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UNVEILING REASONS FOR FARMERS SUICIDE IN INDIA

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Farmer suicides have been a wrenching and contentious issue in India. The report of the 70th round of the National Sample Survey highlighted that rural India had an estimated 90.2 million agricultural households, which were roughly 58% of the total estimated rural households of the country. Considering the fact that a major portion of the population is involved directly or indirectly with agriculture, the increase in the incidence of farmer suicides in the country is an area of major concern which demands attention. It can be argued that the increased suicides are a symptom of a much bigger agrarian crisis. The agrarian crisis plaguing the nation can be said to have the following features:

- Decline in the trend growth rate of production as well as productivity in almost all crops from the mid-nineties.
- A major portion of the population of the country (around 60%) depends on agriculture, further implying that there is a lack of non-farm employment opportunities in the rural regions.
- The increase in the number of marginal agricultural land holdings along with the poor return from farming implies that the income of the farming households is very low.
- The literature suggests that there has been a decline in the public investment in irrigation and related public infrastructure of agricultural sector.
- The absence/unwillingness of formal institutes to extend credit to the agricultural sector invariably forces more reliance on the informal sources at a higher interest burden.
- With changing technology and market conditions the farmer is increasingly being exposed to the uncertainties of the product as well as factor markets.
- There has been an increased focus on the growth of rice and wheat in the irrigated regions, diverting the attention from the crops and regions that are either dry or rain fed.
- The value of output has been declining since the late nineties.

The Accidental Death and Suicides in India (ADSI), an annual publication of the National Crime Records Bureau (NCRB) of the Ministry of Home Affairs, Government of India, showed that there have been 238658 farmer suicides in India for the 15-year period from 2000 to 2014. (Refer to Figure 1). In total, 11 states witnessed more than 6000 farmer suicides between 2000 and 2014, roughly equivalent to one farmer committing suicide every day for the last 15 years. (Refer to Figure 2),

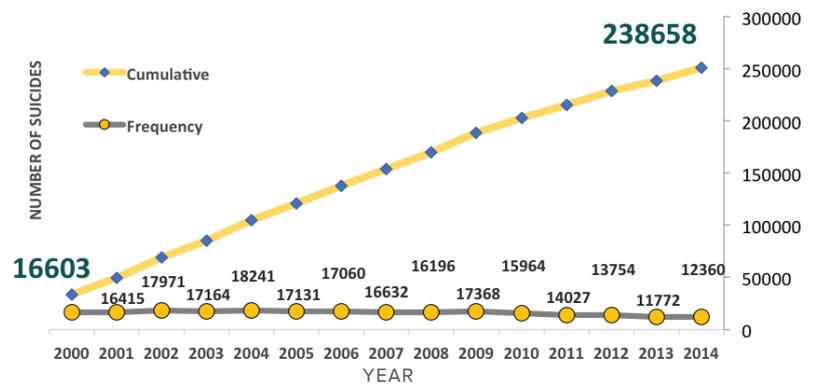


Figure 1: Farming/Agriculture Suicides (2000-2014) | Source: NCRB Various Reports

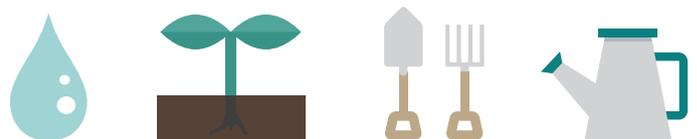
FIGURE 2: STATE-WISE FARMING RELATED SUICIDES (2000-2014)



Source: NCRB Various Reports

NCRB is responsible for collating and tabulating data which is collected by the state governments, but does not provide any concrete definition of a farmer. Its data till 2013 categorised farmers as self-employed, reflecting that only cultivators who either own or lease in land are considered as farmers, not including the agricultural labourers since they only hire out services to others. However, in 2014 the NCRB for the first time disaggregated the category of 'self-employed' and suggested that the category of farmers included cultivators as well as agricultural labourers. Furthermore, research has pointed out the discrepancy in the data on farmer suicides collected by NCRB and the state governments. It suggests that the difference rises because of the way the state governments and NCRB define 'farmer' and record suicides. NCRB's report is based on the reports collected from the state police and CID who in turn get data from the local police stations. However, the state department gets data from the relief and rehabilitation department which has set parameters for collecting information. Also, the state governments have not included the suicide of farm labourers and landless farmers. The matter of compensation, multiple verification and certification is another reason why the state government's figures on farmer suicides are lower.

The severity of the farmer suicides is not reflected in the crude number of farmer suicides; the numbers have to be normalised by the population of farmers. In this context, Suicide Mortality Rate (SMR) ratio i.e. ratio of farmer SMR to non-farmer SMR is a good measure to capture the severity of the suicide problem. Nagaraj (2008) and Mishra (2014) have recently used SMR ratio to show that the incidence of farmer suicides was higher than that of non-farmers. Contrary to this finding, Patel (2012) and Basu et.al. (2016), using the same methodology, have shown that the incidence of non-farmers was higher than that of farmers. Basu et.al. (2016) state that previous literature tends to overestimate the incidence of farmer suicides since they normalise the SMR ratio using only the population of cultivators leaving out agricultural labourers. Irrespective of whether the SMR ratio is an under or over-reflection of the farmer suicides, the problem is severe and reflective of the widespread agrarian crisis across India. The objective of this note is to explore the possible reasons for this crisis from an economic point of view.



The economic reforms have given the farmers access to expensive and promising technology. However, it has also exposed them to the international competition. The lowering prices of crops in the international market due to subsidies to farmers in USA and UK (or the international market), has driven down the price of crops in the global market. In order to compete, the farmers have shifted to modified seeds, fertilizers, and other inputs, hoping for higher returns. However, an industrial approach to boosting crop yields has stripped many small farmers of their self-sufficiency and thrown them into despair.

This has especially had a severely negative impact on small and marginalized farmers. While the prices of the crops have been pushed down, the prices of the inputs are constantly increasing. This leads to situations where the return on the yield is lower than the cost of production. Moreover, due to changeable factors, there is no assurance of constant returns to the fixed investments and constant liquidity that is put into farming. The insurance markets are also not developed to deal with such uncertainties.

FINDING: **A PROMINENT REASON**

In India, the cost of production data for various crops is collected and compiled by the Directorate of Economics & Statistics (DES) which is assimilated by the Commission for Agricultural Costs and Prices (CACP) for various price policy reports. The cost of production is categorised under various heads to distinguish actual expenses incurred by the owner operators and tenant farmers from imputed costs, such as interest on owned fixed capital, value of family labour, rental value of owned land and so on (CACP 2013). The commission uses two important costs i.e. $A_2 + FL$ and C_2 to calculate the profitability for various crops.

$$A_2 + FL =$$

All Actual expenses in cash and kind incurred in production by owner operator + rent paid for leased in land + actual family labour

$$C_2 =$$

A_2 + interest on value of owned capital assets (excluding land) + rental value of owned land and rent paid for leased-in-land + imputed value of family labour

$$\text{Gross Returns (Rs/ha)} =$$

Gross Value of Output - $A_2 + FL$

$$\text{Net Returns (Rs/ha)} =$$

Gross Value of Output - C_2

Comparison of Gross Returns and Net Returns across crops is warranted because of the varying gestation period and the difference in opportunity costs between land and the other factors of production. A better indicator to compare returns across crops and over time would be gross returns as a percent of $A_2 + FL$ (CACP Report 2013). We use the CACP reports for the state-wise analysis of net returns over cost.

Since CACP reports provides data on returns as an average of three years, we undertake this exercise across 2 periods, Period 1: 2008-10 and Period 2: 2010-13. We look at returns in Maharashtra, Andhra Pradesh, Karnataka, Chhattisgarh, Madhya Pradesh & Kerala, the states that have the maximum number of suicides. These states recorded average suicides of more than 1000 farmers for the given two periods. An interesting case is Chhattisgarh which recorded an average of more than 1000 suicides in the period of 2008-10 but only 4 suicides in the period 2011-13.

Maharashtra recorded negative net returns over costs for Bajra (-7% and -16%), Ragi (-37%, -31%) and Urad (-0.3% and -24%) in both the periods. For other crops like Cotton, Gram, Jowar, Moong and Soyabean, the net returns were not more than 20% in any period. These low returns are indicative of very low income for farmers. A research by Dnyandev Talule, Political Economy of Agricultural Distress and Farmer Suicides in Maharashtra, focusing on the Yavatmal district of Vidarbha region of Maharashtra showed that the per acre net returns of major crops like cotton, soyabean, tur and jowar had been consistently negative in this region. Per acre crop wise average loss was found to be Rs. 7542.45 for Cotton, Rs. 2702.86 for Soya beans, Rs. 5370.36 for Tur and Rs. 3074.03 for Jowar. This acted as a major contributor in worsening the plight of the farmers, pushing them further into the debt cycle and forcing them to take the extreme step. Furthermore, the study also points out that the finding of the National Sample Survey Organisation's situational assessment survey highlighted the fact that more than half of the Indian farmers were in debt, mainly caused by the increasing gap between the agricultural expenses and the returns.

Andhra Pradesh also recorded negative net returns for the crops Ragi (-15% and -18%) and Sunflower (-0.2% and -1%) in both the periods. For other crops like Cotton, Groundnut, Jowar, Maize, Paddy and Tur, the net returns over costs were less than 20% in both the periods. In Andhra Pradesh (particularly, in the current Telengana) the increasing reliance on groundwater through private investments led to a tragedy of the commons that resulted in the depletion of this natural resource making farming as also debt-servicing non-viable (Galab et. al., 2009).

Karnataka also recorded negative returns for Ragi, Sunflower and Groundnut in both the periods, while returns for Paddy, Cotton and Tur were relatively high but not more than 40%. The imposition of the water-intensive green revolution technology in the dry land regions of Karnataka has been counterproductive (Deshpande, 2009) Chhattisgarh recorded negative returns for Maize (-10% and -8%), while the returns for Gram, Paddy and Wheat were less than 30%. In Chhattisgarh, another rain fed region bordering Vidarbha where academic inquiry has been largely missing, the story of erratic monsoon, increasing input costs, poor price support and indebtedness repeats (Mohan, 2009). Madhya Pradesh recorded negative net returns for Jowar (-17% and 9%) in both the periods. The returns for other crops like Cotton, Wheat, Tur and Soyabean were relatively higher than in the other states. The Bundelkhand region situated in central India straddling across Madhya Pradesh and Uttar Pradesh suffers from ecological degradation, agricultural neglect and rural indebtedness (Verma et.al. 2011)

In addition to the net returns and minimal support from the government, improper irrigation, and limited earnings force the farmers to resort to borrowing from the un-institutional money lenders at very high interest rates of up to 20% for four months to carry out the operations. The uncertain returns trap the farmers in a vicious cycle of debt, since they owe more than they own, forcing them to sign away the title to their lands as collateral.

Thus, the major reason that prompt the farmers to take the extreme step remains to be bankruptcy/indebtedness. Research shows that these reasons account for 20.6% of total farmer suicides in 2014.

Additionally, issues related to the family, categorised as 'Family Problems', play a major role in forcing the male farmers to take the extreme step, and have contributed for about 20% of the total farmer suicides in 2014. Reasons like failure of crops, illness, drug abuse or alcohol addiction etc. have also been brought forward.

CONCLUSION

Suicide is a complex phenomenon usually connected with the economic, social & psychological distress of the family & the individual in particular. The NCRB data shows the high incidence of farmer suicides in the states of India. Reasons like crop failure, improper irrigation, limited returns etc., have been responsible for forcing the farmers to take the extreme step. However, research shows that the majority of farmer suicides have happened because of the economic distress caused by indebtedness or bankruptcy. In this note we have tried to highlight various reasons that possibly accrue to rising farmer suicides in India. We have particularly focused on the cause of financial distress, analysing the returns (net and gross) and showing that they have been low at the all India level, especially for the states where the incidence of farmer suicides was relatively high. Hence, there is a possible chain of linkage between the low returns from crops to bankruptcy & the rising debt for farmers leading to financial distress. However, the data must be read with caution because of possible errors in data recording & the classification of farmers. Moreover, due to the socio-economic complexity of various factors working at the grass root level, it would not be appropriate to conclude that all farmer suicides have taken place only due to indebtedness.

Table 1: Rate of Growth of Cost of Production, Gross Returns & Net Returns (average of 2008-10 over average 2011-13)

Crops	A ₂ +FL	C ₂	Gross Returns (GVO - A ₂ +FL)	Net Returns (GVO-C ₂)
Bajra	61%	54%	-5%	-143%
Barley	66%	60%	38%	29%
Cotton	63%	54%	-3%	-37%
Gram	63%	60%	57%	61%
Groundnut	73%	74%	95%	159%
Jowar	62%	62%	38%	-345%
Lentil	39%	28%	6%	-3%
Maize	57%	55%	12%	-62%
Moong	72%	60%	-11%	-74%
Nigerseed	85%	71%	-24%	-233%
Paddy	46%	41%	24%	13%
Ragi	86%	35%	-69%	23%
Mustard	62%	50%	24%	15%
Safflower	88%	75%	17%	-45%
Sesamum	56%	51%	36%	33%
Soyabean	41%	39%	42%	56%
Sunflower	49%	61%	165%	-54%
Tur	53%	47%	19%	0%
Urad	54%	45%	-13%	-70%
Wheat	40%	35%	30%	34%

Source: Calculated by the authors using various CACP reports