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Agrarian distress in India, built-up over time, has further deteriorated recently. At the height of the farm output, Indian farmers are a disappointed lot. Despite spectacular rise in agricultural production, they continue to languish in poverty. The underlying reasons for agrarian distress in India are: a) unviable agriculture; b) ineffective Minimum Support Prices (MSP) system; c) adverse terms of trade; d) rural indebtedness; and e) inefficient value chain in agriculture. There is a need to provide medium term solutions to the problem so that sub-optimal solution like loan waiver can be avoided. Among available solutions, government procurement operation covering all major crops may not be feasible, while price-hedging mechanism through derivative instruments like forward/future trading in farm products is yet to be popular among farmers. There is a great potential to protect farmers from distress sale through a composite insurance scheme, which can cover risks arising out of both crop failure and market failure. The value chain of agricultural products needs to be completely revamped to integrate farmers directly to the ultimate consumers. Long-term solution of the agrarian distress lies in improving farm productivity by a series of measures like mass irrigation programme through inter-linking of rivers, diversification of agriculture, smart farming by using latest technology. A scheme of exit route for distress farmers may go a long way in alleviating the situation.

Keywords: Agrarian distress, crop insurance, minimum support price, inefficient value chain, smart farming, farm productivity.

JEL Code: Q10, I13, H57, Q13, Q55, R14

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I. Introduction

Indian agriculture has made commendable progress after the green/white revolutions. Food grain production reached record level in 2017-18. India is self-sufficient in case of most of the farm products. At the height of farm output, farmers are a disappointed lot. Despite spectacular rise in agricultural production Indian farmers continued to languish in poverty. Distress among farmers has been mounting in the recent past. Farmers' agitation has emerged as an intricate socio-economic and political problem in India with farmers in many states seeking farm-loan waiver as an easy solution. This paper examines the underlying reasons for agrarian distress and suggests possible solutions, both short-term and medium-term.

Given the complexity of the problem, underlying reasons contributing to the agrarian distress in India is analyzed in Section II. Section III evaluates possible solutions. Concluding observations are given in Section IV.

II. Agrarians Distress

The underlying reasons for agrarian distress in India are many ranging from unviable agriculture caused by the low productivity, unfavourble term of trade for agriculture, higher incidence of indebtedness among the farmers leading to unfortunate incidences of farm suicides etc.

II.1 Unviable Agriculture

According to 59th round of National Sample Survey (NSS 2003), about 40 per cent of farmers wanted to abandon agriculture mainly because it has become a highly unviable occupation. A recent repeat survey (NSS 70th round 2014) reveals worsening of the situation. In case of about two thirds farmers, consumption expenditure was higher than the net income received by these households (Table 1). This suggests that large number of farmers have been managing their farming activities by borrowing. This has also adversely affected capital formation in agriculture. Rising cost of cultivation, particularly labour cost and cost of inputs like fertilisers, etc. (Economic Survey 2015), is the main reason for the non-viability of cultivation.

Table 1: Monthly Income and Expenditure of Agricultural Households in 2012

Size class of land possessed (ha)	Income from wages/ salary (Rs.)	Net receipt from cultivation (Rs.)	Net receipt from farming of animals (Rs.)	Net receipt from non-farm business (Rs.)	Total income (Rs.)	Total consumption expenditure (Rs.)	Net investment in productive assets (Rs.)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
< 0.01	2902	30	1181	447	4561	5108	55
0.01 - 0.40	2386	687	621	459	4152	5401	251
0.41 – 1.00	2011	2145	629	462	5247	6020	540
1.01 – 2.00	1728	4209	818	593	7348	6457	422
2.01 – 4.00	1657	7359	1161	554	10730	7786	746
4.01 – 10.00	2031	15243	1501	861	19637	10104	1975
10.00 +	1311	35685	2622	1770	41388	14447	6987
All sizes	2071	3081	763	512	6426	6223	513

Source: NSSO 70th Round, December 2014, Government of India.

II.2 Ineffective Minimum Support Prices System

Until 2013-14, minimum support prices (MSP) for several farm products were hiked significantly for five consecutive years. As a result, the terms of trade tilted in favour of agriculture vis-a-vis industry. However, farmers got a limited share of the improvement in the terms of trade. Bulk of the retail prices was retained by middlemen operating in the agricultural value chain. Despite improvement in the terms of trade, investment in agriculture continued to remain negligible. Large hikes in MSP seem to have raised retail prices rather than pushed up farm investment. Within the limited arable land in the country, year-to-year variations in the cropping pattern indicated farmers' helplessness in shuttling between cash crops and food grains depending on market prices of farm products rather than doing something credible to improve productivity.

II.3 Falling Prices of Agricultural Commodities

The agrarian distress, which has been a legacy problem, has further worsened in the recent past. Typically, at a very low rate of inflation, certain sectors of the economy suffer from deflationary pressures. In fact, food and beverage inflation, which was decelerating since 2016, has turned negative during May-July 2017, led by pulses and vegetables before turning positive thereafter. The phase of demonetisation-related decline in food prices, mostly perishables, is over. In 2016-17, arrival of winter crops was large and pulses production was at a historic high level. Farmers are distressed mainly because prices of several farm products like pulses, oilseeds and vegetables have crashed. As a result, farmers are subjected to distressed sale as their products are priced much below the level of MSP. Despite bumper harvest in 2016-17, farmers' suicide continues to remain elevated. Farmers' unrest this time is not on account of crop failure, but due to market failure. Hence, farmers' agitation is a survival problem in an unviable agriculture.

II.4 Rural Indebtedness

In the post-independence era, there have been massive market interventions to provide adequate credit to agriculture in general and to farmers in particular. Mention may be made about cooperative movement, nationalization of banks, setting up of National Bank for Agriculture and Rural Development (NABARD), Regional Rural Banks (RRBs), priority sector lending, Kisan Credit Cards, interest are subvention by the government in farm lending, micro finance etc. Despite these innovative measures, coverage and flow of institutional credit to rural areas have been far from satisfactory, particularly in the wake of financial sector reforms (Dadhich, 2016). According to NSSO reports, the share of institutional credit declined from a peak of 69.4 per cent in 1991 to 56 per cent in 2012 (Table 2). Farmers' dependence on non-institutional credit has gone up significantly from 30.6 per cent in 1991 to 44 per cent in 2012. According to 70th round of National Sample Survey, among the institutional agencies, the share of commercial banks was the highest at 25.1 per cent, closely followed by cooperatives at 24.8 per cent in 2012. Self-help groups contributed only 2.2 per cent, Government 1.2 per cent and financial companies 1.1 per cent of the total institutional credit to agriculture.

Table 2: Agency-wise Share of Rural Loan Outstanding

(Per cent)

Credit Agency	1981	1991	2002	2012
Institutional	61.2	69.4	61.1	56.0
Non-institutional	38.8	30.6	38.9	44.0
Total	100	100	100	100

Source: NSSO 70th Round, Government of India.

In 2012, 17.2 per cent of rural households were indebted to institutional agencies while such indebtedness was higher at 19 per cent to non-institutional sources (Table 3). Institutional agencies preferred to lend households with higher asset class (Table 4). Non-institutional lenders did not discriminate borrowers biased on asset class. This suggests that while non-institutional agencies were neutral between size of the asset, institutional agencies had a preference for the rich.

Table 3: Rural Indebtedness as on June 30, 2012

(Per cent)

	Cultivators		Non-Cultivators		All	
Credit Agency	**IOI**	**SRLO**	**IOI**	**SRLO**	**IOI**	**SRLO**
Institutional	33.8	64.0	14.2	52.1	17.2	56.0
Non-institutional	21.5	18.6	18.6	47.9	19.0	44.0
Total	45.9	100	28.9	100	31.4	100

IOI: Incidence of Indebtedness, SRLO: Share in rural loan outstanding

Source: Key indicators of debt and investment in India (2014), NSSO.

Table 4: Asset Holding-Wise Incidence of Rural Indebtedness

(Per cent)

Decile Class of Asset Holding	**Rural Indebtedness to**		
	Institutional	**Non-institutional**	**All**
1	7.9	14.0	19.6
2	7.4	17.1	22.3
3	10.8	19.1	27.1
4	12.4	18.2	27.5
5	13.0	21.9	30.9
6	16.9	21.6	33.0
7	19.1	19.3	32.7
8	22.2	21.6	42.6
9	29.3	22.1	42.6
10	32.6	15.3	41.3
All	17.2	19.0	31.4

***Source*: Key indicators of debt and investment in India (2014), NSSO.**

As a result of the growing indebtedness from private sources of credit and unremunerated prices of farm products, the incidence of farm suicides remained at an alarming level notwithstanding some moderation in the recent period (Table 5).

Table 5: Trends in Farm Suicides in India

Year	**Total Suicides**	**Of which suicides by farmers and agricultural labourers**	**3 as % of 2**
(1)	(2)	(3)	(4)
2010	1,34,599	15,963	11.86
2011	1,35,585	14,207	10.48
2012	1,35,445	13,755	10.16
2013	1,34,739	11,772	8.74
2014	1,31,666	12,360	9.39
2015*	1,33,623	12 602	9.43

*Data not available after 2015.

Source: National Crime Research Bureau, Government of India.

II.5 Inefficient Value Chain in Agriculture

Farmers typically offload their products in the market soon after harvest except some rich farmers who have means to store farm products and sell those at an opportune time. Small and marginal farmers require cash flow immediately after the harvest to meet their obligations, including repayment of farm loans. Moreover, warehousing facility is grossly inadequate in rural areas forcing even rich farmers to sell their products after the harvest. The problem is compounded if prices of farm products crash after the harvest, particularly when there is a bumper crop. Central and state governments undertake procurement operations only in case of paddy/rice, wheat and sometimes sugarcane and pulses. Procurement operation is also limited to a few states like Punjab, Haryana, Andhra Pradesh, Odisha, West Bengal etc., which have large share in the production of rice/wheat.

At the state level, the Agricultural Produce Market Committee (APMC) plays a critical role in the marketing of farm products. Typically, farm products are traded at a price, much below the cost of cultivation when there is a bumper harvest. There are five to six layers of intermediaries between farmers and final consumers. Farmers often get less than one-third of the retail prices. The urban consumers, however, pay a much higher price for the same product. A large share of retail prices of farm products is cornered by middlemen. Competitive forces do not operate in case of the agricultural value chain.

III. Possible Solutions of Agrarian Distress

There is urgent need to address the problem of agrarian distress on a war footing. One of the most popular and immediate solution is farm loan waiver.

III.1 Farm Loan Waiver

Is farm loan waiver an optimum solution to bail out farmers in a distressed situation? Farm loan waiver may provide temporary relief to farmers, but it is unlikely to resolve their problem on an enduring basis to the extent they continue to depend on non-institutional agencies to meet their financing requirement to the tune of as high as 44 per cent as referred to above.

Borrowers of micro-finance and self-help groups often remained outside the loan waiver scheme due to difficulty in segregating farm loans from total micro loans.

Does farm loan waiver ensure equity among farming community? This is a debatable issue as rich farmers are eligible for higher farm loans than poor farmers as mentioned above. Marginal farmers and landless labourers, who are the poorest of the poor, are mostly out of the reach of bank loans. Hence, loan waiver is likely to benefit rich farmers more than poor ones.

More damaging ramification of the farm loan waiver is that it distorts the credit culture. In anticipation of the loan waiver, farmers wilfully withhold repayments. While rich farmers have the wherewithal to continue farming activities in the next season without crop loans from banks, poor farmers cannot afford to do so within their means. Hence, it is observed that poor farmers are generally more regular in farm loan repayments while rich farmers hang on to outstanding farm loans in case of an impending loan waiver. Going by either the quantum of farm loan or by the repayment habit of farmers, indiscriminant loan waiver does not pass the test of equity unless rich farmers are excluded from the exercise.

III.2 Enduring Solutions

Going forward, distortion in the credit culture may push farmers more towards informal agencies to meet their credit requirement, which is a more serious problem. There is a need to find out ways and means to bail out farmers on an enduring basis so that the issue of loan waiver would not recur in normal circumstances. What are the options available to avoid loan waiver in an era of fiscal discipline? These options are: a) extend procurement operations to all major crops for which MSP is announced; b) strengthen forward markets so that farmers can hedge price risks; c) widen the coverage of crop insurance, which would include not only crop failure but also market failure; d) integrate agricultural markets by linking rural supply to urban demand; e) diversify agriculture; and f) promote smart farming to increase productivity.

III.2.1 Invigorating Procurement operation in major crops

Although government announces minimum support prices for 23 commodities before the crop season begins, infrastructure and/or logistics, that are available, are not adequate to carry out procurement operations for all such crops. Moreover, public distribution system in India is not efficient (Gulati, 2015). As central government has a commitment to provide food security to the poor people, public distribution system is maintained by procuring only a few commodities like rice/paddy, wheat and of late pulses. Food subsidy continues to be large and threatens fiscal discipline year after year. Fiscal burden may turn out to be prohibitive and enduring if procurement operation is undertaken in all crops for which MSP is announced. Moreover, there is a vast agricultural market for crops that are not covered under the MSP. Farmers may face distress sale in those commodities as well.

Recently, government has hiked the MSP for all crops approximately by 50% above the cost of production. There is a debate about what should be included in the cost of production. As of now all costs, including imputed value of family labour and rent of own land and interest on capital foregone (C2), are reckoned to compute costs for the purpose of arriving at the MSP. Earlier, the CACP-recommended MSP was also on a cost-plus basis, but not as much as cost plus 50%. Now the cost plus 50% works out to be better than the earlier one, and favourable to farmers. Farmers' lobby has been asking to include lease rental in the cost of production, which has not been acceded by the government. The purpose of MSP is to reduce the distress sale, not to increase the profit margins. According to the recommendations of the Swaminathan Committee, lease rental was not a part of costs of production for the purpose of arriving at the MSP. Moreover, lease rental is an income of the landlord, not the cost incurred by him. It may at the most enter in to the cost structure of the share croppers, who may not have adequate marketable surplus to be benefited from high MSP. Inclusion of lease rental in MSP would have benefited absentee landlords as they may have relatively more marketable surplus. This would have increased government's food subsidy significantly. Hence, inclusion of lease rental in MSP is not advisable, particularly when government is constrained by fiscal discipline. Let the problem of lease rental be resolved by land reforms rather than MSP.

What is more important is the procurement strategy of the government on all crops for which MSP is announced. Given the limitation of storage capacity and other logistics, whether the government would be able to procure all such crops or follow the Madhya Pradesh model of *bhawantar* in lieu of procurement, which is a complicated exercise and market distorting in nature. In case, the government is not in a position to carry out a mammoth procurement programme, can it be handled through creation of producers' companies by the farmers as proposed by the Finance Minister in the Union Budget for 2018-19? Since this is a new experiment, it may take some time to be successful in eliminating the APMC from the agricultural value chain and provide remunerative prices to the farmers. Organizing poor farmers in this endeavor is also a herculean task going forward.

III.2.2 Strengthen Forward Markets

Theoretically, forward and/or future trading of farm products provide a market-based solution to hedge market risks and price discovery. Currently, there are forward trading for a few agricultural commodities. Commodity futures are being introduced. Derivatives are cash settled and speculators and/or traders dominant the market. Farmers are conspicuous by their absence. Forward trading in India has not been very successful in hedging price risks of farm products for various reasons such as lack of deepening and widening of markets leading to speculations, lack of standardisation of products and poor warehousing facilities. As such, forward trading in all farm products may be difficult to introduce. Moreover, Indian farmers are not smart enough to take recourse to forward trading in commodities for the purpose of hedging. This apart, policy relating to forward trading and futures in respect of agricultural commodities is tweaked from time to time in response to volatility in the prices of farm product (Economic Survey 2015). Needless to say, frequent policy charges cause instability in the market.

III.2.3 Widening Crop Insurance

One of the welcome initiatives of the central government in this direction has been to introduce crop insurance under *Pradhan Mantri Fasal Bima Yojana* (PMFBY) to reduce farmers' burden in case of crop failure. Framers bear only small portion of the premium - 2% for *Kharif*, 1.5% for *Rabi* and 5% for commercial and horticulture crops. It is yet to be fully implemented throughout the country. Farm loan waiver creates perverse incentives and therefore farmers do not go in for crop insurance in a big way. Moreover, PMFBY does not cover market risks. It is therefore suggested that distress sale of farm products below MPS may be covered under a composite crop insurance scheme so that farmers need not seek loan waiver when there is a market failure.

The composite insurance may be extended to non-MSP crops at the earliest. Price stabilisation fund may not be required if this scheme is introduced. The premium of the composite insurance may be distributed between farmers and the government in the same proportion as in case of the existing PMFBY. The extra burden of insurance premium for the government under the composite insurance scheme may be much less compared to the magnitude of loan waiver. If necessary, state governments may be roped in to bear a portion of the government share in the composite insurance premium.

III.2.4 Integrating Agricultural Markets

In case of milk production in India, roughly about two-third of the retail price paid by the urban consumers goes to producers. This has been possible through linking rural supply to the urban demand through milk co-operatives. If white revolution has been successful through integration of markets, can it be replicated for other farm products, particularly for perishables like fruits and vegetables?

In order to integrate wholesale markets relating to major farm products, the central government has set up a pan India electronic portal called e-NAM – electronic National Agriculture Market, which provides a single window for all APMC related information and services. In April 2017, the Ministry of Agriculture rolled out a new Agriculture Produce and Livestock Marketing Act, 2017 as a model legislation. Now, it is the turn of the state governments to amend state APMC Acts so that farmers can benefit from the new APMC law. The idea is to allow farmers to sell their produce to consumers directly bypassing the middlemen. Incidentally, fruits and vegetables have been taken out of the APMC control. Unless the value chain of agricultural products is completely revamped and remunerated prices are ensured to farmers through market mechanism and/or insurance coverage, demand for farm loan waiver, which is anyway not an optimal solution, shall be a recurring phenomenon in India.

III.2.5 Diversification of Agriculture

There has been some diversification of farm activities in India in the last one decade. Nevertheless, in some parts of the country, mono crop system has made agriculture a highly risky occupation. Per capita water availability in India is one of the lowest in the world. Less than 40 per cent of India's farm land is double cropped due to lack of irrigation. Inadequate share of mixed farming has also caused high volatility in agricultural sector (Dalwai, 2017). Diversification of agriculture will go a long way in smoothening and augmenting agricultural income (Chand, 2017).

III.2.6 Promoting Smart farming

The major problems in Indian agriculture are low productivity, climate risks and unwanted side effects of excess use of chemical fertilizers and pesticides. The ultimate solution of the agrarian distress lies in improving farm productivity and reducing the weather/market risks. This requires large investment in agriculture by the government as farmers may not be in position to do so given their financial condition. Central government has an ambitious programme of interlinking rivers in India, which can strengthen water harvesting and improve farm productivity in a big way. Rural infrastructure may also undergo sea change by this project together with Prime Minister's Gram Sadak Yojana.

Smart farming shall contribute significantly to the improvement in farm productivity. Science and technology, particularly use of digital technology will play a bigger role in the efficient use of resources, linking of rural supply to urban demand, forecasting of weather, soil testing, crop planning and marketing of farm products (Dadhich, 2017). Post-harvest technology will be an integral part of smart farming. Excess labourer in farm sector shall be engaged in non-farm activities in rural areas.

III.2.7 Need for Farm Exit Route

Agriculture is no longer an important source of income, at least for marginal farmers. A recent All India Rural Financial Inclusion Survey, conducted by NABARD (2018), revealed that about 48 per cent of rural households surveyed were engaged in agriculture. The share of income from cultivation was hardly 19 per cent of the total rural income. However, the share of income from cultivation for households engaged in agriculture was around 35 per cent. A size-wise break up of land holdings as presented in Table 6 reveals that the share of income from cultivation was lower than average of 35 per cent in case of rural households having marginal land holdings up to one hectare. Incidentally, marginal land holdings accounted for around two-thirds of total land holdings. This indicates that farming is no longer a paying proposition for large segment of rural households. Hence, it is imperative to work out a scheme of exit route from agriculture for these farmers. Creation of non-farm activities in rural areas or providing incentives for setting up rural enterprises can accommodate surplus man power released as a result of exit route envisaged for distressed farm households. Needless to emphasize that the proposed exit route would reduce disguised unemployment in rural areas to a great extent.

Table 6: Average Monthly Income of Agricultural Households from Different Sources

(Amount in Rs.)

Size classes	< 0.01 ha		0.01-0.40 ha		0.41-1.00 ha		1.01-2.00 ha		< 2.00 ha	
Source of income	Amount	Share (%)	Amount	Share (%)	Amount	Share (%)	Amount	Share (%)	Amount	Share (%)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Cultivation	566	(7.0)	1488	(22.4)	2501	(30.6)	4485	(44.9)	7572	51.6
Agricultural households		(6.0)		(31.0)		(30.0)		(20.0)		(13.0)
Other enterprises	251	(3.1)	384	(5.8)	455	(5.6)	416	(4.2)	1030	(7.0)
Wage Labour	3508	(43.1)	2932	(44.1)	3044	(37.3)	2777	(27.8)	3340	(22.7)
Govt/Pvt Service	2192	(26.9)	1281	(19.3)	1398	(17.1)	1419	(14.2)	1612	(11.0)
Other sources	274	(3.4)	48	(0.7)	148	(1.8)	130	(1.3)	150	(1.0)
Total income	**8136**	**(100.0)**	**6650**	**(100.0)**	**8171**	**(100.0)**	**9990**	**(100.0**	**14682**	**(100.0)**

Source: National Bank for Agriculture and Rural Development, 2018.

IV. Summary

Agrarian distress in India is deep rooted. The farm loan waiver may be a short-term solution to a deep-rooted agrarian distress. The adverse impacts of farm loan waivers are far-reaching. Competitive farm loan waiver by states distorts credit culture. Disruption in credit flow to agriculture encourages farmers to depend more on informal sources to meet their credit requirements. This may aggravate the agrarian distress going forward as farmers will be under debt trap due to high interest rate prevailing in the informal sector. Farm loan waiver does not pass the test of equity as it benefits rich farmers more than the poor ones besides fiscal burden on the exchequer, both at the center and state levels.

There is a need to provide medium term solutions to the problem so that a sub-optimal solution like loan waiver can be avoided. Among available solutions, government procurement operation covering all major crops is not feasible, while price-hedging mechanism through derivative instruments like forward/future trading in farm products is yet to be popular among farmers. There is a great potential to protect farmers from distress sale through a composite insurance scheme, which can cover risks arising out of both crop failure and market failure. Ultimate solution of the agrarian distress lies in improving farm productivity and revamping agricultural value chain by a series of measures like inter-linking of rivers, integration of rural supply with urban demand, and smart farming by using latest technology.

In short, it is important to address agrarian distress in totality (NABARD, 2015) rather than looking for a short-term solution like farm loan waiver. A holistic approach should be taken up for an enduring solution by involving all stakeholders - central govt., state governments, banks, co-operatives and farmers through concerted efforts to invigorate agriculture on a medium-term basis. For distressed farmers, a scheme of exit route from agriculture, through creation of employment opportunities in rural areas, would reduce disguised unemployment to a great extent.

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