akbar told Birbal that he was planning to take a bath in milk and that all his ministers should cooperate and get milk to fill the bathtub. However, each minister decided that since milk was costly, he would get the water, while the others get milk. The end result was that all the ministers brought water! We hope economists / policy makers who are supporting a MSP price guarantee understands simple basic economics!

Instead, we propose a five point strategy to solve the current impasse.

First, instead of MSP as a price guarantee that farmers are demanding, the Government could insert a quantity guarantee clause for a minimum period of 5 years that procurement to production percentage of crops (being currently procured) should at least be equal to last year percentage (with safeguards in exceptional events like droughts, floods etc). Historical trend in case of procurement indicates that only 25-35% of total wheat produce has been procured over the years (with largest procurement happening through Punjab and Haryana). In case of rice, the procurement share is in the range of 30-40% with significant procurement from Telangana, Punjab, Haryana and Kerala. This will allay the concerns of the farmers to a great extent.

Second, convert the Minimum Support Price to Floor Price of Auction on National Agriculture Market (eNAM). However, this will not completely solve the problem as the current data shows that average modal prices in e-NAM mandis is lower than the MSP in all commodities (except Urad)

Third, efforts must also continue to strengthen APMC market infrastructure. Based on a Government report, as per our estimates the monetary loss for cereals is almost Rs 27,000 crore due to harvest and post-harvest losses. The losses for oilseeds and pulses are Rs 10,000 crore and Rs 5,000 crore, respectively.

Fourth, establish a Contract Farming Institution in India that will have the exclusive right to oversee price discovery in Contract Farming. Contract farming has been instrumental in many countries by providing growers access to supply chains with market and price stability, as well as technical assistance. The experience of Thailand shows market certainty (52%) and price stability (46%) were prime factors due to which farmers participated in contract farming.

Fifth, revisit KCC norms that begets an inefficient agri portfolio of banks! For example, as our model calculations, we believe that the monthly income of farmers will go up by a sharp 35% by just revisiting the current KCC norms.

FARM BILLS, 2020

- The Government passed three bills in agriculture sector a few months back, which aimed to change the way agricultural produce is marketed, sold and stored across the country. The three bills aim to increase the availability of buyers for farmers' produce, by allowing them to trade freely without any license or stock limit, so that an increase in competition among them results in better prices for farmers. We heartily welcome the measures adopted by Government in order to enhance the production and income of farmers.
- Despite the Government's efforts to bring the bills in the benefit of the farmers, opposition led farmers have been agitating across the country and are asking MSP to be made legal, implying that all private players need to buy at MSP. Every year, Government declares MSP for 23 crops but it doesn't need to buy all 23 crops (even Government doesn't have means for such purchase). It is described by some parties that the passing of bills will destroy the MSP structure. But this is blatant falsification.

Agriculture Marketing Statistics for India	
Number of APMC Mandis in India	6,179
APMC Mandis registered on e-NAM	1,000
Registered Traders on e-NAM	1.45 lakh
Farmers on e-NAM	1.67 crore
Number of markets registered in Agmarknet	3,356
Number of commodities registered in Agmarknet	345
Source: SBI Research	

- In the recent kharif procurement regime, till Dec 11 the percentage of procurement from Punjab is a staggering 55%, even though Punjab ranks 3rd in paddy production. The procurement of cereals had continued to be asymmetric, with top producing states in paddy like West Bengal (First) and Uttar Pradesh (Second) has witnessed nil and 8% procurement in the current procurement season. Andhra Pradesh , that ranks 3rd in production, has seen procurement of only 1%. Punjab and Haryana has seen procurement of around 70%. It is thus surprising that states like West Bengal and even Delhi are protesting against the new farm bill (for the record, Delhi does not even produce paddy!)
- Historical trend indicates In the case of procurement, data indicates that only 25-35% of total wheat produce has been procured over the years (with largest procurement happening through Punjab and Haryana). In the case of Rice, the procurement share is in the range of 30-40% with significant procurement is from Telangana, Punjab, Haryana and Kerala. However, most government procurement centres in Punjab, Haryana and a few other States are located within the notified APMC mandis. Farmers fear that encouraging tax-free private trade outside the APMC mandis will make these notified markets unviable, which could lead to a reduction in Government procurement itself. Farmers are also demanding that MSPs be made universal, within mandis and outside, so that all buyers - government or private - will have to use these rates as a floor price below which sales cannot be made. That will spell disaster in the markets and private buyers will hesitate to enter into the market.
- If for example, we consider buying of cereals at MSP a mandated one for buyers, in essence making procurement a public good, this will drive down the prices at which is bought to zero. In essence, assume that we have 2 buyers in the market. Both the buyers have thus two options between them — either cooperation in buying at mandated MSP or defection in buying, expecting that let the other buy at MSP and myself will defect. Thus, we effectively have four policy options, and each of the options will have a particular benefit/payoff. Our endeavour is to find out which policy option can result in a Nash Equilibrium. A Nash equilibrium occurs when neither of the agents can increase its payoff by unilaterally changing its action. There are four options — buyer 1 and buyer 2 both cooperate, buyer 1 and buyer 2 both non-cooperate, buyer 1 cooperate, buyer 2 non cooperate and buyer 1 non-cooperate and buyer 2 cooperate.
- The payoff scenarios are hypothesised as benefits accruing to buyer 1 and buyer 2 separately when they are deciding on either of the policy options: cooperating or defecting. **Specifically both cooperating cannot be a Nash equilibrium as both the buyers will have an incentive to defect and get a much better payoff / paying less as the market has many small farmers / sellers**. **Since the situation is same for everyone, both the buyers will thus decide to defect and receive a payoff of 0.** This is the only Nash equilibrium for this game, but this is sub-optimal. It also seems to be the most plausible outcome of an uncoordinated behavior. The bottom line is, however, it is an outcome that the Government will never want.
- We believe the farmers' agitation is not due to MSP but vested political interests as some states are concerned about the loss of revenue from mandi taxes and fees, which currently range from 8.5% (6% mandi tax and 2.5% fee for handling central procurement) in Punjab to less than 1% in some States. With this Punjab earns an annual revenue of about ₹3,500 crore from these charges.

SETING UP A CONTRACT FARMING INSTITUTION IS A MUST

- The challenge for our agricultural policy is that small and marginal farmers should not get 'crowded out' from the benefits of the growth process.

Procurement as % of Production

FY	Wheat	Rice	FY	Wheat	Rice
FY06	21%	30%	FY14	26%	30%
FY07	12%	27%	FY15	32%	30%
FY08	14%	30%	FY16	30%	33%
FY09	28%	34%	FY17	23%	35%
FY10	31%	36%	FY18	31%	34%
FY11	26%	36%	FY19	35%	38%
FY12	30%	33%	FY20	32%	44%
FY13	41%	32%	Average	28%	33%

Source: SBI Research

PROCUREMENT OF PADDY IN TOP 10 STATES (Fig. in LMTs)

States	KMS2019-20	KMS2020-21 (Till 11 Dec'20)	% Share to Total in 2020-21	Production in FY20	Rank in Production
PUNJAB	162.33	202.78	55%	117.8	3
HARYANA	64.28	56.12	15%	48.2	11
UTTAR PRADESH	56.57	31.32	8%	155.2	2
TELANGANA	111.26	26.9	7%	73.4	6
CHHATISGARH	77.39	14.81	4%	65.0	8
UTTRAKHAND	10.18	9.66	3%	6.5	18
ODISHA	70.57	6.89	2%	80.4	5
MADHYA PRADESH	25.97	5.95	2%	48.0	12
TAMIL NADU	32.41	5.23	1%	71.8	7
AP	82.58	5.1	1%	86.4	4
WEST BENGAL	27.03	0	0%	155.7	1
OTHER STATES	52.88	3.95	1%	275.8	

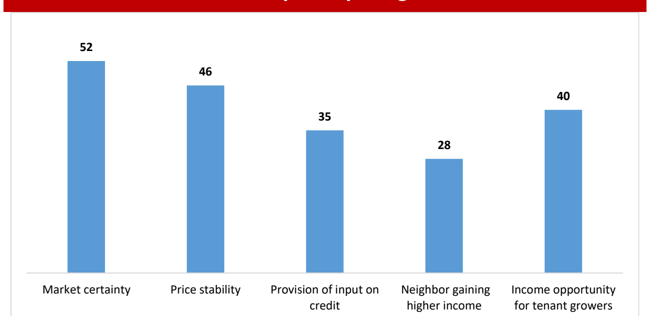
Source: SBI Research, FCI, Directorate of Economics and Statistics

Tragedy of Commons

Buyer 1 ↓ Buyer 2 →	Cooperate	Non-Cooperate
Cooperate	2, 2	-1, 3
Non-Cooperate	3, -1	0, 0

Source: SBI Research

Farmers' reasons for participating in CF in Thailand



Source: SBI Research; Sriboonchitta et al. (1996)

- The new agricultural bills make an honest attempt to correct this distortion by giving the small and marginal farmers the freedom to sell outside APMCs through framing of specific contract farming (CF) laws and also abolishing the ECA act that inhibits private investment in post-harvest storage.
- Take for example, the issue of CF which is disallowed in most states. The experience of South Asian economies suggest that the scheme has been most successful in Malaysia for 2 reasons. First, the Federal Land Development Authority (FELDA) that was set up by the Government to manage CF was given unstinted support from beginning with extraordinary resources.

- We thus recommend a similar institution in India be set up as small and marginal farmers should have the necessary wherewithal to deal with large buyers as global experience shows successes in CF is often not sustained as large firms initially attract small growers with favourable conditions, but later tightens them.
- Similarly, compared to other Asian countries, by early 1990 Thailand probably had the most extensive experience with contract farming and the widest range of crops. Contract farming has been instrumental in providing growers access to supply chains with market and price stability, as well as technical assistance. The experience of Thailand shows market certainty (52%) and price stability (46%) were prime factors due to which farmers participated in contract farming.

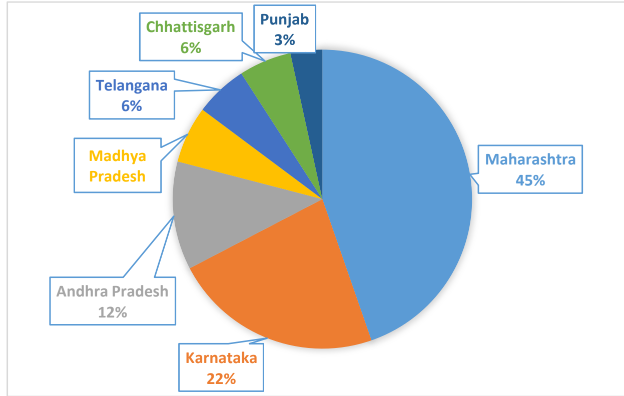
FARMERS' SUICIDE LINKED WITH PROSPERITY

- The issue of farmers' suicide is clearly linked with prosperity of the farmers. **The data from NCRB indicates that suicide in farm sector (farmers/cultivators + labourers) in Maharashtra and Karnataka was almost 13x and 6.6x , respectively compared to Punjab. Interestingly, the average annual income of agricultural households in Punjab is almost 2.3x compared to Maharashtra/Karnataka.**

NEED FOR A FLEXIBLE KCC SCHEME

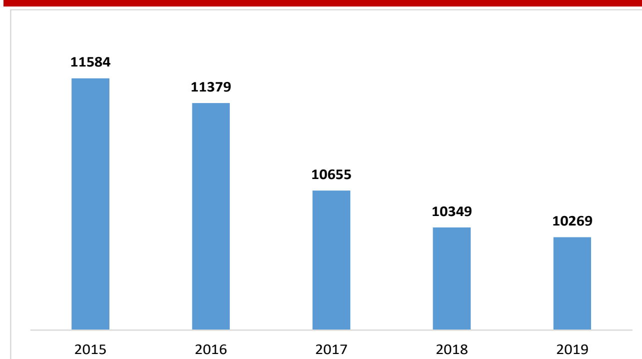
- The Kisan Credit Card (KCC) scheme was introduced in 1998 by RBI for issue of KCC to farmers on the basis of their holdings for uniform adoption by the banks. The loans under KCC were expected to be used by farmers for cash for their production needs and purchase of agriculture inputs. Over the years, the KCC has became one of the most popular schemes for Agricultural loans mainly because of the Interest Subvention Scheme and Prompt Repayment Incentive aggregating to 4% offered by the Government of India, up to a limit of Rs 3 lakhs per borrower. At the end of March, 2020, the KCC loans for ASCBs aggregated to about Rs 7095 billion to 6.7 crore active KCC card users, which constitute about 40% of the total agricultural loans given by them.
- To enable universal access to Concessional Institutional credit, Government of India has pushed banks to provide KCC to all the 11.39 crore PM-KISAN beneficiaries. During Feb-Apr'2020, banks have received 75 lakh KCC applications, and 36 lakh KCCs have been issued. A study by *NABARD indicates that the coverage of PM-KISAN beneficiaries under KCC in six states viz. Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Odisha and Uttar Pradesh revealed that it is a well-conceived scheme for supporting farm operations and also supplementing the disposable income of farmers. It was observed that only 28% of PMKISAN beneficiaries had KCC accounts indicating the need for provision of crop loans to all farmers.*
- However, the KCC portfolio of banks has come under increasing stress over the years due to a variety of factors like crop losses, unremunerated prices, debt waivers and the rigidity of the KCC product. Small tweaks can extend a helping hand to the rural sector. The KCC outstanding data clearly indicates that if per card outstanding is more then there would be less farmer suicide, despite no farm loan waiver by Governments.
- First, we recommend that RBI in conjunction with Government introduce an operational flexibility in the structure of KCC and direct the banks to allocate a specific percentage of their loans to particularly agri start-ups to give a boost to agri supply chains in India. The cumulative capital flows into this sector up to 2019 stood at Rs 15,000 crore till 2019 and continued in pandemic also.
- Second as a logical corollary, a combination of revolving credit (say, share 40%) and term loan (60%) with flexibility of payment could be introduced in lieu of the current KCC scheme. While credits in the revolving limit to be equal to be at least the interest debited during the year, principal of the term loan to be repaid over 15 years (180 months) and interest (simple not compounded) should be serviced as and when debited.

Suicide in Farm Sector (Farmers + Labourers) in 2019



Source: NCRB; SBI Research

Trend of Suicide in Farm Sector (Farmers + Labourers)



Source: NCRB; SBI Research

Per KCC Amount Outstanding under Total KCCs Issued (Rs)

Sl. No	States	KCC Per Card Outstanding (Rs)	Suicide in Farm Sector	Farm Loan Waiver	Avg Agri GVA Growth (FY12-20)
1	Punjab	293288	302	√	0.7
2	Haryana	211577	219		0.9
3	Rajasthan	141583	26	√	1.6
4	Kerala	136596	150		-3.3
5	Tamil Nadu	117643	427	√	1.1
6	Karnataka	110166	1992	√	2.0
7	Andhra Pradesh	100097	1029	√	5.9
8	Uttar Pradesh	98722	261	√	2.7
9	Maharashtra	96523	3927	√ (Multiple)	1.3
10	Madhya Pradesh	96146	541	√	7.1
11	Telangana	82359	499	√	1.9
12	Assam	59516	107	√	4.2
13	Chhattisgarh	57488	499	√	4.1
Total		107027	10269		

A Repayment Scenario of New KCC Scheme

Share of Revolving credit (%)	40		
Credit repayable over 15 years @12% simple interest (%)	60		
	Loan of Rs 1 lakh (Repayment of Rs 60,000)	Loan of Rs 2 lakh (Repayment of Rs 1,20,000)	Loan of Rs 3 lakh (Repayment of Rs 1,80,000)
Principal monthly repayment amount plus interest(EMI)	635	1270	1905
Monthly Interest to be borne by the Govt. @3% simple interest	105	210	315
Net Monthly payment by Farmer	530	1060	1590
Net Per Day payment by Farmer	18	35	53

Source: SBI Research

- **As our model calculations, for a loan of Rs 1 lakh and with Rs.1.5 lakh Group Insurance cover (150% of loan), the monthly repayment will be Rs 533 only (or Rs 18 per day). We believe that the monthly income of farmer will go up to Rs 12,825 by the end of one year from the current level of Rs 9,500, simply by revisiting the current KCC norms.**

HARVEST AND POST-HARVEST LOSSES IN INDIA

- Increasing agricultural production is one aspect of fulfilling food demand. After production, agricultural produce undergo series of post-harvest unit operations, handling stages and storage before they reach to the consumers. Each operation and handling stage results into some losses. These post-harvest losses result into decrease in food availability. A 2015 report showed that 4.6-6.0% cereals, 6.4-8.4% pulses, 3.1-10.0% oilseeds, 6.7-15.9% fruits, and 4.6-12.4% vegetables are lost during harvest, post-harvest operations, handling and storage in India.
- Estimates of harvest and post-harvest losses of crops/commodities provide the information about the range of losses in different operations and market channels. It also helps in formulating strategies to reduce the losses. As per our estimates the monetary loss for cereals is almost Rs 27,000 crore due to harvest and post-harvest losses. The losses for oilseeds and pulses are Rs 10,000 crore and Rs 5,000 crore, respectively.

WAY FORWARD

- Finally, we recommend three things as an amendment to move forward.
  - ***First***, instead of MSP as a price guarantee that farmers are demanding, the Government could insert a quantity guarantee clause for a minimum period of 5 years that procurement to production percentage of crops (being currently procured) should at least be equal to last year percentage (with safeguards in exceptional events like droughts, floods etc). This will allay the concerns of the farmers to a great extent.
  - ***Second***, convert the Minimum Support Price to Floor Price of Auction on National Agriculture Market (eNAM). However, this will not completely solve the problem as the current data shows that average modal prices in e-NAM mandis is lower than the MSP in all commodities (except Urad).
  - ***Third***, efforts must also continue to strengthen APMC market infrastructure.
  - **Fourth**, establish an Contract Farming Institution in India that will have the exclusive right to oversee price discovery in Contract Farming.
  - ***Fifth***, revisit KCC norms that begets an inefficient agri portfolio of banks!

Range of Harvest and post-harvest losses (in %)

	Total loss in farm operations	Total loss in storage	Overall Total Loss
Cereals	3.90-4.78	0.75-1.21	4.65-5.99
Pulses	4.69-7.23	1.18-1.67	6.36-8.41
Oilseeds	2.54-8.95	0.22-1.61	3.08-9.96
Fruits	4.12-11.90	1.31-3.98	6.70-15.88
Vegetables	3.22-9.41	0.78-3.03	4.58-12.44
Plantation Crops & Spices	0.99-7.29	0.20-1.40	1.18-7.89
Livestock Produce	0.71-9.61	0.21-4.00	0.92-10.52

Source: Report on Assessment of Quantitative Harvest and Post-harvest Losses of crops and commodities in India; SBI Research

Estimate of the Monetary value of harvest and post-harvest losses in India

	Production (million tonnes)*	Price-MSP (Rs/ tonne)	Overall total loss (%)	Monetary Value of the losses (Rs Crore)
Cereals				
Paddy	118.43	18680	5.53	12234
Wheat	107.59	19750	4.93	10476
Maize	28.64	18500	4.65	2464
Bajra	10.28	21500	5.23	1156
Sorghum	4.73	26400	5.99	748
Pulses				
Black gram	11.35	51000	7.07	4092
Green gram	2.46	71960	6.6	1168
Oilseeds				
Mustard#	9.116	46500	5.54	2348
Cottonseed	3.55	55150	3.08	603
Soybean	11.215	38800	9.96	4334
Safflower	0.03	53270	3.24	5
Sunflower	0.217	58850	5.26	67
Groundnut	10.096	52750	6.03	3211

Source: SBI Research; *2019-20; # includes Rapeseed

A Comparison of Mandi Price* with MSP (in Rs)

Crops	MSP FY21	Average Modal Price (e-NAM)	Difference
Jowar	2640	2000	-640
Bajra	2150	1360	-790
Maize	1850	1300	-550
Arhar	6000	5300	-700
Moong whole	7196	6500	-696
Urad whole	6000	6000	0
Paddy - Common	1868	1400	-468

Source: eNAM; SBI Research; *For the period of 10-16 Dec

Type of Paddy Traded in e-NAM

State	Paddy Type
Punjab	Basmati-1121/1509/Super Fine (**NO Common Variety**)
Haryana	Common/Basmati-1121/1509/Sharbathi
UP	Common/Basmati/Sharbathi
WB	IR 36

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Contact Details:
Dr. Soumya Kanti Ghosh
Group Chief Economic Adviser
State Bank of India, Corporate Centre
Nariman Point, Mumbai - 400021
Email: soumya.ghosh@sbi.co.in
gcea.erd@sbi.co.in
Phone:022-22742440

:@kantisoumya