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## **Examining Farmer Suicides in India: A Study of Literature**

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# Examining Farmer Suicides in India: A Study of Literature

Sanchita Mukherjee

## Abstract

Farmer's suicides are not a phenomenon by itself; rather it is an extreme manifestation of the underlying agrarian crisis prevailing within the country for a long period of time. Of late, this has rocked the whole country, taking epidemic proportions. According to official records, around 160,000 farmers have committed suicide since 1997. These numbers are enough to pass a chill down the spine! Given these facts, this paper tries to trace out the major factors leading to such rural devastation on the basis of available literature. According to it the most affected states are: Maharashtra (Vidharbha), Andhra Pradesh (Telengana, Warrangal, Rayalaseema, etc), Karnataka (Northern Karnataka), Kerala (Wayanad) and Chhattisgarh. The reasons cited by the literatures highlights rural indebtedness as one of the major factor. Policies associated with the process of liberalisation increased stress on the country's peasantry, with the withdrawal formal support towards this sector, which in turn made farmers dependent on non-institutional sources such as private moneylenders and private agents. Seed sector liberalisation has not only brought private players in agriculture but also encouraged monoculture of hybrid cash crops requiring costly inputs, which eventually gets transformed into debt. This situation coupled with crop failure due to pest attack, climatic change and lack of irrigation led to mismatched expectation of farmers and indebtedness. Agonised farmers found solution to all these woes in the forbidden path of committing suicide.

## 1 Introduction

“One of the observations frequently made about Indian planning is that it has not given adequately high priority to agriculture and that is responsible for most of the problems with which economy is beset” (Raj, 1975).

From the above quote it is quite clear that Indian agriculture has not got the priority it deserved since we started our planning. Emphasis of our early plans was 'industrialisation' which was perceived to be strategy for subsequent growth and development. In fact, our second plan period (Nehru-Mahalanobis plan), laid emphasis mainly on development of industrial sector giving rise to 'town-country' debates. This apathy towards agriculture however changed with C. Subramaniam's model of green revolution, increasing productivity and lobbying of agriculture in 1980s. However this boon did not sustain and gave its way to a declining agricultural growth and its share in GDP due to demographic pressure leading to marginalization, declining input-output parity causing decline in profitability, etc (Posani, 2009). All these problems eventually propelled agrarian distress in the country and the present epidemic of farmers' suicide is the outburst of such distress. Farmer's suicides are not a phenomenon by itself; rather it is an extreme manifestation of the underlying agrarian crisis prevailing within the country for a long period of time. This is considered as a form of 'passive protest' by the farmers, to the apathy shown towards them.

A farmer committing suicide in a particular state or region does not attract our attention, but when such thing turns-out to be of epidemic proportion, serious concerns has to be raised. This issue has been brought in notice by the media in 1990s and turned out to be the most distressing phenomenon of the last decade. According to study by Nagraj(2008) based on National Crime Records Bureau (NRCB), every seventh suicide in the country was a farm suicide in the time period of 1997-2006. Also, it was noticed that these suicides are largely concentrated among male farmers. Every fifth male suicide was a farm suicide.

This paper brings out the factors leading to the massive rural devastation based on the available literatures. The paper is divided in seven sections. Section2 gives statistics of farm suicide incidents in overall nation and also pinpoints the major states facing the wrath. Section3 tries to sketch characteristics of the most affected regions of these states. Section4 describes the major factors and process underlying the crisis. Section5 tries to provide some empirical verification of the causes cited. Section6 talks about the way out the crisis in terms of what have been done and what still to be done. Section7 concludes the paper by trying to draw some insights from the whole exercise.

## 2 Facts and Figures

Suicide rate for farmers throughout the world is higher compared to non-farming population. In the Midwest of the U.S, suicide rates among male farmers are twice that of the general population. Even in Britain, farmer suicide rate is one per week.

Coming to India, if we take a look at the all India and state wise farm suicide estimates, the numbers are high enough to give us a shock. These estimates are based on studies done by Nagraj(2008) and Srijit Mishra(2007) of NRCB data. These studies provide comprehensive details of the farm suicide scenario of our country.

### 2.1 Statistics of Nation as a Whole: a macro view

In a span of ten years (1997-2006), numbers of farm suicide was 166,304 in India, while it turns out to be close to 200,000, if we consider twelve years (1995-2006). In 1998 there was a sharp increase and after that going by official data average number of suicides reported in a year comes nearly as 16,000. The year 2002 once again shows a sharp increase. The numbers remained steady around 17,000 to 18,000 after that. The average number of farm suicides per year in five-year period at 2002-2006 was found to be 17,513. However even this estimate is underestimation as the data has been put together from police records and experience suggest that police often adopted stringent definition (the title to land was taken as the criterion for identifying the farmer and this often left out a genuine farmer from the count) of a farmer in identifying farm suicides.

These facts are evident from the table§1.

It is evident from the table that farmer suicides has shown more or less steady increase over this period and the average percentage of farm suicide to general suicide has been 15.2%, which is believed to be quite high, in spite of underestimation.

Another noticeable fact is that, 85% of farm suicide is male suicide and in general, suicides are more concentrated among males (62% of all suicides are male suicides). Male farm suicide increased quite rapidly at a rate of 3% per annum in 1997-2006, while female farm suicide rate was almost static. But this picture can be a consequence of undercounting of female farm suicide by police record on which the NCRB data is based, as farmer is identified by title to land and it is generally in the name of male head of the household (Nagraj, 2008). Another study by Srijit Mishra (2007) of NCRB data, reveals that the suicide mortality rate (SMR, suicide death for 100,000 persons) for male farmers in India increased from 12.3 in 1996 to 19.2 in 2004 and then

Table 1: Number of Farmer Suicides and All Suicides in India, 1997-2006  
(Source: Nagraj,2008)

Years	General suicides	Farmer suicides	Farmer suicide as%
1997	95829	13622	14.2%
1998	104713	16015	15.3%
1999	110587	16082	14.5%
2000	108593	16603	15.3%
2001	108506	16415	15.1%
2002	110417	17971	16.3%
2003	110851	17164	15.5%
2004	113697	18241	16.0%
2005	113914	17131	15.0%
2006	118112	17060	14.4%
Total	1095219	166304	15.2%

reduced to 18.2 in 2005 whereas SMR for male non-farmers increased from 11.9 in 1996 to a peak of 14.2 in 2000 and thereafter declined to 13.4 in 2005. During 2001-05, there were 86,922 farmers' suicides, of which, 86 per cent were males (see figure1).

## 2.2 State-wise Statistics: a micro view

It has been found by Nagraj's study that, the correlation coefficient between the general suicide rate and the farm suicide rate is high and positive (+0.82; n=21); and so is the correlation between number of general suicides and farm suicides (+0.85; n=21). Thus it appears that those states, which are suicide prone in a general sense, are also the ones which are prone to farm suicides: the general socio-economic context does mould the incidence and number of suicides in both the cases.

The table below (2)compiled from Nagraj(2008) (which uses source as ADSI, NRCB, GOI, 2001) shows the number and rate of suicide for general population and farmers. The study is only for the year 2001, as the suicide rate among farmers - defined as number of farm suicides per 100,000 farmers - can be calculated on a reliable basis only for the year 2001 because that is the only year for which there is reliable data on the number of farmers in country, and in different states, from the Census of India.

It is quite clear from the table that the top five states in terms of the

**Suicide Mortality Rate (SMR) for Male Farmers and Male Non-Farmers in India: 1996-2005**

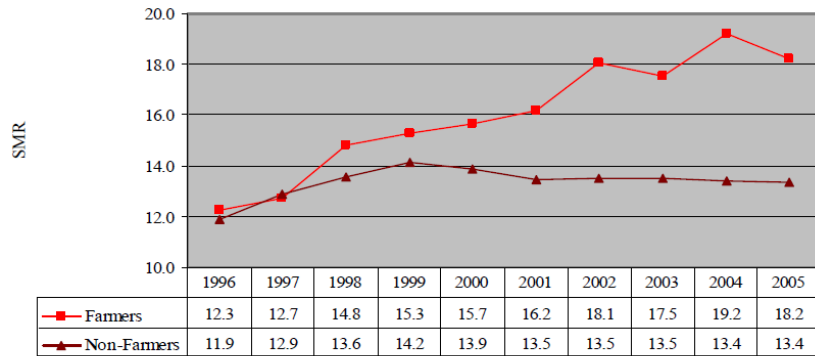


Figure 1: Suicide Mortality Rate (SMR) for farmers and non-farmers in India, 1996-2005 (Source: Misra,2007)

State	Number Of Suicides		Percent Farmer to all	Suicide rate among 1lakh members	
	Farmers	All		All	Only cultivators
Maharashtra	3536	14618	24.2	15.1	29.9
Karnataka	2505	11881	21.1	22.5	36.4
AP	1509	10522	14.3	13.8	19.2
Chhattisgarh	1452	4025	36.1	19.4	33.7
MP	1372	6860	20	11.4	12.4
West Bengal	1246	13690	9.1	17.1	22
Kerala	1035	9572	10.8	30.1	142.9
Tamil Nadu	985	11290	8.7	18.1	19.3
UP	709	3827	18.5	2.2	3
Gujarat	594	4791	12.4	9.5	10.2
Rajasthan	505	3195	15.8	5.7	3.8
Orissa	256	4052	6.3	11	6
Assam	167	2647	6.3	9.9	4.5
Haryana	145	2007	7.2	9.5	4.8
Pondicherry	91	529	17.2	54.3	834.9
Bihar	88	853	10.3	0.8	0.7
Punjab	45	648	6.9	2.7	2.2
Tripura	41	854	4.8	26.7	13.1
H.P	22	307	7.2	5.1	1.1
Goa	18	256	7	19	35.7
J&K	15	153	9.8	1.5	0.9

Figure 2: Numbers and Rate of Suicides of General population and farmers in Major States of India, 2001 (Source: Nagraj, 2008)

number of farm suicides in 2001 - viz., Maharashtra, Karnataka, Andhra Pradesh and Chhattisgarh and Madhya Pradesh - account for nearly two-thirds (63 percent) of the suicides in the country. The top five states in terms of the number of general suicides only partially overlap with this set: they are Maharashtra, West Bengal, Karnataka, Tamil Nadu and Andhra Pradesh and they account for nearly 57% of the total general suicides in the country.

Going by the farm suicide rate, Pondicherry has a horrendously high rate of about 835 farm suicides per every 100,000 in the state. But the state is a tiny one and is largely urban and hence has only a small number of cultivators (10,900 in 2001). The case of Goa, again with a high farm suicide rate is somewhat similar. Kerala, which comes next to Pondicherry, with a farm suicide rate of 143, is much larger compared to Pondicherry and Goa. But in terms of number of suicides it stands seventh among all the states partly because the extent of non-farm employment in the state is very high and hence the number of cultivators relatively low. Anyway, it also worth noting that all these three states - Kerala, Pondicherry and Goa - have very high general suicide rates: Pondicherry in fact has the highest suicide rate in the country (54) followed by Kerala. The five top states which account for a high number of farm suicides also have high rates of farm suicides: Karnataka with a farm suicide rate of 36.4 in 2001 comes next to Kerala, with Chhattisgarh (33.7) and Maharashtra (29.9) not much behind. The farm suicide rate in Andhra Pradesh (19.2) is also significantly higher than the all-India average. It is also worth noting that these states also have high or above average general suicide rates in comparison with the all-India rate. A distinguishing feature of the above four states is also that, there has been a steady, almost relentless, increase in the number of farm suicides in them over the period under consideration. Least affected states are Bihar, Uttar Pradesh, Rajasthan, Punjab, Jammu & Kashmir, etc - where the general suicide rates as well as farm suicide rate is very low (Nagraj, 2008).

The study by Srijit Mishra (2007) also points out that across major states, the states where SMR for male farmers is higher than that of the national average of 17.5 and SMR for male non-farmers in that state are Kerala, Maharashtra, Chhattisgarh, Karnataka and Andhra Pradesh. However this study also includes Tamil Nadu in this group. According to Mishra, although Kerala, Maharashtra, Karnataka and Andhra Pradesh have got the media attention, what is intriguing is that the relatively higher incidence of farmers' suicides in Chhattisgarh and Tamil Nadu seems to have gone unnoticed. Figure3 depicts the above statistics.

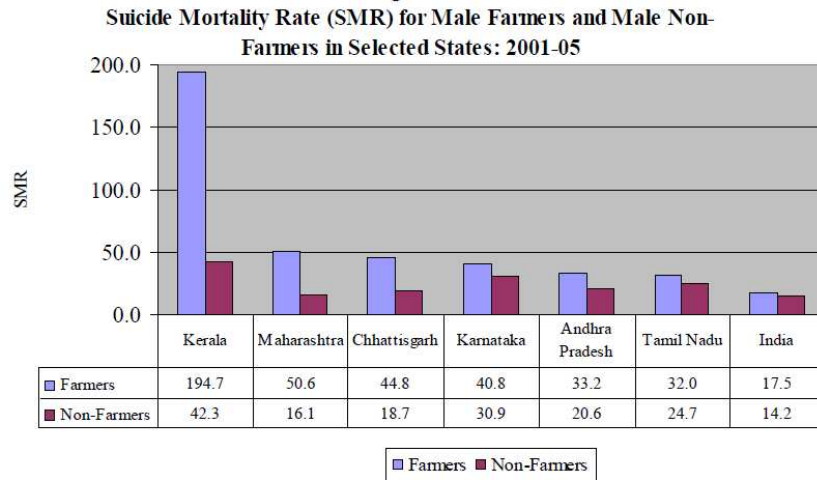


Figure 3: SMR of male farmers and male non-farmers in selected state, 2001-05 (Misra, 2007)

### 3 Characterising the Most Affected Regions

In this section we focus our discussion on the most affected regions. The most affected region has been found to be: The Vidharbha in Maharashtra; Deccan and Hyderabad Karnataka in Karnataka, i.e. Northern Karnataka; Telangana and Rayalaseema in Andhra Pradesh; Wayanad, Idduki and Kanner in Kerala, and Chhattisgarh. Not many studies have been done on Chhattisgarh; hence our discussion will be based on the other mentioned regions.

It has been found by most of the studies that these regions, (except Kerala regions) are dry region and had poor irrigation facilities, hence faced adverse climatic conditions. The regions of Kerala are mainly hilly regions; however during the period of crisis even these regions reported to had deficient rainfall (Jeromi, 2007) The crops cultivated in these regions were mainly commercial crops or cash crops. In Northern Karnataka regions the main crops were jawar, bajra, cotton, ragi, wheat, paddy, tur. Commercial crops also have a significant presence in the cropping pattern. The presence of at least one/two such cash crops can be seen across the size classes (Deshpande, 2002). In Kerala the major crop cultivated were coconut, rubber, tea, coffee, areca nut, spices, which are mainly commercial crops or export-oriented crops. It has also been noticed that, taking a cue from the trends in commodity prices over time farmers have been switching from cultivation of multiple crops to mono crops (Jeromi, 2007; Mohanakumar & Sharma, 2006; Nair and Menon, 2009). The major crops of Vidharbha were cotton, oilseeds, sugarcane, soy-



abean. However extensive cultivation of cotton has been reported (Srijit Mishra, 2006; Mohanty & Shroff, 2004; Mitra & Shroff, 2007). Shift towards cash crop production has also been seen in case of Andhra Pradesh, where major crops cultivated were tobacco, cotton, chillies, and groundnut (Rao & Suri, 2006; Sridhar, 2006). All these studies reveal that the victims have been mostly marginal and small farmers in most of these regions, who were highly indebted. The victims were mainly male and very young as mentioned before. In Karnataka, it is observed that, victims belong to between ages 25 to 35 and mainly OBCs, though there are also cases of farmers committing suicide, hailing from dominant castes such as Lingayats and Vokkaligas (Asadi, 2008). In Maharashtra (Yavatmal) it is found that the age group of victims are 30 to 50 and mainly Hindus (Meeta & Rajeevlochan, 2006). In case of Kerala, majority were male (90%) and belonging to age group of 41-60 across all caste and religious groups (Nair and Menon, 2009). A recent sample survey of Andhra Pradesh on socio-economic characteristics of Farmers who committed suicide in 2003 and 2004 in four districts (Revathi, 2007) shows that the majority of the victims were male in age group of 30-50 and majority of them belonged to backward communities.

## 4 Analysing Farmer Suicides: Major Causes

“Rates of growth of agriculture in the last decade have been poor and are a major cause of rural distress. Farming is increasingly becoming an unviable activity” - Manmohan Singh, Prime Minister of India, 2007.

It has been recorded that, value addition from agriculture was lowest during the last decade. The contribution of agriculture is declining at a faster pace than the population depending on it. While agriculture’s share in GDP is 25 per cent, 58 per cent of the population still depends on agriculture. Agriculture recorded the lowest growth rate of 1.86 per cent per annum during the last decade (1995-96 to 2003-04) as against 3.33 per cent during the earlier period. Growth in per worker income in agriculture has declined from 1.16 per cent (1988-89 to 1993-94) to 0.28 per cent (1998-99 to 2003-04) during the last decade. On the contrary, per worker income from non-agriculture sector has gone up from 3.31 per cent to 4.30 per cent during the same period (Chand 2006; Reddy & Galab, 2006).

In this section I have tried to explain the reasons and process leading to ‘un-viability’ of farming in current period which has resulted in outburst of agrarian crisis in terms of farmer suicides, on basis of literatures available.

The primary cause that evolves from most studies is 'indebtedness' which again can be linked to mismatching of 'expectation'. A farmer gets indebted when his/her return from the field is not as much as he expected and he becomes unable to pay the loan, which he might have taken for productive purpose, social purpose or to meet his immediate consumption needs. Indebtedness is quite evident in most of the affected districts. In Kerala indebtedness is higher compared to national average due to availability of good informal and formal credit facilities, cash crop production and higher value of assets per households. Average outstanding debts of the farmers vary from Rs 33,907 to Rs 1, 89,153 depending upon the surveys one uses to assess the level of debt (Jeromi, 2007). In case of most distressed farmers, the average amount could be around Rs 72,000 (Shreyas 2006).

In Karnataka, the farmers borrow Rs.18, 135 on an average that is very close to that of the Andhra Pradesh farmers. The failure of co-operative institutions has further made the large number of farmers to fall back on the moneylender who charges exorbitant interest. This charge varies from 36 percent to 60 per cent (Assadi, 2008). Still most of the victims were found to prefer taking loan from moneylenders although they charge exorbitant interest rate may be due to cumbersome process followed by institutional sectors. In case of Maharashtra and Andhra Pradesh also indebtedness were reported to be the major factor.

However only relying on indebtedness will not help us in understanding the major factors behind this disaster. Indebtedness only shows us the tip of iceberg! The secondary factors which led to indebtedness and eventually agrarian crisis can be cited as: climatic factors and misuse of resources, low yield, neo liberal policies, seed sector liberalization & GM crops, lack of alternative livelihood as well as Social factors. These factors get interrelated together to form a complex process and causes agrarian distress.

As I have already pointed out that, most of these regions were in general drought prone and if not, faced problem of deficient rainfall during the period of crisis causing crop failure. In case of Andhra Pradesh (Warangal district) in 1997, there was almost no rain during the cotton-sowing season and excessive rainfall during harvesting season resulted in crop failure (Parthasarathy and Shameem, 1998). The regions also lacked in irrigation facilities. Irrigation is an implicit cause of indebtedness, as many farmers take loan to dig well. A study of 50 deceased farmers' in Warangal district shows that, well is the largest source of irrigation for about three-fourths of the farmers. Only about one-third of the wells were dug under the subsidy schemes of the government. In the rest of the cases farmers themselves have borne the expenses for the digging of the wells (Revathi, 1998). Along with this, misuse of scarce resources also adds to the problem. In case of Punjab, the advent of

bore well technology has led to over exploitation of ground water resources. Also no appropriate technology has been found out to improve productivity in dry regions. The problem is not only of declining water resources, but also of declining land quality. Excessive use of pesticides and fertilizer has lead to degradation of land quality (Reddy & Galab, 2006). In some studies water-logging problem in cropping fields causing salinity and soil erosion have also been cited. Demographic pressure has also led to reduction in size holding to uneconomic levels (Srijit Mishra and Narasimha Reddy, 2009). The yield was found to be declining in most of the regions due to various reasons. In Kerala production of most crops were good till mid-1990s, but a setback has been noticed after that. Decline was especially high in case of rice and coconut production (Jeromi, 2007). Low yield has been observed even in Punjab. The onset of the green revolution had given a tremendous boost to the Punjab economy by bringing sharp increases in incomes, production and productivity for all classes of agriculturists. However, the boost was short-lived - with productivity declining over a period of time due to many causes such as overcapitalisation, high cost, inefficient water usage etc; income dipping due to increased costs of production but a near freeze in minimum support prices; and with large numbers rendered unemployed due to mechanisation of agricultural operations and lack of alternative employment opportunities (Gill & Singh, 2007). Low yield and crop failure has also been reported in case of suicides in Karnataka (Deshpande 2002). Cotton crop failures in Vidharbha and Andhra Pradesh were one of the major reasons of suicide. There were also crop failures due to severe pest attack and most of these pests were getting resistant to the pesticides used and emergence of second generation pests have been reported. Desperate farmers increased pesticide usage, which did not solve the problem. Rather, increased their woes further in terms of high input cost, but no return.

Neo liberal policies were also cited to have aggravated the problem. Impact of liberalisation has been felt in terms of declining output prices and increasing input prices. Due to withdrawal of supports by government from agriculture in terms of declining subsidy, investment in irrigation and encouragement of private seed companies has led to increase in the costs of inputs for production. The overall public capital formation in agriculture is declining over time. Public investment in agriculture has declined from 4 per cent of agriculture GDP (Rs 70 billion in 1993-94 prices) in early 1980s to 1.5 per cent (Rs 46 billion in 1993-94 prices) in early 2000. Dry land agriculture has been long neglected. The public investments in these regions are relatively low when compared to endowed (canal irrigated) regions (Reddy & Galab, 2006). It is true that the magnitude of investment both in public and private investment in money terms has slowed down. But the bulk of public invest-

ment is on surface irrigation and concentrated on projects, which have taken an unconscionably long time to complete. Costs have risen and outlays have not resulted in any significant additions to irrigated area. The other, much smaller component, of public investment has been in land and water conservation in rain-fed areas through watershed development (Vaidyanathan, 2006).

In the present context, the multinational seed industries are seeking total control over seeds. This has made farmers felt threatened as the barriers are raised in terms of growing, distributing and exchange of seeds (Assadi, 2000). Again the shift towards cash crop production, which requires monetised inputs, including fertilisers and subsidies has further increased the cost of cultivation. Coupled with these the output prices were also falling since mid-1990s caused huge loss and indebtedness among farmers. Even when the output prices started increasing, there was no gain because of increasing cost of cultivation and falling yield. Yavatmal district (Vidharbha) for example, reported having very low profit (Meeta & Rajeevlochan, 2006). Terms of trade have been stagnant if not deteriorating after the introduction of economic reforms. Barter terms of trade became favourable to agriculture up to 1996-97 and almost stagnant there after (Srijit Mishra and Narasimha Reddy, 2009). The real return from agriculture is declining with upsurges in global food and fuel prices, especially for small-scale commercial crop producers (who are mostly net buyers of food grains) (Banerjee, 2009).

There was also the lack of formal credit facilities, which forced farmers to borrow from moneylenders at exorbitant rates. Farmers also preferred to borrow from moneylender due to the cumbersome procedure of obtaining formal credit (Deshpande, 2002). Again in some cases, such as in Andhra Pradesh, the overdues were quite high in most of these formal credit giving institutions such as co-operative bank and these forced farmers to grow dependent on non-institutional credit facilities such as moneylenders. Agriculturist moneylender unlike the professional moneylender is a native of the village and powerful in the structure of village economy also. In many cases he is the landowner who lease out land to the peasant. It is this combination of functions of landowner, moneylender and trader that makes him a powerful agent in the village, thus making him able to exploit (Parthasarathy and Shameem, 1998). Besides this, commission agents, dealers and sub-dealers of pesticides and private source also provides credit and generally at very high interest rate and exploit farmers (Revathi, 1998).

The trade liberalisation, which was another by-product of neo-liberal policies, has also added to loss in income generation of this sector. In case of Kerala, stiff competition for its exports and also due to imports after trade liberalisation has been cited as one of the reason of agrarian distress (Jeromi,

2005). The risk of producing a commercial crop, which is borne entirely by the grower, is greatly increased when the crop is grown for export, which induces price volatility. The Indian farmer is highly price-responsive and has been since colonial period. As the cotton price improved in 1990, farmers shifted towards its cultivation from millets, by expanding net sown area. They took loan from banks, traders and commission agents, especially in case of Andhra Pradesh and Maharashtra. As prices fell, they were badly hit (Patnaik, 2003).

Privatisation of the seed sector has induced three major changes in agriculture. Firstly, it has led to change in cropping pattern of farmers' varieties from mixed cultivation based on internal inputs to monoculture of hybrids based on external inputs. Secondly, it has changed the culture of agriculture. Instead of growing food and maximising ecological security and food security, farmers have been induced to grow cash crops for high profits, without assessment of risks, costs and vulnerability. Thirdly, there was a shift from a public system approach to a private sector approach in agriculture. To add to all these, the new seed policy of the government lifted the restrictions on private sector import of foreign germplasm, enabling larger seed producers, particularly those with foreign collaborations, to access seeds from international sources. This has paved the way for big multinationals like Monsanto of the US, who has entered in collaboration with Mahyco to enter our seed market, making the indigenous farmers vulnerable to the aggressive marketing onslaught of the company (Shiva, Emani and Jafri, 1999).

Consider the case of cotton, which has been a major cash crop of India, led to the major devastation in Andhra Pradesh and Maharashtra. In Andhra Pradesh, farmers relied heavily on the hybrid varieties such as Bt-cotton, which did not produce the desired result. Bt-cotton is supposed to provide guard against bollworms, which will help in declining the pesticide requirement. But unfortunately bollworm is only one of the pests. The major destruction in 1997-98 (in Warangal of Andhra Pradesh) had been caused by *Spodopetra*, against which Bt varieties were not effective. Also, in the long-run, pests develop resistance against such varieties and leads to the emergence of secondary pests. Desperate farmers had to spray pesticides and hence the cost of cultivation which was already high due to usage of hybrid varieties (cost of seeds are almost four times that of normal seeds), kept on increasing leading to high indebtedness among farmers. Also some seeds sold by these private input dealers to farmers turned out to be 'spurious' and hence crop failure (Stone, 2002; Shiva, 2008). Similarly in case of Vidharbha, the problem started with introduction of new variety of hybrid cotton (CAHH 468) not certified by government, although sold by some of the seed companies trusted by farmers, which registered negligible yield.

Socio-cultural factors are also catalytic in the process of agrarian crisis. Low quality of public education and health facilities drives rural poor to private provisions rendering high cost (Reddy & Galab, 2006; Vaidyanathan, 2006). In some cases the productive loan has been used in meeting social obligations such as dowry, community functions etc. Some studies have also pointed out alcoholism as another factor for incurring debt. In case of Punjab it has been noticed that maintaining status (e.g. having tractor) and keeping up with neighbour has led to unproductive spending and hence indebtedness. Hence many of these debts have been incurred due to non-productive purposes (Singh, 2004; Satish, 2006). In Andhra Pradesh leasing-in land for cotton cultivation by small farmers also aggravates the condition of cultivators (Parthasarathy and Shameem, 1998). It has also been found in some studies that, support from family, friends, relatives, panchayat members, etc, helps one to relieve the stress they face due to distress. Not discussing one's problem with others leads to closing an avenue for letting out ones pent up feelings and frustration. Societal support, public participation and close knit intra-family relationship helps in averting such incidents by providing with confidence. However in recent times it is found that, the support system that was being provided by the family and the village system in the earlier days has been fast disappearing (Deshpande, 2002).

Hence, from the above discussion it is evident that the following factors, which are actually outcome of the secondary factors leads to farmer suicides:

- Low irrigation facilities
- Dry land
- Uncertain and untimely rainfall
- Crop failure and low yield
- Pest attack
- Lack of institutional credit
- Declining subsidies, investment and extension services
- Competing with imports due to trade liberalization
- Fall in output prices, increase in cost of cultivation
- Moneylenders and pesticide & fertilizer agents
- Inferior inputs, excessive use of fertilizers and pesticides

- Monoculture of cash crop cultivation or cultivation of commercial crops, hybrid varieties
- Absence of non- agricultural opportunities
- Family & social commitments: marriage, education, community programmes etc.
- Alcohol addiction.
- Lack of support

These factors together form a complex process, driving farmers towards suicide.

## 5 Empirical Evidences of the Causes: A case study of Maharashtra

The factors that have been mentioned in above section have not been statistically tested for being significant for causing farmer suicides. However such analysis is not within the scope of this paper, as this paper is based on already existing literatures. However to substantiate this limitation, I have provide here a study by Srijit Mishra (2007, 2009), in which a step-wise logistic regression have been done to compare suicide cases with non-suicide control household in western Vidharbha, which was the most affected region not only in Maharashtra, but also in India.

Figure§4, shows the distribution of risk factor i.e. risk factor identified with deceased individuals.

It is evident from the figure4; most common thing was indebtedness (96 out of 111 cases, 87%). According to the study. From all those who were indebted, 44 per cent were harassed for repayment of loan and in 33% of cases the creditor insisted on immediate repayment. Next in importance is fall in economic position (74%). Indebtedness may not lead to economic downfall itself, but when repayment becomes difficult causing sale of household assets, may lead to fall in economic position there by creating greater reliance on credit and hence indebtedness. Keeping ones problem to self (55%) increases frustration. crop failure has been cited in 40% of the cases, among which some were due to delayed rainfall in sowing season. Crop failure may also lead to fall in economic position. Socio economic factors like change in status (associated with fall in economics status) and marriage has been found in 36% and 34%, while addiction in 28% of the cases. Another factor, which has also

**Distribution of Risk Factors Identified with Suicide Households in  
Western Vidarbha, Maharashtra: 2004**

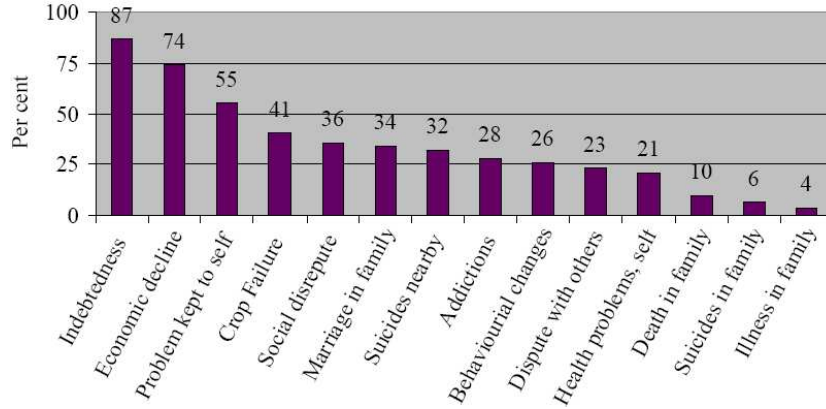


Figure 4: Distribution of risk factors identified with suicide households in Western Vidarbha, Maharashtra, 2004 (Source: Misra, 2007)

been identified as a risk factor is ‘Suicides near by’ (32%) hinting towards imitation effect. 79% of the cases suicide happened by pesticide consumption, because of its easy accessibility.

Comparing suicide cases with control group shows that, even after normalizing for family size and land size, the debt burden is three times higher for suicide group than control group. Compared to control group, suicide cases have on an average, a lower proportion owns bullock (a productive and liquid asset), a lower value of produce and a relatively greater family size. Also, the reliance on moneylenders and friends/relatives is higher for suicide cases.

The logistic regression has been done by taking households’ suicide status as a binary dependent variable,  $Y$ , taking  $y$  as 1=case and 0=none. The independent variables are outstanding debt in rupees, value of produce in rupees, value of produce per acre of land owned in rupees, a yes/no binary variable on ownership of bullocks and family size. First, the results are estimated for all complete case-control analysis of 136 observations from 68 villages. The logistic regression model is:

$$\ln[p/(1 - p)] = a + b_i X_i + u; i = 1 \dots 5 \quad (1)$$

Where  $\ln$  is natural logarithm,  $p$  is probability of obtaining a suicide case household,  $\ln[p/(1 - p)]$  is the log odds ratio of a suicide case household,  $a$  regression intercept,  $b_i$  are coefficient of the five independent variables,  $X_i$  and  $u$  is the error term.



**Results (Odds Ratio) of Stepwise Logistic  
Regression Analysis**

	Complete Case- Control Analysis	Similar Land Size	Same Caste
N	136	110	70
Debt	1.000061 (.0000138) [0.000]		
Own Bullocks	.3462934 (.1403603) [0.009]		.2092665 (.1139936) [0.004]
Debt per Acre		1.000325 (.0000776) [0.000]	
Family Size			1.352608 (.2021914) [0.043]
Log Likelihood	-74.6497	-61.682649	-42.619212
LR Chi2	39.24	29.13	11.80
Prob >Chi2	0.0000	0.0000	0.0027
PseudoR2	0.2081	0.1910	0.1216

Figure 5: Results of logistic regression (Source: Srijit Mishra, 2007)

Results: It follows that; outstanding debt and absence of bullocks are statistically significant variables that differentiate suicide cases from non-suicide control household. When the case-control pairs are restricted to similar land size, only outstanding debt becomes statistically significant variable that differentiates suicide cases from control. If the case-control pairs is restricted to the same sub-caste, then estimation indicates that, ownership of bullocks and family size are statistically significant variable that differentiate suicide cases from controls. Under other restriction, even value of produce also comes out to be significant <sup>1</sup>.

## 6 Way Out of the Crisis: Policy Initiatives

To cope up with the crisis, government (both central and state governments) provided relief packages to the states. But how far these packages have been effective have been studied by many scholars and also suggestions have been given to make such initiatives more fruitful.

<sup>1</sup>Note: Round brackets give standard error, square brackets give  $prob > ||z||$ . The variables are indicated in the order in which they were selected in the step-wise logistic regression

The Government of India has identified 31 districts in the four states of Andhra Pradesh (16), Maharashtra (6), Karnataka (6), and Kerala (3), where the incidence of farmers' suicides has been very high. In July 2006, Prime Minister announced, a rehabilitation package of Rs 16,978.69 crores for the 31 districts in the said four states has been worked out, as per details given below:

1. Andhra Pradesh: Rs. 9650.55 cr
2. Maharashtra: Rs. 3873.26 cr
3. Karnataka: Rs. 2689.64 cr
4. Kerala: Rs. 765.24 cr

The package includes both immediate and medium-term measures for establishing sustainable and viable farming and livelihood support system through debt relief to farmers, improved supply of institutional credit, crop-centric approach to agriculture, assured irrigation facilities, watershed management, better extension and farming support services, improved marketing facilities and subsidiary income opportunities through horticulture, livestock, dairying, fisheries etc. For alleviating the hardships caused to debt-stressed families of farmers in the affected districts, ex-gratia assistance from the Prime Minister's National Relief Fund will also be provided. The package will be implemented over a period of three years. The major components of the package are indicated below:

- Ex-gratia assistance from the PM's Relief Fund to alleviate the sufferings of debt stressed farmers.
- Debt relief to farmers
- Improved credit flow
- Interest waiver
- Assured irrigation facilities
- Seed replacement programme
- Watershed development
- Horticulture development
- Micro irrigation

- Extension services
- Subsidiary income activities like dairying and fisheries etc <sup>2</sup>.

According to Mishra(2009), while the package is comprehensive in terms of coverage and problems addressed, it suffers from deficiencies in design and implementation. A social watch study conducted by ‘GreenEarth’ with the support of ‘Help Age India’ to assess the impact of the Chief Minister’s special package of Rs. 1075 crores for farmers’ of Vidarbha region <sup>3</sup> in Maharashtra has been highly critical of the manner in which the package was implemented. Money was pumped into already existing programmes of the government such as that of horticulture, irrigation and agribusiness without a review of the conditions that are pushing farmers to take their lives. The real beneficiaries, according to the report, were not the farmers but the banks and the agriculture implements production companies. The study has been highly critical of the top-down approach in the design & implementation of the relief measures. In the meantime, suicides occur daily and the numbers are multiplying with each passing season. One of the most fundamental reservations with both the Prime Minister and Chief Minister’s relief packages is that they failed to serve as a media for re-examination and self-review of government interventions in rural areas and its inability to anticipate the impact of the larger changes wrought by the opening of the market (Ritambhara, 2007).

Discussing relief packages provided to Vidharbha, Naryanmoorthi(2006) points out that, while the total package appears to be large, it is not going to provide any immediate relief to the farmers. The core problems of un-remunerative prices and indebtedness underlying farmers’ suicides and ground realities are ignored in this package. Except the waiver of overdue interest, none of the measures included in the Vidharbha package can provide any immediate relief to the farmers in this region. Sadly, despite the fact that most of the farmers who committed suicides had taken loans from non-institutional sources like moneylenders, traders, etc, the package does not provide any hope to this group. The main problem is that the income from crop cultivation is not enough to even cover consumption expenditure and farmers therefore, need remunerative prices for crops like cotton and others. In the total package, nearly three-fifths of the amount is allocated

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<sup>2</sup>Annual report, 06-07

<sup>3</sup>Includes targets to put an end to indebtedness, arrange for fresh capital from banks to improve farm productivity, bring desirable changes in cropping pattern, encourage organic farming and measures to reduce the cost of cultivation, provide financial assistance and encourage community marriages with the help of social organisations and encourage value addition by supporting cooperative processing units.

for irrigation development programme under AIBP. Irrigation investment is a welcome step, which can augment the income generating capacity of the farmers' households in a sustained manner, but it would not address the immediate crisis. Investment in watershed programme, livestock and fisheries definitely are better options for improving the livelihood of the farming community in a sustained manner. But the investment in these areas will not pay anything immediately to the farmers. According to him, as short term measures can be, increasing MSP up to market price level, establishing EIDS (Emergency Input Delivery system), introduction of contract farming model, efforts to check input prices and quality and instead of rescheduling the loan there should be waiving up of loan to certain extent for small and marginal farmers. The long-term measures should focus mainly on developing rural infrastructures such as irrigation, watershed development, roads, markets, schools, credit institutions and the extension network.

Srijit Mishra and Narasimha Reddy(2009) and many other studies also agree that, state should provide adequate institutional support (credit facilities, extension services, remunerative price, quality inputs), development of land and water resources, propel research and development in agriculture and provision of health and education. Robust procurement and distribution operation are also of importance for pushing real output prices out of deflationary trends (Banerjee, 2009).

Nagraj (2008) points out that even though the agrarian crisis in certain other parts of the country is as deep and sustained as in this region, the epidemic of farm suicides is not observed in them partly because of the availability of such non-farm livelihood options during times of crisis. Tamil Nadu perhaps is a good example. Although Tamil Nadu has witnessed a severe agrarian crisis from around the late 1990s, farm suicides - while being not insubstantial in number - have not been persistently increasing. In fact between 1997 and 2006 the numbers more than halved, from 932 to 426. Perhaps the major reason underlying this is that Tamil Nadu perhaps has the best rural-urban linkages in the country. The state is not only the most urbanized one in the country; it also has the best spatial spread of a large number of small, medium and big towns. This, along with a good road network and a good public transport system has resulted in a situation where alternative non-farm livelihood opportunities are available to the poor in nearby towns during periods of agrarian crisis. And this believed to provide a buffer against large-scale suicide by farmers.

## 7 Some Insights Drawn

The whole exercise of reading and understanding viewpoints of different scholars who has tried to analyse farmer suicide, really helps one not only in understanding different dimensions of the crisis but also in forming a self perception towards the problem.

The first thing that needs to be pointed out in this regard is, there is ambiguity in the estimates of farmer suicide data. The cause-wise classification in the police records is given in a mutually exclusive way in the sense that each suicide is ascribed a single cause. Suicide being a multifaceted and complex phenomenon, such a practice conceals more than it reveals. (Mishra, 2006). Also cause and effect relationship between farmer suicide and agrarian distress is difficult to establish, even through statistical testing, as it is not outcome of a particular reason, rather a complex process where all causes are interrelated. Statistical test may point out the primary cause (e.g. indebtedness and absence of bullock) but can not reveal the inner causes and the dynamics involved in it. Moreover since these causes are interrelated, so it is difficult to separate out effect of each variable separately (e.g. absence of bullock may cause indebtedness) and this may lead to problem of multicollinearity and affect our analysis.

According to me, what emerges of the study is that, farmer suicides are basically a bandwagon effect, as also mentioned by Srijit Mishra (2008) as imitation effect. Many literatures suggest that it is a form of protest and anguish expressed by our farmers, however I do not agree with this view. Most of the farmers are illiterate and hence not in a position to understand the complex dynamics of the whole situation. When farmer is burdened with debt and other social obligations, he tries to find a way out and sometimes the suicide becomes the easiest way to escape, rather than a protest against government. Studies also reveals that relief packages for victims triggers more suicides as desperate farmers getting lured by the amount of compensation commits suicide to claim and repay the debt. Many of the issues leading to suicide such as disease, weather, and government policy are out of farmer's control. Actually the driving factor is a 'sense of loss': repeated sense of hopelessness, loss of crops, loss of land, loss of income, loss of community, loss of family farm, loss of a way of life. The depressed farmers are not even treated due to lack mental treatment and counselling facilities in rural area. The major problem of our agriculture is inefficiency. Before liberalisation, our agriculture policies have not tried to make this sector competitive. Agrarian distress had been prevailing over the years due to gross neglect led agriculture to become a non-profitable profession. The low returns forced farmers to change their preference for commercialised cultivation rather than subsistence

cultivation. Cash crop and hybrid seeds lifted up the expectation of farmers, by some years of good return. However farmers failed to anticipate the impact in case of crop failure of such costly cultivations.

Incentives provided for agriculture, also attracted ample amount of rural population in this business, those who actually may not be having farming skills. Study by Srijit Mishra and Narasimha Reddy (2008) pointed out demographic pressure on agriculture, (especially within rural area dependence is very high) along with decline in share of agriculture in total GDP. Also lack of employment diversification has resulted in concentration of rural work force in agriculture sector. Not only this, the study by Sarma (2006) of Andhra Pradesh shows that the well intended power subsidy can bring in devastation by increasing craze for bore well. In fact fertiliser subsidy and irrigation subsidy can also lead soil degradation. So I do not agree with the proposition of providing subsidies. Also, prevalence of political biasness in terms of lobbying leads to discrimination among regions and aggravates the crisis in neglected regions.

There is also need to consider what happens to the family after a farmer, the breadwinner of the household commits suicide? Some of the consequences are: Harassment of the family by corrupt moneylenders, Widows burdened with the new responsibility as the sole breadwinner, Children sometimes lose both parents to suicide forcing their education to a halt, especially if they have to work in order to provide for their needs.

The farmer suicide is one extreme manifestation of rural crisis, but there are also other rural classes such as artisans who also suffer the wrath of rural breakdown. P Sainath (*The Hindu*, June 26, 2004), portrayed the heart rending story of Bangaru Ramachari, the sole carpenter in Mukundapuram village in Nalgonda district who died of hunger, unable to make both ends meet, when the demand for his services declined as a result of mechanisation of agriculture in the village. In the recent times, the local artisans including potters, blacksmiths, toy makers, leather workers and others have become either underemployed or totally unemployed.

In my view, there is immediate need of extension services, which will help to make our farmers aware of agricultural scenario in terms of its risks and returns. Counselling also should be provided to help depressed farmers. Sound public health and educational facilities should be Institutional support in terms of credit facilities (opening up of more rural branches of Commercial Banks, RRBs etc), farmer's insurance, irrigational facilities, checking price and quality of inputs provided, etc. should be taken care by government rather than directly intervening in the whole system. Simplification of disbursement rules, application procedure for credit from formal credit sources, will not only reduce dependent on non-institutional sources but will

also reduce stress for farmers (Deshpande, 2009). Government also should encourage development of alternative employment facilities, other than farming and skill development programme, which will solve livelihood problems of rural mass to some extent.

It is quite true that the problem cannot be solved through economic packages alone. What is needed is social interventions so that the farmers realize that suicide is not the way out...They should understand that they need to develop self confidence. The future generation should have the mental strength to face life's challenges. What can be done is: Social support should be provided as a buffering effect for stress. The greater the support from friends, family, local communities, national policies and society as a whole, the less impact stress will have on individuals and families. It is crucial for governments and NGOs to work together, on a local, national and global level, to address and solve this critical issue.

## References

- Assadi, Muzaffar, (2000), Karnataka Seed Tribunal: Interrogating Farmers' Suicides, Economic Political Weekly
- Assadi, Muzaffar, 12 November (2008), Farmers' Suicide in India: Agrarian Crisis, Path of Development and Politics in Karnataka [http://viacampesina.net/downloads/PDF/Farmers\\_suicide\\_in\\_india\(3\).pdf](http://viacampesina.net/downloads/PDF/Farmers_suicide_in_india(3).pdf)
- Banerjee, Arindam, 11 April (2009), Peasant Classes under Neoliberalism: A Class Analysis of Two States, Economic Political Weekly, Vol. XLIV, No. 15
- Chand, Ramesh, (2006): India's Agricultural Challenges and Their Implication for Growth and Equity, paper presented in the CESS Silver Jubilee Seminar on Perspectives on Equitable Development: International Experience and What Can India Learn? Centre for Economic and Social Studies, Hyderabad, January 7-9.
- Deshpande, R.S, (2002), Suicide by Farmers in Karnataka -Agrarian Distress and Possible Alleviatory Steps, Economic Political Weekly
- Deshpande, R.S, (2009), Agrarian Transitions and Farmers' Distress in Karnataka, Agrarian Crisis in India (edited by D.Nararsimha Reddy and Srijit Mishra), Oxford University Press
- Gill, Anita, Lakhwinder Singh, (2006), Farmers' Suicides and Response of Public Policy Evidence, Diagnosis and Alternatives from Punjab, Economic Political Weekly
- Hebbar, Ritambhara, (2007) Human Security and the Case of Farmers' Suicides in India: An Exploration, Paper presented in a panel on Rethinking Development in a Conference on 'Mainstreaming Human Security- an Asian Perspective' (October 3-4, 2007) organised by Chulalongkorn University, Bangkok
- Jeromi, P D, (2007), Farmers' Indebtedness and Suicides- Impact of Agricultural Trade Liberalisation in Kerala, Economic Political Weekly
- Meeta, Rajivlochan, (2006) Farmers Suicides Facts Policies and Interventions, Yashwantrao Chavan Academy of Development Administration,
- Mishra, Srijit, (2006), Suicide mortality rates across India, 1975-2000- A Statistical Note, Economic Political Weekly
- Mishra, Srijit, (2009), Agrarian Distress And Farmers' Suicides in Maharashtra, Agrarian Crisis in India (edited by D.Nararsimha Reddy and Srijit Mishra), Oxford University Press
- Mishra, Srijit, September (2007), Risks, Farmers' suicides and Agrarian Crisis in India: Is There A Way Out?, Indira Gandhi Institute of Development Research, Mumbai



- Mitra, Siddartha, Sangeeta Shroff, (2007), Farmers' Suicides in Maharashtra, Economic Political Weekly
- Mohanakumar, S and R. K. Sharma, (2006), Analysis of Farmer Suicides in Kerala, Economic Political Weekly
- Mohanty, B. B, Sangeeta Shroff, (2004), Farmers' Suicides in Maharashtra, Economic Political Weekly
- Nagraj, K, (2008), Farmer Suicides In India: Magnitudes, Trends and Spatial Patterns, Madras Institute of Technology, Macroscan
- Nair, K.N, Vineetha Menon, (2009) Distress, Debt, And Suicides Among Farmer Households: Findings From Village Studies in Kerala, Agrarian Crisis in India (edited by D.Nararsimha Reddy and Srijit Mishra), Oxford University Press
- Other Policy Initiatives, Annual Report, 2006-07, [agricoop.nic.in/AnnualReport06-07/OTHER%20SPECIAL%20POLICY%20INITIATIVES.pdf](http://agricoop.nic.in/AnnualReport06-07/OTHER%20SPECIAL%20POLICY%20INITIATIVES.pdf)
- Parthasarthy, G, Shameem, (1998), Suicides of Cotton Farmers in Andhra Pradesh An Exploratory Study, Economic Political Weekly
- Patnaik, Utsa, (2003), Global Capitalism, Deflation and Agrarian Crisis in Developing Countries, Journal of Agrarian Change, Vol.3
- Posani, Balamurlidhar, February (2009) Crisis in the Countryside : Farmer Suicide and The Political Economy of Agrarian Distress In India, Development Studies Institute, London School of Economics and Political Science
- Raj, K.N, (1975), Agricultural Development and Distribution of Land Holdings, Indian Journal of Agricultural Economics, Volume XXX
- Rao, P Narasimha, K. C. Suri, (2006) Dimensions of Agrarian Distress in Andhra Pradesh, Economic Political Weekly
- Reddy, D. Narasimha, Srijit Mishra, (2009), Agriculture in the Reforms Regime, Agrarian Crisis in India (edited by D.Nararsimha Reddy and Srijit Mishra), Oxford University Press
- Reddy, V Ratna, Galab S, (2006), Agrarian Crisis Looking beyond the Debt Trap, Economic Political Weekly
- Revathi, E, (1998), Farmers' Suicides: Missing Issues, Economic Political Weekly
- Revathi, E, (2007), Suicide as Vulnerability: Some Dimensions of Agrarian Distress in Andhra Pradesh, mimeo, Hyderabad: Centre for Economic and Social Sciences
- Sarma, E A S, (2004), Is Rural Economy Breaking Down? Farmers' Suicides in Andhra Pradesh, Economic Political Weekly

- Satish, P, (2006), Institutional Credit, Indebtedness and Suicides in Punjab, Economic Political Weekly
- Shiva, Vandana, 15 November (2008), Seed Monopolies, Genetic Engineering and Farmer Suicides [www.navdanya.org/news/25feb09a3.pdf](http://www.navdanya.org/news/25feb09a3.pdf)
- Shiva, Vandana, Ashok emani, Afsar H Jafri, (1999) Globalisation and Threat to Seed Security Case of Transgenic Cotton Trials in India, Economic Political Weekly
- Shreyas, (2006), Agricultural Crisis and Debt Suicide in Wayanad, Sultan Bathery, Wayanad, Kerala.
- Singh, Sukhpal, (2004), Crisis and Diversification in Punjab agriculture- Role of State and Agribusiness, Economic Political Weekly
- Singh, Sukhpal, (2006), Credit, Indebtedness and Farmer Suicides in Punjab- Some Missing Links, Economic Political Weekly
- Sridhar, V, (2006), Why Do Farmers Commit Suicide? The Case of Andhra Pradesh, Economic Political Weekly
- Stone, Glenn Davis, (2002) Biotechnology and Suicides in India, commentary published in Anthropology News, Vol 43 No. 5, May 2002
- Vaidyanathan, A, (2006), Farmers' Suicides and the Agrarian Crisis, Economic Political Weekly